THE STUDY ON THE TEXTILE INDUSTRY DEVELOPMENT PROGRAMME IN THE ISLAMIC REPUBLIC OF PAKISTAN

SUMMARY

SEPTEMBER 1992

JAPAN INTERNATIONAL COOPERATION AGENCY

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Preface

In response to a request from the Government of the Islamic Republic of Pakistan, the Government of Japan decided to conduct a study on the Textile Industry Development Programme in the Islamic Republic of Pakistan and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Pakistan a study team headed by Mr. Heihachiro Aoki of Japan External Trade Organization, three times between September 1991 and July 1992.

The team held discussions with the officials concerned of the Government of the Islamic Republic of Pakistan, and conducted field surveys at the study area. After the team returned to Japan, further studies were made and the present report was prepared.

I hope that this report will contribute to the promotion of the programme and the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Islamic Republic of Pakistan for their close cooperation extended to the team.

September 1992

Kensuke Yanagiya

Kensuke Yanagiya
President
Japan International Cooperation Agency

CONTENTS

Page

ABBREVIATIONS & ACRONYMS iv
DEFINITIONS OF TERMS vi

INTRODUCTION

1. Background and Objective of the Study 1
2. Scope of the Study 2
3. Survey Method 5
4. Member of the Study Team 9

PART I ECONOMIC BACKGROUND

PART II STRUCTURE OF THE PAKISTAN'S TEXTILE INDUSTRY

1. Brief History of Textile Industry ..... II - 1
2. Demand and Supply Pattern of Textile Products ..... II - 1
3. Structure of the Textile Industry ..... II - 4
4. Comparative Advantage of Pakistan's Textile Industry ..... II - 9
5. Textile Industries and Export Promotion Policies in Competing Nations ..... II - 13
6. International Marketability of Garments ..... II - 17

PART III DIAGNOSTIC ANALYSIS OF TEXTILE INDUSTRY IN PAKISTAN

1. Outline ..... III - 1
2. Raw Cotton, its Volume of Production and Quality ..... III - 2
3. Raw Materials of the Downstream Sectors ..... III - 3
4. Equipment and Capital ..... III - 3
5. Technology and Management ..... III - 4
6. Personnel ..... III - 6
7. Markets ..... III - 8
8. Independent Weaving (Nonmill) Sector ..... III - 10

Page

9. Dycing-Finishing Technology ..... III - 11
10. Garment Manufacturing Technology ..... III - 12

PART IV PUBLIC INSTITUTIONS FOR SUPPORTING TEXTILE INDUSTRY ..... IV - 1

PART V TEXTILE INDUSTRY POLICY AND RELATED MEASURES ..... V - 1

PART VI CONCLUSION AND RECOMMENDATIONS

1. Conclusion ..... VI - 1

1-1. Framework of Formulating Master Plan ..... VI - 1
1-2. Masterplan for Development ..... VI - 1
1-3. Plan for Development of Export Garment Industry ..... VI - 9

2. Recommendations ..... VI - 14

2-1. Countermeasures against Technical Problems ..... VI - 17
2-2. Policies Recommended ..... VI - 35
2-3. Promotion Programmes ..... VI - 38

ABBREVIATIONS & ACRONYMS

INTERNATIONAL ORGANIZATIONS & AGREEMENTS:

ASEAN	Association of South-East Asian Nations
CBI	Caribbean Basin Initiative Textile Programme
COMECON	Council for Mutual Economic Assistance
EC	European Community
EFTA	European Free Trade Association
GATT	General Agreement on Tariffs and Trade
IBRD	International Bank for Reconstruction and Development
IMF	International Monetary Fund
ITMF	International Textile Manufacturers Federation
MFA	Multi-Fibre Agreement
NIES	Newly Industrializing Economies
OECD	Organization for Economic Cooperation and Development
OIC	Organization of Islamic Countries
SITC	Standard International Trade Classification
UN	United Nations
UNIDO	United Nations Industrial Development Organization

PUBLIC ORGANIZATIONS IN PAKISTAN

CBR	Central Board of Revenue
CTL	Central Testing Laboratories
DFI	Development Finance Institution
EPB	Export Promotion Bureau
IDBP	Industrial Development Bank of Pakistan
IPB	Investment Promotion Bureau
KEPZ	Karachi Export Processing Zone
KESC	Karachi Electric Supply Corporation
MOI	Ministry of Industries
NCTE	National College of Textile Engineering
NTB	National Training Board
PCCC	Pakistan Central Cotton Committee
PCSI	Pakistan Cotton Standards Institute
PICIC	Pakistan Industrial Credit & Investment Corp., Ltd.
PICRT	Pakistan Institute of Cotton Research and Technology
PSI	Pakistan Standards Institution
PSIT	Pakistan Swedish Institute of Technology
PSQCA	Pakistan Standards & Quality Control Authority

SBP	State Bank of Pakistan
TCO	Textile Commissioner's Organisation
TIRDC	Textile Industry Research and Development Centre
WAPDA	Water and Power Development Authority

PRIVATE ORGANIZATION IN PAKISTAN

APC-PLA	All Pakistan Cotton Power Looms Association
APTMA	All Pakistan Textile Mills Association
PCFA-MEA	Pakistan Cotton Fashion Apparel Manufacturers and Exporters Association
PHMA	Pakistan Hosiery Manufacturers Association
PKS-EA	Pakistan Knitwear and Sweaters Exporters Association
PRG-MEA	Pakistan Readymade Garments Manufacturers and Exporters' Association

OTHERS

BMR	Balancing, Modernization and Replacement
CED	Central Excise Duty
EPU	Export Processing Unit
EPZ	Export Processing Zone
GDP	Gross Domestic Product
GNP	Gross National Product
MEP	Minimum Export Price
OE	Open End
OEM	Original Equipment Manufacturing
P/C	Polyester/Cotton
P/V	Polyester/Viscose
RMR	Raw Material Replenishment
SRO	Statutory Rule of Order

DEFININTIONS OF TERMS

Spinning

The process using cotton and synthetic fibres (staple) as raw material to produce the desired thickness of yarn.

Weaving

The process to produce the required design of cloth by interlacing warp and weft yarn.

Dyeing & Finishing

Involves the various finishing processes of scouring, bleaching and dyeing which are carried out on either the woven pieces of cloth after weaving processes or knitted pieces of cloth after the knitting processes. Dyeing-&-Finishing is also referred to as processing. When yarn is dyed before the weaving or knitting processes this is described as Yarn Dyeing. In the present report, unless stated otherwise, reference is made to the dyeing and finishing of cloth and not of yarn.

Piece Dyeing and Printing

Piece dyeing is when pieces of woven or knitted cloth are immersed in a dyeing solution until dyed to the required colour and hue. In contrast to this process, printing refers to dyeing the surface of the cloth by the application of a mixture of dye, colour agents and sizing to achieve a desired design.

Grey Cloth, Bleached Cloth and Dyed Cloth

Grey cloth refers to material which has been woven, before desizing or ordering. Bleached cloth, is grey cloth which has undergone scouring and bleaching processing. Recently, in order to achieve a uniform and intense whiteness further bleaching by the use of a fluorescent bleaching agent is carried out. Dyed cloth refers to bleached cloth which has undergone piece dyeing or printing, although the term dyed cloth is taken in a narrow sense to refer to cloth after piece dying in contrast to print dyed cloth.

Garments and Apparel

In general cloth which has been cut and sewn together to certain forms is referred to as clothing items but in the present Report the above terms will be employed for clothing items which are made from woven cloth as distinct from knitwear. Garments and apparel both refer to clothing items but in the present report "apparel" will refer to clothing items made to a set brand fashion design while other general items will be referred to as "garments".

Knitwear and Knitting

Knitwear refers to pieces of knitted cloth sewn together to make articles of clothing. Generally, knitting is a term used to refer to the process by which pieces of cloth are made from yarn but is also used to refer to the pieces of cloth or the finished knitted products themselves. When the terms the "knitting sector" or "knitting industry" are used in the present report these are taken to refer to the entire sector and industry encompassing processes of knitting, dyeing-finishing and sewing which employ yarn as their basic raw material.

Home Textiles

Home textiles is a comprehensive term referring to both bedroom articles such as bed sheets, bed covers and pillow cases, etc. and to household articles such as curtains, chair covers, upholstery, etc. The term is used to distinguish these items from the clothing items of garments and knitwear.

Mill Sector and Nonmill Sector

The terms Mill Sector or Organized Sector refer to the factories and industries that operate as integrated mills comprising spinning, weaving and dyeing-finishing. Also they refer to those operate individual total systems of either spinning or dyeing-finishing. Among the said factories and industries, those who possess either or both of spinning and weaving in their facilities belong to All Pakistan Textile Mills Association (APTMA).

In contrast to this sector, the overall term generally used for power loom units of a middle size, small size or petty scale firms in the weaving industry which have up to about 200 looms is the Power Loom Sector. Since the industrial structure and organization of these firms differs from those of the Mill Sector, these are sometimes referred to as the Nonmill Sector or Unorganized Sector, and belong to the All Pakistan Cotton Power Looms Association (APC-PLA).

Upstream, Midstream and Downstream

In the present report the above terms are distinguished as follows:

Upstream : raw cotton and spinning sectors
Midstream : weaving and dyeing-finishing sectors
Downstream : garment and knitwear sectors

INTRODUCTION

INTRODUCTION

This is the Final Report of the Study on the Textile Industry Development Programme in the Islamic Republic of Pakistan.

This study was conducted based on the Scope of Work for the Study on the Textile Industry Development Programme in the Islamic Republic of Pakistan signed between the Government of Pakistan and Japan International Cooperation Agency (JICA) on 16th May 1991.

The field surveys under this study were conducted from 19th September through 2nd November 1991 and from 20th February through 11th March 1992. Subsequently to these field surveys, research and analysis were undertaken in Japan. This report was compiled as the Final Report, based on the results of the study and analysis.

In conducting the field survey and research, the Study Team had close cooperation from many people concerned. In particular, the Study Team would like to express its sincere gratitude for the outstanding contributions of Mr. Jehangir Khan, Deputy Secretary, Ministry of Industries, Mr. Mohammad Anwar Khan, Chief Research Officer, Ministry of Industries, and counterpart personnel, Mr. Muhammad Yunus, Head of Spinning Department, Textile Industry Research and Development Centre (TIRDC) and Mr. Mohammad Yunas Siddiqi, Deputy Chief (Ind. & Com.), Planning and Development Division. In addition, Mr. G.N. Khan, Textile Commissioner, contributed a great deal to the study in selecting the mills for in-depth interviews and arranging visits to these mills.

The Study Team wishes to express particular gratitude for their cooperation and assistance.

1. Background and Objective of the Study

In the 1950s and 1960s, the industrial policy of Pakistan was protectionist in nature. During the 1970s a policy of nationalization was implemented. In 1977, the Zia-ul-Haq regime began privatization of industry and shifted its industrial policy from the government-led pattern to one which placed priority on the private sector and liberalization of the economy. As a result, the country achieved a relatively high level of economic growth. The annual average rate of economic growth stood at 6.8 percent during the fifth five year plan period (1978/79-1982/83) and 6.5 percent during the sixth five year plan period (1983/84-1987/88). The average growth rate for the last five years has remained in the 6 percent range.

The subsequent regime also followed a policy which emphasized the vitality of the private sector. While proceeding with the liberalization of the economy and the expansion of private sector investment, including the opening of public industries to the private sectors, it implemented a new industrial policy (announced in April

1989) aimed at industrialization through the active attraction of foreign capital.

The new regime inaugurated in November 1990 promptly announced its own Industrial Policy Package in December. The Package, containing drastic liberalization measures pertaining to foreign investment, foreign exchange control, the finance system and external trade control, displayed a more positive attitude toward the liberalization of the economy, trade promotion and the improvement of the investment climate.

The Government of Pakistan has formulated the seventh five year plan (1988/89-92/93) which aims the development of the private sector through deregulation and the amelioration of the balance of payments through the increase of exports.

Under this background, the Government of Pakistan made a request to the Government of Japan that a development study would be conducted for the promotion of exports and of foreign investment. JICA despatched the Preparatory Survey Team to Pakistan in February 1990 and decided to select as the target industry the textile industry which accounted for a large share of the industrial sector. After this decision was made, JICA despatched the Preliminary Survey Team in May 1991 and the Scope of work was agreed and signed after negotiations with the Pakistan side.

The objective of the study is to formulate a master plan for the promotion and development of the textile industry (particularly export promotion) and to make programme recommendations for its development through the analysis and evaluation of the actual supply situation and of market requirements.

2. Scope of the Study

2-1. Survey Items

The survey items under the study are as mentioned below, based on the Scope of Work agreed on 16th May 1991.

1. Review of the Background

1-1. Macro-economic Condition
1-2. National and Regional Development Policy
1-3. Sector Policy and Present Situation of the Industrial Development
1-4. Policy and Present Situation of Export and Investment Promotion
1-5. Policy and Present Situation of Finance and Taxation
1-6. Development of Infrastructure

2. Study of World Textile Industry and Pakistani Textile Industry

2-1. Historical Development of World Textile Industry (Demand and Supply)
2-2. Projection of Demand Pattern of Textile Products
2-3. Overview of Textile Industry in Pakistan
2-4. Comparative Advantage and Constraints of Textile Products of Pakistan in the International and Domestic Market (Quality, Price, Design, Trade Mechanism, etc.)
2-5. Identification of Some of Pakistan's Main Competitors and Export Incentives given by Their Governments

3. Diagnostic Study of Industrial Structure of Textile Industry in Pakistan

3-1. Present Situation of and Problems of Textile Industry from the Following Viewpoints

(1) Raw Material
(2) Machinery
(3) Manpower
(4) Utility
(5) Production Technology
(6) Quality Control and Standardization
(7) Factory Management, Marketing and Design

3-2. Potentiality for and Constraints of Development of Textile Industry, taking into Consideration of Such Factor as Location, Product Type and Scale of Business

4. Review on the Relevant Governmental Policy and Measures for the Textile Industry Development

4-1. Textile Industry Policy
4-2. Industrial Standardization
4-3. Financial Support
4-4. Manpower Development
4-5. Environmental Protection

5. Study on the Present Functions and Future Requirements for the Supporting Institutions of Textile Industry

5-1. Research and Development Centre
5-2. Educational and Training Institutions
5-3. Manufacturer's Associations

6. Formulation of Master Plan for Promotion of Textile Industry

6-1. Establishment of Planning Framework
6-2. Establishment of Development Policies
6-3. Formulation of Development Strategy
6-4. Formulation of Programme Recommendation
6-5. Organizational Framework for the Implementation of the Plan
6-6. Implementation Schedule for the Implementation of the Plan
6-7. Rough Cost Estimation for the Implementation of the Plan

2-2. Target for the Study

The industry to be surveyed is the "textile industry". The details are as follows:

Manufacturing processes : Spinning, Weaving, Knitting, Processing and Sewing
Materials : Cotton, Cotton blends, and Man-made fibres

2-3. Focus of the Study

The "textile industry" which is to be surveyed has three sectors : upstream (raw materials and spinning), midstream (weaving and processing) and downstream (secondary products). This survey deals with the three sectors as follows :

The upstream and midstream sectors, while being independent, are considered as key sub-sectors of the downstream sector in the sense that they supply raw materials and intermediate processing for the industry. Accordingly, modernization and upgrading of these sectors are important for the development of the downstream sector and essential for the balanced development and overall improvement of the entire textile industry. The Pakistani textile industry in the coming days should be aiming to add value to its products (yarn and cloth) and at the same time to shift its exports from textiles to more sophisticated products such as garments and other products with higher added value.

Therefore, this study has placed stress on obtaining a grasp of the present situation of the Pakistani textile industry, analyzing the factors which impede upgrading and the addition of value and determining strategies for the enterprises and industrial policies which encourage the balanced development of the textile industry as a whole by means of removing obstacles.

3. Survey Method

The flow of the study is shown on the separate figure. Under the study, in addition to research using data and documents and analysis of statistical data, collection of information from government ministries and agencies, relevant public organizations and related industry organizations and surveys through interviews with local firms were conducted as basic method.

(1) In-Depth Interview Survey

During the field survey, primary information was collected through in-depth interviews with firms, industry organizations, relevant ministries and agencies of the central government, provincial governments and government-related organs.

10 to 15 firms to be surveyed were selected. The actual selection work and appointments were entrusted to the counterpart personnel.

The survey areas were restricted to : (a) the Islamabad district (Islamabad, Rawalpindi and Nowshera), (b) Karachi, and (c) the Lahore district (Lahore, Faisalabad, Multan and surrounding areas). From the geographical spread of the mills, a survey of mills located in the main districts allows the study team to gain an understanding of the general characteristics of the entire group.

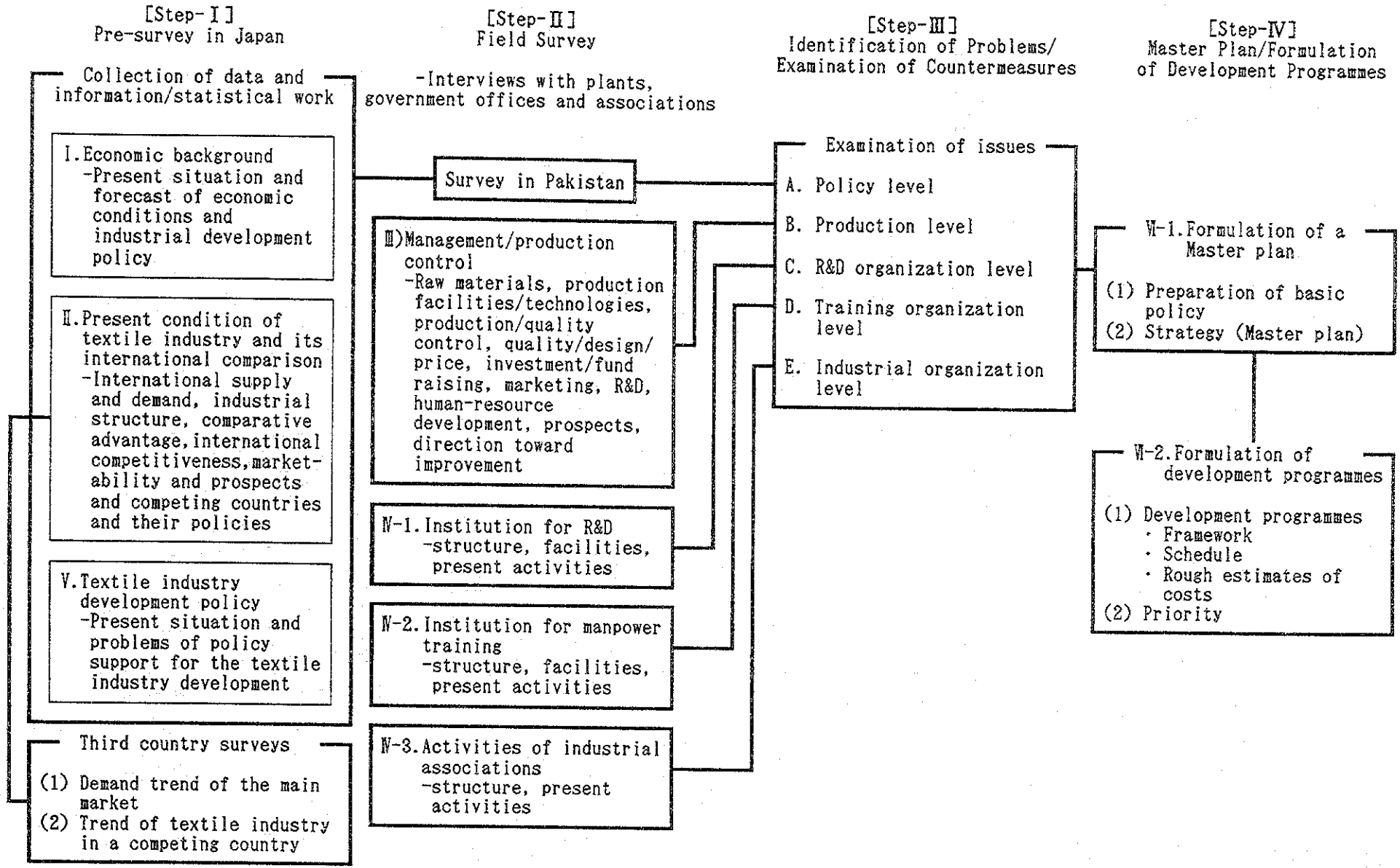
The mills with which the study team had the interview were asked to complete a questionnaire.

The results of the in-depth interview survey are summarized as follows (The number was bigger than anticipated):

NUMBER OF MILLS COVERED BY THE IN-DEPTH INTERVIEW SURVEY IN PAKISTAN

Integrated Mills	9
Independent Mills	7
(Weaving Mills in Non Mill-Sector are excluded)	
Knitting Units	4
Garment Manufacturers	5
	25

FLOW OF THE STUDY



NUMBER OF PUBLIC ORGANIZATIONS COVERED BY THE IN-DEPTH INTERVIEW SURVEY IN PAKISTAN

Industrial Organizations	13
Educational and Training Institutes	5
Research Institutions	5
Government Agencies	10
Financial Institutions	3
Others	8
	44

(2) Questionnaire Survey

A questionnaire survey was conducted to supplement the field survey.

In addition to time limitations, the study team also faced restrictions regarding its sphere of action. Thus, to ensure the effectiveness of the survey, a questionnaire survey was conducted to supplement the in-depth interview survey by the study team.

As in the case of in-depth interview survey, 50 firms were selected based on the same groupings. The selection work was undertaken by the counterpart personnel.

In view of the local conditions, a questionnaire survey conducted through normal mail channels was not expected to obtain a sufficient response. Accordingly, the survey was entrusted to a local consultant.

The results of the questionnaire survey are summarized as follows (Selected mills for the questionnaire survey were increased):

NUMBER OF MILLS COVERED BY THE QUESTIONNAIRE SURVEY IN PAKISTAN

	Number of Questionnaires distributed	Effective Answers	Rate of Answers
Mills selected for Questionnaire Survey	62	44	71%
Mills for In-Depth Interview	22	12	55%

(3) Third Country Surveys

As for the third country surveys, surveys of import markets and countries competing with Pakistan in this sector were conducted and focused mainly on garments. They were done through both documentary research and field surveys entrusted to third parties.

Regarding the survey of import markets, from the viewpoint of the supply of information regarding access to the market, in the United States, one of the main export markets and the largest and most promising market for Pakistani products, competition among imports themselves and demand factors in the market were studied.

Regarding competing countries, Indonesia was believed to have the biggest potential for growth among Asian nations competing with Pakistan from the viewpoint of market share, its growth rate, growth rate of exports, and moves in foreign investment. Therefore, the current situation of the garment industry of Indonesia, which is competing with its counterpart in Pakistan, was studied and international comparison was made on the supply side.

4. Member of the Study Team

This Study was conducted jointly by Japan External Trade Organization (JETRO) and UNICO International Corporation. The members of the Study Team are as follows.

AOKI, Heihachiro	Leader	Japan External Trade Organization (JETRO)
SHIMAZU, Sadao	Sub-Leader (Leader of Policy Group)	Japan External Trade Organization (JETRO)
SUGANUMA, Koki	Export & Investment	Japan External Trade Organization (JETRO)
EHARA, Noriyoshi	Industrial Development	Japan External Trade Organization (JETRO)
NAGASAWA, Kiko	Sub-Leader (Leader of Technical Group)	UNICO International Corporation
SHIRAISHI, Masaaki	Industrial Development	UNICO International Corporation
TAKAO, Tadaaki	Spinning	UNICO International Corporation
SAWAI, Akira	Weaving & Knitting	UNICO International Corporation
TOBITA, Sakae	Processing	UNICO International Corporation
TAKEMOTO, Kintaro	Garment	UNICO International Corporation

The Study Team had close collaboration from the following counterpart personnel.

Mr. Muhammad Yunus	Head of Spinning Department, Textile Industry Research and Development Centre (TIRDC)
Mr. Mohammad Yunas Siddiqi	Deputy Chief (Ind. & Com.), Planning and Development Division

PART I ECONOMIC BACKGROUND

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1. Macro-economic situation

Over the past ten years Pakistan has seen its economy expand at an average rate of more than 6% per year in real terms. On the demand side, general government expenditure has grown at an average annual rate of about 10%. The exports grew 7.0%, and both the total fixed capital formation and private consumption grew over 5% over the same period.

According to the "Economic Survey 1990-91" issued by the Pakistan government, agriculture remains the largest in the production sector in terms of its contribution to the total GNP. In fiscal 1980/1981 it represented 28% of the total GNP, falling only 3 percentage point to 25% in fiscal 1990/1991. The mining and manufacturing sector makes the second largest contribution to the GNP. In fiscal 1980/1981, it accounted for 14.2% of the total GNP, it increased to 17.6% in fiscal 1990/1991. The figures demonstrate that a structural shift from agriculture to mining and manufacturing is slowly taking place in the economy.

Growth in the mining and manufacturing sector grew at an average annual rate of 7.7% between fiscal 1981/1982 and fiscal 1990/1991, while the agriculture sector achieved 5.4% growth rate over the same period. The electricity and gas sector has been the fastest-growing of all sectors over the past ten years, recording an average annual growth rate of 9.8%. The annual average growth in the construction sector remained at 4.7% over the same period. Whereas in fiscal 1980/1981, the service sector represented 42.7% of the total GNP, this had increased by 4.6 percentage point to 47.3% in 1990/1991. These figures indicate a gradual, though steady, shift from primary to secondary and tertiary industries.

Pakistan's international balance-of-payments situation may be summarized as follows. Firstly, the annual trade deficit is as high as $2.0-2.5 billion, although in recent years exports have been displaying higher rates of growth than imports. Secondly, even though the transfer account balance is in the black supported by remittances from overseas workers, the current account balance is in deficit. There are signs, however, of likely future improvement in the current account which stands at $1.5-2.0 billion in red at present. Thirdly, there is a surplus in the long-term balance-of-capital account. And finally, a continuing deficit in overall balance-of-payments has kept foreign exchange reserves at low level. Because of the firm export since 1991, however, the foreign reserves are on the increase.

Pakistan's foreign debt stocks increased from US$9.9 billion in 1980 to US$20.6 billion in 1990. There had been improvements in terms of debt service ratio in 1988 and 1989. However, the ratio got slightly worse in 1990.

Even despite recent improvements, public finance is remaining in deficit. The government's largest expenditure item in fiscal 1990/1991 was defence (25.8%), followed closely by development spending (25.6%). Interest repayments represent the next largest and slice of government expenditure at 20%. While the proportions of

government spending represented by defence and subsidies remain constant, that of interest payments has been showing steady growth. Defense expenditure and interest payments together account for more than half of Pakistan's current expenditure and 40% of its total expenditure. This is one of the major factors behind growing budgetary inflexibility.

The most pressing problems currently plaguing government finances are those relating to the tax collection system and the tax structure itself. The majority of tax income comes in the form of indirect taxes, which represent five times as much the value as the direct taxes. The former account for 70% of the total revenue, and over as much as 40% of this is comprised of income from customs duties. As a result, tax revenue is heavily influenced by import volumes and tariff rates, which in turn contributes to increased inflexibility in tax revenue.

2. Current State of Industry and Development Policy

Over the past ten years, the mining and manufacturing sector has grown at an annual rate of over 7% per year, and has doubled its output. Although, primary industry continues to occupy roughly the same proportion of the GNP (26% in 90/91) as secondary industry, in terms of contribution to exports, the latter is of far greater significance, with manufactured products comprising as much as 77% of the total exports. The mining and manufacturing industry employs 13% of the work force.

The manufacturing industry grew up around cotton-related industries such as spinning, weaving, and garments. Despite efforts by government to encourage a shift to such sub-sectors as steel, automobiles and chemical fertilizers, progress in that direction has been slow. Because of its potential foreign exchange and employment creation capacity, promotion of the manufacturing industry continues to be a national priority.

Since the government publicly renounced arbitrary nationalization of public companies and embarking on a programme of encouraging private sector investment in 1979, there has been no change in the government's emphasis on private sector leadership and deregulation. In its long-term industrialization plan released in 1984 the government designated (1) the establishment of a heavy industry base, (2) improvement in the quality of processed agricultural products to promote exports, and (3) creation of employment opportunities.

Export and investment promotion policies using tax and finance incentives comprise the centrepiece of the government's industrialization policy.

3. Trade and Investment-Current Situation and Promotion Policies

According to the "Economic Survey 1990-91", Pakistan's exports totaled 138.342 billion rupees in fiscal 1990/1991, and manufactures accounted for 77% of this. The three items cotton yarn, garments and cotton fabric together comprised 44% of the total exports, and raw cotton and rice were among the major primary

product exports at 6.9% and 5.6% respectively.

Developed countries such as the U.S., Japan, the former West Germany, and the U.K. are the major markets for Pakistani exports, and around 62% of its total exports are absorbed by OECD nations. Middle Eastern and other Islamic countries once comprised the largest market for Pakistani exports, but wars and lackluster oil prices have seen their share fall to around 11%. In fiscal 1990/1991 Pakistan's imports were valued at 171.0 billion rupees. The largest import item was petroleum and petroleum products, followed in descending order of value by machinery, chemical products, transportation apparatus, chemical fertilizers, and steel. Industrial raw materials, and capital goods represented 84% of the total imports.

The government's trade policy places emphasis on export promotion, including such measures as tax exemption on export income, export financing, and a variety of bonded and tax-free import schemes for raw materials used in the manufacture of goods for exports. An Export Processing Zone was established in Karachi for the promotion of investment. As for imports, relatively high customs duties are levied, and many import-negative and import-restricted goods still exist. Recent efforts by the government at liberalization have seen a substantial reduction in the number of import-negative and restricted goods.

As for foreign direct investment, during the period from 1985 to 1989 accumulated investment in Pakistan increased by mere 19%. It lagged well behind ASEAN countries. In 1989, its accumulated investment was 13.4696 billion rupees. Major investor countries in descending order of accumulated investment value are the U.K., Switzerland, U.A.E., Kuwait, the U.S., Germany, Saudi Arabia, and Japan.

The Pakistani government has been promoting investment by means of deregulation and privatization of state-owned companies for over 10 years. The series of liberalization measures for the exchange rate control system and its easing of foreign investment regulations were also in line with the recommendation of IBRD and IMF.

As measures to promote the introduction of foreign capital and private sector investment, the government grants tax exemptions to firms investing in designated backward areas and special priority industries, guarantees repatriation of foreign investment principal and profits and has opened the public sector to private sector competition. Recent government initiatives aimed at promoting investment include its withdrawing the necessity for government sanction of investments, reduction of the number of industrial sectors requiring government sanction, the simplification of application procedures for approval, and the strengthening of government investment-promotion organizations. Although foreign investment has been liberalized, however, many regulatory and bureaucratic hindrances to conducting business still remain to be eliminated.

PART II STRUCTURE OF THE PAKISTAN'S TEXTILE INDUSTRY

PART II STRUCTURE OF THE PAKISTAN'S TEXTILE INDUSTRY

Chapter 1 Brief History of Textile Industry

1-1. World Textile Industry

The cotton industry, the industry at the core of the English industrial revolution, was gradually transformed from a manual industry into a factory-based industry through the mechanization of the processes involved. By the end of the 18th century it had established itself as a modern industry. The rapid reforms in technology which took a hold in the British textile industry during the period of the industrial revolution were later passed on to the European continent and then to the American continent.

Because the textile industry requires neither a high level of technology nor a large amount of capital investment it was an industry well-suited to the early stage of industrialization. Its position as a labour-intensive industry meant that less industrialized countries were, enjoying the merits of being followers, able to make the most of their advantages, that is, their low wages, to develop their own textile industries.

1-2. Pakistan's Textile Industry

During the time when India was a British colony the region which makes up present-day Pakistan was a place for growing raw cotton while the processing of cotton, such as spinning and weaving, was based in India.

At the time of independence there were as few as 5-6 spinning factories in Pakistan, and there were just 80,000 spindles and 3,000 weaving machines. The scale of its textile industry was such that it could supply only 8% of the domestic demand derived from its population of 76 million people. For Pakistan, which was one of the leading producers of cotton in the world, the development of a textile industry making full use of its abundant resources of cotton has been a short-cut in its path towards industrialization. With the objectives of achieving domestic self-sufficiency in textile products and obtaining foreign exchange, the Government of Pakistan set to promote the textile industry as an import substitution industry immediately after independence.

Chapter 2 Demand and Supply Pattern of Textile Products

2-1. Demand and Supply Trend

In 1990 world production of textile fibre exceeded 38 million tons. World production of textile fibre has shown a long-term trend of an average annual increase of approximately 700,000 tons.

Production of cotton fibre reached 18.7 million tons in 1990. It has continued to grow at an almost constant rate over the past 45 years. The linear regression shows an annual average increase of 266,000 tons. In contrast to this, there was an annual average increase of about 410,000 tons in the production of man-made fibre. With production of man-made fibre at 17.7 million tons in 1990, production scale of man-made fibre was virtually the same as that for cotton.

The market for cotton yarn is falling into a slump since August 1991 in conjunction with the slowing down of the world economy. According to the United Nations, the world economy recorded a negative growth rate of 0.3% in 1991, the first time the world has experienced negative growth since the end of the Second World War. Although the U.N. predicts that on the whole the world economy will grow at a positive rate in 1992, it said that economic growth could not be expected to exceed the increase in population, and that in terms of per capita it would grow at a negative growth rate of 0.25%.

Despite this, cotton spinning equipment experienced a significant increase in 1990, largely in the Asian region. Short fibre spinning machines increased by 4.96 million spindles (17.5%) throughout the world and shuttle-less looms also increased by 75,000 (6%).

2-2. Projection of Textile Consumption

2-2-1. Outlook of World Demand for Textile Fibre

The World Bank, in its World Development Report 1991, predicted world economic growth in the 1990s. The report foresees an annual average growth of 3.5 percent for standard cases and 2.8 percent for lower cases. Calculating the real GDP indexes for standard and lower cases until 2000 on the basis of the World Bank report and applying them to the regression formula, we estimated textile fibre consumption.

The result put world textile production at about 46.5 million tons in 1995 and 55 million tons in 2000 for standard cases, and the annual average rate of growth at 3.4 percent. For lower cases, the annual average rate of growth will be 2.8 percent, with production estimated at 44.9 million tons in 1995 and 51.5 million tons in 2000.

With regard to manmade fibre, the annual average rate of growth for standard cases is estimated at 3.9 percent with the production predicted to reach 22.3 million tons in 1995 and 27 million tons in 2000. The manmade fibre output will first surpass that of cotton around 1993. The annual average rate of growth for lower cases is predicted at 3.1 percent, with the production estimated to reach 21.46 million tons in 1995 and 25 million tons in 2000. Predictions for lower cases also foresee that the output of manmade fibre will begin to exceed that of cotton around 1994.

On the other hand, in standard cases the output of cotton fibre is estimated to reach 21.89 million tons in 1995 and 25.54 million tons in 2000, both slightly less than that of manmade fibre, and consumption is predicted to grow at an annual average rate of 3.1 percent. In lower cases, the yearly average rate of growth is estimated to be 2.4 percent and production 21.24 million tons in 1995 and 24.03 million tons in 2000. In lower cases as well, cotton fibre production is predicted to fall below that of manmade fibre.

2-2-2. Outlook for Demand for Pakistani Textile Products

If the world economy grows at an annual rate of 3.5 percent in accordance with the World Bank's standard scenario, global textile demand will increase at a yearly rate of 3.4 percent as stated above. The lower scenario expects global textile demand to grow at an annual rate of 2.8 percent. If it is applied to Pakistani cotton yarn and fabrics, the estimated demand will be as follows:

	Actual	Standard scenario		Lower scenario	
	1990/1991	1994/1995	1999/2000	1994/1995	1999/2000
Cotton yarn (1,000 tons)	1,056.1	1,207.2	1,426.9	1,179.4	1,354.1
Cotton fabrics (Mill sq. mtrs)	2,854.0	3,262.4	3,856.0	3,187.3	3,659.2

Pakistan's economy is growing at a rate higher than the world average, and its population is also increasing at a higher rate. Thus, fueled by increases in population and income, its domestic demand will grow at a higher rate than global demand. Export demand may also achieve an above-average growth if international demand rises above a certain level, due to the strong export competitiveness of Pakistan's textile industry and the effects of the devaluation of the Pakistani currency. For the longer term, there are grounds for expecting that growth rates of the Pakistan's textile industry will reach 4-5 percent a year, or at least slightly exceed those of the above-mentioned scenario.

Quantitative calculation will be more difficult as to the outlook of export demand for garments. As the family income and expenditure survey of Japan shows, however, income elasticity coefficients of clothing is high and this elasticity increases further with rises in income. There is no doubt that increases in income should be followed by a rise in demand. The central question is how large a portion of the expanding demand Pakistan's garment industry will be able to gain. This can be reduced to the single issue of competitiveness: The future export of garments will solely depend on how far the country can strengthen its international competitiveness.

2-3. Regional Trade Flow

In general terms the flow of trade of textile products between one region and another is characterized by the following three factors: (1) the percentage of trade between developed countries continues to be high; (2)

imports to developed countries are expanding; and (3) a noticeable increase in exports by the Asian NIES and other developing countries is apparent.

2-3-1. Flow of Garments between Regions

Similar GATT data shows that changes in the flow of garment trade consist of the following characteristics: (1) as is the case for textiles, trade between developed countries continues to account for a significant share of total trade; (2) despite this, exports from developing countries to developed countries have increased considerably and are now of a scale which exceeds that of trade among developed countries; and (3) there has been a noticeable increase in exports from eastern trading area.

A new development which is worthy of note is the move by the American garment industry to establish business relations in Mexico and the Caribbean region, and similar moves by European industries to go out into Africa and the Mediterranean region.

Chapter 3 Structure of the Textile Industry

3-1. Status in the Economy

Looking at production, export and employment indicators, which show that the textile industry accounts for about 19% of value added production by manufacturing industries, 64% of total exports, and about 38% of the total employment in the manufacturing industries, it may be concluded that the textile industry is Pakistan's largest industrial sector.

3-2. Production Capacity

Pakistan's spinning and weaving industries may be divided into two main sectors: the mill sector, which comprises of both integrated mills which are engaged in spinning and weaving (some mills having dyeing and finishing processes as well) and factories engaged exclusively in spinning; and the nonmill sector which is comprised of household units involved exclusively in weaving. Added to these types of businesses, there are companies which are engaged in the integrated production of knitwear, and there are dyeing and finishing companies and garment companies.

3-2-1. Spinning Sector

The spinning sector is organized under the All Pakistan Textile Mills Association (APTMA), a national industry association. The association had 277 member companies as at June 1991, whose spinning equipment comprised of 5.58 million spindles ring spinning machines and 74,000 rotors open-end machines.

3-2-2. Weaving Sector

(1) Mill sector

Roughly 40% of the APTMA's 277 members (about 100 companies) are integrated mills, that is, mills which perform spinning as well, and in some cases processing also. As of the end of the 90/91 financial year these companies owned 15,000 shuttle looms and 1,200 shuttleless looms. The past 20 years has seen a trend of decrease in the number of shuttle looms.

(2) Nonmill sector

The sector referred to as the nonmill sector is made up of independent weaving mills dominated by small-scale enterprises. Today the nonmill sector accounts for as much as 90 percent of all cotton fabric production, generating the growth of many ancillary industries of small and medium scale. The small-scale output of individual mills means that they are structurally suited to multi-kind, small-lot production and are in a position of playing a role as material suppliers to the garment sector. The problems are superannuated facilities, poor quality and low productivity. Being mostly family-operated small businesses, their finance raising ability is weak and, with a few exceptions, lag far behind in the modernization of facilities.

3-2-3. Processing Sector

The number of firms in the dyeing and finishing sector totals about 650 (including 29 dyeing sectors of composite mills), far more than the 200 in 1970. A World Bank report in 1982 estimates the total dyeing and finishing capacity at 1,150 million square meters. The dyeing capacity of the mill sector alone is 5 percent of total production in 1987/88.

3-2-4. Knitwear Sector

Currently, the knitwear industry is composed of around 600 enterprises. Eighty of them are major integrated firms with knitting, dyeing and sewing processes. However, small enterprises account for about 60 percent of the production. A total of around 12,000 units of facilities are estimated to be installed.

PHMA members number about 600, of which 40 are said to be enterprises of integrated type owning incompany knitting sectors.

3-2-5. Garment Sector

The Textile Working Group Report estimates there are as many as 1,000 manufacturers scattered around the country. Among them, 550 firms (as of 1992) are members of the Pakistan Cotton Fashion Apparel Manufacturers and Exporters Association (PCFA-MEA).

Most of these manufacturers are small household units having no more than 50 sewing machines each. PCFA-MEA membership is composed of 250 firms which have 30 to 50 machines and 300 bigger enterprises most of which have 50 to 300 machines.

In around 1983, there were a total of 7,050 sewing machines, of which 2,550 were in the organized sector and the remaining 4,500 in the household unit sector. As of 1990, there were approximately as many as 230,000 machines in the industry, of which 81,500 were in the organized sector and 150,000 (locally-made machines) in the household unit sector.

3-3. Production Structure

3-3-1. Overall Outline

In 89/90 production of cotton yarn totalled about 925,000 tons. As little as 5% of production was consumed by the weaving division of the mill sector, with 41% exported, and with just half of total production (54%) supplied to the domestic market.

If the distribution is viewed in terms yarn, 40% is exported in the form of yarn, 20% is exported in fabric, 10% is exported in garment and other made-ups and 30% is consumed domestically (all figures here are approximate). It is clear from these figures that exports in the form of yarn account for the largest portion of exports, and as a result there is very little linkage between the up-stream and the exporters of finished products.

3-3-2. Spinning Sector

Production of cotton yarn has experienced rapid growth, particularly from 86/87 onwards. This is attributable to factors such as the increase in exports, the increase in the rate of operation for equipment, and the increase in the number of open-end rotors.

3-3-3. Weaving Sector

As for production share of fabrics by categories, grey fabric (unbleached), with a production share of around 55% has tended to account for a large share of production over the past ten years. The percentage of wet processed fabric (bleaching, dyeing and printing) has decreased. In the case of bleached fabric in particular,

there has been a decrease in volume, with the result that there has been a substantial decrease in its share of production. No change of any note has been seen with regard to dyed and printed fabric.

3-3-4. Dyeing and Finishing Sector

The share of wet processed fabric was 35.7% in 70/71, 27.7% in 80/81, and 24.5% in 90/91. Thus, although it has sustained slight fluctuations over this period it has been showing a gradual decline over the longer term.

3-3-5. Knitwear Sector

The annual volume of production of knitwear for 1990 was somewhere around 180 million pieces.

3-3-6. Garment Sector

Annual production stood at about 50 million pieces in 1983 and it increased to around 600 million pieces (as of 1990). It would appear that there has been a sharp increase in production during this interval.

3-4. Export Structure

3-4-1. Export Structure of Textile Products

A breakdown of total textile product exports reveals that classified broadly 73% is textile products of SITC-65, and 27% is garment of SITC-84.

3-4-2. Export Structure by Material and Type

(1) Structure of spun yarn by material

A look at structure of spun yarn exports by material show that with a share of 98.3%, cotton yarn accounts for nearly all yarn exports.

(2) Structure of fabric exports by material

A breakdown of fabric exports show that cotton fabric comprised 72.5% of exports and man-made fibre fabric (P/C, P/V) 27.5%. Silk and woollen fabric comprised just 1% of the total.

(3) Structure of cotton fabric by category

Cotton fabric comprises the bulk of fabric exports. A breakdown into grey fabric and wet processed fabric

shows that at 48.9% and 46.7% respectively holding nearly the same share of total exports. Given that the production share of grey fabric is about 60% and that for wet processed fabric is around 25%, a far higher proportion of processed fabric is seen in exports.

(4) Structure of garment by material and type

A breakdown of garment exports (total of SITC-841, 842, 843, 844, 845) according to the type of material shows that 85.6% made of cotton, 10.5% man-made fibre, and 3.9% other fabrics.

The present situation with regard to export garment is one where it is specialized in cotton products.

It may be noted that 50.4% of export garment is made of woven fabric, 33.3% knitted fabric, and 16.3% a combination of woven and knitted fabric. The share of exports comprised by men's and women's garment are 57% and 26% respectively.

3-4-3. Export Structure by Destination

(1) Export markets for cotton yarn

A look at exports of cotton yarn (SITC-6513) for 89/90 by destination shows that an overwhelming proportion (74.8%) were destinated to Asian countries which have their own textile industries. A further breakdown of exports to Asia shows that 33.3% went to Japan, 14.0% to Hong Kong, 10.6% to Korea, 1.8% to Singapore, and 1.7% to Thailand. Western Europe was the second largest export market, and accounted for 16.7%.

(2) Export markets for cotton fabric

As for exports of cotton fabric (SITC-6522, -6533) in 89/90 by destination, western Europe and Asia imported nearly the same percentage of cotton fabric from Pakistan with respective shares of 29.3% and 28.2%. They were followed by North America which imported 11.9%, and Africa which imported 11.3%. The share of exports destined to African countries such as Mauritius has been increasing and this reflects the expansion of the textile industries in these countries.

(3) Export markets for garments/knitwear

Whereas Asia and western Europe are the main export markets for yarn and fabric, the north American and western European markets are the two main markets for garments and knitwear. Furthermore, the shares held by these two markets have increased steadily since about 85/86.

Chapter 4 Comparative Advantage of Pakistan's Textile Industry

4-1. Comparison of Size of Production Facilities

(1) Spinning sector

Breaking the industry down by country, China and India may be regarded as the Big Two in number of installed ring spinning machines, with (as of 1990) 38 million and 26.65 million spindles respectively. Brazil (eight million) and Pakistan (5.45 million) are in third and fourth position, closely followed by Indonesia (4.5 million) and Thailand (three million), both of which are installing new machines rapidly.

Broken down by country (and ignoring the developed nations), China (400,000 rotors) also heads the list of numbers of installed OE spinning machines, followed by Taiwan (150,000 rotors), Brazil (150,000 rotors), Turkey (125,000 rotors) and Pakistan (70,000 rotors) in that order. At fifth place, Pakistan is closely pursued by India, Indonesia and Thailand. Indonesia increased the number of installed OE spinning machines 12 times and Thailand 15 times in the decade between 1980 and 1990.

Turkey also laid emphasis on the increased installation of OE spinning machines than on ring spinners, boosting the number of installed OE spinning machines approximately ten-fold in the past decade. Pakistan will have to keep a constant watch on spinning trends in Indonesia, Thailand and Turkey.

(2) Weaving sector

Broken down by country, China accounts for a predominant 39.4 percent of the global total of installed shuttle looms at 850,000 units, followed by India (175,000), Japan (146,000), Brazil (135,000), Indonesia (125,000), the Soviet Union (75,000), Thailand (60,000) and Egypt (45,000). Textile industry growth in Indonesia and Thailand, which do not produce raw cotton, has been as remarkable as that in cotton-growing China, India, the Soviet Union and Egypt.

The number of shuttle looms in Pakistan is estimated at 10,000 units, which ranks it 20th in the world. Combined with the looms in the nonmill sector, the country has an equal number of equipment with Brazil or Indonesia, ranking it fourth or fifth in the world in textile weaving.

4-2. Comparison of Size of Production

(1) Spinning sector

Broken down by country, Pakistan ranked fifth after China, the Soviet Union, India, the United States in weight of cotton yarn output in 1989. A decade ago, Pakistan ranked seventh after Brazil and Japan.

However, as of 1990, Pakistan remained below Brazil and Japan in the number of spindles. This is understood to mean that the unit weight of Pakistani products is heavier than that of Brazil and Japan, in other words there is a predominance of low count yarn. Remarkable gains in output were registered in the decade from 1980 to 1990 by Indonesia (4.1 times), Pakistan (2.5 times) and Thailand (2.1 times).

(2) Weaving sector

In terms of size of output Pakistan's weaving sector ranks 21st in the world, far lower than its spinning sector. This implies that a high percentage of yarn output is exported as it is without being used for weaving in the country.

In output growth in the decade between 1980 and 1990, Indonesia stands out with a remarkable gain of 6.5 times, followed by Taiwan (2.3 times), the Philippines (2.1 times) and Thailand (1.9 times).

4-3. Comparison of Size of Export

(1) Textiles (spun yarn and woven fabric)

In 1989 Hong Kong, China, Taiwan and Korea, excluding developed countries, exceeded Pakistan in terms of textile export value and market share. On the other hand, Indonesia, Turkey and Thailand still lag behind Pakistan in terms of value of exports but are close to catching up in terms of export growth and market share.

(2) Garments

In garment exports as of 1989, Pakistan is surpassed in terms of value of export and market share by Hong Kong, Korea, China, Taiwan, Turkey Thailand, India, Singapore, Indonesia, Macao, Malaysia and Tunisia.

The three countries Turkey, Indonesia and Thailand in particular have a long lead over Pakistan in the rate of market share expansion and yearly average growth rate of exports, indicating their fast pace of growth. Mauritius and Malaysia also surpass Pakistan in annual average growth rate.

High rates of share expansion and export growth in the past show Bangladesh, Mauritius, Morocco and Sri

Lanka to be closing fast on Pakistan though they lag behind at present in terms of value of exports and market share. In addition, Dominica, Jamaica and Colombia are expected to achieve remarkable growth after 1989.

4-4. International Structure of Comparative Advantage

(1) Textile sector

The phase of development and structure of competitiveness of the textile industry (SITC-65: yarns and fabrics) in 10 major producing countries are examined using U.N. and OECD trade statistics. The diagram on the left side of Fig. II-4-7a indicates changes in the phase of development and competitiveness of the textile industry in China, Pakistan, Turkey, Thailand and Indonesia, and its counterpart on the right side the same of India, Japan, Hong Kong, Taiwan and South Korea. (Fig. II-4-7a)

As far as the diagram shows, India's competitiveness is still considerably above China, Thailand and Indonesia, apparently almost the highest in the world. But in view of the fact that import has been restricted due to policy reasons, the competitiveness of India indicated in the diagram should be seen as somewhat over-valued.

From the end of the 1960s the textile industry of Thailand rapidly increased its competitiveness. Indonesia's textile industry has been rapidly increasing its competitiveness since 1983. Although it reached Phase II nine years later than Thailand, it achieved a level of competitiveness equal to South Korea and Taiwan in 1989. China, Turkey and Pakistan showed a pattern similar to that of India.

Pakistan's textile industry had a competitiveness equal to India's around 1970. Subsequently, it lowered its competitiveness but began to recover this in the 1980s, reaching India's level again in 1989. As far as textile products are concerned, Pakistan's competitiveness may be said to be at its peak now. As for fabrics, however, import restrictions were continued in the past and remain in place at present. Like India, the Pakistan's competitiveness indicated in the diagram is, thus, not necessarily an accurate reflection of actual conditions.

(2) Garment sector

Fig. II-4-7b examines the phases of development and structure of competitiveness of the garment industry (SITC-84: Garments) in the eight major producing nations of Asia using U.N. and OECD trade statistics. The diagram on the left side shows the competitiveness curves of India, Pakistan, Thailand and Indonesia, which after reaching a competitiveness of +1 have remained there, and its counterpart on the right side, those of Japan, Hong Kong, South Korea and Taiwan which have already entered or appear to be entering the process of degeneration. (Fig. II-4-7b)

The garment industries of Taiwan and South Korea have maintained competitiveness close to +1 for the past

two decades. But they will hand over their preeminence in the mass-production market to Thailand, Indonesia, India and Pakistan and increasingly strengthen their orientation toward products of higher grade. Although the competitiveness indexes of India and Pakistan reached higher levels sooner than Thailand and Indonesia, it does not necessarily mean that the competitiveness of India and Pakistan absolutely exceed that of the latter two.

4-5. Domestic Inter-industry Structure of Comparative Advantage

The highest RCA (Revealed Comparative Advantage) value among industrial sub-sectors of Pakistan is represented by sewn textile products (excepting garments, however)(SITC-658), called "made-ups" in the country. Their RCA value in 1988 was a marked 63.0 against 42.3 in 1985. The sharp rise in comparative advantage across only three years is indicative of the high level of competitiveness of made-ups even within the textile sector, which of itself has strong export competitiveness.

As seen in Fig. II-4-8, Pakistan's inter-industry structure of comparative advantage leans in favour of home textile goods, cotton fabrics, hides and skins, carpets and other products with comparatively low value added and the competitiveness of garments, toys and sporting goods and other high-value-added industries is relatively weak.

4-6. Comparative Advantage Factors

4-6-1. Labor Cost

Hourly wages stood at $0.39 in Pakistan, almost the same as in China and a little above Indonesia and Sri Lanka.

Of course, nominal labour expenses alone do not determine the competitiveness of the textile industry. The factor of labour productivity must be added to gain a more meaningful understanding of labour expenses. Even still, it expresses just a small part of overall competitiveness of the textile industry. The overall competitiveness depends on quality and prices of raw materials, energy, exchange rates, stock turnover, quality of products, design, delivery and other cost and nonprice factors as well.

The low level of labour costs in Pakistan, however, is an advantageous condition in competiting with the ASEAN nations, Turkey and South American countries. It is believed to be one of the major factors responsible for its comparative advantage vis-a-vis these producers.

4-6-2. Material Costs

Cotton produced in Pakistan in the past centred on short staple types suitable for spinning of low-count yarn. But due to the progress of R&D for species improvement, cotton with a staple length of one inch or more, suitable for middle count yarn, has recently grown to account for nearly 90 percent of output.

According to Japanese import statistics, Pakistan is one of the least expensive sources of raw cotton. It may be said that Pakistan's textile industry is blessed with raw materials which satisfy the three conditions of quantity, quality and price.

4-6-3. Nonprice Factors

As also confirmed in the U.S. survey, which will be quoted in Chapter 6, the biggest factor responsible for the competitiveness of Pakistani garment products lies in "price". Pakistani products, however, are generally in a disadvantageous position with regard to the nonprice factors including quality of raw materials and products, dyeing and sewing technology and delivery.

Chapter 5 Textile Industries and Export Promotion Policies in Competing Nations

5-1. Textile Industry and Export Promotion Policy in Indonesia

5-1-1. The Indonesian Textile Industry Today

With the exception of the petroleum/natural gas sector, textiles has become the country's largest export industry. A breakdown of 1990 textile exports by value shows garments with 56%, textiles with 19%, and yarn with 3%. Garments show the most promise for the coming years. Recent foreign investment has also been concentrated in the garment sector.

Although Indonesia must import cotton for use in producing yarn, it has access to an abundant supply of synthetic short and long fibres such as polyester, rayon, and acrylic. In addition, a wide variety of woven and knit fabrics and linings are produced locally for use in garment manufacture. Despite this, most garment manufacturers rely on foreign sources for 25% to 30% of their materials.

Most garment manufacturers have set to work modernizing their facilities with the main objective being improved quality rather than higher productivity. The recent trend in modernization is for the introduction of automated equipment. Many garment manufacturers take advantage of technical tie-ups and foreign technical assistance to send their technical staffs abroad for training. It is also possible through the mediation of the Export Supporting Council (ESC) for firms to accept overseas experts for the training of their employees.

Virtually all garment manufacturers use designs and specifications provided by their overseas buyers. Brand names are also designated by the buyer. Exports are limited to the buyer, and sales to other customers are prohibited.

Since 1974 Indonesia has been subject to restrictions under the MFA (Multi-Fibre Agreement) quotas on exports to the United States, Canada, the European Community, Sweden, and Norway. Nevertheless, during the period 1982 to 1990 Indonesian garment exports jumped from 16,000 tons to 113,000 tons, representing an average yearly rise of 25%, while the value of these shipments surged from $114 million to $1,620 million for an average yearly increase of 42%. Furthermore, 81% of all 1989 garment exports and 77% of 1990 shipments were destined for quota nations.

Indonesia's achievement of such high export growth in terms of both volume and value despite the quotas is the result of a variety of factors. These include the diversification of product lines, the development of non-quota items, increased exports of non-quota items, more lenient quota increments for certain items, increased exports to non-quota countries, and increased unit prices due to higher quality.

Indonesia had no garment market until very recently. With the development of the local garment industry, however, the practise of wearing ready-made clothing began to take root, and as a result imports of garments are actually on the rise.

5-1-2. Export Promotion Policy

(1) Export Incentives

a. Export financing: Comparatively low-cost financing with an upper limit of 85% of manufacturing cost for export
b. Reduction or exemption of import duties on machinery and components
c. Reduction or exemption of import duties and surcharges on raw materials destined for re-export as finished goods

(2) Support for Export Promotion Activities

In addition to technical training, ESC provides various types of financial assistance to export promotion activities. ESC will subsidize 75% of expenses. In the case of private organizations and industry associations, ESC will bear the entire cost of export promotion activities.

(3) Quota Management

A firm wishing to export textiles or textile products (both quota and non-quota items) to MFA nations must be licensed as a Registered Exporter of Textile and Textile Products (ETTPT). There are two types of ETTPT license: a permanent license and a provisional license. Firms must first qualify for the provisional license. In principle, textile and textile product quotas are allotted to permanent license holders. There are two types of quotas:

a. Permanent quotas (base level): A percentage of the basic export volume set out in agreements with the importing nation. Allocated to permanent ETTPT holders based on export performance.

b. Provisional quotas (flexible): A special quota consisting of carry over and swing resulting from flexibility clauses in the bilateral agreement. Allocated to those companies who have received orders from foreign buyers and have the necessary inventory for immediate shipment. Carry forward privileges are provided only to permanent quota holders.

The sale, or takeover, of quotas between firms is permitted, but the quotas must be sold on the Indonesian Stock Exchange.

5-2. Textile Industry and Export Promotion Policy in Turkey

5-2-1. The Turkish Textile Industry Today

Today, textile-related sectors form the country's largest single export industry. Especially noteworthy is the garment sector, which is the fifth largest exporter in the world (not including the industrialized nations), following Hong Kong, Korea, China and Taiwan. Since 1989, however, exports have begun to show signs of slacking off, and a drop in export competitiveness is feared.

The industry consists of a large number of small businesses and lacks an oligopolistic structure. Even the country's largest corporate conglomerate, the Sabanci Group, maintains only a 4% share of total production. This is evidence of the textile industry's great vulnerability to market fluctuations.

Facilities in the spinning sector include 3.8 million spindles in short fibre spinning machines and 95,000 rotors in OE spinning frames (equivalent to 500,000 spindles), resulting in production capacity of 4.3 million spindles, or 5% of total facilities worldwide. In Western Europe the increase in shuttleless weaving machines has brought about rising demand for open-end spinning, casting a shadow over Turkish exports of ring-spun yarns. As a result, the industry has begun to focus its efforts on combed yarn and finer varieties of carded yarn. This in turn is creating a need for imports of long-fibre raw cotton.

Since 1980, the garment sector has grown at a faster rate than any other industrial sector. Contributing factors include export-oriented corporate strategies, the utilization of investment incentives, the liberalization of machinery imports and the elimination of import duties on the same. Recently, industry is shifting its focus from the low-priced, mass-produced goods common in the past to high-value-added fashion apparels. In coming years it will require an increasing supply of high-quality materials.

Because of the limited local market, the Turkish textile industry is heavily dependent on exports. In the 1980s the industry began to focus on high-value-added exports as a means of making optimum use of the MFA quotas to expand exports and stay ahead of the competition with Asia and the Far East. Despite its penetration of the EC, however, the industry has fallen behind its Asian competitors in the U.S. and Japanese markets. Political developments led to a roughly two-fold increase in the 1991 quota for exports to the U.S. 1991 and 1992 quotas for exports to the European Community rose by 26.7% and 32.3%, respectively. Furthermore, an inter-item swing of 4% has been allowed since 1991.

5-2-2. Export Promotion Policy

(1) Export Incentives

The main export incentive programmes still in effect are as follows:

a. Low-interest financing from the Export Credit Bank of Turkey: Eximbank provides export finance at interest rates of 45% to 48%.

b. Corporate tax deduction: Currently, 16% of export income is deductible. However, this figure is being reduced by 2% a year, and the system is scheduled to be abolished by the mid-1990s .

c. Import duty exemptions on raw materials and semi-finished products destined for re-export as finished goods: Firms are currently exempted from duties on imported raw materials and semi-finished products to be used in producing finished goods for export.

(2) Import Liberalization

In 1989 the government liberalized imports of all textile products and raw materials and also rolled back import duties. Imports of machinery and equipment have been liberalized, and import duties have been reduced.

(3) Quota Management

The allotment of export quotas to individual firms is carried out by the Istanbul Textile and Garment Exporters Association (ITKIB) under the supervision of the Finance and Trade Ministries. Approximately 2,000 firms are qualified to receive the allotments, which are based on past export performance. 10% to 15% of the total

amount is pooled in a reserve to allow flexible distribution.

Firms must satisfy two conditions to receive the allotments: they must be producers, and they must be of a certain size. The latter criterium dictates that a company must have facilities with at least 10 horsepower and employ at least five workers.

Chapter 6 International Marketability of Garments

A special study was conducted in the U.S. in order to ascertain the standing of Pakistani garments in the international market. Here is given a brief review of the report.

- Assessment of Southwest Asian Products -

- Quality

According to assessments given by mass sales outlets and boutiques, Pakistani products are less tailored (even crude) and there is less attention to detail and poor quality control. Problems are thought to be worse when cotton fabric produced domestically in Pakistan is used.

- Price

As a whole, Southwest Asian products tend to be at the low-end markets, and Pakistani products are able to compete well here in terms of price. Its products are between 10 and 15 percent cheaper than comparable products from other countries. In general, garments made in Pakistan have the image of being low-quality and low-priced.

- Delivery

Delivery of garments from Pakistan are said to be usually "late". One interviewee commented "You have to be careful. There are lots of delivery problems".

- Sales channels

There is a lingering negative impression, even called "nasty" by one importer, for some people who have been hurt by sourcing in Pakistan in the past. One international sourcing manager commented, "Although Pakistani products have a lot of potential, doing business with Pakistan is difficult. There is not a Western mentality of doing business is Pakistan."

Currently the lack of reliable connections prevents direct sourcing for most major retailers. Lack of control is a frequently cited problem, and promotes the use of third parties, even for retailers who do a lot of direct sourcing.

- Expected improvement

Comprising 29% of its total garment exports and 45% of its knitted garment exports, the U.S. is Pakistan's largest export market. Nonetheless, it is still regarded as a newcomer and there is a tendency to view the prospect of its increasing its technological levels with suspicion. Most assume that along with India the country will take a long time to achieve the necessary improvements.

- Comparison between Pakistani and CBI (Caribbean Basin Initiatives) products

According to the majority view, quality is higher in CBI than Pakistani products. Most were also of the view that garments using poor-quality domestically made fabric were responsible for bringing down the overall reputation of Pakistani garments.

- What do consumers demand?

The interviews seemed to indicate that overall consumers are most interested in the relationship between price and quality, in other words they seek the "the best price for a given quality". According to a certain consultant, consumers in the market for low and middle grade goods look for low-priced versions of the fashions sold in upmarket department stores.

- Trends in OEM-type imports by apparel makers

Considerations of price, quality, and delivery time inform makers' decisions as to production bases. CBI countries have much to offer in each of these areas, making them attractive to makers as new production bases. Regions such as Latin America, Vietnam, Cambodia and Africa are potential overseas sources.

Although more aggressive buyers will frequently shift their overseas sources, in general the existence of quotas as well as the need to maintain business relationships will place restrictions on how frequently procurement sources may be changed. Gradual changes in production bases can be expected nevertheless.

PART III DIAGNOSTIC ANALYSIS OF TEXTILE INDUSTRY IN PAKISTAN

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1. Outline

Textile mills in Pakistan can be roughly classified into the following categories by industrial structure;

A. Integrated Mills : where spinning and weaving or spinning, weaving and dyeing-finishing processing (including sewing of bed covers in some cases) are carried out on the same premises.

B. Independent Mills : which belongs to one of the following categories
   (1) Specialist Spinning Mills
   (2) Specialist Dyeing and Finishing Factories
   (3) Specialist Weavers with power loom organized on a small or cottage weaver pattern are included under this heading

C. Knitwear Factories: Factories with integrated processes of knitting, dyeing-finishing and sewing processes to produce knitwear articles.

D. Garment Factories: Sewing factories for textile garments.

Even in the integrated mills the capacity of the spinning sector is found to exceed that of the weaving sector. Yarn is supplied by the spinning sector to the power loom and knitwear sectors as well as being exported or consumed on an in-house basis. Further, the dyeing-finishing section do not only handle in-house products but also purchase textiles for dyeing which have been produced in the power loom sector, while a part of dyeing is also done on commission so that the style of management is the same as that of the specialist dyeing-finishing factories.

Knitting factories in Pakistan are organized as integrated with knitting, dyeing-finishing and sewing, all of which are carried out. Garment factories purchase woven textiles which they have dyed on commission by specialist dyeing-finishing factories which carry out the required dyeing processing.

By sector, while the spinning and weaving sectors have experienced forty years of rise and decline, the knitwear and garment industries expanded as export industries from around the 1980s. Particular characteristics of Pakistan's textile industry in relation to the upstream and midstream sectors (spinning, weaving, dyeing-qsfinishing) are a) Pakistan is one of the world's leading raw cotton producing nations, b) the industry has 40 years of history dating from Independence, and c) the industry is one of the major export industries of the country. Summing up the role of the industry, it serves to satisfy the domestic demand for clothing items while also supplying raw materials (cotton yarn, fabric,etc.) to the textile industries of foreign nations (export targets).

On the other hand, with regard to the downstream sectors (knit wear and garment industries), it can be noted that a) the main raw materials used are domestic cotton yarn and fabrics, and b) domestic demand is next to non existent so that these industries are only growing as export industries.

Against the background of the above characteristics the upstream and midstream sectors have potential for industrial development on the basis of their production of yarn and fabrics. Also the downstream sectors have potentiality as export dependent processing industries, but there are a number of factors impede such potential. Furthermore, there are a number of constraints caused by the particular operation of market mechanisms existing between the upstream/midstream sectors and the downstream sectors which hinder the linkage between the two sectors and so impede a balanced development of the textile industry overall.

2. Raw Cotton, its Volume of Production and Quality

Production of raw cotton which is the main raw material for Pakistan's textile industry reached a level of about 10 million bales (with 170 kg per bale) in 1990, of which 75% was supplied to the domestic spinning industry. A programme for further expansion of raw cotton production is now underway and it is possible to assure the required volume as raw material supply to the domestic spinning industries.

As to the quality and strain of raw cotton produced, 95% of current production has a fibre length above 1-1/32 inches and it is possible to manufacture 30-40 count class cotton yarns using this raw cotton as raw material. But domestic raw cotton has a large impurity content with a high level of foreign matters, trash and water content so that it is poor by international standards. These impurities reduce the beneficial effect of improvements in strain which are undertaken and this impairs not only the quality of the raw cotton itself but reduces the rating of yarn and fabric and is a cause of imperfect dyeing. In mills producing yarn or fabric destined for specific users who have rigorous quality standards, it is necessary to employ a large number of personnel to pick out the trash and impurities from the raw cotton in order to meet the requirements of clients, but in fact these cannot be said to be entirely satisfied. In other mills and factories, however, there is no action taken to remedy the problems which this trash content creates in final products. This is a major defect preventing the production of final products with a high value added. At present a project for the establishment of a standardized raw cotton ranking system is being furthered with assistance from the FAO (the Food and Agricultural Organization of the United Nations). However, there has been no action for drawing up concrete proposals as to a plan of improvement and at present correction of the trash content problem is not progressing.

3. Raw Materials of the Downstream Sectors

The main part of raw materials supplied to the knitwear and garment industries depends on nationally produced yarn and fabric which use domestic raw cotton. Coarse and medium count yarn or coarse to medium count fabrics (generally of 10-30 count) are supplied. Since commodities which can be made from this restricted range of raw materials are also limited, overseas buyers order from Pakistan with such limitations in mind, and so mid to poor rank items destined for mass retail outlets form the main orders. Fabrics required for garments are mostly piece dyeing and bleached cloth (fluorescent dyed) and so are required to be of a higher quality than the printed fabrics currently mass produced to supply the home textiles market. At present in order to supply the fabrics required for manufacture of the high value added garment items, it is essential to direct efforts towards quality improvement in the upstream and midstream sectors. Such improvements will require considerable time.

In order to take full advantage of the merits of Pakistan's position as a raw cotton producer nation and to maximize the value added of downstream finished products, there are a large number of problems to be considered and overcome. The major problem among these is the lack of action among the upstream and midstream sectors in response to the strong demands of the downstream sector for an upgrading of these sectors. Without action on the feedback from the downstream sector, there can be no upgrading of this since it will be blocked by the inactivity of the upper levels. As long as there is no push in this direction the potentiality of the upstream and midstream sectors will not be focused or realized.

4. Equipment and Capital

(1) Modernization of Facilities of the Upstream and Midstream Sectors

In general there is a strong desire to realize modernization equally on the part of existing mills through modernization and expansion of facilities and through new installations on the part of new entrants to the industry. As far as coarse and medium count yarn is concerned, first class equipment even by international standards is installed and there are almost no hindrances in terms of equipment provision. Compared to the spinning sector, modernization of equipment in the weaving sector is belated and weaving capacity expansion is low. However, by a substituting the shuttle looms with shuttleless looms (with some three to four times capacity to shuttle loom) there is a rapid increase in production capacity and an improvement in the quality of fabrics. On these grounds a trend to effect the modernization of the weaving sector is growing, in addition to that of the spinning sector which was first undertaken to respond to the increased demand for exports.

The direct impetus for modernization of the spinning and weaving sectors has been the desire on the part of the Government of Pakistan to increase exports with a view to expanding foreign currency revenue. However, this stimulus has not had any impact on the domestic downstream industries. The capital needed for modernization has been met by active investment using private capital under the BMR scheme. Therefore, emphasis has been

placed on the direct export of superior quality fabrics produced using the modernized equipment thus invested in, and the fabric has not been supplied to serve as raw materials for printed fabrics or garment material to take the form of indirect exports. In the dyeing-finishing sectors emphasis has been placed in modernization on installation of printing equipment largely of rotary screen printing type. In contrast there is little attention given to piece dyeing facilities which are required for production of garment raw materials. For technical reasons it is not possible to produce a good quality of piece dyeing and this is partly due to the bias of export demand to the printed cloth.

There is still a large amount of superannuated equipment in the upstream and midstream sectors, and there are clear disparities in the stage of modernization and upgrading achieved between sectors, but the companies with large exports and especially with large direct exports show a rapid expansion. The main problems are a) the insufficient maintenance system for the newly installed facilities and b) the lack of investment in equipment needed for supplying raw materials required by the domestic downstream sectors.

(2) Equipment of the Downstream Sector

The output of the knitwear and garment industries is all manufactured for export, and as the equipment investment required is relatively small, equipment installed for knitting, dyeing and sewing is comparatively new. The equipment is selected to match the variety of raw material used and to be appropriate for the production of the rank of final product aimed at. The choice of equipment is extremely realistic. In future in order to realize an upgrading of final products, it will be necessary to introduce high gauge knitting machines, yarn dyeing equipment, mercerizing machinery, special sewing machinery and fusing press equipment, etc. The expansion of equipment will need to be carried out in conjunction with upgrading of technology and the upgrading of markets. If equipment is upgraded then it will be necessary to improve levels of operating technology and maintenance technology.

The overall strength of an industry including technology, marketing, financing, and human resources and its managerial stance are important factors in determining the dynamic realization of expansion or modernizing renovation of downstream sector facilities as part of a strategy of upgrading export markets. In comparison with upstream sectors, many of the downstream sectors are on a small industrial scale, so it is necessary to select the better companies which have a vigorous managerial stance and develop these through financing under appropriate conditions.

5. Technology and Management

(1) Production Technology

In spinning and weaving sectors, the technical levels attained are not particularly high. With the recent reforms in policies relating to equipment, modernization has made progress but technical levels have not improved in line with equipment. At present in Pakistan spinning and weaving manufacture is carried out but there is a lack

of coherent accumulation of basic technology and technology for mass production is not progressed. Further, because of the insufficiency of maintenance technology the quality of product is uneven and generally low. Within the limits of domestic national demand and for low grade coarse to medium count export items there are few complaints since the quality level demanded by markets is not very high. However, if high grade products such as middle to fine count items are to be produced, a large number of problems will be encountered. In present circumstances, the level of dyeing-finishing technology is low. Many factories have only learned the handling of the latest equipment and since engineers acquainted with dyeing technology are scarce, the level of finished product quality is low and the full equipment capacity is not realized. Moreover hue adjustment technology and evaluation technology is poor and few factories have sufficient facilities. It is necessary to acquire systematic expertise relating to the dyeing technology which has been acquired.

An important factor to the improvement of the quality of finished products is improvement of technology. To realize this it is essential to reinforce education in basic expertise and to train up personnel by experienced engineers. What most needed in present circumstances is a constant urge to improve the technology and the product quality. Although there is a desire to improve on an individual level, there is only little move to evolve it into vigorous action on an industrial or company scale. Except for very few factories operation depend on technical exeprtise of a particular individual, instead of possessing technology in an enterprise level.

(2) Production Management and Quality Control

The quality of textile products in Pakistan is by no means high. The following findings in the survey are considered as examples showing that potentials of raw cotton and production facilities are not fully realized. This seems to be resulted from low leveled production control and quality control in addition to insufficient production technology.

- Modernization of equipment has been in progress, however, quality of the finished products is not very high and characteristic of equipment is not fully employed.

- There is little production of fine count yarns and fabrics, so that the full potential of the raw cotton available is not realized (problem points relating to the raw cotton are mentioned in 2-1-1).

- The yield of the export grade products is low.

The following two subjects have been considered as the basic problems:

A. Problems in quality consciousness of managers and factory supervisors

The low level of complaints received from buyers towards spinning, weaving and dyeing-finishing generally tends to affirm current levels of product quality, so that the urge or desire to improve the quality of finished product or realize greater value added is weak. In the garment and knitting sectors almost all of the output is

directed for export, so that managers are aware of problems in product quality, but this awareness is not sufficient to result in any general reformation of quality consciousness in the textile industry including the upstream and midstream sectors. The upstream sector has been very influential and data concerning product quality received as feedback from the downstream sectors is not sufficiently reported back to the upstream and midstream sectors, so that data transmission is incomplete. There has been little outcome of efforts for improvements in the factors impairing the quality of raw cotton.

B. Insufficient understanding of the basic nature of quality control systems

In the spinning sector a large number of mills are equipped with inspection devices. However, in the weaving and dyeing-finishing sectors few factories are equipped with cloth inspecting machines and many factories content themselves with opening out fabric for visual inspection. In the knitwear and garment sectors where inspections of all output are made at time of dispatch and data on defects is collected. However, probably due to a misunderstanding that inspection is all of the quality control, the defective sections of output are remedied but no action is taken on improving a large number of defective or imperfect processing which is the root cause of such defects.

In order to improve management systems, it is first of all necessary for managers to be aware of the need for improvements in product quality, since their awareness will act as the driving force behind the diffusion of such product quality control systems within the factory. It is necessary to make more effort to connect the inspection results to action concerning production technology and production management. This would represent the first step towards an improvement of processing and evolution of product quality control system. It is necessary in this context to promote more awareness of quality control system among mid ranking managers and engineers and provide suitable training in the aspect of quality control. The low quality of product is not the responsibility of the operators but is due to the fact that they are left without guidelines on correct procedures. This situation hinders the full realization of the benefits of improvements or modernization which have been carried out. Equipment improvements and modernization will require time and money, but continuing and accumulative efforts in processing improvement will result in deserving effects in the production.

6. Personnel

(1) Management Staff

It is possible to divide companies in the upstream and midstream sectors of spinning, weaving and dyeing (including integrated mills) roughly into two groups of companies adopting dynamic industrial strategies and those which aim to maintain their present level of activity. The former group undertakes active equipment investment with the aim of exporting product (mostly as direct export), directs efforts to opening up new markets and are seen as successful in the above efforts at present. The effort of this group would cause the activation of the textile industry to date. On the other hand, the industrial strategies of such companies are

seen to be focused on an expansion of exports of in-house products rather than on supply of raw materials to the downstream sectors. Managers of such companies take a keen interest in news concerning foreign markets and equipment developments. It is expected that the coming generation of leaders in the Pakistan textile industry will emerge from this group. Managers in the latter group are unenthusiastic about equipment investment or market expansion, are not active in effecting improvements and adopt a stance of maintaining the status quo, since factory achievements are not very good. They seem to be caught in a vicious circle of cause and effect. If things remain unchanged they are doomed to redundancy.

Given the proceeding expansion of volume resulting from the dynamic strategies of the former group noted above, it would seem that the most appropriate approach for the time being is to upgrade industrial technology and managerial expertise. The expansion of direct exports will necessarily result in greater diversification of product and lead on to demand for supply of a better quality of raw material to domestic downstream industries. In view of such a projected development it is necessary to proceed with present strategies and it is desirable that the government proceed with policies aligned to such an evolution. The reinvigoration of the latter group of industries is also necessary from a national viewpoint, but it is best to avoid taking protectionist policies, and it is necessary to promote and support the desire to effect improvements whether for the export market or to expand domestic demand.

As the downstream sectors such as the knitwear and garment industries are export orientated and tend to be on a smaller scale compared to the upstream and midstream industries managers are aware that the reputation of in-house products is not very high internationally. The managerial stance adopted is relatively dynamic but there are a number of problems which are beyond the power of one company to solve such as difficulties encountered with supply of grey yarn and fabrics, market development, technology and design. Therefore, at present companies focus efforts on sub-contracting production for American or European industries. In order to move up from the present final product for low price markets to areas of higher value added, it is not enough to perfect production technology for commissioned and sub-contractual production or deliver goods to buyers. Over and above these activities it is necessary to keep in touch with world trends in garment items, grasp the present state of manufacturing in Pakistan and plan the direction for future development. Currently a large number of industrializing nations are competing with Pakistan to serve as a base for commissioned production destined for the advanced Western nations. It will not be possible to indefinitely retain an advantage over competitors simply on the basis of plentiful, cheap labour. It is therefore necessary to nurture comprehensive competence with regard to raw materials, management, technology and commodities. Managers of the downstream sectors show a keen interest in foreign markets, and it is desirable that the future generation of industrial leaders emerge from those managers who have fixed on business trends of a medium range nature rather than just a short range and who see the need for a cumulative strengthening of the industry.

(2) Middle Ranking Managers and Engineers

Middle ranking managers and engineers responsible for factory production are in great shortage as a result of the rapid expansion and innovation experienced in all sectors of the textile industry. There is no data available

to show exactly what number is needed but the demand for graduates from textile related training institutes is very high and all graduates find employment in the industry. However, it is necessary to gain experience in the factory on designing process, supervising operators and general management in production. In a number of factories managers with such experience are trained, but the general managerial competence of mid rank managers and the technical expertise of engineers at present is low and there is a shortage in absolute terms. In order to promote Pakistan's textile industry it is necessary to break with the present ethos of status quo maintenance and activate the industry, but this will require the appropriate placing of managers and engineers with experience and innovative spirit.

The retraining of middle ranking managers to be the driving force for factory improvement is therefore necessary. At the same time, in order to ensure sustained development hereafter it is important to develop systems for the programmed training both inside and outside the industry of engineers recruited in the textile sector.

(3) Operating Personnel

Literacy and ability to do simple calculations are a minimum requirement in industrial society and it is assumed that such competence has been transmitted during compulsory education. The formation of large numbers of personnel equipped to work in such an industrial society is seen as a basic task for the Government of Pakistan. Each company needs to recruit personnel who have at least completed compulsory education and efforts must be directed to nurturing skilled operators through training as part of industrial strategy, so that companies need to be capable of carrying out such training.

Training in factories is insufficient, the various problems arising because of insufficient expertise of operators are simply ignored and left unattended to. The training of operators is one of the essential tasks of mid ranking managers, and when the skill levels of operators is low this is the fault of mid ranking managers and not always of the operators themselves. It is important that the directives of managers be transmitted and be understood by operators, that objectives be clearly presented to operators and that managers ensure that problems in factories are clearly identified.

7. Markets

(1) Domestic Markets

Pakistan supplies the clothing needs of the nation in general. The domestic market for fabrics is for sale by cut length. There are large sections of the population in the large cities of Karachi, Islamabad and Lahore who wear western style clothing, but the traditional national costume of the shalwar is generally preferred. In particular, women, even in the large cities, seem to wear only traditional national costume. Hereafter if the national income increases it is expected that there will be an increasing diversification of raw materials, colours and patterns of fabrics sold domestically, but since the shalwar is suited to the climate, terrain and customs of Paki-

stan it is anticipated that the garment and knitwear sectors will continue to represent only a small volume of trade in domestic demand.

The fact that there are almost no domestic markets for knitwear and garments is a disadvantage for the downstream sectors of these and acts to hinder their development. There are limits to the development possible for commodities which are 100% export orientated and for which no domestic demand exists. It is necessary to nurture a healthy internal demand in some way. There are clothing items for which the shalwar is not the most appropriate choice as in the case of police uniforms, army clothing or factory overalls. In particular, as modernization picks up momentum hereafter, it will be necessary to consider productivity, operational safety and efficiency in the factory as well as the comfort which comes with habitual use. In this sense it is advisable to undertake the diffusion of ready-made garment articles. Even if there are difficulties to the realization of assistance to the costs of such overalls and their supply, sooner or later the innovation will be necessary. Moreover since this change will contribute to the development of the textile industry itself, it should be given serious consideration.

(2) Export Markets and Marketing

There is a tendency for the export articles of the upstream and midstream sectors to be confined to particular items as follows.

- spun yarn: coarse to medium count (inferior grade)
- fabric : grey cloth, printed cloth (for home textiles)

The reason for the concentration on such items is partly due to the limits imposed by the raw cotton, but is also due to the choice of finished products in line with the actual capability of Pakistan industry at present which favours production of low price, inferior grade products. Pakistan products are employed in uses which match with their quality and nature, and it would seem that few complaints arise as a result of this understanding. Although the output is suited to its applications it is anticipated that Pakistan will face increasing competition on such a basis in the future and that demand will be limited. It is necessary to take measures so that the export of finer count yarn and bleached cloth which have higher value added is possible in the medium range. To that end it will be necessary to investigate the market conditions of the export targets and once the market requirements and rating of Pakistan goods is grasped, quality standards should be set as targets for the improvement of product quality and efforts be directed to opening up new markets.

One characteristic of the downstream sectors is fact that nearly 100% of output is exported. The major part of export is to the USA and Europe, and commodities are largely limited to the following low price items.

-Knitwear sector: low price items mostly for sports wear use (using coarse to medium count yarn)
-Garment sector : low price items mostly for casual and sports wear use (using coarse to medium count fabric)

Another particularity of the Pakistani knitwear and garment industries is the fact that Pakistan is one of the world's leading cotton producer nations. This gives the downstream industries limited availability of the raw materials of yarn and fabric in terms of variety and quality. In Pakistan's case, overseas buyers keeping in mind the limitations of Pakistan's raw materials and technology, order commodities which they know can be produced in Pakistan. In order to fulfill the buyer's orders, Pakistan's garment industry purchases grey fabrics and commissions their dyeing, so that considerable difficulties are encountered in arranging for procuring and dyeing of grey fabrics suited for garment manufacture.

Downstream industries in Pakistan are 100% export orientated but in fact many are subcontract companies receiving orders from the USA and Europe. Even if organized on a production to order basis, market information is a vital aspect to a garment industry and the present level of understanding of foreign markets in Pakistan is insufficient. For the time being while continuing to carry out sub-contractual production, it is advisable to keep abreast of developments in the fashion cities (Paris, Milan, New York, Tokyo) of export target countries worldwide, give close attention to grasping the distribution and sales situation abroad, and keep in touch with the latest design developments so as not to fall behind competitor nations and stay at the forefront in this field.

8. Independent Weaving (Nonmill) Sector

In the textile industries of Pakistan, in the stage for production of fabric from yarn the role of the nonmill sector (or power loom sector) is bigger than that of the mill sector. The power loom sector accounts for 90% of fabric production, and this sector is not only important for the role it plays in national life through the supplying of fabrics for clothing items, but also because of its indirect and direct contribution to exports. Despite the fact that this sector consists of a conglomeration of small and petty scale companies, the fact that large numbers of employees are equipment owners means that there are a large number of dedicated, diligent workers. Finally the fact that great number of people are directly or indirectly involved in this sector means that its importance in providing employment can not be ignored.

The power loom sector has maintained and developed on a small and petty scale of management under the protective policies of the government. It is not likely that it will be possible to indefinitely pursue protectionist policies, however unavoidable these may be at present. Therefore, it is necessary to focus efforts on achieving a greater international competitiveness. Recognition of the need for modernization and enthusiasm for this was remarked within the industry itself, but there are limits on modernization as things stand. In comparison with the mill sector, working environments are generally poor, there is less capital funding potential for expensive equipment investments and the technical expertise does not meet with the needs of high level technology.

Left to this sector generally as it stands now, the weaving industry has only limited potential for development and a balanced development of the textile industry will be difficult. It is necessary to seek coordination of

development between the mill sector and non-mill sector rather than having these fight against each other, and future development simultaneously in the following two directions is desirable.

- gradually remove excessively protectionist policies to allow for the natural decline of ill-adapted and inferior companies

- undertake promotion as far as possible of greater concentration and group consolidation with companies equipped with potential undertaking to assist groups in equipment investment, grouping investment and technical guidance.

9. Dyeing-Finishing Technology

At present the main part of production is for printed items (bedding and household articles) for export. Some piece dyeing is carried out for use in domestic clothing articles (to be sold by cut fabric) but the lengths and hues are not regular, inspections are limited to visual inspection at the time of dispatch and stable production of grey fabrics for garment use is not possible. Although a clear opinion was not stated by any factory, it would seem that factories hesitate from producing grey fabrics for garment use since the lots involved are small, there is no suitable superior grey cloth of medium to fine count, and due to the unevenness of hue in piece dyeing lots and other troubles encountered.

One factor which hinders the development of the garment industry is the difficulty of obtaining grey fabrics for use in producing superior garments. There are problems caused by the unevenness of yarn and defects of fabric, but another problem is that well-dyed fabrics are not obtainable, so that garment manufacturers have considerable difficulty in securing good quality cloth which has been well-dyed. Piece dyeing is the basic type of raw fabrics which is required by the garment manufacturers, and since these are used in coordination with items yarn-dyed and printed items to prevailing fashions. Length control, hue control and inspection technology are crucial elements of dyeing-finishing processes for piece dyeing items to be used for garment manufacture.

In order to increase the value added realized in the textile industry from the upstream and midstream sectors right down to the downstream sectors and to further balanced development of the industry as a whole the upgrading of dyeing technology is an important task. It is necessary to proceed with the rapid training of engineers possessing knowledge, expertise and experience in dyeing technology and break away from the current satisfaction with easy dyeing technology which places too much stress on printed cloth alone.

10. Garment Manufacturing Technology

The garment industry concerned with manufacture of consumer goods encompasses planing, production and sales activities. In contrast with the upstream and middle stream sector industries, requirements of the final product constantly vary by region, by year and by season. At present Pakistan receives orders and does sub-contractual manufacturing for overseas buyers who carry out designing and sales. Since the buyers obviously take care only to order goods of a level which they know can be met in Pakistan, there are few complaints, but in order to realize the production of garments with a high value added, a number of difficulties will need to be overcome.

For the time being it is best to set the main objective on fully realizing the technology involved in sub-contractual production. It is necessary that engineers acquire production technology for a modern garment industry. For this purpose it is desirable that the whole industry work together to implement measures which exceed the scope of individual enterprises, such as to plan and set up a training institute . This training institute will not only be responsible for giving technical training in each of the processes and steps of garment manufacture but will also provide an occasion to learn about the underlying thinking behind the arrangement of operations to understand why such processes and steps are necessary. This approach will also be necessary to the development of the garment industry. It will be necessary to provide opportunities to study the structure of the garment industry and trends in the garment industry abroad in conjunction with the evolution of the garment industry in the future. In the medium range the modernizing impact of a stimulation of domestic demand for garments will also be important.

It will be desirable to devote energies to realizing the following three objectives:

- establishment of production technology in the garment factories
- identification of trends in the export destinations and in overseas developments
- promotion of domestic demand for garments

PART IV PUBLIC INSTITUTIONS FOR SUPPORTING TEXTILE INDUSTRY

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1. Research Institutions

An overall view of the research institutes in Pakistan for the textile industry reveals that the institutes administered by the Ministry of Food, Agriculture and Co-operatives and concerned with technical development in areas ranging from cotton plant cultivation to quality control of raw cotton proceed with their work both steadily and actively. However, the research and development activities administered by the Ministry of Industries are not always carried out with the same thoroughness. This is partly a result of the fact that the technology relating to production processing, product research and development in sectors from spinning to weaving is still in the stage of technology transfer from the developed industrial nations. In contrast to this the development of primary products such as cotton variety improvements in Pakistan involves a large number of regional factors so that Pakistan has been forced to develop its own autonomous research and development capacity for many of the themes in this area.

(1) Research Institutes for Raw Cotton Production and Supply

Stages from cotton cultivation to ginning mill operations fall under the scope of the Ministry of Food, Agriculture and Co-operatives and research and development institutes for these stages are attached to the Ministry. The following two Research Institutes are representative of those working in this field.

Pakistan Central Cotton Committee (PCCC)

The PCCC is an organization with long history among Pakistan's governmental institutes. Its achievements in the quality improvement of raw cotton deserve special note. Traditionally Pakistani cotton was of a short fibre variety, but PCCC performed the quality improvement of raw cotton with fibre length of 27-29 mm band as the major part of output.

Pakistan Cotton Standards Institute (PCSI)

The Pakistan Cotton Standards Institute (PCSI) was established by FAO/UNDP in 1983 inside the PCCC. In 1987 gaining the support of the ADB the PCSI began its independent activities. Main function of PCSI is the standardization of raw cotton. Since establishment the institute has hosted FAO specialists and has achieved excellent results in the field of standardization. The institute campaigns nationwide for standardization and through its model factory campaign (with a target of 110 factories) intends to upgrade the industry and achieve a reevaluation of Pakistani cotton on the world market, and return the additional benefit thus accruing to the cotton growers and agricultural workers to provide incentives for further progress.

(2) Research Institutes for Processing from Spinning to Sewing

The areas of the textile industry concerned with spinning and subsequent processing falls under the scope of authority of the Ministry of Industries. The Government-controlled institutes for research and development relating to this processing are listed below. However, a number of the educational and training institutes introduced in the next paragraph 2, also carry out research and development activities, while on the other hand the research institutes listed below also have educational and training aspects.

Textile Industry Research and Development Centre (TIRDC)

The TIRDC is an institute for the testing, research and development of textile products and was founded in 1973 in Karachi with the cooperation of UNDP and UNIDO. It was transferred to the control of the Ministry of Industries in 1980. In addition to education and training (giving both regular training courses and training on site), its main functions are diffusion of technology and knowledge, research and development of new finished products and provision of market information.

The shortage of staff in the institute is a serious problem. At present, there are only 17 teaching staff against the planned staff number of 35 teachers, and it is considered difficult to sufficiently maintain and carry out functions of the various departments of the institute in this context. It is necessary to improve this situation to activate the centre's activities.

Pakistan Standards Institution (PSI)

PSI is under the control of the Ministry of Industries and performs the function of establishment of standards, promotion of standard observance, meteorology and diffusion of standards.

There are 403 standards (of which 150 are for products) relating to textiles in Pakistan but these are not compulsory for the industry.

Central Testing Laboratories (CTL)

This is attached to the Ministry of Industries and its main duties are the testing and inspection of industrial products. A wide range of sectors is handled and textile products forms one area concerned.

It has been decided to merge with the Pakistan Standards Institution to be renamed the Pakistan Standards and Quality Control Authority. Functions after merger will be standard formation, training, testing, information services and meteorology.

2. Training Institutions

The educational system in Pakistan is as follows: The five years of primary schooling is followed by three years of junior high school, after which 2 years of senior high school follows and then a further two years of intermediate college after which the various specialist educational programmes begin.

There are two main types of scheme for vocational training which are a) in technical colleges under the control of the Ministry of Labor (or other Government authorities) and b) the Apprenticeship Training System which is combined with on job training. At present about 80% of all firms carry out training in accordance with the Apprenticeship Training Ordinance of 1962. Candidates who have received less than two years of such training are generally classed as operatives, those having completed the two years are known as certificate level and are of supervisor class in factories. Operatives who have completed ten years of schooling followed by three years of training in Government-controlled technical training colleges are classed as diploma level. The training courses for apprentices are a six month job entry course, a one year semi-skilled course and a two year skilled course.

Followings are the main educational institutes: giving education in textile field.

A. National College of Textile Engineering (Faisalabad)
B. Government College of Technology (Karachi)
C. Government College of Technology (Multan)
D. Pakistan-Swedish Institute of Technology (Karachi)
E. Government Weaving and Finishing Institute (Shahdra)
F. Pakistan Knitwear Training Institute (Karachi)

In addition to the above, the TIRDC (Textile Industry Research and Development Centre) is an important institute with educational functions.

With the exception of a very few sections of the institutes concerned, it was found that many aspects of the education and training activities of the educational and training institutes are insufficient. Common problems encountered which impair the efficacy of these institutes are as follows;

a. Insufficient teaching equipment and facilities

- no longer functional because of superannuation
- inappropriate for teaching purposes because out of date
- do not function because of poor or improper maintenance

b. Lack of instructors

- very few institutes had filled all staff posts
- many instructors are enticed away by private industry
- poor conditions for instructors make it difficult to fill vacancies

c. Other problems

- inadequate provision of textbooks and curriculum
- inadequate technical data and of information

The following proposals are made to improve this situation,

a. Cooperation of private industry in the running of educational and training institutes must be strengthened and broadened as much as possible. An input of private sector capital is to be secured (in the form of training fees, payment for commissioned works, consulting fees, etc.).

b. Strengthening of Educational and Training Facilities

It is desirable that the Government of Pakistan, based upon a vital recognition on significant position of the textile industry in the national economy, take the following key steps to accomplish enhancement in technology of the entire textile industry: to request international organizations and foreign countries their assistance for strengthening facilities of educational organizations and R & D organizations of Pakistan, inviting foreign experts, overseas training of technology, etc.; to take more positive measures to intensify governmental supports to these national organizations in terms of personnel, finance and political provisions required for ensuring sound upkeep and operation of these organizations.

c. Establishment of textile information Centre

It is necessary to develop the information centre which collects the informations of the technology and market on textiles in the world and provides information services to private companies.

3. Industrial Associations

There are a large number of industrial associations relating to textiles in Pakistan. The main organisations can be classified in the following groups.

(1) Associations relating to Raw Cotton

a. Pakistan Cotton Ginners' Association

b. Karachi Cotton Association

(2) Associations relating to Spinning

a. All Pakistan Textile Mills Association (APTMA)

(3) Associations relating to Weaving

a. All Pakistan Cotton Power Looms Association (APC-PLA)
b. All Pakistan Cloth Merchants' Association
c. All Pakistan Textile Processing Mills Association

(4) Organisations relating to Knitwear and Garment

a. Pakistan Knit wear and Sweaters Exporters Association (PKS-EA)
b. Pakistan Hosiery Manufacturers Association
c. Pakistan Readymade Garment Manufacturers and Exporters' Association (PRG-MEA)
d. Pakistan Cotton Fashion Apparel Manufacturers and Exporters Association

With the exception of horizontally organized bodies such as APTMA, almost all of these industrial associations are divided vertically into divisions. There are such bodies on a national and regional level. The main roles of these bodies are statistical data collection, allocation of the quota and information exchange in the industry.

PART V TEXTILE INDUSTRY POLICY AND RELATED MEASURES

PART V TEXTILE INDUSTRY POLICY AND RELATED MEASURES

Due to the weak state of Pakistan's industrial base at the time of independence in 1947, the fundamental policy for its textile industry has historically been based upon import substitution. By taking advantage of its position as a leading world producer of raw cotton, an important raw material for textiles, Pakistan expanded the production capacity of textile products, with the result that it became self-sufficient. Today, the textile industry has become not only Pakistan's largest manufacturing industry, but it has also become the country's biggest export industry. The present state of the macro-economy, with both its current account balance and its national finances in deficit and a shortfall in savings, has made the acquisition of foreign currencies a task of the highest order, with the result that the highest priority is now being given to export promotion policy. The Government is therefore preparing a number of export promotion policies for the textile industry as well.

With the objective of producing exports which have been processed with as much added value as possible, incentives are being expanded to encourage the export of high value added products. As for policies affecting imports, although imports of raw cotton and cotton yarn have been liberalized, items such as fabrics, secondary products, garments and garment parts have been made negative import items, whereby their importation has been banned. Furthermore, the domestic textile industry is also being protected by high tariffs.

In presenting an overview of the policies and systems affecting Pakistan's textile industry, the main policies include: (1) the raw cotton price policy; (2) the minimum export price system (Export Price Check System) for cotton yarn; (3) the export income exemption system, the raw material and machinery bonded import scheme, the duty free import scheme for machinery, an export finance system, and an export credit guarantee system all aimed at promoting exports; (7) the import policy; (8) the investment promotion policy; (9) the finance policy; and (10) the industry support policy developed by the Ministry of Commerce's Export Promotion Bureau (EPB). There are facets of these policies and schemes, however, which are often found to be inconsistent with the fundamental policy objective of shifting to higher added value products, and which cause duplication in the schemes as well as contradictions.

Historically a series of export incentives consisted principally in fiscal measures have favoured the spinning sector more than the other sectors, thus resulting in higher profitability in the spinning sector. Consequently, investment has tended to concentrate on the spinning sector putting a curb on investment in the weaving, processing and garment sectors and, as a result, restraining the development of those mid and downstream sectors. A remnant of such textile industry policy which is biased in favor of the spinning sector is left over inconsistent with the present policy of the Government of giving priority to the higher value added sectors.

A price policy for raw cotton comprises the central part of Pakistan's raw material policy. Each year the government announces a minimum price for raw cotton supplied by raw cotton farmers, so that the cotton bought by ginners is bought at a price which is above the minimum price. Once the raw cotton has undergone the ginning process the ginners sell the cotton to local spinning companies, the Cotton Export Corporation, and

private shippers. In the case of cotton which is exported, the difference between the benchmark price and the minimum export price decided by the government is collected in the form of an export duty. The result is that this works to bring down the domestic market price of cotton.

Behind this policy lies the Government's policy of firstly securing raw materials for the local textile industry, and secondly, adding value to raw materials so that they are exported in added value form, rather than in the form of raw cotton. Although this price policy has the effect of increasing the international competitiveness of the Pakistan spinning industry, it does cause some distortion in the structure of the textile industry. In other words, because spinners have the advantage of being able to buy locally produced cotton at prices below international price levels, they have made the most of the characteristics of these raw materials by specializing in yarn with a medium to coarse count. This has determined the production structure of cotton yarn in Pakistan and has also hindered product diversification at the fabric, made ups and garment stages.

As for policies aimed at the promotion of export, there is the income tax exemption on export whereby export income tax is exempted at the rate of 25% for cotton yarn, 50% for fabric, and 75% for garment exports. The exemption rate is higher the more downstream the sector is, thus reflecting the Government's policy of promoting exports with high added value. It is to be verified, however, how far this system has been fruitful. In addition, a system for bonded imports of raw materials and machinery and an import duty exemption scheme for machinery are being provided, though it may not necessarily be used to its fullest potential. The Karachi Export Processing Zone (KEPZ) has been established in Karachi, and all raw materials and machinery used in the production of export products in the zone may be brought in duty-free and are also exempt from all federal and provincial taxes. With the recent change to admit spinning companies in the zone, the KEPZ may now be used by all sectors of the textile industry, including the garment industry.

An export finance system has been established by the State Bank of Pakistan and its use is open to exporters and indirect exporters. It offers finance for textile products at an interest rate of 7% for a period up to 150 days for all the textile products except raw cotton and cotton yarn. The Export Credit Guarantee System which has also been established enables exporters to take out insurance to cover the risk of recovering payment for their exports for a period between 30 and 120 days after export. This system may be used for all textile products, with the exception of raw cotton exports.

As for finance schemes, although there is comparatively little problem with receiving short-term finance for working capital, there are many problems involved with obtaining long-term finance for investment in plant and equipment. There is some institutional finance made available by the Development Finance Institutions (DFIs). However, there is not enough finance available for the dyeing sector and power loom sector, sectors which have a weak business base and have the greatest need for finance for investment in plant and equipment.

A look at the investment environment reveals that the new industrial policy put out by the Government in April 1989 relaxed restrictions significantly and simplified procedures as a means of promoting private investment. The present government has basically adopted the same policy line in that it has moved to relax restrictions. As

a result, regulations relating to investment have been eased considerably and liberalized. However, in some cases the actual application of the regulations does not necessarily reflect this policy of liberalization. In addition, there are still many relevant rules and regulations prepared by the federal, state and municipal authorities which require cumbersome procedures to be cleared by the actual investors.

As for providing public assistance in the area of quality control, the failure to implement a system for industrial standardization is a problem. The government is generally aware of the importance of this area, and is in the process of putting an appropriate system in place. At the present time there are 403 standards relating to textile products. However, because these are not compulsory standards and business circles hold the view that it is somewhat premature to make standards compulsory at this stage. Therefore, the standards are not fully utilized in terms of quality control. The lack of standardized inspection criteria makes it very difficult for companies to objectively determine at what levels their products are. It is normal for a buyer's standards to be adopted in the case of export items.

The government's human resources development policy is also important given the noticeable shortage in technical experts, middle managers and skilled workers within the textile industry. Human resource development related to textiles consists mainly of training provided in the areas of spinning and weaving by 9 educational and training institutions. Despite this, there is an overall shortage in the number of educational and training organizations. Education and training is particularly weak in the areas of dyeing and sewing. Facilities dealing with these sectors face a noticeable shortage of instructors to fill up the quorum. Though both the government and the private sector recognize the inadequacy of existing educational and training organizations, and have produced proposals for the creation of new educational and training institutions, none of these plans has yet to be put into practise.

At the present time virtually no policies for the protection of the environment have been put in place for preventing pollution caused by the textile industry. However, the growth of the textile industry as a whole and the expansion of the dyeing sector are expected to cause problems in the future. It is therefore necessary to formulate measures to deal with such problems.

PART VI CONCLUSION AND RECOMMENDATIONS

PART VI CONCLUSION AND RECOMMENDATIONS

Chapter 1 Conclusion

1-1. Framework of Formulating Master Plan

The "Master Plan for the Development of the Textile Industry" is an industrial policy framework directed at the realization in the long term of the balanced development of the entire textile industry.

First of all, a comprehensive analysis of the current state of Pakistan's textile industry was conducted. On the basis of this, the "well coordinated and export oriented development of the industry as a whole" was designated as the final goal. The factors obstructing the overall development of the industry and the upgrading of exports were investigated as issues to be dealt with in order to achieve this final goal. Following this, research was conducted to find out the required direction of business strategy and government support in order to eliminate these obstructions and realize the balanced expansion and increased added value of the industry and the upgrading of exports.

The major policy issues are the development of the export garment sector, the removal of major obstructions to natural linkage within the industry and the upgrading of upstream and midstream sectors. The development of the export garment industry through policy measures should be made a priority goal for the textile industry development and indeed the nucleus of the master plan.

The "development scenario" relating to the export garment sector is comprised of "development targets" and "strategies for development".

1-2. Masterplan for Development

The quality of Pakistan's cotton yarn, fabric and knit and also its secondary products are below international levels. Thanks to its comparative advantage in raw materials, products of all categories currently enjoy price competitiveness. However, it stands in danger of being caught up with by India, Indonesia and Turkey. It seems necessary, accordingly, to progress from the lowest segment of the market to the upper layers through efforts to upgrade products. No moves are being made to upgrade or differentiate products in the industry, however, with most firms in the upstream and midstream sectors being at least satisfied with the current situation.

The spinning sector is enjoying an unprecedented investment boom resulting from extremely brisk cotton yarn exports in the past few years. As a consequence, there are very few enterprises contemplating measures for

coping with possible future changes in competitive situation such as upgrading of products and preparing for demand from the export-oriented garment sector. In addition to the export boom, the government policy of offering incentives to exports has caused the spinning sector to focus its activities on overseas demand. Similar tendencies prevail in the midstream (weaving and dyeing) sector. The export-oriented garment sector, therefore, has difficulty in purchasing the materials it needs.

The garment sector has also greeted the brisk market of the last few years with the greatest of enthusiasm, turning its attention almost exclusively to exports. Unlike the upstream and midstream sectors, moves are being made to free itself from the current lowest market segment toward the upper layer. The positive moves are oriented toward the introduction of imported materials and manufacture of products of higher quality in so far as the supply of domestically produced materials is limited both in quality and quantity.

So long as the situation in the upstream and midstream sectors described above continues, stimulative policy measures will be ineffective in getting companies to upgrade their operations. It is because the current business environment does not require the industries to make efforts for upgrading. Without any action being taken by the upstream sector, such situation where upgrading in the upstream sector is transmitted to the downstream sector could not be foreseen. On the other hand, firms in the downstream sector have demonstrated enthusiasm to improve the grade of their products and, therefore, there is a quite strong possibility that the downstream sector may react to some policy measures, if implemented. If it react to the stimulus to take action, qualitative upgrading and quantitative expansion could be expected. If such upgrading in the downstream sector is realized, new movement for backward linkage would emerge.

Based on the above consideration, it is believed that policy-based support for the downstream sector would be more effective than stimulative policy measures for the mid and upstream sectors. This leads us to the conclusion that the most preferable policy issue to realize balanced development of the textile industries as a whole would be nurturing of the garment sector through stimulative policy measures.

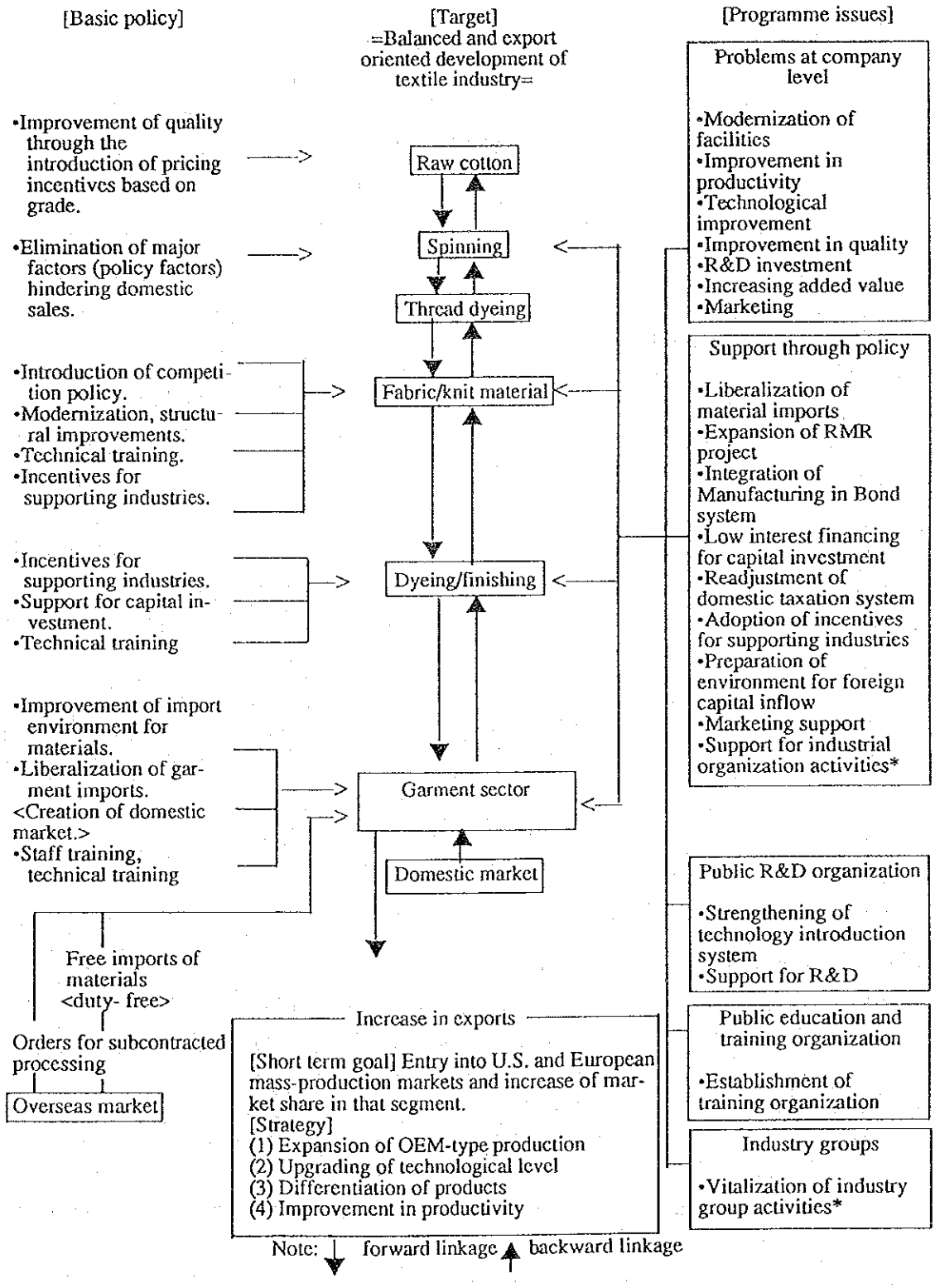
Accordingly, the master plan for the development of the textile industry is composed of the following two approaches. (Fig. VI-1-1)

a) Nurturing of export garment sector through policy measures

The export-oriented garment industry, first of all, is to be developed through policies and policy measures in order to stimulate backward linkage within the industry and thereby accelerate upgrading of the upstream and midstream sectors. This approach entails the development of the export garment industry to act as a driving force for the streamlined development of the industry as a whole.

Fig. VI-1-1: Masterplan for Development of the Textile Industry

<Concept> Use of policy measures to develop export-oriented garment industry (Establishment of backward linkage effect).
Policy support for modernization and structural improvement in the upstream and midstream sectors
(Promotion of forward linkage effect).
Streamlined development in textile industry through two-way linkage effect within industry.



In concrete terms, the existing schemes for import of raw materials for export garments and exemption of duties on them should be reorganized and integrated, and after five years, import of raw materials should be liberalized and import duties reduced in stages. These measures will make the materials more easily available and accelerate the export-oriented development of the export garment sector.

b) Promotion of modernization and upgrading of upstream and midstream sectors

The improvement of technology and quality in the upstream and midstream sectors and the modernization of production facilities in the Nonmill Sector must be promoted through the implementation of teleological policies.

In concrete terms, efforts should be made to enhance and expand public technology guidance and training organs and to support improvements in technological levels in the upstream and midstream sectors including spinning, weaving and processing. Investment and modernization in weaving and processing sectors should be promoted through financial and tax measures.

Technological improvement in the upstream and midstream sectors and modernization of their production and management should upgrade exports from those sectors themselves and also support expansion and upgrading of the export garment sector.

The first step is to implement policy for the development of a systematic environment which makes possible the expansion and upgrading of an export garment sector which uses imported raw materials. Increased demand for materials accompanying expansion in the export garments sector will make it easier for the material sectors to respond to demands for higher quality materials. Upgrading in the midstream and upstream sectors is brought about as a result of this feedback effect and, in turn, a forward linkage effect will be achieved in the reverse direction, working from the upgraded upstream sectors to the downstream sectors. The balanced development of the textile industry as a whole can be expected from such an operation of both forward and backward linkage.

Until the garment sector, as the driving force for development in the textile industry, is expanded and upgraded, policy should be implemented in order to upgrade and modernize the upstream and midstream sectors. The upgrading of raw cotton through the improvement of cotton varieties, the introduction of grading system and the establishment of a pricing system based on grade, and the reform of the raw cotton price setting system is indispensable. There is also a need of policy support for the modernization of the spinning, weaving, dyeing and finishing sectors, upgrading of technological levels, and improvement of quality. The shift to more upmarket category products which the above reforms would make possible also needs the backing of government policy. The systematic and government backed modernization and structural reform of the antiquated weaving sector and processing sector is particularly important. There is also a need to analyse major obstructions to the supply of materials from upstream to downstream sectors and to institute policy to eliminate distortions in the market. The upgrading and modernization of the upstream and midstream sectors through this policy ap-

proach will provide support for the expansion and upgrading of the export garment sector.

Lag in Upgrading of Upstream Sectors

Despite its over forty year-long history, such upgrading in the upstream and midstream sectors has made only minimal progress. Most Pakistani companies in the upstream and midstream sectors are satisfied with production of the low-standard goods they have always been producing. This in turn limits the scope for development of products among garment makers who rely on the upstream sector for materials. Upgrading of materials increases the possibilities for product development in the downstream sectors. However in the Pakistani textile industry this structure does not necessarily exist.

Market Distortions Hindering Forward Linkage

It is difficult for yarn and fabric, particularly that of a higher quality, to be supplied to downstream sectors. This amounts to a structural impediment to the operation of forward linkage. This market distortion could be said to be the result of government policy. The spinning sector does not actively pursue the domestic supply due to export incentives amid strong global demand and financial demerit in selling domestically. The situation for weaving sector is the same.

Impetus for Streamlined Development

Not only will the expansion of the export garment industry provide impetus for the balanced development of the textile industry, but will also provide support for the mid- and upstream industries. At present, Pakistan's spinning and weaving industries are being supported by strong demand from overseas and are experiencing an explosive investment boom. However this may change when its 20^S yarn, which currently forms the nucleus of exports, loses its competitive edge and if by that time preparation for a new export structure centred around goods of a high standard is not made. Such a situation would clearly invite the deterioration of the spinning and weaving industries. Expansion of the export garment industry would also help secure demand for the spinning and weaving industry.

Urgently Required Upstream Upgrading

The history of a country's textile industry is a history of development then decline. The survival policies taken by each country in the face of such decline were of modernization and rationalization, followed by upgrading and differentiation of products. Pakistan's spinning and weaving industries have already been confronted with the need to modernize and rationalize. What becomes necessary next is upgrading. When its present categories lose their competitiveness, the industry will have to make a shift to higher standard product categories. The upgrading of the spinning and weaving sectors must be said to be a matter requiring urgent attention.

Reviewing Protection Policy Toward the Weaving Sector

The history of Pakistan's weaving industry is over 40 years long. Along with the spinning industry it can be said to have completed its transition from an import substitution industry to an export oriented industry. However a protectionist policy of restricting imports remains in place. There is a need for an active policy directed at bringing about further improvements in the quality of fabrics, which have already achieved a certain level of competitiveness in the global market, through competition with imported goods. Fabric imports should in principle be liberalized and protectionism through tariffs should also be reviewed.

However, liberalization of fabric imports should be carried out after a set preparatory period. Too rapid a liberalization schedule may prove detrimental. The same may be said of tariff reductions: tariffs should be reduced in stages after the lapse of a predetermined preparatory period.

Liberalization of Fabric Imports and the Synthetic Fibre Industry

The effects that import liberalization and tariffs reductions for fabrics would have on the synthetic fibre industry should also be considered in the same way. Regardless of competition from imports, investment, including foreign investment, is tending to increase, albeit slowly. Domestic production of long polyester fibre increased by 23-fold over the past ten years. The import-substitution ratio rose to 61.3% over that time.

A 5-year preparatory period should be allowed before the liberalization of fabrics. Tariff reductions should also be made in stages and subsequent to a 5-year preparatory period. This should give the synthetic industry enough time to strengthen its structure sufficiently to enable it to compete with imports.

At this stage there is also the problem of determining which of the cotton or the synthetic fibre industries should be given preference.

Liberalization of Material Imports

In order to strengthen the international competitiveness of the garment industry, the policy measures for the removal of obstacles to the procurement of the main materials (fabric, knit material) and auxiliary materials for garments is considered urgently necessary. Imports of fabric and auxiliary materials should be liberalized after a five year period of notification.

Staged Reduction of Tariffs

There is also the problem of protection of fabric and auxiliary materials through tariffs. Although there are a number of policy measures under which these tariffs are waived, there are complicated problems connected with the policy measures themselves. The reduction of tariffs, the removal of bothersome and complicated procedures needed in the application for tax exemption, and consequent reductions in administrative costs, on

the other hand, would result in increased economic and social benefits. Major impediments to the achievement of business efficiency and competitiveness need to be removed.

In the short term it is necessary to integrate the various schemes currently in operation, ease conditions attached to them and simplify procedures. After liberalization in five years time, these tariff exemption schemes should be replaced by stage by stage tariff reductions.

Need for Bulk Purchases of Materials

Importing materials in small lots increases the cost of those imports. There is a need to conduct fundamental reform of the practise of filing applications per factory and per order received under the RMR material import scheme and the Open Bond Manufacturing tax exemption scheme. There is a need to help develop private enterprise who will conduct bulk imports on behalf of individual users and keep stocks of standard items for which there are regular repeat orders. If the procurement of materials could be entrusted to specialist firms, this would not only reduce the cost of materials procurement for garment makers but also lead to savings in the time and overheads required for procurement.

Reliance on Imported Materials

The production of internationally competitive products (garments) from domestic materials (fabric) is important from the perspectives of utilizing comparative advantage in terms of production factors and increasing added value. However while problems with the quality of domestic materials remain, policies which oblige garment makers to use domestic materials, thereby forcing them to lose international competitiveness should not be taken. At this stage it is important to secure internationally competitive quality by relying on imported materials. This is because without the requisite competitiveness orders for commissioned production from overseas buyers cannot be received.

Creation of a Domestic Garment Market

Today the import of garments is prohibited and high tariffs protect the industry. However, the garment industry which was developed as an export industry is already exposed to overseas competition. The application of an import substitution-type protection policy to an export oriented industry cannot be said to be appropriate. Imports would not harm Pakistan's garment industry as it does not have its base in the domestic market. More importance should be attached to the impact that imports of garments would have on the dressing habits of the Pakistani people.

Encouragement of the use of Domestically Produced Machinery

India's textile industry has a longer history than any other in Asia. Even so, in the 1970s and 1980s India's textile exports grew at a rate substantially lower than those from the Asian NIES and ASEAN. One of the main

reason for the poor performance of exports was the high cost and inefficiency brought into the textile industry from capital intensive industries which were afforded considerable protection under government policy.

India's mistakes should not be repeated. Lessons should be learned from the fact that India itself liberalized imports of producer goods recently.

The Need for Manufacturing Capability

The most important requirement for OEM-type production, or commissioned processing, is technological capabilities sufficient to respond to buyer demands relating to product specification, quality, and price. In other words to master manufacturing capability is necessary. The capability to "manufacture better and cheaper products" in order to advance from the lower-end to the mass-production sector, as well as the ability to develop distinctive goods are particularly necessary.

Support Through Government Policy

Another important issue is the extent to which the efforts of the private sector receive support from government. The government needs to provide support for industry by supplying the services. The most important of those is the provision of an industrial infrastructure including electrical power, water, and transportation networks. It also needs to provide support in areas of fund raising, staff training, R & D, information collection, and environmental protection measures. Government support in the areas such as the preparation of an industrial infrastructure, capital, and staff are urgently required. Government support could also be given in areas such as modernization of facilities, productivity improvement, R & D for upgrading of and development of more differentiated products, information collection (market research, surveys of industries in competing countries, technological information), and sales promotion.

Unit in Charge of Textile Industry

For the timely mapping out and putting into practise of the above-mentioned policy measures, it is necessary to establish a vertically divided administrative unit in charge of the textile industry. Currently there is no such administrative unit in the Ministry of Industries. Establishment of such a policy unit should be considered. The unit will constantly monitor moves in the textile industry. It will gather statistical data, accurately grasp problems and difficulties of the industry and draw up appropriate policy measures to solve these problems and difficulties, coordinating them with policies of the other government ministries and agencies and existing laws and regulations. It will also draft new laws and regulations and follow the process of their enforcement and execution of policies, monitor the process of permeation of policies, and appraise effects of the policies and revise them.

Environment for the Promotion of Investment

Regulation and control by the Government should be kept to a minimum. The greater the regulation and control the greater is the likelihood for hindrances to efficiency, productivity and competitiveness. Moreover, administration costs increase placing a burden on national treasury. In this respect, the recent series of measures of deregulations in the areas of trade, investment, foreign exchange and finance are highly appreciated. It should be noted, however, that a relaxation of the Foreign Capital Law alone would not reduce the troubles faced by investors.

Increased foreign investment cannot be expected as a result of reform to the system alone. Political and social instability are regarded as the greatest economic risks for investors. Of greater importance than this is the need to create a political and social environment which would satisfy the concerns of investors. The need for the augmentation of basic education through general education organizations and the importance of improving industrial infrastructure are already well recognized. There is perhaps also a need to seriously investigate the day-to-day concerns and the life-style requirements of foreigners living in Pakistan.

1-3. Plan for Development of Export Garment Industry

1-3-1. Why the Garment Industry?

The well coordinated and export oriented development of the whole textile industry has been designated as the final goal of the plan. This means the addition of higher value in each production and processing stage through to downstream, and developing the industry into one that produces garments using high added value Pakistani materials. In other words, the aim of the plan is the addition of higher value and upgrading of exports in the spinning and weaving sectors, and also to upgrade the structure of exports through a shift from yarn and fabric exports to exports of garments.

It will be the effects of linkage within the industry based on market mechanisms, that will lead to the balanced development of the industry. However in the Pakistani textile industry at present, little effort is being applied to technological improvement in upstream sectors and the supply of materials necessary in the downstream sectors has been almost neglected. This is occurring amid an export boom and the implementation of an export promotions policy in the spinning sector. In addition, demand from downstream sectors in Pakistan is still small and there is little financial merit in supplying the domestic industry. As a result, the requirement of downstream sectors cannot be absorbed by upstream sectors. Under such a market structure, forward linkage from upstream to downstream cannot function sufficiently. The situation can be described as one in which the market does not work to promote upgrading of upstream sectors.

In order to open the road for increased exports in the spinning and weaving industry, it will be the time to start preparations for future changes in the market. It is necessary to take up the issues of quality improvement,

increased productivity, the development of high count yarn, and investment for technology development now when firms are enjoying strong profits from exports. Support for technological improvement in particular through the Government policy is necessary in upgrading upstream sectors.

Another factor to stimulate upgrading in upstream sector is feeding back of requirement from downstream sectors. The market mechanism will operate to make the upstream sectors respond to the requirements of the downstream sectors, if downstream sectors strengthen their demand for quality materials, the volume of that demand is of a sufficiently large scale and the situation is such that supplying domestic industry brings greater profits than exports. However at present the export garment industry is extremely small scale, and due to its size is unable to take the place of exports and absorb excess production from spinning and weaving sectors. Although there is demand for higher quality materials, in terms of volume demand is still small in comparison to overseas demand.

In order to achieve the final goal of balanced development, efforts toward upgrading in upstream and mid-stream sectors as well as support through the Government policy for the purpose is of the utmost necessity. In addition to such efforts by private enterprise and the Government, the expansion of the export garment industry through policy measures and the establishment of an environment where backward linkage is able to operate should be made a priority. This would ensure the achievement of still greater results.

1-3-2. Scenario for the Development of the Garment Industry

Product development of Pakistani garments is left entirely in the hands of buyers. Price competitiveness only is used as the selling point of its products. Garments are supplied primarily to lower-end markets in Europe and the U.S. However, as history shows, this competitiveness which relies solely on price is likely to be lost sooner or later to nations newly entering the scene. Although it is necessary to both continue and strengthen present marketing strategies, in the mid-term the industry will have to formulate strategies to enable it to move out of the lower-end market and enter the mass-production market segment. At this stage the target of "entering and expanding the market share in the mass-production market in Europe and the U.S." would be a realistic one.

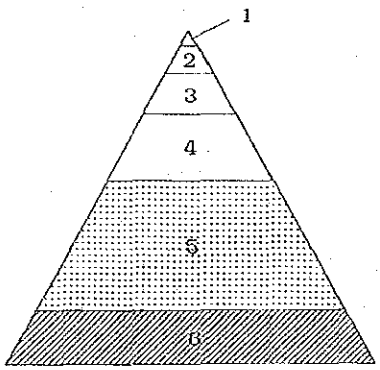
The most practical and effective strategy to this end would be to conduct trade on the basis of "international commissioned processing". The most important requirements are technological standards able to satisfy the needs of buyers or the market and productivity sufficient to meet price requirements. However, in order to enter the mass-production market it would be more effective to develop strategies of "differentiation". Thus, ideally, makers should have the capacity to offer to buyers products developed on their own. Production and sales tie-ups offer opportunities for the transfer of technology.

(1) Targets in the development of the garment industry

Market Segmentation

Although marketing strategies to be formulated at the level of individual firms should be based on more micro-market segmentation, for the purposes of macro-marketing strategies for the garment industry as a whole, the broad market segmentation represented in the diagram below would form a sufficient base for research.

[Market segmentation diagram]



Market Segments

1: Haute Couture

2: Designer's Brand Market
(Boutiques in first-class hotels)

3: Designer's Pret-a-Porter
(High-class speciality shops)

4: Ready-made Garment
(Department stores)

5: Mass-production Market
(Mass retail chain stores)

6: Lower-end Market
(Discount chain stores, Road-side shops)

Development Targets

Excluding a very small number of exceptions, the Pakistani garment industry supplies the lower-end market (segment-6). However this is the market which countries chasing up Pakistan will enter at some stage. If Pakistan's industry does not advance from this market it may indeed one day be forced out by competition from these countries. The mass-production market (segment-5) is directed at middle income earners. Thus it is the largest sector in the garment market in terms of both volume and value. Export expansion could be achieved most efficiently by targeting this market.

Pakistan's garment industry should for the time being aim at entering this market segment and expanding its share there. The target for the development of the Pakistani garment industry should be "entry into and expansion of market share in the mass-production markets in the U.S. and Europe". (Fig. VI-1-2)

Due to restrictions on export volumes under the MFA, exports must be expanded in terms of value. This provides another reason why it is necessary to aim to increase added value and enter into higher market segments.

Fig. VI-1-2 SCENARIO OF GARMENT INDUSTRY DEVELOPMENT: TARGETS AND STRATEGIES

Market Segmentation	Status Quo of the Industry		Targets and Strategies	
	Production	Marketing	Production strategies	Marketing strategies
4 MID-QUALITY MARKET (Ready-made Garment Market)	▼ No Production	▼ No supply	○ Further strengthening of production capability =Development of new technology =Development of new products △ Creation of more upmarket and differentiated products	○ Fundamental strengthening of sales capability =Establishment of original brand =Promotion of product image =Use of more upmarket sales channnels
			◇TARGET: Entry into and expansion of share in the Market Segment-5◇	
5 STANDARD QUALITY MARKET (Mass-production Market) In the lower sub-segment of the Mass-production Market:	△OEM-type production: (International sub-contracting)	△Supplying to the US & European markets:	◎ Expansion of OEM-type production ◎ Improvement of production capabilities =Acquisition of technology to cope with buyer's orders or market requirements =Technology upgrading through technical tie-ups and licensing ◎ Upgrading of product quality ◎ Creation of distinctive products (Differentiation of products) ◎ Improvement of productivity =Modernization of production facilities	◎ Supply of products through buyers' brands ◎ Strengthening of capability to 'sell' =Market diversification =Diversification of distribution channnels (Tie-ups with manufacturers, department stores, Volume sales stores) =Collection of information =Sales promotion activities
6 LOWER-END MARKET	△Production of standard items:	△Supplying to the US & European market:	○ Gradual withdrawal from this segment: ⟶	◎ Shift to the Segment-5

(Remarks) ▼ Current state negative △ Current state positive ◎○ Strategies which need to be implemented

(2) Strategies

Basic Strategy

On the production side, it is necessary to attract buyers by promoting tie-ups with the outsourcing policies of overseas buyers, in other words by expanding OEM-type production. It is, therefore, necessary to increase technological capabilities enabling the industry to respond to the needs of buyers and overseas markets, and to produce more upmarket and distinctive items. In this way the industry will prove more attractive to overseas buyers.

On the marketing side it is necessary to pursue a strategy of diversifying markets and sales channels, and strengthening information collection and sales promotion activities.

The Position of Pakistan's Garment Industry

The competitiveness of the ASEAN and Chinese industries will be bound to be lost to countries such as Bangladesh, Sri Lanka and Pakistan.

The Pakistani garment industry should strengthen the direct links with the U.S. and E.C. markets which it currently enjoys and aim at expanding its market there. While the MFA remains in place, the industry should aim at expansion of exports on a value basis. At the same time it is important to aim to introduce technology through manufacturing and sales tie-ups with overseas firms and make efforts to increase quotas through the improvement of quality. Tie-up partners should not be restricted to firms in U.S. and European countries but the industry should actively seek tie-ups with firms from Hong Kong, Taiwan, the Republic of Korea and ASEAN nations who export to the U.S. and European markets.

Pakistan's garment industry should at this stage set itself the goal of expanding its share in the E.C. and U.S. lower-end markets as well as entering the mass-production markets there through the development of distinctiveness in its products. It must also make efforts to break into the Japanese lower-end market. The current position of the Pakistani garment industry is such that the most effective course of action open to it is to aim at expanding its market share in the U.S. market and breaking into the Japanese market. This could be achieved by entering the market occupied by ASEAN products while maintaining competitiveness vis-a-vis Caribbean and Mediterranean countries and other South West Asian countries.

Today it is said that Italy symbolizes upmarket products, Hong Kong middle range products and Korea and Taiwan mass-production items. This international division of labour is likely to accelerate in the future. How the Pakistani garment industry will be built into this international division of labour is of key importance.

Chapter 2 Recommendations

The measures which are recommended for individual enterprises, the Government and public organs to adopt in order to cope with problems will be presented in this chapter. These problems and measures are summed up in Table VI-2-1. In Table VI-2-2, the contents of some concrete projects particularly important among the programmes are outlined.

Responses from enterprises, mainly technological improvements, require the efforts of each respective firm. Problems beyond the scope of individual firms should be addressed by the industry as a body. In relation to the issue of technology transfer, it is suggested that foreign technological cooperation schemes offered by developed nations be utilized.

Governmental policies recommended are to aim for general and coherent development of the textile industry on the basis of a review of the current policy system. In Chapter 1 it was stated that the driving force behind this aim should be the expansion and development of the export oriented garment sector. Accordingly, several policy revisions have been suggested for this purpose. These suggestions cover policies pertaining not only to the garment sector but also the weaving sector which supplies materials, the processing sector as a supporting sector, the spinning sector and the raw material (raw cotton) sector.

It is suggested that on a policy level there is also a need for an administrative unit to formulate policies suited to specific circumstances by keeping a constant watch on the conditions of the textile industry. Policies should be coordinated with those of other Government ministries and agencies. In addition, discussions were held on the investment environment, standardization, human resources development and environmental measures.

As for the activities and functions of public organs, suggestions call for a reinforcement and expansion of measures for further development of human resources and technological training, problems of prime importance. Lagging technology from upstream to downstream may become the biggest constraint on sustained development of Pakistan's textile industry. Apart from problems of management awareness or policies, the low technological level and quantitative personnel shortages in technological middle management are the primary concerns. Various measures should be taken promptly in the fields of human resources development and technological training.

Industrial associations should promote the organization of the industry and grapple with the problems of technological improvement, human resources development, modernization and rationalization of operations, and standardization.

Table VI-2-1 MAJOR PROBLEMS & COUNTERMEASURES

- Summary -

Notes: ◎ First priority
○ Second priority △ Just suggestions

Problems from the viewpoint of Development Targets	Motivations for Countermeasures	Countermeasures (Programmes & Policy Measures)
- Quality -	- Quality improvement is needed -	- Programmes to improve quality -
◇Quality standard of textile products is generally low.	◇Necessity to try to cope with the demand for higher quality goods	(Some kind of impact from the market is required to improve the quality in the up-stream sectors. Promotion of upgrading of the downstream through policy measures)
◇Problems arising out of production control, quality control & equipment maintenance. (Due to Mid-level technical staffs' skill)	◇Need to re-train middle management in production & quality control and equipment maintenance	○Technical guidance on production & quality control and equipment maintenance through technology transfer programmes
◇Problems resulting from inspection system based on the industrial standardization system	◇Streamlining of industrial standardization system through cooperation between Public and Private sectors for quality improvement	◎Standardization of inspection technology and evaluation of product quality by factory. Promotion of establishment of "Pakistan Standard and Qual'y Control Authority"
- Structure of Mid-stream -	- Hindering upgrading of downstream -	- Programmes for upgrading material sectors -
◇Outdated production facilities, low productivity and high production costs due to small scale operation	◇Need to modernize facilities and to promote grouping of operation	◎Financing scheme for facility modernization ◎Financing scheme for grouping of operation
- Infrastructure -	- Hindering foreign investment -	- To be met by policy measures -
◇Control by other regulations and discrepancy with deregulation of investment	◇Control by other regulations obstructs foreign investments.	△Review of controls by other regulations and securing consistency among the related laws and regulations
◇Shortage of electricity supply and frequent blackout	◇Negative effects on capacity, process control, quality control, quality and delivery	△Some action should be considered in the 8th Plan (Problem facing not only textile industry, but common.)
◇Shortage of industrial water supply (especially in Karachi)	◇Negative effects on capacity, process and quality control, quality and delivery	○Development of "Processing Industrial Estate"
◇Problems in public peace and the living environment	◇Important issue in promotion of foreign investment, joint-ventures and technical transfer	○Improvement in public peace and living environment

- Constraints to develop Garment industry -	- Obstructing devel't of Garment industry -	- To be met by policy measures -
◇Import restrictions and high tariffs on Garment materials (Fabrics and ancillary goods)	◇Some defects in the present schemes for imports and tax exemptions. Time and cost being spent for procedures acts against upgrading, efficiency and competitiveness	◎Improvement of import environment for garment materials (Improvement of RMR, streamlining of In-bond and Open-bond Manufacturing Schemes→ Liberalization of imports and reduction of tariff rates after 5 years)
◇Import controls and high tariffs on machinery & parts (policy of giving priority to local-made machinery & parts)	◇It's a hindrance for modernization, rationalization and upgrading in the material sectors. The current temporary tax-exempted importation scheme does not solve the problem.	◎Improvement of import environment for textile machinery and parts (Abolition of BMR & EPU, termination of the current temporary free import measure → Lowering of tariff rates)
◇Poor linkages of upper- and mid-stream with down-stream	◇Need to promote the supply of materials to the higher-value added export sector	◎Adoption of incentives to the supporting industries thereby to promote them
◇Excessive export incentives for the upper-stream sector	◇Need to help promote the supply of better quality materials to the down-stream sector	○Policy adjustment such as termination of export income tax deduction programme for the upper-stream sector and amendment of CED collection system
- Functions of supporting organizations -	- Administrative support needed -	- Programmes for human resources development & technical guidance -
◇Technological problems arise out of shortages of mid-level technical staffs and their low skill level. Nevertheless, the structures of the Government organizations in charge of human resources development and technical guidance are for further reinforcement in terms of their hard facilities and staffs.	◇Stronger support from the administration side for training or re-training of the mid-level technical personnels is required.	◎Reinforcement of the structure of TIRDC, Karachi ◎Establishment of a Textile Training Center particularly for the mid-stream sectors: ◎Establishment of a Garment Technical Center with model factory: ○Reinforcement of public vocational education & training institutes

2-1. Countermeasures against Technical Problems

The various problems and hindering factors observed in the textile industries of Pakistan during the field survey are detailed in Part III of this report. It is assumed that the problems facing Pakistan's textile industry as a whole cannot be simply summarized since there are differences in the equipment and technical levels of individual corporations. In line with the objective of the present report, the following is a summary of the main technical problems affecting the textile industry of Pakistan generally when regarded as an export industry, together with a summary of the countermeasures proposed to meet these problems. Most of the countermeasures require the direct efforts of the firms concerned to carry out improvements, but benefits are anticipated to arise from instruction provided by foreign experts hosted for a certain period. Further, assistance activities undertaken by public supporting organizations and industrial bodies are considered an effective way of solving problems and these actions are outlined in the present chapter under section " 2-3 Promotion Programmes".

In the consequent paragraphs, every statement "quality control system is not fully carried out" implies that the [Reference VI-01] attached to the end of this paragraph should be referred, where key concepts of quality control and an example of its practical application are presented.

2-1-1. Raw Cotton

The problems relating to the quality of raw cotton represent important obstacles to the development of the textile industry in Pakistan (for details refer to Part III, Chapters 1 and 2). Even if various improvements of the textile processing industries are undertaken, it will be difficult to effect an upgrading of the evaluation of Pakistan's textile products (yarn, grey cloth, dyed fabrics and garments) if the quality of raw cotton remains as it is now. In response to this problem, PCSI of Pakistan with the cooperation of the United Nations is already engaged in the standardization of the grading of cotton, and the training of classers. It has been proposed to establish price ranking on the basis of the diffusion of classing technology and grading practises. It must therefore be stressed here that this area is of vital importance to the textile industry and that the textile processing and related industries should vigorously support the proposed activities of PCSI and coordinate their efforts with its programmes. The following countermeasures has been drawn up bearing PCSI proposals in mind.

Problems (hindering factors)	Countermeasures (recommended proposals)
1. Quality problems with raw cotton - high impurities content - unripe cotton content - large number of damaged fibres - differences in dyeing fastness within the same lots	1. Improve method of picking cotton - reinforcement of training given to pickers - improvements in the payment system to pickers (give emphasis to yield by grade instead of by weight) - prohibit picking too early in the morning

	Carry out improvements in the methods of transport and ginning - modify the transport of seed cotton and change the packing materials for lint cotton (change-over from jute to cotton cloth). - strictly control to forbid the mixing of different varieties or grades of seed cottons - improve the ginning equipment with advanced systems Diffuse systems for standardizing and grading cotton - establish quality evaluations and grading of seed cotton and lint cotton and implement price ranking according to grades - promote the training and utilizing of classers
2. The demand among textile processing firms for improvement in the quality of raw cotton is weak	2. Strengthen feedback of requests for product quality from the textile processing firms to the raw cotton suppliers MOI and the Ministry of Food, Agriculture and Cooperatives are to initiate an endeavour, collaborated by the textile processing sector, to enhance the seed cotton supply for eliminating factors hindering upgrading of the seed cotton quality.

2-1-2. Spinning Sector

Problems (hindering factors)	Countermeasures (recommended proposals)
1. The defective product quality of produced yarn	1. Rectification of problems of the quality of raw cotton Upgrading of production technology and especially maintenance technology Selection of machine speeds proper to the current facilities, machinery and technical levels (product quality and production output are impaired by excessively high machine speeds)

2. Insufficient maintenance and maintenance work management of equipment

2. Improve awareness of importance of equipment maintenance
Install maintenance equipment and use this effectively
Implement preventative maintenance [*1)], spindle-wise management [*2)] and inventory control of spare parts and consumables [*3)]

Upgrade the equipment maintenance technology (train and reinforce maintenance staff)

[*1)] preventive maintenance

maintenance activity to prevent failures of equipment prior to their occurrence by means of readjusting, replacing parts, etc. of the equipment on a schedule established on the basis of failure record of the equipment.

[*2)] spindle-wise management

Removing defects of the specific spindle or machine, based on the analysis of operation records and inspection data for individual spindle or unit machine.

[*3)] inventory control of spare parts and consumables

keeping the inventory of these materials, especially performing statistical analysis of their consumption records, fixing a system including reordering level and replenishing the materials under the system.

3. Maintenance of cards is not carried out

3. Improve the precision of card grinders and replace deteriorated grinders
Choose appropriate wheelstones
Upgrade the technology for grinding and gauge setting

(an example of managing technology for card maintenance is shown in the Reference VI-02)

4. Control of draft rollers is not carried out

4. Improve precision of roller grinders, replace deteriorated grinders
Improve inspection method of grinder shaft centering
Determine appropriate schedule for greasing of bearings
Check the overheated bearings
Improve technology for roller surface treatment and replace deteriorated equipment

5. Critical problems in each process stage are left unattended to

5. Improve managerial awareness of managers
Undertake to discover and tackle problems in production process prior to occurrence of failures

Countermeasures for major failures in each process:

(1) Mixing and blowing process
Make precise gauge setting for each part of equipment

(2) Carding process
Upgrade maintenance technology of carding machine

(3) Drawing and roving process
Upgrade control and adjustment technology of top rollers

(4) Spinning process
Upgrade control and adjustment technology of top rollers

Apply ring and traveller proper to products and production coditions

	Maintain proper positions of spindles and tapes
	(5) Winding process Adjust stop motion devices properly
	Replace guides abraded or damaged
6. Quality control system is not fully implemented	6. Increase importance given to quality control among managers and factory executives Improve the level of basic quality control technology

2-1-3. Weaving Sector

(A) The Mill Sector (Group A)

Problems (hindering factors)	Countermeasures (recommended proposals)
1. Equipment is getting out of date	1. Promote investments to modernize equipment (particularly to encourage the changeover to shuttleless looms)
2. Defects in the quality of the weaver's beam	2. Upgrade the technology of preparatory process - implement maintenance of warpers and sizers - improve sizing technology
	Change the softening lubricating oil (oil agent)
3. Defective quality of produced fabric	3. Upgrade the preparing and adjusting technology for looms Improve the quality of accessory fittings and parts Carry out appropriate inspections of produced fabric Undertake mending based on the inspection results (implement quality control)
4. Shortage of weaving engineers	4. Nurture mid-ranking technicians and engineers through training and instruction