JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

BOARD OF INVESTMENT
THE PEOPLE'S REPUBLIC OF BANGLADESH

THE STUDY ON INDUSTRIAL DEVELOPMENT OF CHITTAGONG REGION IN THE PEOPLE'S REPUBLIC OF BANGLADESH

FINAL REPORT

VOL.1

CHITTAGONG INDUSTRIAL DEVELOPMENT PLAN

September 1995

PACIFIC CONSULTANTS INTERNATIONAL
NIPPON KOEI CO., LTD.

THE STUDY ON INDUSTRIAL DEVELOPMENT OF CHITTAGONG REGION IN THE PEOPLE'S REPUBLIC OF BANGLADESH

FINAL REPORT

VOL.1

CHITTAGONG INDUSTRIAL DEVELOPMENT PLAN

September 1995

The following foreign exchange rate is applied in the study:
US$ 1.00 = 40.00 Taka = 84 JP Yen
(as of November 1994)

PREFACE

In response to a request from the Government of the People's Republic of Bangladesh, the Government of Japan decided to conduct the Study on Industrial Development of Chittagong Region in the People's Republic of Bangladesh, and the study was implemented by the Japan International Cooperation Agency(JICA).

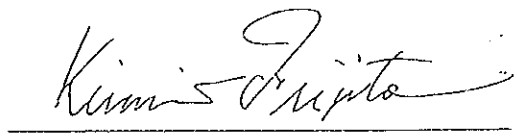
JICA sent a study team, headed by Mr.Itaru Mae of Pacific Consultants International(PCI) and organized by PCI and Nippon Koei Co.,Ltd., to the People's Republic of Bangladesh four times from August 1994 to August 1995.

The team held discussions with the officials concerned of the People's Republic of Bangladesh, and conducted field surveys. After returning to Japan, the team conducted further studies and compiled the final results in this report.

I hope that this report will contribute to the promotion of the industrial development and to the fostering of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the People's Republic of Bangladesh for their close cooperation throughout the study.

August 1995



Kimio Fujita
President
Japan International Cooperation Agency

August 1995

Mr. Kimio FUJITA
President
Japan International Cooperation Agency
Tokyo, Japan

Letter of Transmittal

Dear Sir,

We are pleased to formally submit herewith the final report of "The Study on Industrial Development of Chittagong Region in the People's Republic of Bangladesh".

This report compiles the result of the study that was undertaken in the People's Republic of Bangladesh, from August 1994 to August 1995 by the Study Team, organized by Pacific Consultants International and Nippon Koei Co., Ltd.

The Final Report is composed of the two volumes, i.e. Vol 1 : "Industrial Development Plan in Chittagong" and Vol 2 : "Implementation Plan for Chittagong Special Economic Zone Project".

In the Vol 1, it is firmly emphasize that an industrial development of Chittagong is of the prime importance and significance to improve the social and economic position of Bangladesh. It is generally understood that industrialization, especially acceptance of Foreign Direct Investment, is a key factor to boost per capita income and thus stabilize the national economy. Consequently, the Vol 2 proposed the establishment of Special Economic Zone as an infrastructure for receiving of Foreign Direct Investment.

We owed a lot to many people for the accomplishment of this report. First, we would like to express our deep appreciation and sincere gratitude to all those who extended their kind assistance and cooperation to the Study Team, in particular Bangladeshi officials concerned of Economic Relations Division of Ministry of Finance, Board of Investment of Prime Minister's Office and Chittagong Development Authority.

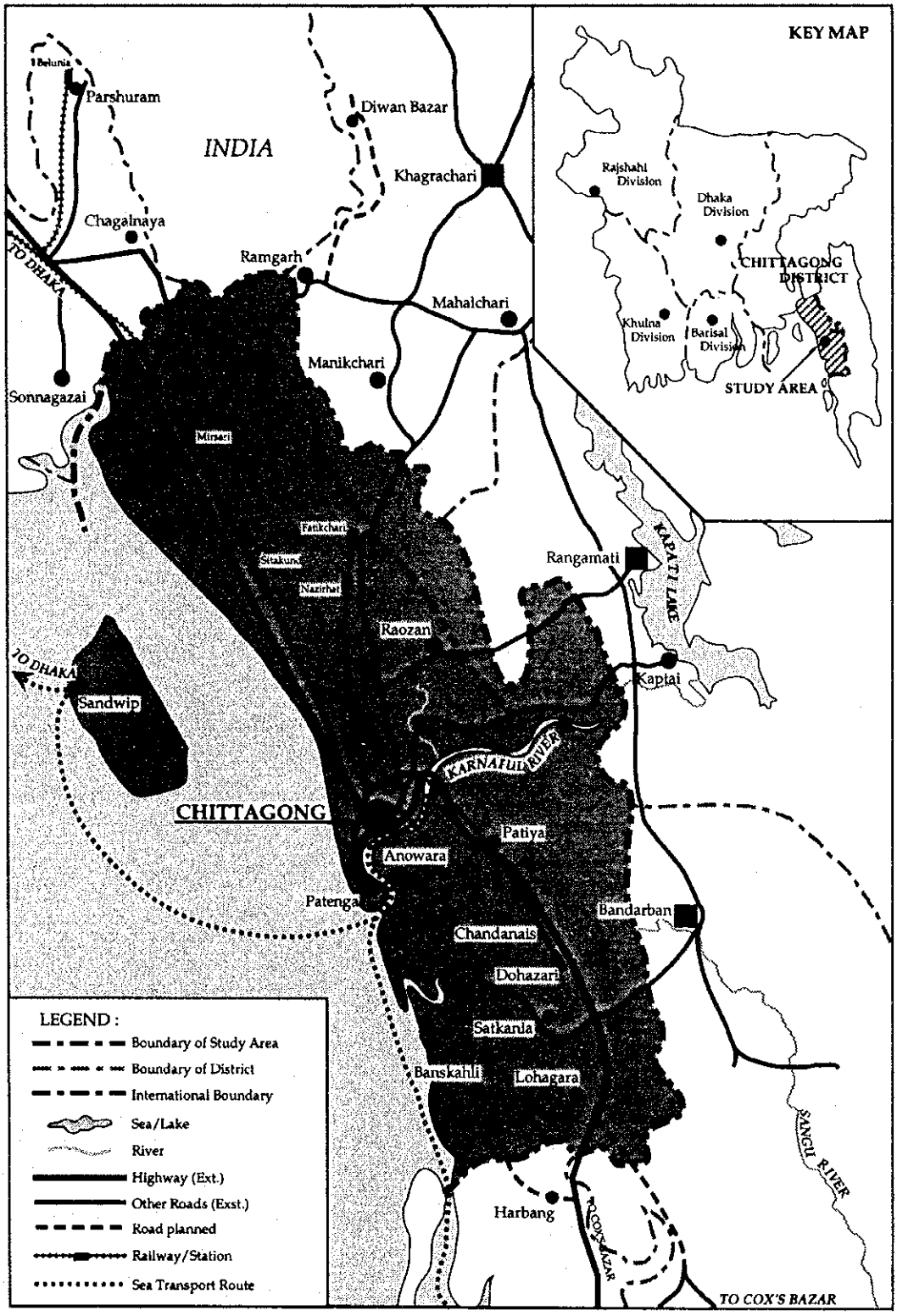
We also acknowledge the officials of your agency, the Ministry of Foreign Afairs, the Ministry of International Trade and Industry and the Embassy of Japan in the People's Republic of Bangladesh.

We wish the report would be able to contribute really to Bangladeshi people and industrial development in the future.

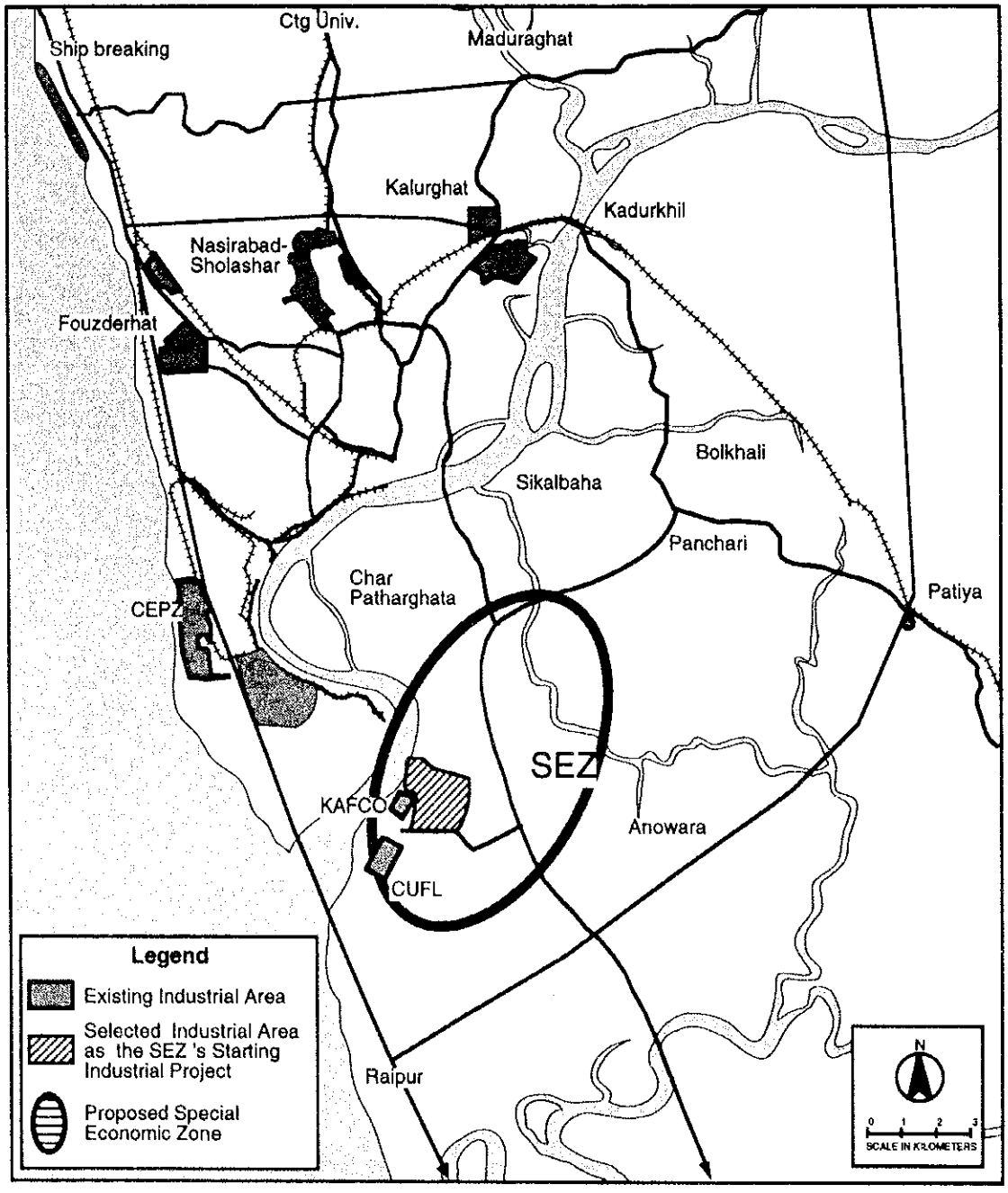
Yours Faithfully,

Itaru MAE

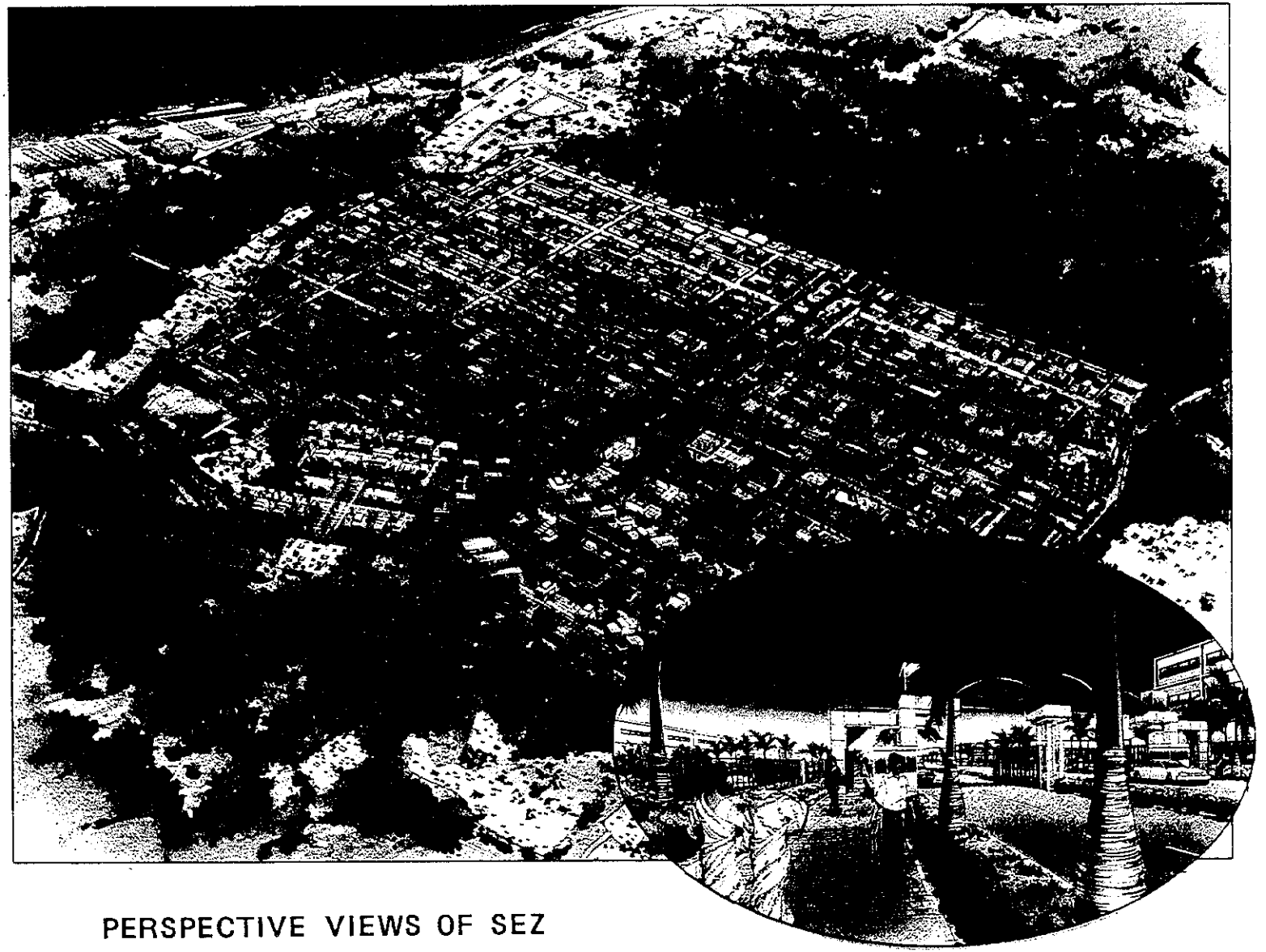
Team Leader
The Study Team for
The Study on the Industrial Development of
Chittagong Region
in the People's Republic of Bangladesh



STUDY AREA MAP



LOCATION OF THE PROPOSED SEZ AND THE INDUSTRIAL ESTATE PROJECT



PERSPECTIVE VIEWS OF SEZ

TABLE OF CONTENTS
VOLUME I

Annexes:

Vol. 1: Chittagong Industrial Development Plan
Vol. 2: Implementation Plan of Chittagong Special Economic Zone Development

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
ADP	Annual Development Program
APO	Asian Productivity Organization
ASEAN	Association of South East Asian Nations
BANSDOC	Bangladesh National Science and Technology Documentation Center
BASIC	Bank of Small Industries and Commerce Bangladesh Ltd.
BCAS	Bangladesh Center for Advanced Studies
BCIC	Bangladesh Chemical Industries Corporation
BCSIR	Bangladesh Council for Scientific and Industrial Research
BEPZA	Bangladesh Export Processing Zone Authority
BG	Bank Guarantee
BIDA	Bangladesh Industrial Development Authority
BITAC	Bangladesh Industrial Technical Assistance Center
BIWT	Bangladesh Inland Water Transport Authority
BIPP	Bangladesh International Production-linkage Polis
BMDC	Bangladesh Management Development Center
BMRE	Balancing, Modernization, Replacement and Expansion
BOI	Board of Investment
BOO	Build-Own-Operate
BSB	Bangladesh Shilpa Bank
BSC	Business Support Center
BSCIC	Bangladesh Small and Cottage Industries Corporation
BSRS	Bangladesh Shilpa Rin Sangstha
BSTI	Bangladesh Standard and Testing Institute
BTMS	Bangladesh Transportation Modeling System
BWDB	Bangladesh Water Development Board
CAAB	Civil Aviation Authority Bangladesh
CBD	Central Business District
CCC	Chittagong City Corporation
CCCI	Chittagong Chamber of Commerce and Industry
CDA	Chittagong Development Authority
CD Co	Chittagong Development Company
CEPZ	Chittagong Export Processing Zone

CIC	Chittagong Investment Corporation
CIDP	Chittagong Industrial Development Plan
CMM	Chittagong Merchandise Mart
CTGD	Chittagong District
CWASA	Chittagong Water Supply and Sewerage Authority
DCF	Domestic Capital Formation
DFI	Development Finance Institutions
DTT	Deloitte Touche Tohmatsu International
EPB	Export Promotion Board
EPZ	Export Processing Zone
ES	Expert System
EU	European Union
FA	Foreign Assistance
FDI	Foreign Direct Investment
FY	Fiscal Year
GATT	General Agreement on Trade and Tariffs
GDP	Gross Domestic Product
GNP	Gross National Product
GOB	Government of Bangladesh
GRDP	Gross Regional Domestic Product
GSP	General System of Preferences
HRD	Human Resource Development
ICSTE	International Center of Science, Technology and Environment
IES	Industrial Estates
IIDP	Industry related Infrastructure Development Plan
IMGD	Imperial Milion Gallons per Day
IPDP	Industrial Park Development Plan
IS	Import Square
ISAP	Industrial Special Allocation Plan
JETRO	Japan External Trade Organization
JICA	Japan International Cooperation Agency
JOIN	JETRO Overseas Investment Cooperation Scheme

L/C	Letter of Credit
LFS	Labor Force Survey
mgd	Million gallons day
MITI	Ministry of International Trade and Industry
MOA	Ministry of Agriculture
MOC	Ministry of Communication
MOF	Ministry of Fisheries
MOF	Ministry of Finance
MOI	Ministry of Industry
MOJ	Ministry of Jute
MOST	Ministry of Science and Technology
MOT	Ministry of Textiles
MPLs	Manufacturing Public Corporations
MRD&C	Ministry of Local Government, Rural Development & Cooperative
NAFTA	North American Free Trade Area
NGO	Non Governmental Organization
NIDP	National Industrial Development Plan
NIEs	Newly Industrialized Economies
NMST	National Museum of Science and Technology
NOPI	National Oceanographic Research Institute
NPO	National Productivity Organization
OECF	Overseas Economic Cooperation Fund
p.a.	Per annum
PC	Public Corporations
PCI	Pacific Consultants International
PCO	Public Call Office
PHED	Public Health Engineering Department
PMO	Prime Ministers Office
RADP	Research and Development Policy
SCI	Small and Cottage Industries
SEZ	Special Economic Zone
SIDR	Special Industrial Development Region

SPC	System of Preferential Credit
SPM	Suspended Particle Matter
UNCHS	United Nations Center For Human Settlements
USF	Unclassified State Forests
VAT	Value Added Tax
WASA	Water Supply and Sewerage Authority
WHO	World Heath Organization
WTO	World Trade Organization

CHAPTER 1:
OUTLINE OF THE STUDY

CHAPTER 1 OUTLINE OF THE STUDY

1.1 Background of the Study

The People's Republic of Bangladesh declared her independence from the then Pakistan on 16 March 1971. Bangladesh has a per capita income, which ranks among the lowest in the world and she is classified therefore into the group of low-income economies. The size of the Bangladeshi population, which was determined in the 1991 census at a level of some 111 million people, is estimated to grow to some 193 million people by the year 2020. Bangladesh faces therefore formidable economic and social development challenges at the turn to the 21st century.

The Bangladeshi economy has achieved some structural change over the past 25 years. This is illustrated, for example, by the fact that the share of the primary sector in Gross Domestic Product (GDP) has decreased from some 49.8% in fiscal year (FY) 1972/73 to about 36.9% in FY 1991/92 (constant 1984/85 price base). Notwithstanding such achievement, Bangladesh is still a rural and strongly agrarian based society with a high level and widespread poverty. Only some 11% of Bangladeshi total number of households and total population lived in 1991 in urban areas, that is the administratively defined 110 municipalities. Some 62% of the total rural farm households are classified as landless or near landless and about 66.4% of the labour force was employed in 1990 in the primary sector.

Real per capita income (constant 1984/85 price base) has increased from 3,561 Taka in FY 1972/73 to 4,813 Taka in FY 1991/92. The increase reflects a compound growth rate over the period of 1.6%. Population growth over the same 20 years period averaged 2.15% per annum. It has decreased somewhat to 2.02% per annum over the intercensal period 1981 to 1991. Live expectancy at birth in 1992 was 56.3 years at national level (60.5 years in urban and 56.0 years in rural areas). The literacy rate of the population was 32%. With her estimated increase in the population size, the Government of Bangladesh (GOB) will have to focus economic and development efforts to achieve accelerated economic growth, generate productive employment, alleviate poverty and attain a sustainable level of development and economic growth.

The current "Fourth Five Year Plan (FFYP 1990-1995) has been formulated as part of a twenty year "Perspective Plan (1990-2010). The GOB intends to accelerate the pace of industrialisation through promoting domestic and foreign investment, creating a more market driven economy, strengthening the role of the private sector in overall economic and development activities and improving the investment climate by establishing and further developing existing industrial zones and estates.

The Chittagong District, which shares borders with India and Myanmar, is one of the country's regional growth poles and industrial centres. The District accounted in 1991 for some 6.3% of the total Bangladeshi population (Chittagong Division 25.7%) and about 9.8% of national GDP (Chittagong Division 29.8%). Some 32.0% of national gross value of manufacturing output originated in 1993 from the Chittagong District. In addition, the Chittagong Municipality Area has the country's biggest port and an international air port. Chittagong is the second largest urban agglomeration and provides a suitable industrial location with the already existing "Export Processing Zone (EPZ)". The Chittagong District has been selected by the GOB as the area to be covered by a comprehensive industrial development plan.

1.2 Objective and Scope of the Study

The objective of the Study is to formulate a comprehensive plan for the industrial development of the Chittagong region with a view to contribute to the vitalisation and modernisation of the Bangladeshi economy. This plan shall consist of overall development strategies, development policies and program and project recommendations for implementation.

The Chittagong District shall be considered the plan's study and target area, with special emphasise on the Chittagong Metropolitan Area. The planning horizon for the comprehensive industrialisation plan shall be the year 2020. Intermediate target years for high priority projects shall be identified in implementation plans.

1.3 Implementation of the Study

Implementation of the Study has been divided into four principal phases. The present report is the "Draft Final Report (DFR)" required by the work program. Its contents and structure reflects the basic analytical results and principal conclusions and recommendations as they refer to the scope of work agreed upon between the GOB and the Government of Japan (GOJ) on March 23, 1994.

1.4 Structure of the Report

The Final Report comprises two volums of main text with Annexes. The two main reports, namely :

- Volume 1 : Chittagong Industrial Development Plan, and
- Volume 2 : Chittagong Special Economic Zone Development Plan

are interdependent. The structure and contents of volume 1 follows, in principle, the work areas and items as they have been specified in the scope of work. Volume 2 elaborates on the proposed Special Economic Zone (SEZ) to be created, the industrial estate development for the selected industrial site, institutional requirements, which have to be met for the successful implementation of the industrialisation strategy and priority programs and projects, which need to be implemented.

The Annexes contain technical and statistical data supporting the main line of argumentation. The major topics addressed in the Annexes are detailed tabulated results of the investment demand surveys in Bangladesh, Japan, South Korea, Singapore and Thailand, an exposed on Bangladesh's comparative advantage from a foreign direct investment point of view and detailed project fact sheets for the priority projects and programs.

CHAPTER 2:

REVIEW OF THE BANGLADESH NATIONAL ECONOMY

CHAPTER 2 REVIEW OF THE BANGLADESH NATIONAL ECONOMY

2.1 Basic Natural and Socio-economic Features

The People's Republic of Bangladesh is situated between 20° 34' and 26° 38' North latitude and between 88° 01' and 92° 41' East longitude and consists of flat fertile alluvial land. Bangladesh shares boundaries to the North with India (West Bengal and Meghalaya), to the West with India (West Bengal), to the East with India (Tripura and Assam) and Myanmar. To the South lies the Bay of Bengal.

The population of Bangladesh comprises predominantly a mixed group of proto-Austroloids/Dravidians, Mongoloids and Aryans. Bangla is the national language spoken by 95% of the population. Some 5% speak other dialects. Some 88.3% of the population believe in the Muslim faith, 10.5% are Hindu, 0.6% are Buddhist and about 0.3% are Christian.

Bangladesh comprises a land area of 147,570 km² *) (Table 2.1 refers) and 12 nautical miles territorial waters. Figure 2.1 depicts the physiography of Bangladesh and Figure 2.2 contains a soil map. Drainage and land type is identified in Figure 2.3 and a land use map is contained in Figure 2.4.

About 79.1% of the total land area comprises flood plain soils, some 12.6% hill soils and the remainder of 8.3% are terrace soils. Some 83.3% of the land area, equivalent to 122,955 km², is classified as agricultural land (Table 2.1 refers). Out of that total some 92,295.5 km² (75.1 %) are high to medium /high agricultural land, 17,543.2 km² (14.3% of the total) are medium to low and the remainder of 13,116.3 km² (10.7%) are low to very low agricultural land.

Out of the remainder of some 24,615 km² about 51.5% are covered by homesteads, about 44.7% by rivers and beels and 3.8% are classified as urban areas. Some 18,559 km² (1990/91 figure), equivalent to 12.6% of the total land area, are covered by forest.

*) This number represents the total land area as updated by the Office of the Surveyor General of Bangladesh in 1993 and may differ from figures quoted in the Statistical Yearbook 1993.

Table 2.1 : Total Area, Population Size, Number of Households, Population Density By Area And Agricultural Land Type

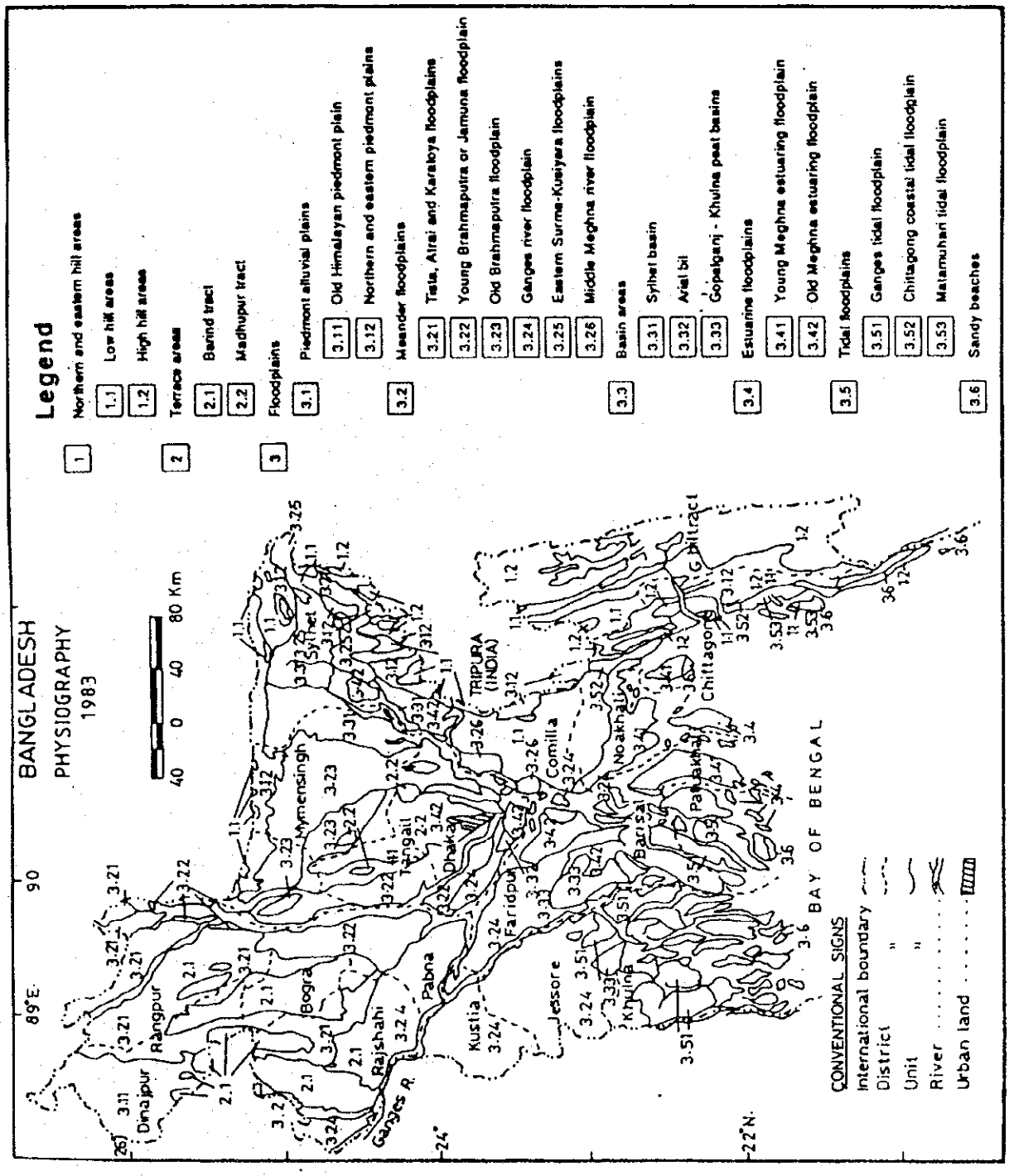
[UNIT : As indicated]

GREATER REGION & DIVISION	TOTAL AREA	POPULATION SIZE *) [1991]	POPULATION DENSITY [1991]	NUMBER OF HOUSEHOLDS	AVERAGE SIZE OF HOUSEHOLD	AGRICULTURAL LAND TYPES **/AGRICULTURAL LAND DENSITY HIGH-LAND	MEDIU. HIGH LAND	MEDIU. LOW LAND	LOW-LAND	VERY LOW LAND	TOTAL	POPULATION DENSITY PER AGRICL. LAND
	[sq.km]	[Million People]	[People/sq.km]	['000']	[People]	[sq.km]	[sq.km]	[sq.km]	[sq.km]	[sq.km]	[sq.km]	[People/sq.km]
BANDARBAN	4,479	0.231	52	46	5.05	4,506.3	12.5	0.0	0.0	0.0	4,518.8	51.1
CHITTAGONG	7,775	5.296	681	920	5.76	1,638.4	1,880.8	242.8	2.3	0.0	3,764.3	1,406.9
CHITTAGONG H.T.	8,816	0.743	84	147	5.06	5,047.6	27.3	4.6	0.0	0.0	5,079.5	146.3
COMILLA	6,716	4.033	601	684	5.89	74.0	772.9	822.5	733.5	0.0	2,402.9	1,678.4
NOAKHALI	5,985	2.217	370	384	5.77	17.4	1,194.9	481.2	15.5	0.0	1,709.0	1,297.3
SYLHET	12,596	2.153	171	342	6.30	365.4	978.2	393.8	1,209.0	0.0	2,946.4	730.7
CHITTAGONG DIVISION	46,367	27.288	589	4,677	5.83	17,014.3	9,533.8	5,511.7	4,525.6	1,006.6	37,592.0	725.9
DHAKA	7,439	5.840	785	1,042	5.61	307.2	122.0	320.5	341.4	30.2	1,121.3	5,208.2
FARIDPUR	7,008	1.506	215	278	5.43	361.9	813.0	473.9	51.0	0.0	1,699.8	886.0
JAMALPUR	3,396	1.874	552	380	4.94	473.2	949.7	405.7	6.5	0.0	1,835.1	1,021.2
MYMENSINGH	9,862	3.957	401	764	5.18	544.0	2,321.2	723.0	78.2	0.0	3,666.4	1,079.3
TANGAIL	3,414	3.002	879	571	5.26	910.7	1,333.0	639.4	173.6	0.0	3,056.7	982.1
DHAKA DIVISION	31,119	32.666	1,050	6,103	5.35	5,198.3	10,632.0	6,026.4	3,917.8	997.2	26,771.7	1,220.2
BARISAL	8,260	2.207	267	415	5.32	171.2	1,390.6	261.3	45.7	0.0	1,868.8	1,220.2
PATUAKHALI	5,037	1.274	253	228	5.58	0.0	1,897.6	132.5	0.0	0.0	2,030.1	627.6
BARISAL DIVISION	13,297	7.463	561	1,389	5.37	216.6	7,545.8	659.2	87.4	0.0	8,509.0	877.1
KHULNA	12,212	2.011	165	375	5.36	135.5	3,445.3	372.6	79.1	0.0	4,032.5	498.7
JESSORE	6,567	2.107	321	380	5.54	1,124.8	720.4	367.8	102.9	0.0	2,315.9	909.8
KUSHTIA	3,495	1.502	430	273	5.51	513.2	627.8	281.0	66.2	0.0	1,488.2	1,009.3
KHULNA DIVISION	22,274	12.688	570	2,314	5.48	4,455.7	12,061.6	2,529.5	561.0	0.0	19,607.8	647.1
BOGRA	3,885	2.669	687	516	5.17	384.7	1,911.5	245.7	22.1	0.0	2,564.0	1,041.0
DINAJPUR	6,652	2.260	340	430	5.25	1,213.5	1,900.5	36.6	20.4	0.0	3,171.0	712.7
PABNA	4,869	1.920	394	326	5.89	363.7	543.6	511.2	481.7	143.5	2,043.7	939.5
RAJSHAHI	9,441	1.887	200	359	5.26	310.4	1,447.8	289.0	84.2	0.0	2,131.4	885.3
RANGPUR	9,666	2.160	223	425	5.09	400.2	1,669.0	8.4	0.0	0.0	2,077.6	1,039.7
RAJSHAHI DIVISION	34,513	26.210	759	4,914	5.33	6,335.1	19,302.3	2,816.4	1,866.0	154.7	30,474.5	860.1
BANGLADESH	147,570	106.315	720	19,398	5.48	33,220.0	59,075.5	17,543.2	10,957.8	2,158.5	122,955	864.7

NOTES : *) The population size refers to the Zilla. Population density is calculated for the greater district as identified in "Total Area". The population numbers quoted are not corrected for undernumeration.
The corrected population size in 1991 was 111.455 million people.
**) Agricultural land types refer to the greater district. Population density refers to the greater district.

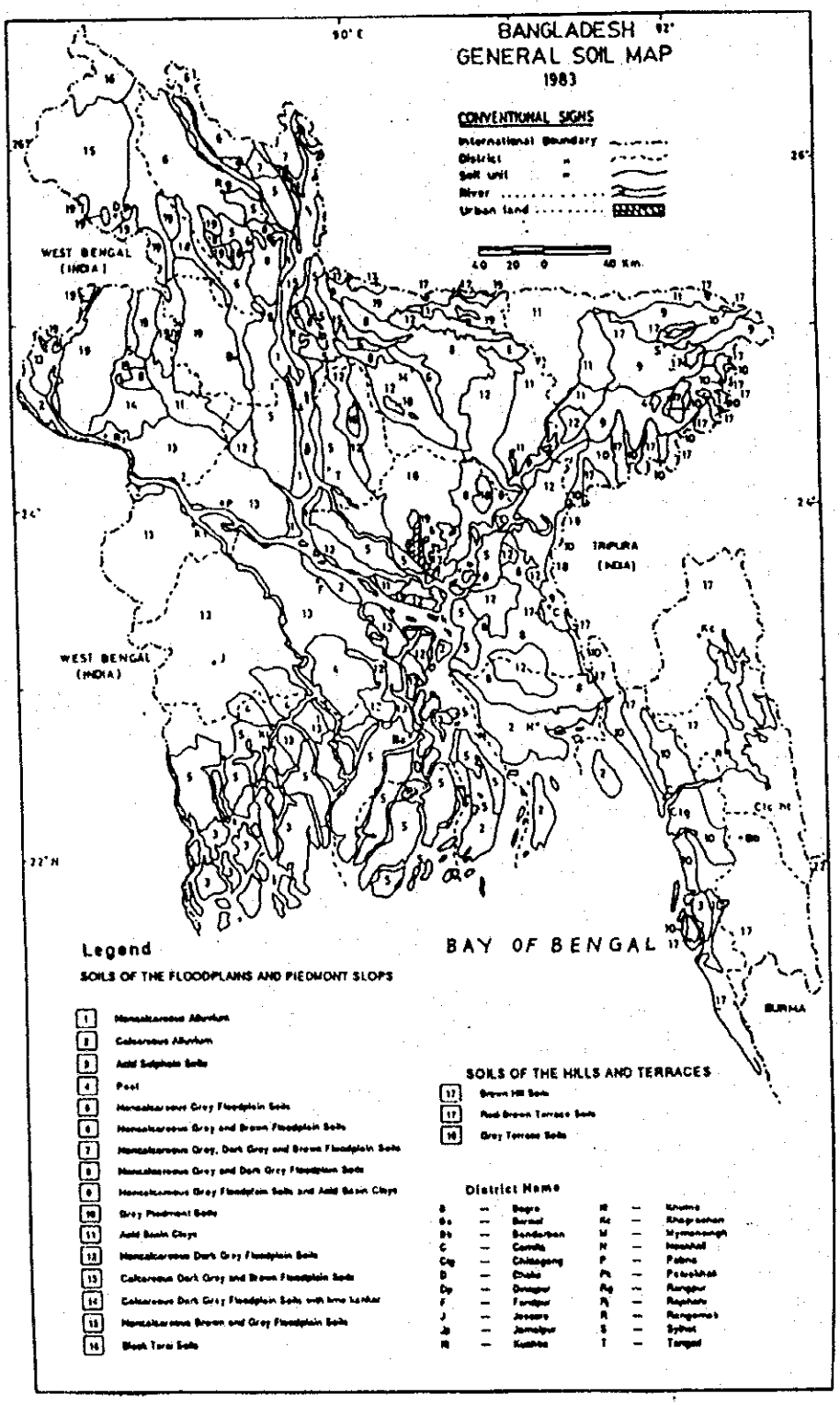
SOURCE : JICA study team computations based on table 2.01, page 39 and table 2.03 on pages 40 and 41, "1993 Statistical Yearbook of Bangladesh" ,Dhaka, 1994.

Figure 2.1 : Physiography Of Bangladesh 1983



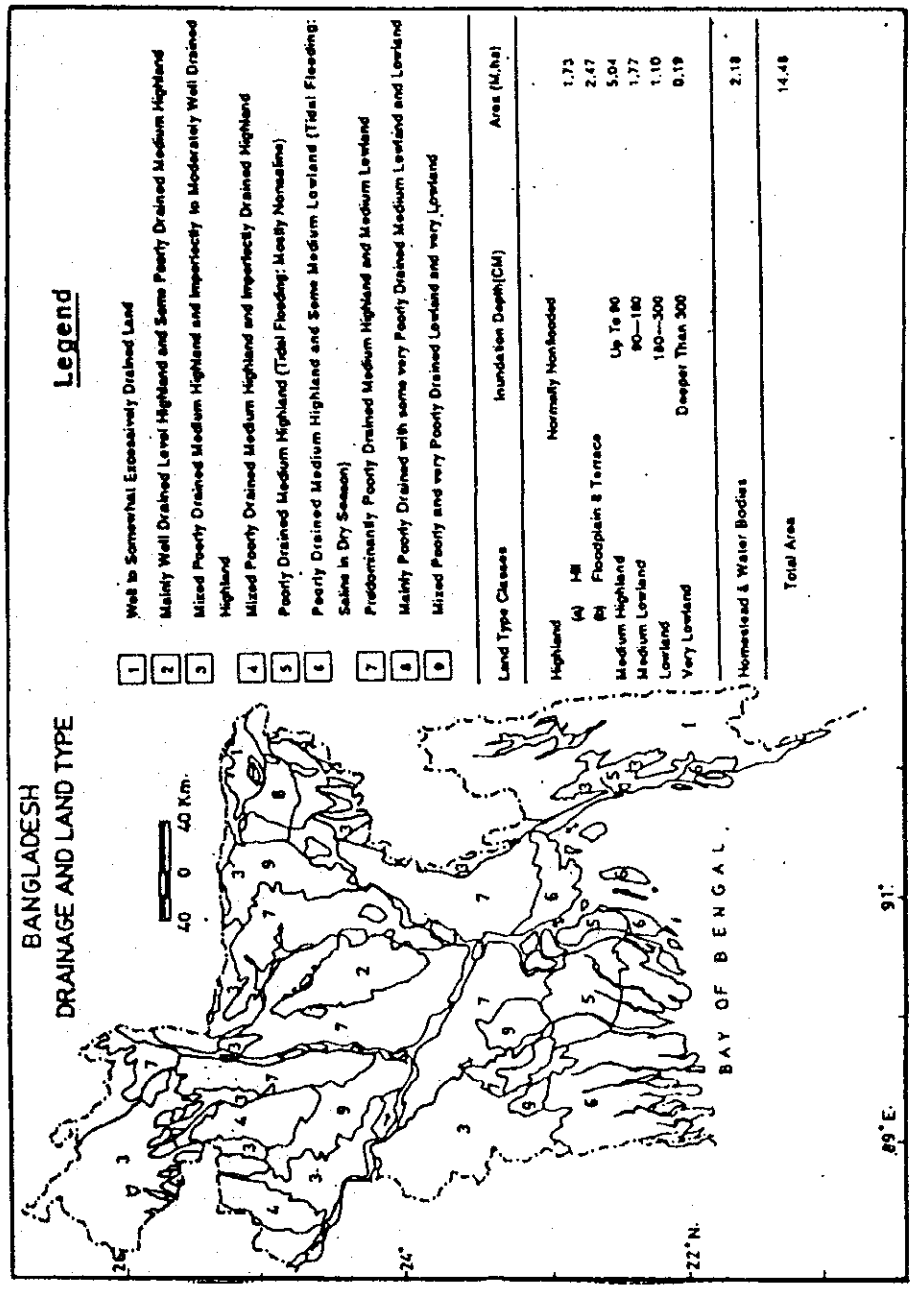
SOURCE : M. Hossain : " Agriculture In Bangladesh. Performance Problems And Prospects "; University Press Limited, Dhaka, 1991, page 466.

Figure 2.2 : Bangladesh General Soil Map 1983



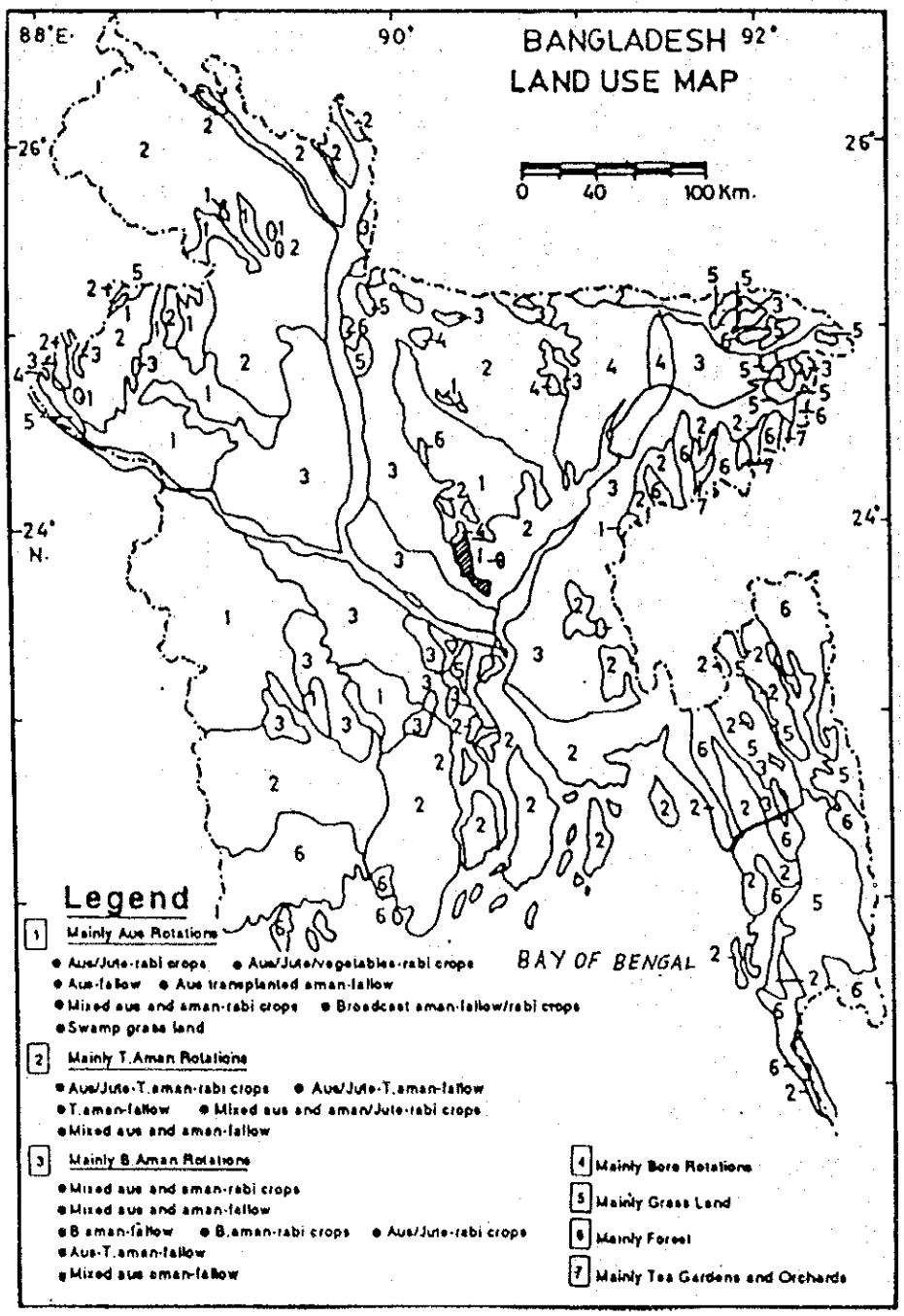
SOURCE : M. Hossain : "Agriculture In Bangladesh. Performance Problems And Prospects"; University Press Limited, Dhaka, 1991, page 465.

Figure 2.3 : Bangladesh Drainage And Land Type Map



SOURCE : M. Hossain ; "Agriculture In Bangladesh. Performance Problems And Prospects"; University Press Limited, Dhaka, 1991, page X.

Figure 2.4 : Bangladesh Land Use Map



SOURCE : " Agriculture In Bangladesh. Performance Problems And Prospects"; University Press Limited, Dhaka, 1991, page viii.

The Bangladeshi total population size was estimated in the 1991 census to be around 111.455 million people after correction for under enumeration. This differs from the figure of 106.315 million given in the Statistical Yearbook 1993. However, in the absence of under enumeration corrected population data for the Greater Region and Division levels, the Statistical Yearbook number will be used to calculate characteristic data at national level.

Given the above number, national average population density in 1991 was 720 people/km^2 with the highest population density of 1,050 people/km^2 in the Dhaka Division, followed with 759 people/km^2 in the Rajshahi, 589 people/km^2 in the Chittagong, 570 people/km^2 in the Khulna and 561 people/km^2 in the Barisal Division. The four highest absolute population densities in the Greater Regions in the same year were recorded in Tangail (879 people/km^2), Dhaka (785 people/km^2), Bogra (687 people/km^2) and Chittagong (681 people/km^2) (Table 2.1 refers).

The national average population density by total agricultural land was about 865 people/km^2 of agricultural land. Population density by total agricultural land among Greater Regions varies considerably. The four highest densities were recorded in Dhaka (5,208 people/km^2), Comilla (1,678 people/km^2), Chittagong (1,407 people/km^2) and in Noakhali (1,297 people/km^2). The absolute lowest density was recorded for Bandarban and the Chittagong Hill Tracts.

The total number of households in 1991 was established at 19.398 million, which would translate into an national average household size of some 5.48 people. While there is a wide spread of absolute number of households among Greater Regions and the principal five Divisions, the spread in the average size of households is much smaller with the highest average size being recorded with 6.30 people in the Sylhet Greater Region and the smallest with 4.94 people in the Jamalpur Greater Region.

The average household size in the Chittagong Greater Region was with 5.76 people, slightly above the national average.

Bangladesh is administratively divided into five Divisions, 21 Regions (= Greater Districts), 64 Zilas or Districts and some 110 municipalities and four City Corporations. Table 1 in Annex 1 provides an overview on the rough distribution of the population among rural and urban areas in 1991 as defined administratively. The total population size is again the one which has not been corrected for under enumeration.

These data suggest that about 11.0% of the Bangladeshi total population and some 10.9% of all Bangladeshi households lived in municipalities, that is urban areas. In other words, almost 90% of both, population and households lived in non-urban, that is rural areas.

The literacy rate of the population of 5 years and over increased slightly from 23.8% in FY 1988/89 to 24.8% in FY 1990/91. The literacy rate of the segment of the population with 15 years of age and over, however, decreased over the same period from 29.2% to 24.8%. Education and human resource development (HRD) in general need strong concentrated and accelerated efforts. While the participation rate at primary school level (5 to 9 years) is high (97.5 %), it drops sharply to some 30.3% at secondary school level (10 to 14 years) and is only some 6.9% at higher education level (15 to 24 years).

The total number of students has increased from 2,257 students in FY 1949/50 (2,201 male and 56 female university students) to a total 52,722 in FY 1991/92 (40,683 male and 12,039 female students). However, this implies that only 0.05% of the total population obtain a university degree.

The GOB has increased expenditures on education over the years from 115 Taka per capita total public expenditure on education in FY 1988/89 to 163 Taka in FY 1991/92. This amount is, however, insufficient to build an educated and skilled labour force needed for supporting an accelerated development and industrialisation path of the country.

2.2 Macro-economic Trends and Balances

2.2.1 Investments and Savings Balances

One of the most serious weakness of the Bangladeshi economy is the low saving and investment rate, which is clearly inadequate even by the standard of many low-income economies. The rate of saving out of domestic income over the 20 years period FY 1972/73 to 1991/92 has averaged a mere 3.5% (real 1984/85 price base). The domestic savings rate averaged a negative 0.7% over the eight year period FY 1972/73 to FY 1979/80 after independence, increased to an average of 2.9% during the period FY 1980/81 to FY 1984/85 and increased again to an average of about 6% over the five years FY 1985/86 to FY 1989/90.

Table 2.2 summarises trends in the savings and investment balances. The reference period covers eight years from FY 1984/85 to FY 1991/92, which is identical to the reference period chosen for the real GDP growth performance analysis in the following section. These data suggest the following major trends:

- The ratio of gross investment to GDP, which was around 15-16% during the last half of the seventies, declined to a range of 11% to 12% (with the exception of FY 1985/86) and has remained in that range since then, and

- Private investment has stagnated at a level of 6-7% (again with the exception of FY 1985/86) and public investment has shown the same characteristics at around 5-6%.

As has been observed already above for the savings rate, the investment ratio to GDP is clearly inadequate to support a socially acceptable and sustainable rate of economic growth. Estimations of macro investment functions undertaken for Bangladesh indicate that private investment is rather influenced by the availability of funds, for example bank credit and remittances, than by a desire to invest demand variables. A particularly disconcerting finding from sector investment investigations is that private investment has been increasingly diverted away from productive sectors into such activities as urban house building, which has registered very rapid growth.

Another important feature to be pointed out in this context is the net contribution of the Government's fiscal operations to national savings. This contribution has declined continuously, caused by the growth in current expenditures, which have increased from some 5.6% of GDP in FY 1980/81 to about 8.5% in FY 1990/91.

Table 2.2 Trends in the Savings - Investment Balances FY 1984/85 to FY 1991/92

[Unit : in percent of GDP at constant 1984/85 prices]

I T E M	FY 1984/ 85	FY 1985/ 86	FY 1986/ 87	FY 1987/ 88	FY 1988/ 89	FY 1989/ 90	FY 1990/ 91	FY 1991/ 92
SAVINGS - INVESTMENT BALANCE								
Domestic Savings	7.3	11.2	8.1	6.7	4.0	4.0	8.5	9.2
National Savings	9.3	17.7	15.4	14.4	7.7	10.5	15.2	16.4
Foreign Savings	3.7	6.4	7.4	7.7	3.7	6.5	6.7	7.2
Investment	12.9	18.1	13.9	12.7	12.9	12.4	11.3	11.4
Private Investments	7.4	11.9	7.2	6.6	6.5	6.2	5.7	6.2
Public Investments	5.6	6.2	6.8	6.2	6.4	6.2	5.6	5.2
NET FACTOR INCOME FROM ABROAD *)	2.1	2.6	2.9	3.4	3.4	3.0	3.2	3.7

NOTE : *) Includes interest payments on external public debt, other investment income (receipts and payments) and private transfers, that is mostly worker's remittances from abroad.

SOURCE : JICA Study Team computations based on table 100, page 219 in "Twenty Years Of National Accounting Of Bangladesh", BBS, July 1993.

The growth in current expenditures in combination with a stagnant level of revenues at around 9% of GDP has in fact created chronic dissaving by the public sector, the extent of which has increased over the years. The share of current expenditures in the Government's overall expenditure program has increased from some 30% in FY 1981/82 to about 50% in FY 1990/91, thus decreasing the share of development expenditures. The size of the Annual Development Plan (ADP) has consequently declined over the same period from 10% of GDP to 6.8% with the associated decline in public investment proper.

The above trends have created the following constraints on the macroeconomic side:

- The development expenditures of the Government have become increasingly dependent on foreign financing. Hence, project and commodity aid have accounted for about 94% of the ADP outlay in FY 1990/91 as against 58% in FY 1981/82

- It has been argued that external funds merely substitute for the Government's own resources in funding the development program and facilitating, therefore, the increased allocation to less important current expenditures. In other word, additional external assistance indirectly supports Government consumption and thus substitutes for public sector savings

- The above has accentuated the problem of local currency funding of aid-assisted projects, which has actually become a critical macroeconomic constraint in the utilisation of project aid. It is not surprising therefore that the absolute volume of project aid in the pipeline has risen continuously to some 5 billion US dollars at the end of FY 1990, whereas the actual disbursement of project aid has remained at a level of some 1 billion US dollars annually

- This in turn has led to an over commitment of the ADP with an excessively large portfolio of on-going projects, resulting in under budgeting and delays in project implementation, thus lowering the efficiency of public investment.

2.2.2 Public Investment Planning

As has been indicated already in the previous section, public sector investment planning is characterised by two interrelated problems :

- A sizeable imbalance in funding sources for the ADP, in particular with respect to the sufficient availability of local currency resources, and
- The overcommittment of the ADP with an excessively large portfolio of on-going projects, thereby reducing the scope for initiating new high priority projects.

There is common understanding among experts and specialists that the GOB needs not only to identify appropriate criteria for project prioritisation, but also that such priorities must be related to a consistent and clear public investment strategy and a realistic projection of resources. The above would likewise imply a proper linking of macro investment planning with project based planning, which is currently difficult to implement, because of the strong dependence on foreign aid.

2.2.3 Fiscal Management

There are three critical issues, which need to be addressed. These are:

- Establishing sound and consistent public expenditure priorities
- Reducing the growth and curbing current expenditures, and
- Improving domestic resource mobilisation.

Proper and consistent public expenditure priorities are a prerequisite not only for the successful implementation of the country's overall development strategy, but also the industrialisation strategy proposed in this Study (see Chapter 8). Important considerations in this context are the Government's ability to sustain programs for poverty alleviation and human resource development. The share of current and development expenditures on education and health have remained almost unchanged. Expenditures on education have continued to account for some 8-10% and those for health for about 4-5% of total Government expenditures. This expenditure level is much below the average for developing countries both, as a proportion of GDP and share in total Government expenditures.

The increase in public current expenditures can be attributed to wage increases for Government employees, subsidies to schools, local Government expenditures and covering operating deficits of state owned enterprises (SOE's). It may be alleged therefore that restraining the growth of current expenditures will depend on the Government's willingness and ability to resist pressure for additional fund allocation. Such ability, however, is beyond the sphere of mere economic considerations, and would require a broad based political consensus.

Bangladesh's ratio of tax revenue to GDP has remained stagnant at some 7-8% throughout the eighties. This ratio is the lowest among the LDCs. An investigation into the tax base and structure is beyond the TOR of this Study. However, conclusions of investigations in this area, in particular by the World Bank, hint that the tax system is income-inelastic. This means that the rate of growth of tax revenue tends to fall behind that of GDP. This in turn suggests that the major factor behind inelastic tax revenue is an increasing degree of tax evasion, rather than the tax structure itself.

Thus improving the quality of the tax administration should be of high priority. Such improvement should focus, inter alia, on the impartial and consistent enforcement of existing tax laws.

Another important point in the context of domestic resource mobilisation is the fact that there is virtually no cost recovery from public investment in, for example, large water sector projects. Cost recovery components in large scale public utility projects, local level resource mobilisation, in particular among beneficiaries, public/private sector and pure private sector activities in such areas as electricity and water will therefore have to be actively promoted.

2.2.4 Monetary and Macro-Financial Policies

Since the eighties Bangladesh has implemented policy measures geared towards aggregate demand management in the context of IMF supported structural adjustment programs and with a view to control domestic inflation and maintain external sector balance. These policies have succeeded to a certain extent in containing the fiscal and external deficits and in keeping domestic inflation at manageable levels (Table 2.3 refers). However, they have failed to impose discipline on the Government's expenditure behaviour in terms of increasing consumption at the expense of public investment.

Bangladesh has initiated, at the end of the eighties, a rather comprehensive reform program for the financial sector under guidelines prepared by the World Bank. The primary objective of the reform is to move towards a market determined financial system.

The reforms provided for liberalised interest rate determination and greater use of flexible monetary instruments instead of direct control over the lending and credit operations of the banks and non-bank financial institutions (NBFs). The transition was initiated in 1990, when banks were allowed to freely adjust their lending and deposit rates within a certain band.

Table 2.3 Trends in Inflation by Broad Expenditure Category FY 1984/85 to FY 1991/92

[Unit : in percent]

ITEM	FY 1984/85	FY 1985/86	FY 1986/87	FY 1987/88	FY 1988/89	FY 1989/90	FY 1990/91	FY 1991/92
GENERAL PRICE INDEX - CPI	100 Base	19.7	8.3	8.4	1.1	11.3	19.6	5.4
GROSS DOMESTIC PRODUCT - GDP	100 Base	9.8	12.1	9.3	10.0	6.9	14.0	6.8
GROSS CAPITAL FORMATION - GCF	100 Base	11.3	9.4	7.4	13.4	12.1	11.9	14.1
REAL GROWTH RATE GROSS DOMESTIC PRODUCT - GDP	Base Year	4.3	4.2	2.9	2.5	6.6	3.4	4.2

SOURCE : JICA Study Team computations based on table 96, page 211 in "Twenty Years Of National Accounting Of Bangladesh", BBS, July 1993.

The floors were to be determined at six months intervals with 0.5% above the inflation rate for fixed deposits and 1% below that level for saving deposits. The ceilings have been determined at 3-4% above the floor rates and lending rates are determined for different categories of loans.

The reforms should strengthen and improve resource allocation and private savings mobilisation. However, while the rationale for establishing floor rates is to provide an incentive for private savings by ensuring that the rate of interest on term deposit remains positive in real terms, there is insufficient evidence as to how far voluntary savings respond to variations in the interest rate.

The interest bands are not necessarily representative of any supply-demand equilibrium of the credit market. It has also to be noted in this context that the financial sector suffers from high rates of default on loan repayment and that diversion of borrowed funds to other uses is not unusual. Hence, existing lending rates may not be an outstanding factor to the demand for credit. Issues of fundamental importance are the restoration of financial discipline together with improvements in loan repayments.

There is thus a need to further liberalise the financial sector towards a market driven sector, which could ensure that savings are directed towards investments promising optimal returns.

2.2.5 Exchange Rate Policy

Another major component of the structural adjustment efforts have been to move towards are liberalised trade regime with flexible exchange rate management. It was expected that these measures would promote export growth and export diversification, mainly by improving the international competitiveness of exports. A related objective has been to eventually unify the official exchange rate with the secondary market rate.

The nominal exchange rate of the Taka has been frequently adjusted downwards at an annual cumulative rate of some 8.9%. The differential between the official exchange rate and the secondary market rate has been reduced from about 26% in FY 1981/82 to about 2-3% in FY 1990/91. The scope of the secondary market has been enlarged progressively from about 12% of total value of imports in FY 1981/82 to about 48% in FY 1990/91 and quantitative restrictions on imports and import bans have been phased out rapidly.

Another outstanding and notable feature of trade liberalisation is the fact that there has been almost no depreciation of the real exchange rate (RER) in spite of the significant depreciation of the nominal exchange rate. The question to be addressed in this context is how Bangladesh has

been able to do both, reduce its external deficits and move towards a more liberalised import regime without devaluating her currency in real terms.

A possible answer is perhaps the depressed import demand, which is a result of the low and declining rate of investment. Investment in Bangladesh is highly import intensive with a large proportion of imports comprising capital goods (Section 2.5 of this Study refers). However, import demand functions reveal that imports are generally insensitive to relative price changes and are largely explained by GDP or other general economic level indicators. In other words, it is quite possible that Bangladesh's external balance position turns dramatically, if and when the investment rate increases dramatically, as is implicitly assumed in this Study and as would be needed to support and accelerated growth path of real GDP.

Bangladesh's export performance is a crucial issue in this context. There is no doubt that non-traditional exports have performed very strongly, registering a growth rate of some 27% annually over the eighties, while traditional exports grew at only 0.7% per year over the same period. However, this growth performance has been carried by only few items, with ready made garments accounting for 67% and fish and shrimp for another 19% of total export in 1990. It is clear that the desired diversification of the export base has not yet been achieved. In addition, relatively easy access to external markets has been the primary impetus to such export growth. This advantage will disappear within the new WTO setting.

2.3 Past GDP Growth Performance and Structure

2.3.1 Compound Growth Rate of Selected Indicators FY 1972/73 to 1991/92

Table 2.4 summarises long term compound growth rates of GDP by major sectors and population and per capita GDP growth over the 19 years period from FY 1972/73 to FY 1991/92.

Table 2.4 Average Compound Growth Rate of Selected Indicators

Indicator	Compound growth rate 1972/73-1991/92
Primary GDP Sector	2.16%
Manufacturing Sector	5.04%
Construction Sector	5.35%
Services Sector	5.00%
Total GDP	3.79%
Population Growth	2.15%
Per Capita GDP Growth	1.60%

SOURCE : JICA Study team compilation from table 2, page 37 in "Twenty Years Of National Accounting Of Bangladesh", BBS, Dhaka, 1993

The time frame of the compound growth rates in the above table covers almost the complete period of the sovereign state of Bangladesh and they are therefore considered past trend growth rates. The following main observations may be drawn from these growth trends :

- The past growth trend of the primary sector, which has been recorded at a compound growth rate of 2.16%, has just only kept pace with the average annual population increase of 2.15%. For a country with a 90% rural population ratio and a labour force, of which 66.3% (1990 base) are employed in the primary sector, this single comparison hints at serious performance problems in the primary sector that is mainly agriculture
- The building & construction GDP sector has been with a compound growth rate of 5.35% the best performing sector over the period in absolute terms

- The manufacturing sector and services sector have grown at a compound rate of 5.04% and 5.00%, respectively. This performance was above the compound GDP growth rate recorded at 3.79% over the period
- Given the compound population and GDP growth rates mentioned above, the compound per capita GDP growth rate has been modest with only some 1.60% over the period.

However, since the base year for real growth computations has been adjusted by the statistical office to FY 1984/85 and since comparable economic data are available with that base year, the eight years time frame from FY 1984/85 to 1991/92 will be employed in the further deliberations on past GDP and major economic sector growth performance and structural composition. Table 2.5 identifies real compound growth rates of GDP and major GDP sectors and table 2.6 gives the results of a sensitivity test of real sector on real GDP growth (Table 2 in the statistical Annex provides a summary on the development of real absolute GDP by major sectors and over the period indicated above and Table 3 identifies major sector shares in GDP). The following main points and trends emerge from these performance and structural data.

2.3.2 Compound Real GDP Growth 1984/85 to 1991/92

Real GDP has increased from 406,933 million Taka in FY 1984/85 to some 536,189 million Taka in FY 1991/92 reflecting a compound real growth rate over the period of 4.03%. Real GDP growth in individual years was somewhat around the reference period's average in FY 1984/85 (4.34 %), FY 1986/87 (4.18 %) and FY 1991/92 (4.23%). In FY 1987/88 (2,89 %), FY 1988/89 (2.52%) and FY 1990/91 (3.40%) real GDP growth was below the period's average. In only one year that is FY 1989/90 did the real GDP growth rate exceed with 6.63% a five percent point margin.

2.3.3 Sector Growth and Size of GDP Sectors

As has been observed already above, real growth performance of the primary sector has been very modest with 2.24% over the reference period. Compound real growth of the agricultural sector has been with 2.09% at half the level of national GDP growth. Forestry and livestock & fishing have performed with 2.69% and 2.96%, respectively, also clearly below GDP growth performance.

This somewhat poor growth has hindered overall GDP growth, because of the strong relative weight of the primary sector in GDP, which accounted in FY 1991/92 still for 36.86%. The

Table 2.5 Real Compound Growth Rate of Selected Indicators

[UNIT : PERCENT]

FISCAL YEAR		84:85	85:86	86:87	87:88	88:89	89:90	90:91	91:92	GROWTH RATE 1984/5 : 1991/2
MAJOR GDP SECTORS										
Agriculture	Base year	3.38	0.00	-1.77	-1.90	12.13	1.16	1.66		2.09
Forestry	Base year	4.24	-2.14	7.79	2.25	2.25	2.06	2.35		2.69
Livestock & Fishing	Base year	2.28	3.86	1.01	1.85	2.75	3.94	5.05		2.96
PRIMARY SECTOR	Base year	**3.28**	**0.40**	**-0.77**	**-1.07**	**10.01**	**1.61**	**2.19**		**2.24**
Mining & Quarrying	Base year	-25.00	33.33	-50.00	50.00	2100.00	21.21	17.50		306.72
Manufacturing	Base year	2.60	7.89	0.63	2.79	7.25	2.37	7.33		4.41
Building & Construction	Base year	1.73	6.81	12.28	4.88	3.24	4.50	4.45		5.41
Power, Gas, Water & Sanitary Services	Base year	12.52	21.76	16.35	28.83	15.33	20.55	17.48		18.97
INDUSTRY SECTOR	Base year	**2.66**	**8.07**	**5.28**	**4.83**	**6.36**	**4.33**	**7.09**		**5.52**
Transport, Storage , Communication	Base year	3.20	11.09	3.73	4.27	4.26	3.08	4.12		4.82
Banking & Insurance	Base year	26.29	5.52	1.44	1.13	1.13	2.44	2.53		5.78
Trade Services	Base year	1.48	2.55	3.17	4.77	2.98	3.87	3.97		3.26
Housing Services	Base year	3.05	3.29	3.22	3.27	3.31	3.38	3.41		3.28
Public Administration & Defense	Base year	20.47	7.82	7.92	6.93	2.64	9.68	8.28		9.11
Professional & Misc. Services	Base year	8.04	6.92	11.12	6.25	6.25	6.20	6.40		7.31
SERVICE SECTOR	Base year	**6.02**	**6.40**	**5.32**	**4.73**	**3.99**	**4.58**	**4.83**		**5.12**
GROSS DOMESTIC PRODUCT (GDP)	Base year	**4.34**	**4.18**	**2.89**	**2.52**	**6.63**	**3.40**	**4.23**		**4.03**

SOURCE JICA Study team compilation and computation based on table 11.04, pages 485/6; "1993 Statistical Yearbook of Bangladesh", BBS, Dhaka, 1994.

share of the primary sector in GDP has declined steadily over the period, that is from 41.77% in FY 1984/85 to the above mentioned 36.86%.

The overall growth of the primary sector is mainly carried by agriculture, which accounted in FY 1991/92 for 78.5% of the primary sector and about 28.9% of GDP in the same year. Hence, poor growth performance of the agricultural sector will automatically depress growth performance of the primary sector.

The industry sector has shown the strongest real growth performance over this reference period, which averaged 5.52% that is 1.49% points above real GDP growth. Industry sector growth has, with the exception of FY 1985/86, outperformed real GDP growth in all other FYs. However, industry sector growth has also fluctuated widely with the lowest growth of 2.66% and the highest growth of 8.07% recorded in FY 1985/86 and FY 1986/87, respectively.

The industry sector's total share in real GDP has increased modestly but steadily from 15.97% in FY 1984/85 to some 17.64% in FY 1991/92. Industry sector growth is carried and strongly influenced by the growth performance of the manufacturing and building & construction subsectors, which accounted in FY 1991/92 for 10.09% and 6.06% of real GDP, respectively. However, share developments for both subsectors show an uneven cyclical pattern indicating structural performance problems in both subsectors. The same picture emerges when looking at real compound growth rates for both subsectors. Manufacturing seems to expand in annual cycles, where growth of 2% to 3% is followed by growth of 7% to 8%, which subsequently falls back the next year to 2% to 3%.

Compound growth of the building & construction subsector has increased strongly from 1.73% in FY 1985/86 to 12.28% in FY 1987/88 and has then levelled of at the 3% to 5% range in subsequent years. Such a pattern would also hint at some inherent performance problems in this subsector.

Mining & quarrying plays almost no role in the industry sector accounting for only 0.02% of real GDP in FY 1991/92. Real growth rate performance considerations are somewhat besides the point, because of the subsector's minimal base, that is any bigger sized project will results in a 3 to 4 digit growth rate.

The power, gas, water & sanitary services subsector plays still a minor role. However, its share in real GDP has increased steadily from 0.58% in FY 1984/85 to about 1.47% in FY 1991/92. Real compound growth rate performance has averaged 18.97% over the reference

period. In spite of the subsector's small size, this is the strongest absolute expansion of any of the major GDP subsectors.

The services sector has shown a real compound growth rate of 5.12% over the period, also clearly above GDP growth performance. Service sector growth in individual years was above the 6% point level in FYs 1985/86 and 1986/87 and has since then slowed down first to about 5% in FY 1987/88 and subsequently to below the 5% level in consequent years.

Transport, storage and communication, professional & miscellaneous services and trade services are the largest subsectors accounting for 11.81%, 10.67% and 9.06% in FY year 1991/92, respectively. However, a similar structural pattern as in the industry sector has prevailed over this reference period. Only the public administration & defence and professional and miscellaneous subsectors have steadily increased their shares in real GDP. The share of the housing services sector has steadily declined from 7.97% in FY 1984/85 to some 7.58% in FY 1991/92. Likewise, the share of the trade services subsector has declined from 9.54% in FY 1984/85 to some 9.06% in FY 1991/92. The share of the transport, storage & communication subsector has fluctuated between the 11% to 12% range without showing any clear tendency.

Another important key feature is the very small absolute and relative size of the banking and insurance subsector. Its share in real GDP has fluctuated in the 1.69% to 2.08% range, but shows a steadily declining tendency since FY 1986/87.

The above real growth performance and structural data would indicate that :

- No clear and sustainable growth path could be achieved yet in such important GDP subsectors as agriculture; manufacturing; transport, storage & communication and trade services
- The absolute size and relative importance of subsectors such as manufacturing, banking & insurance and trade services is somewhat too small for a country of Bangladeshi population size and development challenges
- Therefore structural imbalances do still prevail, which will have to be removed gradually by freeing growth potentials mainly through policy adjustment measures.

2.3.4 Past Engines Of Growth and Sensitivity Analysis

The above discussion is supplemented by identifying the past engine or engines of growth in terms of trend and over the given reference period. Table 2.6 identifies the results of the sensitivity analysis.

Employing average sizes and compound real growth rates over the period as trend indicators, the results of the sensitivity analysis show that out of every 1% point of real GDP growth performance 0.5663% points were generated by real service sector growth, 0.2294 % points by industry and 0.2154 % points by real primary sector growth.

Given the country's existing structural composition of GDP this implies that the magnitude of past real GDP sector has depended strongly on service, industry and primary sector growth performance, in that order of priority.

GDP subsectors, which have been the engines of GDP growth, have been in that order of priority:

- Professional and miscellaneous services accounting for 0.1781% points of 1% real GDP growth
- Agriculture accounting for 0.1589% points of each 1% real GDP growth
- Transport, storage & communication accounting for 0.1405% points of each 1% real GDP growth, and
- Manufacturing accounting for 0.1082% points of each 1% real GDP growth.

The above four subsectors together accounted for 0.5857% points in each 1% real GDP growth or 58.6% of overall real GDP growth performance.

Under given Bangladeshi factor endowment conditions, 1.77% of the service, 4.36% of the industry and/or 4.64 % real growth of the primary sector would each generate 1% point real GDP growth, that is real GDP would grow by 3%.

The following growth performance of major subsectors would each generate 1% point of real GDP growth :

- 5.61% of professional & miscellaneous services
- 6.29% of agriculture
- 7.12% of transport, storage & communications subsector, and
- 9.24% of the manufacturing subsector.

Table 2.6 Trend Performance and Growth Impact of Major GDP Sectors over the Period FY 1984/85 to 1991/92

[UNIT : MILLION TAKA / PERCENT]

	AVERAGE SHARE OF MAJOR SECTORS IN REAL GDP 1984/85 TO 1991/92 [%]	COMPOUND REAL GROWTH RATE OVER THE PERIOD 1984/85 TO 1991/92 [%]	IMPACT OF 1 % REAL SECTOR GROWTH ON REAL GDP GROWTH PERFORMANCE [%]	REAL GDP SECTOR GROWTH NEEDED TO GENERATE 1 % REAL GDP GROWTH [%]
MAJOR GDP SECTORS				
Agriculture	30.57	2.09	0.1589	6.29
Forestry	2.58	2.69	0.0172	58.19
Livestock & Fishing	5.62	2.96	0.0413	24.20
PRIMARY SECTOR	**38.76**	**2.24**	**0.2154**	**4.64**
Mining & Quarrying	0.01	306.72	0.0052	191.99
Manufacturing	9.89	4.41	0.1082	9.24
Building & Construction	5.86	5.41	0.0788	12.69
Power, Gas, Water & Sanitary Services	0.99	18.97	0.0465	21.52
INDUSTRY SECTOR	**16.74**	**5.52**	**0.2294**	**4.36**
Transport, Storage , Communication	11.73	4.82	0.1405	7.12
Banking & Insurance	1.94	5.78	0.0279	35.83
Trade Services	9.19	3.26	0.0744	13.45
Housing Services	7.77	3.28	0.0632	15.82
Public Administration & Defense	4.05	9.11	0.0916	10.92
Professional & Misc. Services	9.81	7.31	0.1781	5.61
SERVICE SECTOR	**44.50**	**5.12**	**0.5663**	**1.77**
GROSS DOMESTIC PRODUCT (GDP)	**100.00**	**4.03**	**1.0000**	**n.a.**

NOTES : 1) The impact of 1 % real GDP sector growth on real GDP growth is based on the weighted compound real growth rate over the period 1984/85 to 1991/92.
2) n.a = not applicable.

SOURCE JICA Study team compilation and computation based on table 11.04, pages 485/6; "1993 Statistical Yearbook of Bangladesh", BBS, Dhaka, 1994.

The results of the growth performance sensitivity analyses show therefore :

- That future GDP real growth performance cannot be build around one GDP subsector such as manufacturing alone to achieve high and accelerated real GDP growth rates
- That accelerated real GDP growth will most likely have to be build around key GDP subsectors identified above
- That for achieving high and accelerated growth at national, sector and subsector levels, input driven growth will have to be supplemented by growth resulting from total factor productivity improvements.

2.4 Population and Labour Force Developments

2.4.1 Population Size and Growth Rates

Bangladeshi statistical sources quoting absolute population size and growth rates show conflicting data for both parameter in various census years and in different tables. These differences are not fully explained in those sources and are therefore reflected in this Final Report without any further comment and/or explanation.

Table 2.7 summarises Bangladeshi total population size and population growth rates (exponential calculation) over the long-term perspective of 90 years, that is from 1901 to 1991.

Table 2.7 Intercensal Population Growth Rates 1901 To 1991

Census Year	Date of Census	Absolute Population Size (People)	Intercensal Population Growth Rate *) (%)
1901	March 1	28,927,786	n.a.
1911	March 10	31,555,056	0.94
1921	March 18	33,254,096	0.60
1931	February 26	35,604,170	0.74
1941	March 1	41,997,297	1.70
1951	March 1	44,165,740	0.50
1961	February 1	55,222,663	2.26
1974	March 1	76,398,000	2.48
1981	March 5	89,912,000	2.35
1991	March 11	111,455,185	2.17

NOTE : n.a. = not available. *) Exponential growth rate.

SOURCE : Table 2.08, page 46, "1993 Statistical Yearbook of Bangladesh", Dhaka, BBS, 1994.

The first population census in the sovereign state of Bangladesh was undertaken in March 1974 resulting in a total population count of some 76,398,000 people. The two subsequent population censi in 1981 and 1991 established the total Bangladeshi population at 89,912,000 and 111,455,185 people, respectively. This would imply intercensal population growth rates of 2.35% over the period 1974 to 1981 and some 2.17% over the period 1981 to 1991.

The intercensal population growth rate has been showing a declining trend, which translates roughly into an annual average reduction rate of about 0.018% points over the 17 years period 1974 to 1991.

Table 2.8 summarises the enumerated population sizes in the population census years 1901 to 1991 including the population distribution over Greater Districts. These data are not fully conclusive. However, for the period 1974 to 1991 the population's distribution over Greater Districts does not appear to have changed significantly, which would imply that there has been only insignificant inter District migration. The shares of the population in Greater Districts have remained in the same order of magnitude. The following main observations may be made in this context :

- Over the 17 years reference period apparently only four Greater Districts have clearly increased their share in the total population. They are Chittagong, Dhaka, Dinajpur and Rajshahi. In the case of Chittagong and Dhaka it is reasonable to assume that this increase is due mainly to job seeking in-migration
- All other Greater Districts have basically experienced a slightly declining share in the nation's total population.

2.4.2 Labour Force Development And Structure

The total Bangladeshi employed civil labour force was estimated at 50.159 million people in the labour force survey (LFS) conducted in 1990 (Table 2.9 refers), which was equivalent to about 48.9% of the total population in that very year. With the total civil labour force being quoted by the statistical sources as 51.200 million people, equivalent to about 49.9% of the total population, this would imply an unemployment rate of only 1.95%.

There is no need to discuss in detail the methodological approach taken to derive at the above and the following figures. But the following remarks, which are important in their understanding and interpretation, must be pointed out :

- As Table 2.9 illustrates, there is a big jump from some 30.6 to about 50.2 million employed people between the labour force surveys conducted in FY 1985/86 and the labour force survey of 1989. This drastic change is due to a large increase in the female labour force specially in the agricultural sector of rural areas.

Table 2.8 Enumerated Population of Bangladesh by Regins in Census YR 1901 to 1991 and Regional Distribution in 1974 and 1991

[UNIT: '000']

REGION (GREATER DISTRICT)	CENSUS YEARS										Share in National Population	
	1901	1911	1921	1931	1941	1951	1961	1974	1981	1991	1974 [%]	1991 [%]
BANDARBAN	0	0	0	0	0	0	0	0	171	230	n.a.	
CHITTAGONG H.T.	125	154	173	213	247	288	383	508	580	738	0.71	0.67
CHITTAGONG	1,353	1,508	1,611	1,797	2,153	2,309	2,983	4,315	5,491	6,645	6.04	6.30
COMILLA	2,139	2,455	2,696	3,056	3,866	3,792	4,389	5,819	6,881	8,183	8.14	7.90
NOAKHALI	1,143	1,303	1,472	1,707	2,217	2,274	2,383	3,234	3,816	4,621	4.52	4.38
SYLHET	2,031	2,241	2,298	2,466	2,832	3,059	3,490	4,759	5,656	6,680	6.66	6.49
DHAKA	2,617	2,929	3,172	3,449	4,224	4,073	5,096	7,611	10,014	13,151	10.65	11.49
FARIDPUR	1,781	1,958	2,050	2,163	2,650	2,710	3,179	4,060	4,764	5,428	5.68	5.47
JAMALPUR	0	0	0	0	0	0	0	2,059	2,452	2,981	2.88	2.81
MYMENSINGH	3,922	4,531	4,842	5,135	6,030	4,558	5,332	5,508	6,568	7,767	7.71	7.54
TANGAIL	0	0	0	0	0	1,227	1,487	2,078	2,444	2,944	2.91	2.81
BARISAL	2,485	2,613	2,844	3,194	3,811	2,636	3,068	3,928	4,667	5,572	5.50	5.36
JESSORE	1,647	1,597	1,590	1,552	1,695	1,703	2,190	3,327	4,020	4,813	4.65	4.61
KHULNA	1,268	1,380	1,472	1,629	1,944	2,076	2,449	3,557	4,329	5,013	4.98	4.97
KUSHTIA	885	842	783	808	920	884	1,166	1,884	2,292	2,754	2.64	2.63
PATUAKHALI	0	0	0	0	0	1,006	1,194	1,499	1,843	2,014	2.10	2.12
BOGRA	884	1,017	1,083	1,122	1,269	1,278	1,574	2,231	2,728	3,302	3.12	3.13
DINAJPUR	1,126	1,168	1,220	1,236	1,336	1,355	1,710	2,571	3,200	3,858	3.60	3.67
PABNA	1,418	1,425	1,385	1,438	1,584	1,584	1,959	2,815	3,424	4,106	3.94	3.93
RAJSHAHI	1,902	2,000	2,028	1,993	2,198	2,205	2,883	4,268	5,270	6,384	5.97	6.05
RANGPUR	2,202	2,434	2,555	2,646	2,924	2,916	3,796	5,447	6,510	7,781	7.62	7.47
BANGLADESH	28,928	31,555	33,255	35,604	41,885	41,933	50,909	71,478	87,120	104,766	100.00	100.00

NOTES : A '0' means that data are not available.

SOURCE : JICA Study team computations based on table 2.10, page 47 in "1993 Statistical Yearbook of Bangladesh", BBS, Dhaka, 1994.

Table 2.9 Employment Trend by Major GDP Subsector : 1961, 1974, 1985/86, 1989 and 1990

TABLE 2.10 : EMPLOYMENT TREND BY MAJOR GDP SUBSECTOR : 1961, 1974, 1985/86, 1989 AND 1990

[UNIT : '000' / %]

MAJOR GDP SUBSECTOR	CENSUS 1961		CENSUS 1974		LABOR FORCE SURVEY 1985/86		LABOR FORCE SURVEY 1989		LABOR FORCE SURVEY 1990	
	['000']	[%]	['000']	[%]	['000']	[%]	['000']	[%]	['000']	[%]
Agriculture, Forestry, Livestock & Fishing	14,239	84.61	16,839	78.66	17,464	57.14	32,571	64.95	33,303	66.40
PRIMARY SECTOR	**14,239**	**84.61**	**16,839**	**78.66**	**17,464**	**57.14**	**32,571**	**64.95**	**33,303**	**66.40**
Mining & Quarrying	1	0.01	2	0.01	3	0.01	89	0.18	15	0.03
Manufacturing	810	4.81	1,026	4.79	3,019	9.88	6,976	13.91	5,925	11.81
Building & Construction	92	0.55	36	0.17	646	2.11	662	1.32	525	1.05
Power, Gas, Water & Sanitary Services	11	0.07	8	0.04	38	0.12	18	0.04	40	0.08
INDUSTRY SECTOR	**914**	**5.43**	**1,072**	**5.01**	**3,706**	**12.13**	**7,745**	**15.44**	**6,505**	**12.97**
Trade, Restaurants & Hotels	619	3.68	841	3.93	3,832	12.54	4,130	8.24	4,285	8.54
Transport, Storage & Communications	204	1.21	351	1.64	1,321	4.32	1,278	2.55	1,611	3.21
Banking & Insurance	10	0.06	62	0.29	367	1.20	238	0.47	296	0.59
Household Sector (& not adequately defined)	68	0.40	0	0.00	1,308	4.28	2,391	4.77	2,249	4.48
Public Administration & Defense	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Community & Personal Services	774	4.60	2,242	10.47	2,563	8.39	1,795	3.58	1,909	3.81
SERVICE SECTOR	**1,675**	**9.95**	**3,496**	**16.33**	**9,391**	**30.73**	**9,832**	**19.61**	**10,350**	**20.63**
TOTAL	**16,828**	**100.00**	**21,407**	**100.00**	**30,561**	**100.00**	**50,148**	**100.00**	**50,158**	**100.00**

NOTES : Data for these years for "Public Administration & Defense" are not available.
SOURCE : JICA Study team computations based on table 3.11, page 94 in "1993 Statistical Yearbook of Bangladesh", BBS, Dhaka, 1994.

- In the rural areas the change in female labour force is due to inclusion of certain activities in the labour force survey of 1989. These activities are care of domestic animal, poultry, threshing, boiling, food processing and preservation and other similar activities. In other words, the number of total employed persons depends on weather the above type of activities are considered as economic or not

- In addition, the total employed civil labour force quoted in the labour force survey 1990 as some 50.159 million people also includes a share of 47.2% (about 23.7 million people) of unpaid family workers and a share of 26.8% self-employed (equivalent to 13.4 million people)

- The total number of employed people including day labourers, and probably meaning modern sector wage employment, is quoted as only 11.7% of the above total employed civil labour force; that would be equivalent to 5.87 million people.

The employment trend by major GDP sectors and subsectors indicates the following major trends and structural indicators :

- The share of the primary sector in total employment has decreased from some 84.6% in 1974 to about 66.4% in 1990. The share of the industry sector has increased over the same period from some 5.0% to about 13.0%. The share of the service sector has increased likewise from about 16.3% in 1974 to some 20.6% in 1990

- In terms of absolute size, the primary sector employed some 33.3 million people in 1990 and remains therefore the single most important employment sector
- Manufacturing was with some 5.9 million people the second most important employment sector in 1990, closely followed in third position by the trade, restaurants & hotels subsector, which employed some 4.3 million people
- Other important sectors for employment in that year were, in that order or priority, the household sector (about 2.3 million people), the community and personal services subsector (1.9 million people) and the transport, storage and communications sector (about 1.6 million people).

Data on the regional distribution of the labour force covering the labour force survey 1990 are not readily available in a format that would match regional with sectoral distribution.Hence,

data from the 1985/86 labour force survey are used to obtain some characteristic features (the data are presented in Table 4, Annex 1).

Major trends in the distribution of the employed labour force over the Greater Districts may be summarised as follows :

- The Chittagong Division has steadily increased its share in the total labour force from 24.9% in 1981 to about 26.5% in 1985/86. Chittagong (including Chittagong Hills Tracts and Bandarban) has increased its share likewise from 7.19% in 1981, dropping to 5.72% in 1984/85 and again increasing to about 8.80% in 1985/86
- The shares of the Dhaka and Khulna Divisions have remained in the same order of magnitude, that is at around 31.7% and some 18.7%, respectively
- The share of the Rajshahi Division has continuously declined from some 24.5% in 1981 to about 23.1% in 1985/86.

2.5 Balance of Payments, Import and Export Developments

2.5.1 Balance of Payments Characteristics

The development of major positions of the Bangladeshi balance of payments (BoP) over the reference period FY 1985/86 to 1991/92 (equivalent to 7 years) is summarised in table 2.10. The current account of the BoP has shown consistently a deficit over this period, with a strongly increasing trend up to FY 1989/90 and a strongly decreasing trend after that FY. However, in relative terms Bangladesh has succeeded in reducing the current account deficit from some 3.25% of GDP in FY 1985/86 to 0.9% of GDP in FY 1991/92. This reduction is in part attributable to the considerable transfers from Bangladeshi workers abroad. Over the seven years reference period transfers by Bangladeshi nationals accounted on average for some 3.8% of GDP as against an average current account deficit of some 2.2% of GDP (for a detailed break down of the BoP see Tables 5 and 6 in Annex 1).

Over the reference period and on average import growth has more or less kept pace with nominal GDP expansion, that is imports grew at some 12.1% annually, while GDP expanded at a nominal rate of some 12.4%. However, the growth in total value of exports, which averaged an annual 17.1%, has outpaced grow of total import value by some 5% points annually.

Grants and donations have almost doubled over the seven years period from 1,639.0 crore* Taka in FY 1985/86 to 3,117.6 crore Taka in FY 1991/92, equivalent to an average annual and nominal increase of about 11.5%. Over the whole period under consideration grants and donations have average 3.6% of GDP.

The value of imports to GDP ratio has fluctuated somewhat between 13% to 15% and has averaged 13.9% over the whole period (Table 2.10 refers). This fluctuation in this narrow band without any clear up- or downwards trend is likely to reflect to depressed economic and investment activity in the Bangladeshi economy. The value of exports to GDP ratio has shown a clear upward trend, increasing steadily from about 5.8% of GDP in FY 1985/86 to 8.0% in FY 1991/92. Hence, the gap in total import to total export value has slowly been reduced from a ratio of 2.3 in FY 1985/86 to 1.6 in FY 1991/92. While this indicates success in the on-going export drive, it has to be remembered that the export base is still fragile, since exports are overwhelmingly carried by only two principal export commodities, garments and frozen shrimp and fish.

* 1 crore is 10 million.

Table 2.10 Balance of Payments, Exports and Imports over the Period Fiscal Years 1985/86 to 1991/92

(Unit : Crore Taka in current terms)

FISCAL YEAR	85/86	86/87	87/88	88/89	89/90	90/91	91/92	AVERAGE 1985/86 : 1991/92
1) GROSS DOMESTIC PRODUCT	44623	53920	59714	65960	73757	83439	90650	67723
2) IMPORTS (f.o.b.)	6554	7185	8393	9749	11125	11151	11892	9407
3) EXPORTS (f.o.b.)	2717	3064	3705	4116	4893	5956	7263	4530
4) CURRENT ACCOUNT DEV./SURPL.	-1514	-1403	-1033	-2339	-2680	-532	-811	-1473
5) AID AND LOAN NET	1683	1668	1475	2490	2122	1969	1767	1882
6) SURPLUS ON CAPITAL ACCOUNT	1514	1404	1033	2339	2680	532	811	1473
7) FOREIGN EXCHANGE RESERVES	1441	2216	2696	2945	1816	3150	6271	2934
PERFORMANCE RATIOS (%)								
A) GDP GROWTH (nominal)	Base Year	15.65	10.75	10.46	11.82	13.13	8.64	12.36
B) IMPORT GROWTH	Base Year	13.08	16.81	16.16	14.11	0.23	6.65	12.08
C) EXPORT GROWTH	Base Year	12.77	20.92	11.09	18.88	21.72	21.94	17.08
D) IMPORTS/GDP	13.63	13.33	14.06	14.78	15.08	13.36	13.12	13.89
E) EXPORTS/GDP	5.83	5.68	6.20	6.24	6.63	7.14	8.01	6.69
F) CURRENT ACCOUNT /GDP	-3.25	-2.60	-1.73	-3.55	-3.63	-0.64	-0.89	-2.18
G) AID & LOAN /GDP	3.61	3.09	2.47	3.78	2.88	2.36	1.95	2.78
H) CAPITAL ACCOUNT/ GDP	3.25	2.60	1.73	3.55	3.63	0.64	0.89	2.18
I) FOREIGN EXCHANGE RESERVES/GDP	3.09	4.11	4.51	4.46	2.46	3.78	6.92	4.33
J) FOREIGN EXCHANGE RESERVES/MONTHS IMPORTS (Unit : months)	2.72	3.79	3.85	3.62	1.96	3.39	6.33	3.74

SOURCE : HCA Study Team computations based on official BBS data.

Diversification of the export base remains, therefore, an essential objectives to be achieved over the medium to long term.

Another encouraging development is the gradual increase in foreign exchange reserves, which have more than quadrupled over the period, from 1,441 crore Taka in FY 1985/86 to 6,274 crore Taka in FY 1991/92. As a result, import coverage has increase from 2.72 months of imports in FY 1985/86 to 6.33 months in FY 1991/92.

2.5.2 The Impact of Accelerated Growth on the Balance of Payments

However, as has been observed before in this report, there remain structural weaknesses, which may cause a rapid deterioration in the BoP positions. These weaknesses refer to the following features :

- In spite of the fact that GDP has grown at an average real growth rate of 4.03% and an average annual nominal rate of 12.4%, the ratio of value of imports to GDP has remained in the same order of magnitude. This is somewhat unusual for an economy, which is highly dependent on imports of intermediary goods, machinery and equipment. It is, therefore, reasonable to assume that an accelerated real growth path as it is targeted in this Study would increase quickly both, the absolute total value of imports and the annual growth rate, since such growth would mainly be input driven.

- Growth of the total value of exports will have to outpace considerably the growth of total value of imports, in order to avoid a worsening of the current account deficit. However, with the major export item being garments, the manufacture of which is heavily dependent on imported inputs, such growth would necessarily and automatically increase imports. In other words, the faster garment exports grow, the faster will the needed import inputs grow. This automatic linkage must be addressed on a priority basis and primarily by fostering quickly the backward integration of the garment industry, thus reducing import dependence and increasing domestic value added generation

- The Bangladeshi economy is too dependent on private transfers by Bangladeshi nationals working abroad and grant and loan aid. As has been stated above already, private transfers by Bangladeshi nationals has almost doubled over the seven years period when valued in Taka. This trend is very much due to the depreciation of the Taka against the US $. If the transfers are converted into US $ using the official exchange rate, there seems to be a declining trend in private transfers. Over the seven period such transfers have averaged 781.0 million US $ annually, with the highest transfer of million 844.6 US $ in FY

1990/91. Like is the case for foreign aid, any decrease will have a strong impact on the Bangladeshi BoP.

In summary, it may be stated that the GOB will have to monitor closely the movements of BoP positions under the proposed accelerated growth scenario, since the BoP may quickly deteriorate given accelerated investment and overall economic activities.

2.6 The Past Position of Manufacturing and its Potential Growth Role

2.6.1 Structure and Past Growth Performance

To allow for compatibility with the review of GDP performance the same eight years period FY 1984/85 to FY 1991/92 has been selected to serve as the reference period for reviewing the structure and growth performance of the Bangladeshi manufacturing sector. All references to growth rates and shares are in real terms that is constant 1984/85 price base.

As has been observed already in Chapter 2.3 the share of manufacturing in GDP has averaged some 9.89% over the reference period. The absolute size has grown from 40,112 million Taka in FY 1984/85 to 54,117 million Taka in FY 1991/92, reflecting a compound growth rate over the period of 4.41%, slightly above real GDP growth performance (table 2.11 refers. Absolute sizes and shares are identified in Tables 7 and 8 in Annex 1).

The manufacturing sector is divided statistically into large and small scale manufacturing. The share of large scale manufacturing in total manufacturing has slowly but steadily increased from 53.06% in FY 1984/85 to 59.76% in FY 1991/92 reducing the share of small scale manufacturing in total manufacturing from 46.94% in FY 1984/85 to some 40.24% in FY 1991/92 (Table 2.8, Annex 1 refers). However, if the large scale manufacturing sector is set equivalent to modern industry, the following general observations are justified :

- Only some 60% of the gross value of manufacturing output are produced by the modern manufacturing sector, and

- The small scale manufacturing sector plays still an important role producing some 40% of the gross value of manufacturing output.

Growth performance in both manufacturing subsectors has been different. The compound growth rate of large scale manufacturing over this reference period has been 6.27% that is factor 1.56 above real GDP growth. However, growth in individual years has followed a somewhat erratic pattern with the growth rate fluctuating from below 4% in one year and jumping to over 10% in the following year (Table 2.11 refers). Such a pattern may hint a widespread over capacities and/or under utilisation of existing capacities in the large scale manufacturing sector.

Table 2.11 Real Growth Performance of the Manufacturing Sector over the Period Fiscal Year 1984/85 to 1991/92

[UNIT : PERCENT]

FISCAL YEAR	85/86	86/87	87/88	88/89	89/90	90/91	91/92	AVERAGE 1984/5 :1991/2
A. LARGE SCALE MANUFACTURING	3.79	13.58	0.70	2.70	10.60	2.00	10.50	6.27
Food manufacturing	3.79	13.56	0.72	2.70	10.60	1.98	10.50	6.26
Beverage	3.73	13.77	0.53	2.62	10.71	1.84	10.41	6.23
Tobacco	3.78	13.61	0.71	2.71	10.59	2.01	10.51	6.27
Textile	3.78	13.57	0.70	2.71	10.60	2.00	10.50	6.27
Footwear, other wearing apparel for textile	3.71	13.55	0.68	2.68	10.46	1.97	10.44	6.21
Wood cork & allied products	3.70	13.49	0.70	2.78	10.47	1.83	10.51	6.21
Furniture & Fixtures	2.78	13.51	0.00	2.38	9.30	2.13	10.42	5.79
Paper & paper products	3.74	13.66	0.67	2.65	10.66	2.04	10.44	6.27
Printing, publishing & allied products	3.98	13.66	0.48	2.87	10.70	2.10	10.70	6.36
Leather & leather products	3.74	13.51	0.79	2.62	10.49	2.08	10.43	6.24
Rubber products	3.03	14.71	0.00	2.56	10.00	2.27	11.11	6.24
Chemical & chemical produts	3.81	13.56	0.69	2.69	10.59	1.99	10.50	6.26
Petroleum & coal products	3.79	13.60	0.71	2.72	10.61	2.01	10.49	6.28
Non-metalic mineral products	3.95	13.59	0.48	2.86	10.65	2.09	10.66	6.32
Basic metal industries	3.91	13.53	0.66	2.73	10.61	1.99	10.46	6.27
Metal products except machinery	3.77	13.64	0.80	2.65	10.57	2.10	10.50	6.29
Machinery except electrical	3.64	13.60	0.77	2.68	10.45	2.03	10.60	6.25
Electrical machinery & apparatus	3.80	13.58	0.76	2.64	10.64	1.99	10.57	6.28
Transport equipment	3.91	13.39	0.74	2.56	10.71	1.94	10.44	6.24
Other manufacturing industry	3.76	13.55	0.72	2.69	10.66	2.00	10.48	6.27
B. SMALL SCALE MANUFACTURING	1.26	1.30	0.53	2.90	2.90	2.88	2.94	2.10
F. TOTAL LARGE & SMALL SCALE MANUFACTURING	2.60	7.89	0.63	2.79	7.25	2.37	7.33	4.41

SOURCE JICA study team compilation from table 11.04, page 485, "1993 Statistical Yearbook of Bangladesh", BBS, Dhaka,1994.

The compound growth rate of the small scale manufacturing sector over the reference period has been 2.10% that is factor 0.52 of real GDP growth. The growth pattern of individual years, however, shows a somewhat more stable picture with the growth rate being relatively stable at around 2.9% over the four years FY 1988/89 to FY 1991/92. Such a pattern hints at a slow but steady expansion process.

The large scale manufacturing sector structure in terms of composition and change in composition by major product groups reveals the following key features and trends :

- The expansion process of gross value of output almost across the board of all major product groups has been slow and marginal in terms of absolute increase. The only three exceptions, for which the expansion process has been more tangible and rapid, have been, in that order of ranking (Table 8, Annex 1 refers) :

  - Textiles
  - Tobacco, and
  - Food manufacturing

- The structural composition is dominated by six product groups, which together account for some 45.8% of total large scale gross value of output with all other product groups being very small. On trend average over the reference period these six products groups are, in that order of ranking (Table 8, Annex 1 refers) :

  - Textiles (about 15.4%)
  - Tobacco (about 8.0%)
  - Chemical and chemical products (about 6.9 %)
  - Food manufacturing (about 6.0%)
  - Petroleum and coal products (about 5.7%), and
  - Other manufacturing products (about 3.8%)

- Product groups, which are important for a higher stage of industrialisation play only a marginal role. Those are :

  - Metal products, except machinery (about 0.9%)
  - Machinery, except electrical (about 0.6%)
  - Electrical machinery & apparatus (about 1.2%)
  - Transport equipment (about 0.6 %)
  - Basic metal industries (about 2.4%)

- The large scale manufacturing sector lacks, therefore, a core or base in all those product groups, which are characteristic of a more developed manufacturing structure. In other words, there is not yet any critical mass in key manufacturing product groups.

The compound growth rate performance by major manufacturing product groups shows a highly unusual uniform pattern over the whole reference period and by individual years. Annual growth rates by major product groups show the same expansion rhythm and the compound growth rate over the period is therefore in the same order of magnitude of some 6% points over the reference period. There is no easy and reasonable explanation for such a uniform pattern.

2.6.2 Impact Of Product Group On Large Scale Manufacturing Growth

The impact of major product group on large scale manufacturing growth as well as that of large and small scale manufacturing growth is presented in Table 2.12. The key characteristics are summarised as follows :

- Each 1% point of real manufacturing growth over the reference period was carried by some 0.8067% by large scale and only by some 0.2063% by small scale manufacturing. Hence, large scale manufacturing growth is by factor four more important for overall manufacturing growth than growth resulting from small scale manufacturing

- Within large scale manufacturing itself, growth performance is carried by five product groups. A 1% point product group growth will result in the following large scale manufacturing real growth (LSMRG) :

  - Textiles = 0.2194% LSMRG
  - Tobacco = 0.1134% LSMRG
  - Chemical and chemical products = 0.0974% LSMRG
  - Food manufacturing = 0.0851% LSMRG
  - Petroleum & coal products = 0.0813% LSMRG

- The growth performance of all other product groups would, under given factor endowment conditions, only produce a very marginal impact on real large scale manufacturing growth.

The above results are translated into the major product group growth needed to generate a 1% point large scale manufacturing growth (table 2.12 refers) :

- 4.56% of textiles
- 8.82% of tobacco
- 10.27% of chemicals and chemical products
- 11.76% of food manufacturing, and
- 12.31% of petroleum and coal products.

A similar impact analysis is investigating the growth correlation between manufacturing growth, which is to 80 % carried by large scale manufacturing growth, and real GDP growth. The results of this analysis are presented in Table 2.13 and the major conclusions, which must be drawn from these results, are summarised as follows :

- Out of the average share of 9.89% of total manufacturing in real GDP over the reference period, the strongly manufacturing and GDP growth relevant large scale manufacturing sector accounted on average for only some 5.61% of GDP

- Only the textile large scale manufacturing subsector accounted on average for some 1.5% of real GDP with all other large scale manufacturing subsector/product groups accounting on average for below a 1% point share

- However, because of their relative weight in the manufacturing and GDP growth process, the following large scale manufacturing subsectors/product groups are of strategic importance to support accelerated manufacturing and GDP growth from a purely growth oriented perspective :

  - Textiles
  - Tobacco
  - Chemical and chemical products
  - Food manufacturing
  - Petroleum and coal products

- There is a strategic hole in the manufacturing structure, which must be addressed. This hole covers the following large scale manufacturing subsectors/product groups :

  - Basic metal industries
  - Metal products, except machinery
  - Machinery, except electrical
  - Electrical machinery & apparatus
  - Transport equipment

Table 2.12 Impact Analysis of Product Group Growth on Manufacturing Sector Real Growth Performance

PARAMETER	AVERAGE SECTOR SHARE OVER THE PERIOD 1984/5 TO 1991/2 (%)	COMPOUND REAL GROWTH RATE OVER THE PERIOD 1984/5 TO 1991/2 (%)	IMPACT OF 1 % REAL SUB-SECTOR GROWTH ON REAL MANUFACTURING GROWTH (%)	REAL SUB-SECTOR GROWTH NEEDED TO GENERATE 1 % MANUFACTURING GROWTH (%)
A. LARGE SCALE MANUFACTURING	56.74	6.266	0.8067	1.24
Food manufacturing	5.9847	6.263	0.0851	11.76
Beverage	0.4288	6.230	0.0061	164.97
Tobacco	7.9681	6.274	0.1134	8.82
Textile	15.4279	6.267	0.2194	4.56
Footwear, other wearing apparel for textile	1.0033	6.215	0.0142	70.68
Wood cork & allied products	0.6466	6.213	0.0091	109.70
Furniture & Fixtures	0.0940	5.788	0.0012	809.69
Paper & paper products	1.3543	6.268	0.0193	51.92
Printing, publishing & allied products	0.4704	6.355	0.0068	147.40
Leather & leather products	0.8550	6.239	0.0121	82.63
Rubber products	0.0875	6.241	0.0012	806.65
Chemical & chemical produts	6.8537	6.262	0.0974	10.27
Petroleum & coal products	5.7072	6.275	0.0813	12.31
Non-metalic mineral products	0.4726	6.325	0.0068	147.44
Basic metal industries	2.3900	6.270	0.0340	29.41
Metal products except machinery	0.8485	6.289	0.0121	82.59
Machinery except electrical	0.5858	6.251	0.0083	120.35
Electrical machinery & apparatus	1.1922	6.283	0.0170	58.84
Transport equipment	0.6128	6.242	0.0087	115.20
Other manufacturing industry	3.7536	6.268	0.0534	18.73
B. SMALL SCALE MANUFACTURING	43.26	2.102	0.2063	4.85
C. TOTAL MANUFACTURING	100.00	4.41	1.0000	n.a.

NOTES : n.a. = not applicable.

SOURCE JICA study team compilation from table 11.04, page 485, "1993 Statistical Yearbook of Bangladesh", BBS, Dhaka,1994.

Table 2.13 Impact Analysis of Manufacturing Product Group Growth on Real GDP Growth Performance

[UNIT : PERCENT]

PARAMETER	AVERAGE MANUFACTURING SUB-SECTORE SHARE IN GDP 1984/5 TO 1991/2 (%)	COMPOUND REAL GROWTH RATE OVER THE PERIOD 1984/5 TO 1991/2 (%)	IMPACT OF 1 % MANUFACTURING SUBSECTOR GROWTH ON REAL GDP GROWTH (%)	REAL SUB-SECTOR GROWTH NEEDED TO GENERATE 1 % GDP GROWTH (%)
A. LARGE SCALE MANUFACTURING	**5.6085**	**6.266**	**0.3514**	**2.85**
Food manufacturing	0.59170	6.263	0.0371	26.98
Beverage	0.04231	6.230	0.0026	379.37
Tobacco	0.78766	6.274	0.0494	20.24
Textile	1.52509	6.267	0.0956	10.46
Footwear, other wearing apparel for textile	0.09915	6.215	0.0062	162.28
Wood cork & allied products	0.06389	6.213	0.0040	251.91
Furniture & Fixtures	0.00940	5.788	0.0005	1837.54
Paper & paper products	0.13398	6.268	0.0084	119.08
Printing, publishing & allied products	0.04658	6.355	0.0030	337.79
Leather & leather products	0.08462	6.239	0.0053	189.41
Rubber products	0.00876	6.241	0.0005	1828.86
Chemical & chemical produts	0.67761	6.262	0.0424	23.57
Petroleum & coal products	0.56414	6.275	0.0354	28.25
Non-metalic mineral products	0.04680	6.325	0.0030	337.84
Basic metal industries	0.23634	6.270	0.0148	67.48
Metal products except machinery	0.08398	6.289	0.0053	189.34
Machinery except electrical	0.05791	6.251	0.0036	276.25
Electrical machinery & apparatus	0.11796	6.283	0.0074	134.93
Transport equipment	0.06069	6.242	0.0038	263.98
Other manufacturing industry	0.37096	6.268	0.0233	43.01
B. SMALL SCALE MANUFACTURING	**4.2765**	**2.102**	**0.0899**	**11.12**
C. TOTAL MANUFACTURING / GDP	**9.89**	**4.41**	**0.4413**	**n.a.**

NOTES : n.a. = not applicable.

SOURCE JICA study team compilation from table 11.04, page 485, "1993 Statistical Yearbook of Bangladesh", BBS, Dhaka,1994.

- Such basically engineering industries constitute the pillars of a more developed industrial structure

- An average compound growth performance of large scale manufacturing product groups of some 6% will result in some 4.4% real total manufacturing growth generating some 0.441% real GDP growth. Or in other words and as has been identified in chapter 2.3 already, about 9.24% average real manufacturing growth are needed at national level to generate 1% point real GDP growth

- The above correlations have a vital impact on the individual growth targets to be pursued for different large scale manufacturing product group real growth target rates. The implications are employed in the part of the report, which deals with the growth projections for manufacturing and manufacturing subsectors.

2.7 Industrial Structure and Key Characteristics

2.7.1 Industrial Structure and Majoir Industries

Table 2.14 shows data of the manufacturing industries (all establishments basis, but excluding handloom sector scattered throughout the country) in Bangladesh in 1988/89. The manufacturing industries comprise 304,471 units including 171,294 housholds. They employ 1,883,988 workers, and produce a totaled gross output of 215.1 billion Taka.

The industrial structure of Bangladesh has such characteristics as illustrated in Figure 2.5, according to the data shown in Table 2.14 to Table 2.15.

Figure 2.5 Structural Characteristics of Bangladesh Industry (1988/89 and 1989/1990)

Characteristics of Bangladesh Industry (Manufacturing)

(1) Number of establishments
So many in food, apparel and wood products (combinedly 75.3% of the total)
(2)Workers
So many in food, apparel and wood products (combinedly 76.9% of the total)
(3) Value of gross output
Much in consumer goods and construction/housing-related material industries
• food, apparel, leather goods, non-metallic mineral products etc. (combinedly over 75% of the total)
Small enterprise-oriented industries (Establishments of 1-9 workers and household units)
• wood products & furniture (83.7% of the total)
• other industries (78.2% of the total)
(4) Other structural characteristics
Lack of durable consumer goods industries
Small agglomeration of basic material and intermediate products for industrial use
Small agglomeration of machinery industries
(5) Top ten (10) industries in terms of workers (establishment with 10 or more workers, 4 digits BSI Code base)

1	3231	Garments	239,199
2	3213	Jute textiles	233,225
3	3126	Tea & coffee processing	186,280
4	3211	Cotton textiles	167,297
5	3691	Bricks, tiles, etc.	149,474
6	3143	Bidies	118,021
7	3127	Tea & coffee blending	97,330
8	3214	Silk & synthetic textiles	76,141
9	3119	Rice milling	56,273
10	3123	Sugar refinery	33,945

Note: Persons engaged in tea blending include those counted under the name of the Banglades h Tea Board.

Table 2.14 Industrial Structure of Manufacturing in Bangladesh excluding Handloom Sector in 1988/89

	No. of Establi-shment	Total Persons Engaged	Gross Output (in Mil. Taka)	Percent Distribution: Establi-shment	Persons Engaged	Gross Output	Size per Unit: Persons Engaged	Output (in '000 Taka)
ALL UNITS: Total				Percent Distribution				
ALL INDUSTRIES	304,471	1,883,988	215,108	100.0%	100.0%	100.0%	6.2	706
31 Food, beverages, tobacco, etc.	83,114	442,355	62,473	27.3%	23.5%	29.0%	5.3	752
32 Textiles, apparel & leather goods	56,635	789,288	73,331	18.6%	41.9%	34.1%	13.9	1,295
33 Wood products & furniture	84,169	216,129	10,030	27.6%	11.5%	4.7%	2.6	119
34 Paper & printing	5,678	58,042	10,591	1.9%	3.1%	4.9%	10.2	1,865
35 Chemicals, rubber & plastics	3,166	68,928	25,518	1.0%	3.7%	11.9%	21.8	8,060
36 Non-metallic mineral products	26,259	120,523	4,185	8.6%	6.4%	1.9%	4.6	159
37 Basic metal industries	445	18,914	10,332	0.1%	1.0%	4.8%	42.5	23,218
38 Metal products & mchinery	24,785	125,520	15,759	8.1%	6.7%	7.3%	5.1	636
39 Other industries	20,214	44,280	2,886	6.6%	2.4%	1.3%	2.2	143
Establishments: over 10 person engaged				% Share to All Units by Industry Type				
ALL INDUSTRIES	23,752	1,175,313	177,575	7.8	62.4	82.6	49.5	7,476
31 Food, beverages, tobacco, etc.	6,546	243,691	45,525	7.9	55.1	72.9	37.2	6,955
32 Textiles, apparel & leather goods	11,288	671,645	69,563	19.9	85.1	94.9	59.5	6,163
33 Wood products & furniture	1,536	19,605	1,675	1.8	9.1	16.7	12.8	1,090
34 Paper & printing	589	40,692	9,972	10.4	70.1	94.2	69.1	16,930
35 Chemicals, rubber & plastics	919	61,486	24,990	29.0	89.2	97.9	66.9	27,193
36 Non-metallic mineral products	731	53,394	3,025	2.8	44.3	72.3	73.0	4,138
37 Basic metal industries	174	18,096	9,863	39.1	95.7	95.5	104.0	56,684
38 Metal products & mchinery	1,789	63,344	12,329	7.2	50.5	78.2	35.4	6,892
39 Other industries	180	3,361	630	0.9	7.6	21.8	18.7	3,500
Establishments: 1-9 person engaged				% Share to All Units by Industry Type				
ALL INDUSTRIES	109,425	311,600	26,989	35.9	16.5	12.5	2.8	247
31 Food, beverages, tobacco, etc.	44,629	122,572	12,601	53.7	27.7	20.2	2.7	282
32 Textiles, apparel & leather goods	6,194	21,195	1,985	10.9	2.7	2.7	3.4	320
33 Wood products & furniture	21,179	69,220	5,930	25.2	32.0	59.1	3.3	280
34 Paper & printing	3,682	13,799	574	64.8	23.8	5.4	3.7	156
35 Chemicals, rubber & plastics	1,244	5,161	417	39.3	7.5	1.6	4.1	335
36 Non-metallic mineral products	3,123	7,120	145	11.9	5.9	3.5	2.3	46
37 Basic metal industries	257	790	460	57.8	4.2	4.5	3.1	1,790
38 Metal products & mchinery	14,850	44,706	3,034	59.9	35.6	19.3	3.0	204
39 Other industries	14,261	27,026	1,844	70.6	61.0	63.9	1.9	129
Household manufacturing				% Share to All Units by Industry Type				
ALL INDUSTRIES	171,294	397,075	10,544	56.3	21.1	4.9	2.3	62
31 Food, beverges, tobacco, etc.	31,939	76,092	4,347	38.4	17.2	7.0	2.4	136
32 Textiles, apparel & leather goods	39,153	96,448	1,783	69.1	12.2	2.4	2.5	46
33 Wood products & furniture	61,454	127,304	2,425	73.0	58.9	24.2	2.1	39
34 Paper & printing	1,407	3,551	45	24.8	6.1	0.4	2.5	32
35 Chemicals, rubber & plastics	1,003	2,281	111	31.7	3.3	0.4	2.3	111
36 Non-metallic mineral products	22,405	60,009	1,015	85.3	49.8	24.3	2.7	45
37 Basic metal industries	14	28	9	3.1	0.1	0.1	2.0	643
38 Metal products & mchinery	8,146	17,470	396	32.9	13.9	2.5	2.1	49
39 Other industries	5,773	13,893	412	28.6	31.4	14.3	2.4	71

Source: Bangladesh Bureau of Statistics (BBS)

Note-1: Handloom sector generates a totaled gross ouytput of 23 billion Taka with about 1 million workers in 1990/91.

Note-2: Detail may not add up to totals due to independent adjustment and rounding using independent rasing factors to the sample data.

Table 2.15 Top Hundred (100) Industries in Bangladesh in 1989/90 (establishment with 10 or more workers, 4 digits BSI Code base)

	Industry Name	Persons Engaged	Accu. %		Industry Name	Persons Engaged	Accu. %
Rank	BSIC ALL INDUSTRIES	1,979,829	100.0%	Rank	BSIC		
1	3231 Garments	239,199	12.1%	51	3112 Dairy products	4,900	91.8%
2	3213 Jute trxtiles	233,225	23.9%	52	3251 Leather footwear	4,862	92.0%
3	3126 Tea & coffee processing	186,280	33.3%	53	3833 Metal & wood working machinery	4,711	92.3%
4	3211 Cotton textiles	167,297	41.7%	54	3842 Radio, TV, communication equip.	4,419	92.5%
5	3691 Bricks, tiles etc.	149,474	49.3%	55	3129 Other food products	4,338	92.7%
6	3143 Bidies	118,021	55.2%	56	3849 Other electrical apparatus etc.	4,249	92.9%
7	3127 Tea & coffee blending	97,330	60.1%	57	3827 Metal plumbing equipment etc.	3,993	93.1%
8	3214 Silk & synthetic textiles	76,141	64.0%	58	3834 Textile machinery	3,684	93.3%
9	3119 Rice milling	56,273	66.8%	59	3814 Metal furniture & fixtures	3,656	93.5%
10	3123 Sugar refinery	33,945	68.6%	60	3422 Publishing	3,625	93.7%
11	3511 Pharmaceuticals	26,628	69.9%	61	3612 China & ceramics	3,541	93.9%
12	3122 Bakery products	26,552	71.2%	62	3712 Iron & steel foundary	3,384	94.0%
13	3713 Iron & steel re-rolling mill	26,250	72.6%	63	3829 Other fabricated metal products	3,346	94.2%
14	3128 Edible salt refinery	24,232	73.8%	64	3816 Metal stamping etc.	3,224	94.4%
15	3225 Cordage, rope & twine	16,666	74.6%	65	3144 Tobacco stemming & redrying	3,009	94.5%
16	3533 Soap & detergents	16,521	75.5%	66	3521 Acids, alkalies, salts etc.	2,997	94.7%
17	3423 Printing	15,780	76.3%	67	3216 Handloom textiles	2,841	94.8%
18	3114 Fish processing	15,768	77.1%	68	3824 Tin cans & tinware	2,732	95.0%
19	3711 Iron & steel mill	14,809	77.8%	69	3843 Electrical appliances etc.	2,726	95.1%
20	3851 Ship building & repairing	13,733	78.5%	70	3844 Insulated wires & cables	2,699	95.2%
21	3217 Textile dyeing, bleaching etc.	13,401	79.2%	71	3531 Paints, varnishes etc.	2,567	95.4%
22	3263 Jute pressing & baling	13,323	79.8%	72	3125 Confectineries	2,561	95.5%
23	3311 Saw & planing mill	12,798	80.5%	73	3571 Plastic footwear	2,448	95.6%
24	3819 Utensils-aluminium	12,751	81.1%	74	3413 Articles of paper etc.	2,413	95.7%
25	3223 Knitwear	12,528	81.8%	75	3938 Umbrellas, etc.	2,275	95.8%
26	3535 Matches	12,146	82.4%	76	3529 Other industrial chemicals	2,151	96.0%
27	3321 Wooden furniture	11,911	83.0%	77	3812 Hand & edge tools	2,148	96.1%
28	3116 Edible vegetable oils	11,759	83.6%	78	3314 Hard board and hardboard prd.	1,987	96.2%
29	3141 Cigarettes	11,689	84.2%	79	3931 Jewellery-precious metal	1,984	96.3%
30	3839 other general machinery	10,193	84.7%	80	3532 Cosmetics, toiletries etc.	1,944	96.4%
31	3118 Grain milling	9,539	85.2%	81	3539 Other chemical products	1,902	96.5%
32	3411 Pulp & paper	9,435	85.6%	82	3835 Industrial machinery	1,864	96.6%
33	3241 Leather tanning & finishing	8,761	86.1%	83	3513 "Ayuro-vedic" medicines	1,813	96.6%
34	3569 Other rubber products	8,087	86.5%	84	3229 Other textiles	1,799	96.7%
35	3524 Fertilizers	7,678	86.9%	85	3821 Utensils-copper & brass	1,778	96.8%
36	3222 Other made-up textiles	7,159	87.2%	86	3693 Cement products	1,591	96.9%
37	3226 Spooling & thread ball	7,056	87.6%	87	3312 Plywood & plywood products	1,564	97.0%
38	3857 Ship breaking	7,033	88.0%	88	3949 Other maufacturing	1,548	97.1%
39	3579 Other plastic products	6,718	88.3%	89	3425 Book binding etc.	1,547	97.1%
40	3224 Carpets, rugs & mats	6,708	88.6%	90	3215 Narrow fabrics	1,521	97.2%
41	3622 Glass products	6,405	89.0%	91	3525 Pesticides etc.	1,466	97.3%
42	3611 Earthenware	6,289	89.3%	92	3818 Wire products	1,451	97.4%
43	3421 Newspapers	6,150	89.6%	93	3856 Cycles & pedicabs	1,442	97.4%
44	3826 Bolts, nuts, rivets etc.	5,870	89.9%	94	3692 Cement	1,430	97.5%
45	3318 Other bamboo & cane products	5,804	90.2%	95	3845 Electric bulbs & tubes	1,420	97.6%
46	3832 Agricultural machinery & equip.	5,776	90.5%	96	3916 Handicrafts-textile, sewing	1,401	97.7%
47	3853 Railroad equipment	5,525	90.7%	97	3212 Woolen textiles	1,375	97.7%
48	3815 Structural metal products	5,416	91.0%	98	3117 Other vegetable oils & animal fats	1,368	97.8%
49	3854 Motor vehicles	5,343	91.3%	99	3943 Bangles	1,355	97.9%
50	3846 Batteries	5,084	91.5%	100	3911 Handicrafts-wooden etc.	1,323	97.9%

Source: Directory of Manufacturing Establishments 1989/90, Bangladseh Bureau of Statistics (BBS)
Note: Persons engaged in tea blending include those counted under the name of the Bangladesh Tea Board.

Out of a total of 198 industry types (4 digits BSI Code base), the top ten (10) industries absorb a total of 68.6% of the total workers. This means a mono-culture of industrial structure in Bangladesh. In sum, the Bangladesh industry is not yet developed. It comprises mainly the industries that satisfy basic human needs such as those closely related to feed, cloth and shelter, although export of garments and indigenous resource-based jute textiles are developed. Lack of durable consumer goods industries may be attributed to the low income of the populace. Agglomeration of basic material and intermediate products industries is small in comparison with the Bangladesh population of more than 100 million. The machinery industry is also not developed centring on simple assembly or maintenance. This situation necessitates dependence on import of industrial goods. The limited domestic market is also a critical constraint for the further development of the manufacturing industry in Bangladesh.

2.7.2 Production and Productivity

Figure 2.6 illustrates recent trends of industrial production of main products in Bangladesh. These trends could be summarized:

- Big growth of durable consumer goods and quality of life-related goods such as big size coloured TV, table fan, electric tube, soft drink, medicine and soyabean oil; and

- Critical negative growth of petroleum products, industrial chemicals, iron and steel, and transport equipment. (Details are shown in Table 2.16 to Table 2.17.)

Such significant of durable consumer goods shows prospectives for Bangladeshi industrialization, since production of products such as refrigerator, washing machine, VTR and cars (passenger cars) will increase or will start in future, even though growth performance will depend on per capita income growth and income distribution factors. The negative growth of industrial goods may suggest lack of their international competitiveness, which in turn may indicate the need to establish some sort of appropriate industrial policy specific to them..

The values of some products manufactured by the government-owned enterprises or public corporations have increased, in spite of despite decreases in the production volume. Paper products, some chemicals and cement are such product groups. This may indicate a price increase corresponding to quality upgrading of the products. However, if it is not the case and the price increase is simply due government price intervention then this would increase production cost for those, which use these materials as inputs.

Figure 2.6 Production Trends of Selected Products in Bangladesh (19856/86 to 1991/92)

Newly produced after 1985/86	High octane blending compound		Coloured TV (24")	
Growth Rate of Production Amount (annual average)	Growth Rate of Value comparing to the production amount			
	Higher	Almost Same	Lower	Minus
Over 200%		Coloured TV (20")		
Over 100%			Other textiles	Matches
30-60%	Table fan Coloured TV (up to 16")		Hand pump	
10-29% (Value only) * Medicine (21.3%) * Sulphuric acid (18.7%)	Soft drink Soyabean oil Sugar Jute pressing Atta, maida and suji Urea Shrimps and frog Legs Glass sheet Tube lights			M. S. rod
5-9% (Value only) * Cable wire (8.4%)	Other transport equip. Cotton yarn Printing paper Telephone set			Electric bulb
1-4%	Paints and varnishes Tea (black) Mineral turpentine Particle board Caustic soda Cycle tyres and tubes Chorine	Cusec pump (1/2-1)		
-1 to -4% (Amount only) * Tobacco (-2.7%)	Plus ← Growth Rate of Value → Minus Cotton cloth Jet petrol-1 Newsprint Hard board Packing and others	Bi-cycle Cement Sacking	T. S. P. Black & white TV (17")	Motor spirit Carpet backing Reduced crude oil
-5 to -9%	Hesian Special boiling point solvent	Electric motor (1-7 h.p.) Superior kerosene oil	Vegetable ghee Black & white TV (up to16")	Truck Other fan
over -10%	Jeep L. P. G. Hydro. acid		Writing paper Electric motor (10-25 h.p.) B. P. sheet High speed diesel	Furnace oil (high supher) Amn. sulphate Motor cycle Bus	Ceiling fan Steel ingot Jute beaching oil M. S. plate
over -20%	Black & white TV (20")		Radio (3 band) D. D. T. Light diesel oil Billet (2* sq)	Naphta Lathe machine G. P. sheet Turbin pump	Radio (1 band) Diesel engine Coloured TV (18")

Source: Bangladseh Bureau of Statistics (BBS)

Table 2.18 shows the value added (VA) ratio (value added at factor cost) by subsector (3 digits base) in 1988/89. This VA at factor cost is the gross value added (GVA) subtracting non-industrial cost and indirect taxes from the Census Value Added (CVA), while depreciation has not been subtracted. The productivity (GVA ratio) averaged 26.6% in all industries. The ratio was high in leather footwear (40.5%), industrial chemicals (46.0%), petroleum products (61.0%), rubber products (42.1%), non-metallic mineral products (46.9%) and sport & athletic goods (66.7%). It was low in beverage (13.3%), leather & leather goods (10.2%) and iron & steel basic industries (6.1%). The structure of these items concerning GVA is as follows (establishments with 10 or more workers base):

Table 2.16 Production Trends of Selected Products in Bangladesh (Detail: 1985/86 to 91/92)

BSCI	Products	Unit	Production Amount (91/92)	Output ('000 Taka) (91/92)	Growth Rate per annum (%) Amount	Value
311-312	Shrimps and frog Legs	M. ton	6,276	1,585,134	14.3	22.0
Food manufacturing	Atta, maida and suji	M. ton	49,049	477,092	14.7	20.9
	Sugar	M. ton	195,418	4,855,193	18.8	29.8
	Soyabean oil	M. ton	24,933	756,762	24.9	30.5
	Tea (black)	Kg	45,535	2,168,439	3.2	12.9
	Vegetable ghee	M. ton	4,633	168,672	-5.2	-1.5
313 Beverage	Soft drink	000 D. B.	9,802	1,176,240	29.5	55.0
314 Tobacco	Tobacco	Million	12,535	-	-2.7	-
321-322 Textiles	Cotton yarn	000 lbs	133,135	9,548,000	7.0	17.7
	Cotton cloth	000 yard	64,163	1,300,000	-0.1	4.7
	Hesian	M. ton	131,860	4,176,583	-4.1	2.8
	Sacking	M. ton	200,762	4,783,765	-1.5	10.4
	Carpet backing	M. ton	61,212	1,550,320	-1.6	-0.1
	Other textiles	M. ton	223,530	715,363	115.8	41.6
341 Paper products	Writing	M. ton	8,670	348,402	-10.7	-3.7
	Printing	M. ton	24,806	972,325	5.9	14.7
	Packing and others	M. ton	7,817	327,896	-0.9	6.2
	Newsprint	M. ton	47,068	837,724	-0.6	4.2
	Particle board	M. ton	1,653	34,613	2.4	10.3
	Hard board	000 sq.m.	1,566	85,083	-0.7	15.5
351-353 Chemicals &	Urea	M. ton	1,640,101	6,796,172	14.5	18.6
fertilizer	Amn. sulphate	M. ton	4,607	18,871	-14.4	-10.3
	T. S. P.	M. ton	90,843	658,947	-2.1	0.2
	Sulphuric acid	M. ton	3,766	-	18.7	-
	Hydro. acid	M. ton	2,961	27,232	-13.2	35.3
	Caustic soda	M. ton	7,619	246,881	2.3	14.5
	Chrorine	M. ton	4,692	78,912	0.5	18.0
	D. D. T.	M. ton	220	22,696	-22.9	-18.8
	Medicine	000 Tk.		5,013,114	-	21.3
	Paints and varnishes	Gallon	690,183	283,227	3.7	10.5
	Matches	000 G. B.	654,447	65,447	117.1	-36.7
354 Petroleum products	Naphta	M. ton	17,573	141,551	-27.2	-27.4
	Motor spirit	M. ton	49,258	857,233	-0.2	-1.9
	High octane blending compound	M. ton	9,528	165,116	-	-
	Special boiling point solvent	M. ton	240	7,472	-4.1	2.1
	Mineral turpentine	M. ton	1,143	22,273	3.0	11.8
	Jet petrol-1	M. ton	3,454	69,969	-0.2	12.2
	Superior kerosene oil	M. ton	172,223	2,793,316	-8.4	4.0
	Light diesel oil	M. ton	5,045	68,006	-23.5	-12.1
	High speed diesel	M. ton	75,799	1,195,533	-12.7	-3.2
	Jute beaching oil	M. ton	9,614	165,533	-17.9	-6.1
	Furnace oil (high sulpher)	M. ton	125,387	917,523	-14.2	-8.8
	L. P. G.	M. ton	4,980	46,090	-10.8	1.4
	Reduced crude oil	M. ton	58,227	338,590	-3.3	-3.2
356 Rubber products	Cycle tyres and tubes	Doz.	33,477	23,910	1.5	13.7
362 Non-metallic	Glass sheet	000 sqf	14,801	180,004	13.3	21.4
mineral products	Cement	M. ton	272,452	1,053,050	-1.4	14.1
371 Basic metal products	Steel ingot	M. ton	36,796	522,107	-17.4	-4.9
	M. S. rod	M. ton	44,700	858,701	28.9	-6.8
	M. S. plate	M. ton	1,999	59,665	-19.2	-10.4

Source : Bangladesh Bureau of Statistics (BBS)

Table 2.17 Production Trens of Selected Industries in Bangladesh (Detail: 1985-86 to 91-92) : continued

BSCI	Products	Unit	Production Amount (91/92)	Output ('000 Taka) (91/92)	Growth Rate per annum (%) Amount	Value
371 Basic metal products (continued)	B. P. sheet	M. ton	372	13,665	-11.9	-2.4
	G. P. sheet	M. ton	7,776	316,855	-29.7	-22.7
	Billet (2* sq)	M. ton	11,929	228,687	-24.1	-15.9
383 Genral machinery	Lathe machine	No.	3	480	-27.5	-24.0
	Diesel engine	No.	343	11,575	-40.5	-34.2
	Cusec pump (1/2-1)	No.	4,491	11,823	4.3	4.0
	Turbin pump	No.	229	1,606	-29.7	-50.8
	Hand pump	No.	8,158	3,670	40.3	35.4
384 Electric goods	Ceiling fan	No.	54,513	84,640	-17.3	-15.2
	Table fan	No.	140	210	56.3	65.3
	Other fan	No.	372	863	-8.4	-15.7
	Bulb	000	19,003	27,898	7.6	-27.3
	Tube lights	000	1,177	56,117	10.0	14.6
	Radio (1 band)	No.	13,540	2,784	-38.6	-43.6
	Radio (3 band)	No.	2,400	984	-21.3	-30.3
	Black & white TV (up to16")	No.	14,281	57,877	-5.6	-2.6
	Black & white TV (17")	No.	10,621	60,590	-2.2	1.0
	Black & white TV (20")	No.	2,007	20,541	-44.0	51.5
	Coloured TV (up to16")	No.	6,534	766,674	39.5	119.6
	Coloured TV (18")	No.	15	175	-63.1	-65.0
	Coloured TV (20")	No.	9,275	171,685	238.1	218.4
	Coloured TV (24")	No.	868	18,966	-	-
	Electric motor (1-7 h.p.)	No.	944	10,695	-4.9	0.8
	Electric motor (10-25 h.p.)	No.	199	4,009	-11.5	-7.1
	Telephone set	No.	25,960	67,467	5.0	22.1
	Cable wire	000 Tk.	-	534,091	-	8.4
385 Transport equipment	Truck	No.	358	216,977	-8.4	-1.4
	Bus	No.	81	47,760	-15.5	-2.2
	Jeep	No.	110	82,644	-10.4	1.1
	Others	No.	534	52,590	7.4	24.2
	Motor cycle	No.	8,537	394,722	-15.5	-0.9
	Bi-cycle	No.	16,657	30,591	-1.3	5.0
394 Other manufacturing	Jute pressing	M. ton	277,558	4,460,191	16.5	208.0

Source : Bangladesh Bureau of Statistics (BBS)

- a) Value added (VA) Taka 60,663 million
- b) Non-industrial cost & indirect taxes Taka 13,420 million
- c) Value added at factor cost (VA) Taka 47,244 million (a-b)
- d) Gross output (GO) Taka 177,575 million
- e) Value added at factor cost per output 26.6% (c / d *100)
- f) Depreciation Taka 10,073 million
- g) Net value added at factor cost (NVA) Taka 31,571 million (c - f)
- h) Net value added per output 20.9% (g / d *100)

It should be noted that non-industrial cost includes rental expenses, bank charges excluding interest, insurance expenses, commissions expenses, professional, business and other service fees, representation, entertainment, freight services, and storage and warehousing expenses.

Table 2.18 Value Added and Related Indicators of Industries in Bangladesh (1988/89: establishments with 10 or more workers)

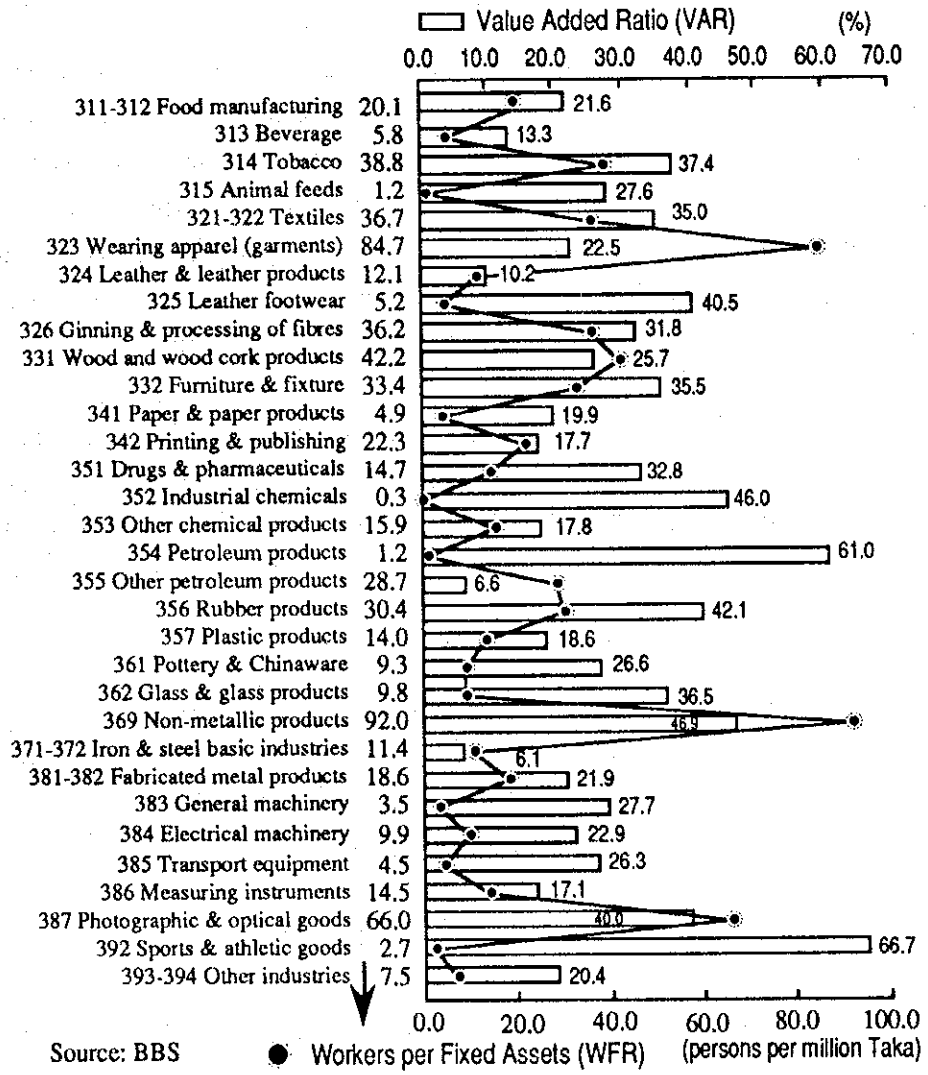
	Value Added at factor cost (in Mil. Taka)	Value Added per Output	Value Added per Worker (in '000 Taka)	Workers per Fixed Assets (in Mil. Taka)	Output per Fixed Assets	No. of Operation Days
ALL INDUSTRIES	47,244	26.6%	40	14.1	2.13	277
311-312 Food manufacturing	8,359	21.6%	45	20.1	4.18	266
313 Beverage	80	13.3%	72	5.8	3.13	284
314 Tobacco	2,302	37.4%	41	38.8	4.26	271
315 Animal feeds	8	27.6%	96	1.2	0.43	271
321-322 Textiles	14,457	35.0%	29	36.7	3.04	283
323 Wearing apparel (garments)	3,962	22.5%	25	84.7	9.56	281
324 Leather & leather products	873	10.2%	87	12.1	10.28	277
325 Leather footwear	687	40.5%	205	5.2	2.62	254
326 Ginning & processing of fibres	150	31.8%	30	36.2	3.44	241
331 Wood and wood cork products	391	25.7%	24	42.2	3.98	260
332 Furniture & fixture	54	35.5%	16	33.4	1.48	244
341 Paper & paper products	1,072	19.9%	61	4.9	1.51	302
342 Printing & publishing	810	17.7%	35	22.3	4.42	264
351 Drugs & pharmaceuticals	2,428	32.8%	93	14.7	4.17	270
352 Industrial chemicals	5,114	46.0%	420	0.3	0.32	292
353 Other chemical products	760	17.8%	52	15.9	4.66	278
354 Petroleum products	305	61.0%	349	1.2	0.70	341
355 Other petroleum products	6	6.6%	70	28.7	30.33	186
356 Rubber products	287	42.1%	76	30.4	5.49	271
357 Plastic products	170	18.6%	43	14.0	3.22	273
361 Pottery & Chinaware	182	26.6%	34	9.3	1.20	272
362 Glass & glass products	65	36.5%	40	9.8	1.08	262
369 Non-metallic products	1,015	46.9%	22	92.0	4.28	163
371-372 Iron & steel basic industries	603	6.1%	33	11.4	6.20	269
381-382 Fabricated metal products	785	21.9%	30	18.6	2.51	279
383 General machinery	218	27.7%	31	3.5	0.38	287
384 Electrical machinery	1,122	22.9%	71	9.9	3.08	265
385 Transport equipment	793	26.3%	59	4.5	1.00	298
386 Measuring instruments	7	17.1%	30	14.5	2.56	305
387 Photographic & optical goods	4	40.0%	30	66.0	5.00	270
391 Decorative handicrafts	-	-	-	-	-	271
392 Sports & athletic goods	66	66.7%	388	2.7	1.57	291
393-394 Other industries	108	20.4%	35	7.5	1.29	273

Source : Bangladesh Bureau of Statistics (BBS)

Indicators shown in Table 2.18 and Figure 2.7 have the following significance for featuring industries:

- Worker per fixed assets (WFA) represents generally labour- or capital-intensiveness. Industry with many worker per fixed assets is labour-intensive and mostly classified into "light industry" like garments. Small WFA industry is capital-intensive or "heavy industry".

Figure 2.7 Correlation between VAR and WFA of Industries in Bangladesh (1988/89)



Source: BBS

- Output per fixed assets (OFA) represents the term of return by investment. Industries with large OFA get the return in relatively short term and comprise mainly "light industries".

These non-industrial cost or services are considered to generally give the following positive effects on productivity or value added generation:

- Rental expenses effective to decreasing the initial cost of fixed assets
- Communications, representation and entertainment, probably effective to expanding the market at reasonable price of goods

- Commissions, professional, business and other services, freight services and storage and warehousing services, probably effective to decreasing the cost compared to "In-House" service by the manufacturers themselves.

The value added ratio (VAR) is generally high in labour-intensive industry. However, VAR of wearing apparel (garments) , which is one of the typical labour-intensive industries, is low with 22.5% while the output per fixed assets (OFA) is high with 9.56. This is mainly because the Bangladesh garments industry depends heavily on imported raw textiles, and in order to address such situation manufacturers adopt two or more shifts operation. It is also considered that the output price is depressed because of some reasons, otherwise consigned or subcontracted work provided raw textiles is not yet popular in Bangladesh.

On the other hand, VAR of petroleum refinery (petroleum products), which is a typical capital-intensive industry, is so high with 61.0%. This seems to partly reflect that crude oil is actually refined in Singapore not in Bangladesh. VAR of industrial chemicals is also high against its capital intensiveness (workers per fixed assets 0.3) and low ratio of output per fixed assets (OFA: 0.70).

In sum, it is not easy to identify a tangible and reasonable correlation between VAR and WFA of industries in Bangladesh as illustrated in Figure 2.7. There may be some factors influencing that and in addition, the Bangladesh economy was not yet transformed thoroughly into a market economy from the so called "semi-socialism system" up to 1988/89.

2.7.3 Division-wise Locational Distribution of Industries

The Chittagong and Dhaka Division together absorb 56.4% of the total workers in the Bangladesh industries.

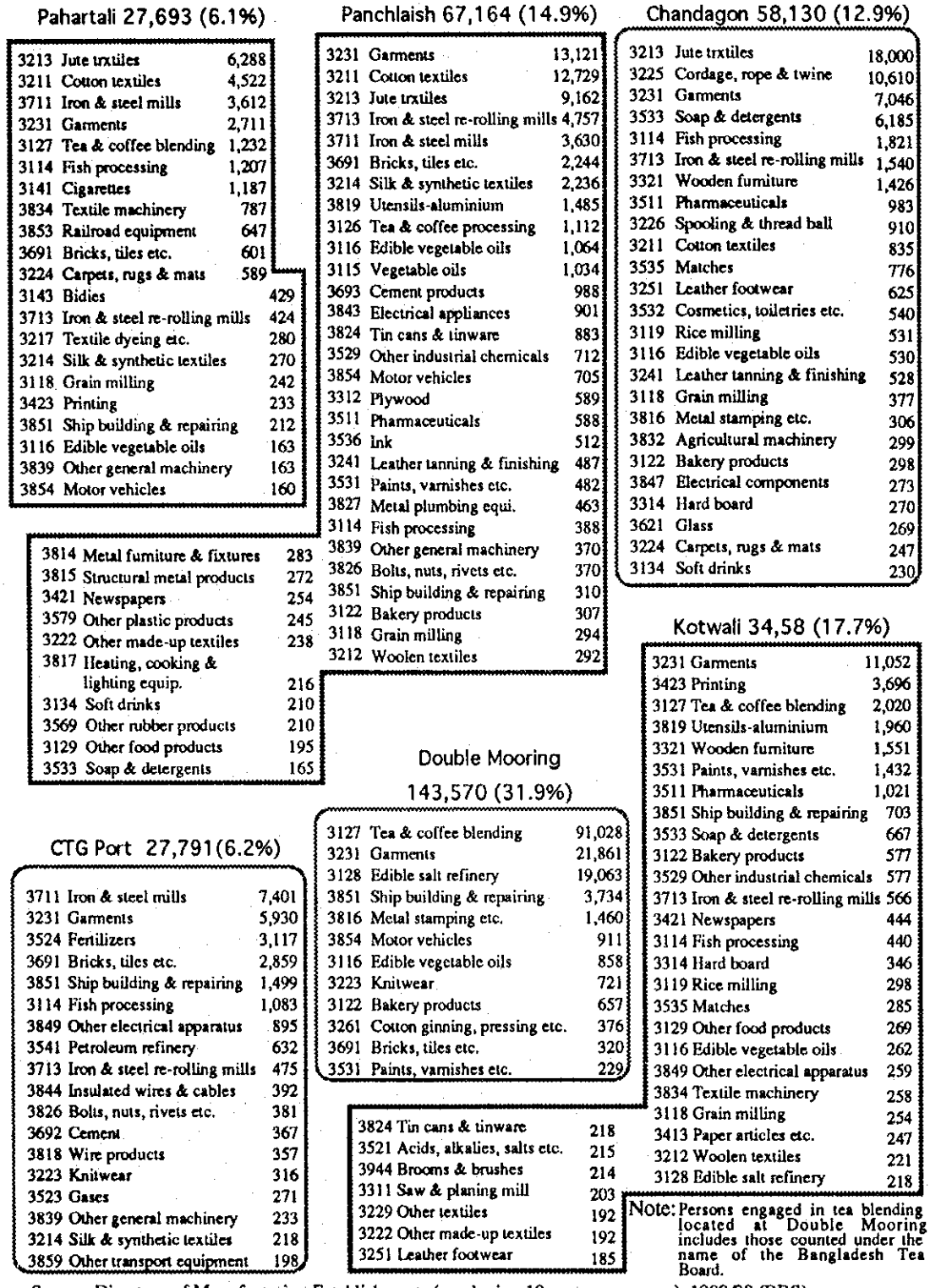
According to the Directory of Manufacturing Establishments (employing 10 or more persons), total workers amounted to 1,979,829 persons in 1989-90, out of which 781,490 workers concentrate in the Chittagong Division (corresponding to 25.7% of the total), while 806,700 workers (equivalent to 30.7%) were in the Dhaka Division. Rajshahi ranked third with 198,673 workers followed by Khulna with 160,473 workers. The Barisal Division has the smallest manufacturing workforce with 32,493 workers (Figure 2.8 refers).

a) Chittagong Division

Except for industries satisfying basic daily human needs and locating within or around the market, industries in the Chittagong Division could be categorized as follows:

Figure 2.8 Locational Distribution of Industries by Division (1989/90)

(Industries of 4 digits BSI Code with around 3,000 workers in Divison)



Source: Directory of Manufacturing Establishments (employing 10 or more persons), 1989/90 (BBS)

Resource-based or agro-industry

The Division is a "Tea Production Centre" in Bangladesh and tea related-industries are heavily concentrated employing more than 270,000 workers. "Bidies" (tasty specific to Bangladesh) and cigarettes are also major industries along with fish processing like frozen shrimps and edible salt. Fertilizer is a kind of resource-based industry since indigenous natural gas is used as its raw material.

Port- and export-oriented industry

The Division has the Chittagong Port, the largest port of Bangladesh handling a total cargo of 7.04 million tons in 1991/92. Port-oriented industries concentrate in the Division, such as iron and steel mills including re-rolling, ship building and repairing, ship breaking and fertilizer. Petroleum refinery is also one of the port-oriented industry. Textiles, garments and jute-related industries are the major export goods in Bangladesh with a total value of 55.6 billion Taka accounting for 75% of the total exports in 1991/92.

b) Dhaka Division

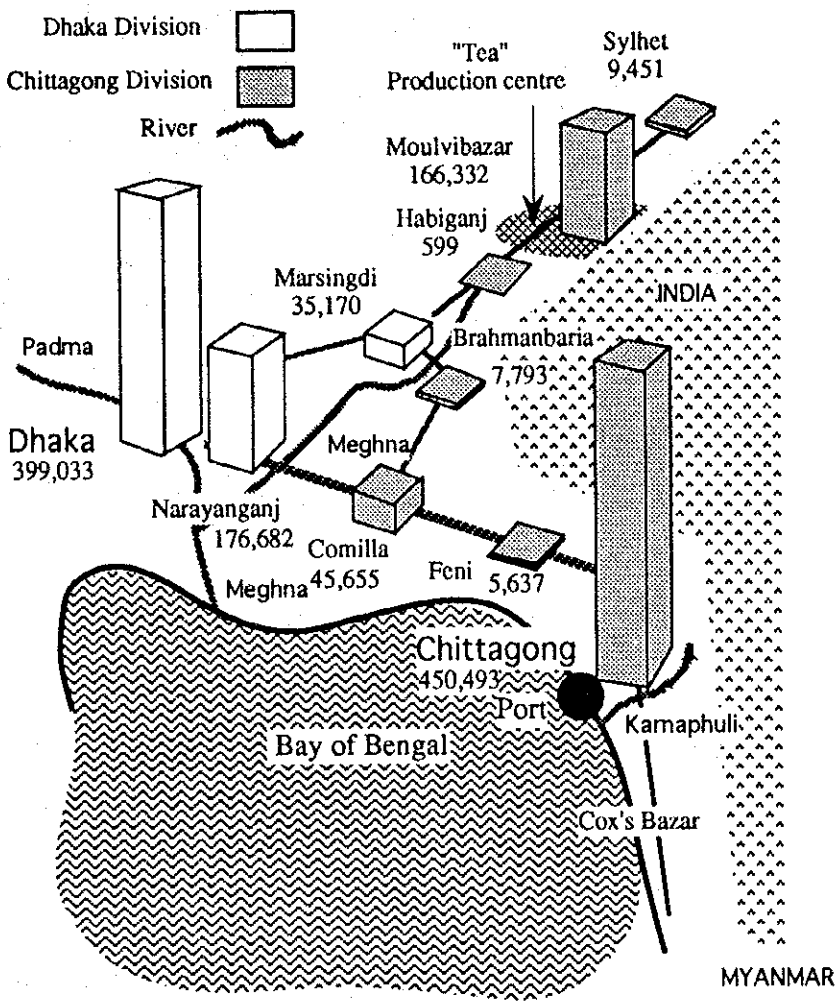
The Division has the Capital City of Dhaka, which is the main factor of a big agglomeration of printing and publishing industries. Textiles, garments and jute-related industries are dominant in the Division and more comprehensive than those of Chittagong, due to an agglomeration of knitwear and dyeing. Agglomeration of machinery and equipment industries are more concentrated than in the Chittagong Division. In addition, leather tanning and footwear are also major industries in the Division, in which one of the biggest footwear factory is located.

c) Chittagong-Dhaka (District level)

Figure 2.9 illustrates the number of industrial workers in Districts not only between Chittagong and Dhaka but also between Dhaka and Sylhet. Chittagong and Dhaka are the two industrial production centres in Bangladesh, both outstanding in the number of workers, while Chittagong's 450,493 workers are more 51, 460 workers than those of Dhaka. Narayanganj neighbouring on Dhaka has also a big agglomeration of industries centring on textiles. On the other hand, Feni District neighbouring on Chittagong has only a small number of industrial workers and is less developed. This suggests that the industrial agglomeration of Chittagong is not yet big so as to spill over and comprised mostly raw material or intermediate industries lacking backward inter-industry linkage.

The Meghna-Gumti Bridge was opened in November 1994, through which Chittagong and Dhaka is directly connected by road, not only eliminating the need to use a ferry boat, but also taking detour through the three Districts of Brahmanbaria, Kishoreganj and Narsingdi. This

Figure 2.9 Locational Distribution of Industry at District Level (based on the numberof industrial workers of establishments with 10 or more workers: 1989/90)



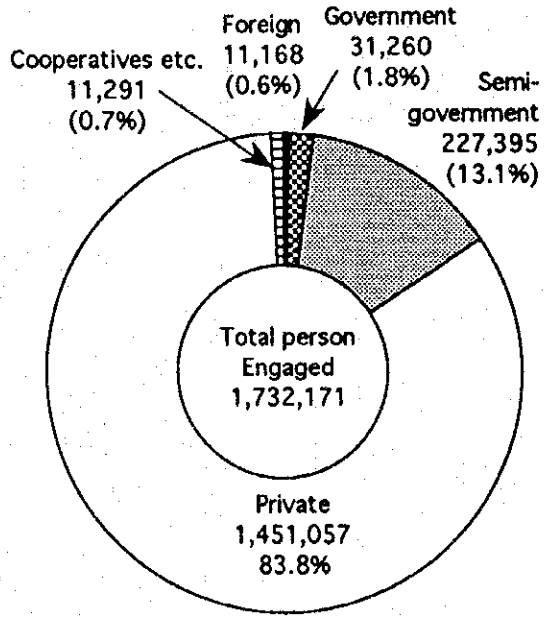
shortening of the time-distance will accelerate direct communication and economic interaction between Dhaka and Chittagong.

2.7.4 Organisational Aspects

The public corporations (PCs) consisting of the government-owned and semi-government-owned industry numbered 1,754 establishments with a total of 258,655 employed persons. This accounted for 1.1% and 14.9% of the total permanent establishments, respectively in 1986. (Figure 2.10 refers).

Figure 2.10 Permanent Establishments and Person Engaged of Industry in Bangladesh (1986: by form of ownership)

Form of Ownership	Number of Establishments
Total	165,595
Foreign	39
Goernment	464
Semi-government	1,290
Private	162,925
Cooperative, etc.	877
Percent Distribution	
Total	100.0%
Foreign	0.0%
Government	0.3%
Semi-government	0.8%
Private	98.4%
Cooperative, etc.	0.5%



Source: Report on Bangladesh Census of Non-farm Economic Activities (1986: BBS)

In 1991/92 the public corporations (PCs) in Bangladesh monopolised production of sugar, soyabean oil, paper including newsprint, fertilzer, other basic chemical products, petroleum oil, cement, basic iron and s teel products, electric motor and telephone set in as shown in Table 2.19.

Production of another product such as assembly of truck, bus and motor cycle and tube light was almost monopoliesed by PCs. Public manufacturing corporation are not so bad themselves provided a situation prevails in which capital intensive and economies of scale sensitive products are to be produced at reasonable prices and the private sector lack enough capital in the initial stages of industrialization. However, some critical problems would still be concomitant to nationalised production. In addition, a monopoly does not generally allow that the market mechanism operates, since it keeps off not only domestic competition but also importation of goods through high tariff imposition. Mingled with other factors, nationalised production or public corporations would bring about such problems as low productivity, low morale of workers, slow response to user's needs, less-investments in R&D expense and production activities against more investment into housing, education, hospital and recreation facilities.

There are PCs called "Sick Industry," continuously without profit and with an accumulated deficit. In order to address such problems and situations, the government has accelerated privatisation of selected PCs and promotes diversification of PC's products, among other measures.

Table 2.19 Production Shares of Public Corporation on Selected Products in Bangladesh (1991/92)

BSCI	Products	Unit	Production Amount 1991-92	Ratio of Public Corp.	Public Corporation
311-312	Shrimps, ttc.	M. ton	6,276	4.4%	Banglades Sugar & Food
Food manufacturing	Sugar	M. ton	195,418	100.0%	Industries Corp. (BSFIC)
	Soyabean oil	M. ton	24,933	100.0%	
	Tea (black)	Kg	45,535	100.0%	Bangladesh Tea Board (BTA)
	Vegetable ghee	M. ton	4,633	100.0%	BSFIC
314 Tobacco	Tobacco	Million	12,535	*	
321-322 Textiles	Cotton yarn	000 lbs	133,135	*	Bangladesh Textile Mills
	Cotton cloth	000 yard	64,163	*	Corp. (BTMC)
	Hesian	M. ton	131,860	49.0%	Bangladesh Jute Mills
	Sacking	M. ton	200,762	63.6%	Corp. (BJMC)
	Carpet backing	M. ton	61,212	64.1%	
	Other textiles	M. ton	223,530	95.1%	
341 Paper products	Paper	M. ton	33,476	100.0%	BCIC
	Newsprint	M. ton	47,068	100.0%	BCIC
351-353 Chemicals &	Urea	M. ton	1,640,101	100.0%	Bangldesh Chemical
fertilizer	Amn. sulphate	M. ton	4,607	100.0%	Industries Corp. (BCIC)
	Hydro. acid	M. ton	2,961	69.2%	
	Caustic soda	M. ton	7,619	61.1%	
	Chrorine	M. ton	4,692	100.0%	
	D. D. T.	M. ton	220	100.0%	
	Medicine	000 Tk.	-	*	
	Matches	000 G. B.	654,447	*	
	Soap & cosmetics			*	
354 Petroleum products	Petroleum products	M. ton	532,471	100.0%	Bangladesh Petroleum Corporation (BPC) • Eastern Refinery Ltd.
362 Non-metallic	Glass sheet	000 sqf	14,801		BCIC
mineral products	Cement	M. ton	272,452	100.0%	BCIC
371 Basic metal products	Steel ingot	M. ton	36,796	100.0%	Bangladesh Steel &
	M. S. rod	M. ton	44,700	100.0%	Engineering Corp. (BSEC)
	M. S. plate	M. ton	1,999	100.0%	• Chittagong Steel Mills Ltd.
	G. P. sheet	M. ton	7,776	100.0%	
	Billet (2* sq)	M. ton	11,929	100.0%	
383 Genral machinery	Diesel engine	No.	343	100.0%	BSEC
384 Electric goods	Ceiling fan	No.	54,513	60.6%	BSEC
	Bulb	000	19,003		• General Electric
	Tube lights	000	1,177	96.6%	Manufacturing Co. Ltd.
	TV			*	
	Electric motor	No.	944	100.0%	
	Telephone set	No.	25,960	100.0%	
	Cable wire	000 Tk.	-	*	
	Battery				BCIC
385 Transport equipment	Truck, Bus, etc.	No.	1,083	88.0%	BSEC
	Motor cycle	No.	8,537	80.8%	BSEC
	Bi-cycle	No.	16,657	21.5%	BSEC
	Ship building & repairing:				BSEC • Chittagong Dry Dock Ltd.
394 Other manufacturing	Jute pressing	M. ton	277,558	*	BJMC

Source: Bangladesh Bureau Of Statistics (BBS), Bangladesh Economic survey 1991/1992 (Ministry of Finance)
Note (1): Production ratio of the public corporations is calcurated based on productin amounts in 1990/91.
Note (2) : Mark "*" means that production ratio of the public corporation is significant not but figured out from actual production.

2.8 Foreign Direct Investment and Bangladesh Investment Situation

2.8.1 Foreign Direct Investment into Bangladesh

Foreign Direct Investment (FDI) over the period March to June 1991 accounted for only some 5 million US $, equivalent to about 7% of total local investment, which was recorded at 72 million US $ over the same period (table 2.20 refers).

Table 2.20 Domestic and Foreign Investments Registered by BOI - March 1991 to December 1995

[Unit : Million US $]

Period	03/91-06/91	1991/1992	1992/1993	1993/1994	07-12 1994	Total
Local	72	91	90	457	425	1,135
FDI	5	25	53	804	219	1,106
Total	77	116	143	1,261	644	2,241

SOURCE : BOI Investment Newsletter; Vol.1, Issue :1; 24 January 1995.

In subsequent FYs, FDI has drastically increased from the low 1991 base to 25 million US $ in 1991/92, 53 million US $ in 1992/93 and 804 million US $ in 1993/94. In this year FDI for the first time not only exceeded local investment levels, but was about factor 1.8 above domestic investment. In the six months July to December FDI decreased to about 219 million US $, well below the peak in 1993/94 and again below the level of domestic investment.

According to BOI, some 34% of total accumulated FDI in 1994 was invested into the textile industry, about 30% into the chemical and pharmaceutical industry, some 11% was invested into agro-based and about 7% in engineering industries. The remainder of 18% went into other sectors. Hence, the textile industry together with the chemical and pharmaceutical industries concentrate 64% of total accumulated FDI, either 100% foreign or in the form of joint-venture investments (JVI).

Japan has been the leading foreign investor in Bangladesh over the given reference period. Japan's FDI accounted for 26.3% (358 million US $) of total accumulated FDI, followed by Malaysia (20.2% of the total, equivalent to 276 million US $), the UK assumed third position with 14.1% (equivalent to 192 million US $) and Hong Kong was fourth (8.6%, equivalent to 117 million US $). After these four top investors, sources of accumulated FDI were Singapore (80 million US $), China (66 million US $), South Korea (57 million US $), Germany (36

million US $), USA (34 million US $) and Canada (34 million US $). Investments by Italy, Switzerland, India, The Netherlands and Greece were some 20 million US $ each. Total accumulated investment by Sweden accounted for 13 million US $.

2.8.2 General FDI Global Trends

FDI flows in the early 1990s have been decreasing somewhat and this decrease has been accompanied by changes in the FDI's geographical pattern. The major trends and key features, which have emerged may be summarised as follows :

- Global FDI flows increased by factor three, from an annual average of 50 billion US $ during the period 1981 to 1985 to some 156 billion US $ during the period 1986 to 1990. Global FDI flows were recorded at 162 billion US $ in 1991, decreasing to about 159 billion in 1992

- The share in total FDI inflows received by developing countries, which accounted for an annual average of 26.3% during the first half of the eighties, has fallen to 16.0% in the second half of the eighties and has, since then, steadily increased to about 32.5% in 1992. Given the strong absolute increase in global FDI flows, developing countries have been receiving considerable FDI resources (table 2.21 refers)

- The geographical distribution pattern of FDI inflows has also changed notably and parallel to the above trend. South, East and South-East Asia has, since the second half of the eighties, emerged as the major destination of FDI inflows. The share of Africa in total FDI inflows into developing countries has consistently fallen from an annual average of 12.9% in the first half of the eighties to some 5.9% in 1992. The share of Latin America and the Caribbean, which received a substantial share of 44.7% of FDI inflows in the first half of the eighties, has received only 34.4% of the total in 1992. The share of Western Asia has been likewise halved, from 3.4% to about 1.5% in 1992. The share of South, East and South-East Asia has dramatically increased by almost 20% points, from 37.6% in the first half of the eighties to about 57.1% in 1992

Table 2.21 FDI Inflows into Developing Countries by Region, 1981 to 1992 (1)

(PART I OF 2) [Unit : Billion US $ / Percent]

REGION	UNIT	ANNUAL AVERAGE 1981 - 1985	ANNUAL AVERAGE 1986 - 1990	1991	1992
DEVELOPING COUNTRIES *)				39.1	51.5
1.) TOTAL	[US$]	13.1	24.9	24.10	32.50
2.) SHARE OF THE WORLD TOTAL	[%]	26.30	16.00	38.7	51.2
3.) TOTAL WITHOUT LEAST DEVELOPED COUNTRIES	[US$]	12.9	24.4		
AFRICA				2.7	3.0
1.) TOTAL	[US$]	1.7	2.8	7.00	5.90
2.) SHARE OF DEVELOPING COUNTRY TOTAL	[%]	12.90	11.40	2.4	2.8
3.) TOTAL WITHOUT LEAST DEVELOPED COUNTRIES	[US$]	1.5	2.3		
LATIN AMERICA AND THE CARIBBEAN				15.0	17.7
1.) TOTAL	[US$]	5.9	7.7	38.50	34.40
2.) SHARE OF DEVELOPING COUNTRY TOTAL	[%]	44.70	30.90	15.0	17.7
3.) TOTAL WITHOUT LEAST DEVELOPED COUNTRIES	[US$]	5.8	7.7		

NOTES : *) Includes developing countries in Europe (Gibraltar, Malta and the former Yugoslavia) and the Pacific Islands.

SOURCE : UNCTAD, Division on Transnational Corporations and Investment, based on International Monetary Fund, balance of payments tape, retrieved in April 1994; estimates of the Organisation for Economic Co-operation; and annex table 1.

Table 2.21 FDI Inflows into Developing Countries by Region, 1981 to 1992 (2)

(PART 2 OF 2) (Unit : Billion US $ / Percent)

REGION	UNIT	ANNUAL AVERAGE 1981 - 1985	ANNUAL AVERAGE 1986 - 1990	1991	1992
WESTERN ASIA					
1.) TOTAL	[US$]	0.4	0.4	0.5	0.7
2.) SHARE OF DEVELOPING COUNTRY TOTAL	[%]	3.40	1.70	1.30	1.50
3.) TOTAL WITHOUT LEAST DEVELOPED COUNTRIES	[US$]	0.4	0.4	0.5	0.7
SOUTH, EAST AND SOUTH-EAST ASIA					
1.) TOTAL	[US$]	4.9	13.6	20.2	29.4
2.) SHARE OF DEVELOPING COUNTRY TOTAL	[%]	37.60	34.80	51.80	57.10
3.) TOTAL WITHOUT LEAST DEVELOPED COUNTRIES	[US$]	4.9	13.6	20.2	28.4
LEAST DEVELOPED COUNTRIES					
1.) TOTAL	[US$]	0.2	0.5	0.3	0.3
2.) SHARE OF WORLD TOTAL	[%]	0.40	0.30	0.20	0.20
3.) SHARE OF DEVELOPING COUNTRY TOTAL	[%]	1.40	2.10	0.90	0.60

NOTES : *) Includes developing countries in Europe (Gibraltar, Malta and the former Yugoslavia) and the Pacific Islands.

SOURCE : UNCTAD, Division on Transnational Corporations and Investment, based on International Monetary Fund, balance of payments tape, retrieved in April 1994; estimates of the Organisation for Economic Co-operation; ad annex table 1.

- Least Developed Countries are almost marginal receivers of FDI inflows. Their share in the world's total FDI inflows has been halved, from 0.4% in the first half of the eighties to 0.2% in 1991 and 1992. The same downward trend has prevailed in terms of share of developing countries, which was recorded at 1.4% in the first half of the eighties, increasing to an average of 2.1% in the second half and falling then to 0.9% and 0.6% in 1991 and 1992, respectively. This seems to indicate clearly that lest developed countries in general have not been very successful in attracting a substantial and/or higher share of the dramatically increased global FDI flows.

Another important feature in addition to the change in the geographical pattern in global FDI flows is the difference in type of net resource flows. The composition of net resource flows into developing countries in 1992 comprised 38.2% official loans and grants, 18.5% private loans, 11.3% portfolio investment and 32.1% FDI. For South, East and South-East Asia the distribution in the very same year was 28.6% official loans and grants, 24.3% private loans, 13.1% portfolio investment and 34.1% FDI. For African and West Asian countries the distribution pattern is almost reverse, while in Latin America and the Caribbean FDI accounted for almost 50% of net resource inflows.

Within South, East and South-East Asia itself, the People's Republic of China, Singapore, Hong Kong and Thailand have been the strongest beneficiaries from FDI inflows (Table 2.22 refers). Economies of the low income group and least developed countries have not been substantial receivers of FDI inflows.

2.8.3 Least Developed Countries, Bangladesh and FDI Prospects

General factors, which are likely to have influenced the small and remaining small share of least developed countries in receiving FDI inflows have been :

- The falling global demand for most of their primary exports, often coupled with high levels of external indebtedness
- Their persistent small domestic investment and slow economic growth
- Their small domestic market

Table 2.22 FDI Inflows into Selected South, East and South-East Asian Countries, 1981 - 1992

[Unit : Million US $]

COUNTRY / ECONOMY	ANNUAL AVERAGE 1981 - 1985	ANNUAL AVERAGE 1986 - 1990	1991	1992
PEOPLE'S REPUBLIC OF CHINA	850	2,853	4,366	11,156
HONG KONG	576	1,945	538	1,918
INDIA *)	59	182	145	140
INDONESIA	236	599	1,482	1,774
REPUBLIC OF KOREA	117	676	1,116	550
MALAYSIA	1,083	1,126	3,998	4,469
PAKISTAN	77	175	257	349
PHILIPPINES	63	493	544	228
SINGAPORE	1,349	3,247	4,395	5,635
SRI LANKA	42	40	48	123
TAIWAN	189	987	1,271	879
THAILAND	279	1,188	2,014	2,116
VIET NAM	6	6	32	

NOTES : *) Based on outward FDI flows to India from the members of the Development Assistance Committee of OECD. These data underestimate the magnitude of FDI inflows to India.

SOURCE : UNCTAD, Division on Transnational Corporations and Investment, based on International Monetary Fund, balance of payments tape, retrieved in April 1994; estimates of the Organization for Economic Co-operation; and annex table 1.

- Their poorly developed physical infrastructure with difficult and expensive transport and communications links with the outside world

- A poorly skilled labour force, and

- In some countries political instability and, in some cases, violence and civil strife, which have become prohibitive deterrents to FDI.

A general analysis also suggests that least developed countries in Asia are faring better than least developed countries in Africa, where the largest concentration of least developed countries is found (31 countries out of a total of 47). This seems to be a consequence of the fact that a number of Asian developing countries are moving to higher value-added FDI and that, consequently, some least developed countries in Asia are inheriting labour intensive FDI at the low end of the value added chain. Bangladesh and Cambodia fall in this category.

Among the countries, which have only recently adopted market oriented policy reforms, Lao People's Democratic Republic and Myanmar have attracted tangible FDI inflows. Lao People's Democratic Republic, which allowed FDI in 1989, has attracted a total of 27 million US $ between 1989 and 1992 (mostly from Thailand). In 1992 alone 102 permits were granted to foreign investors and 79 in the first half of 1993, mainly in services including banking. In Myanmar there was virtually no FDI in the 1980s. Now there are FDI inflows from Thailand, the United States, Singapore and Hong Kong. Myanmar has a strong potential to play the role of a raw material source to developing countries and nearby newly industrialised economies.

Manufacturing has also become an increasingly important sector of FDI in some least developed countries, as the case of Bangladesh illustrates, where about three quarters of exports are manufactured goods (textiles and apparel). Nepal is another case, where FDI has gone into textiles and apparel and carpets, which account for nearly two thirds of that country's exports. In Nepal, however, FDI is concentrated in hotels and tourism with significant multiplier effects for the economy.

For many least developed countries, FDI is the only source of private external finance other than trade credits and among least developed countries the situation differs considerably as Table 2.23 illustrates.

Table 2.23 FDI Inflows and Economic Indicators in Selected Least Developed Countries

[Unit : Million US $ / percent]

LEAST DEVELOPED COUNTRY	FOREIGN DIRECT INVESTMENT 1981-1985 (ANNUAL AVERAGE)	1986-1990	1991-1992	PER CAPITA FDI 1991/92 *) (DOLLARS)	FDI AS A SHARE OF GDP 1991/92**) (PERCENT)	PER CAPITA GDP 1991 (DOLLARS)
AFGHANISTAN	0.06	0.08	0.04	0.03		485
BANGLADESH	-0.04	2.16	2.55	0.02	0.01	201
HAITI	6.64	7.44	10.80	1.64	0.41	399
LAO, PEOPLE'S DEMOCR. REPUBLIC	-0.32	2.40	8.50	1.98	0.83	237
MALDIVES	-0.32	4.34	6.35	32.75	4.91	667
MYANMAR ***)	0.07	0.69	8.85	0.21	0.03	655
NEPAL	0.15	1.92	1.80	0.09	0.05	168
SAMOA	0.06	1.41	2.59	12.95	1.43	908
SOLOMON ISLANDS	0.90	5.86	15.35	51.17	9.62	668
VANUATU	5.77	9.60	15.20	76.00	6.62	1,148
YEMEN	17.52	9.08	11.81	0.98	0.15	668
ALL LEAST DEVELOPED COUNTRIES	187	324	324	0.62	0.18	349
ALL DEVELOPING COUNTRIES	13,105	24,892	45,272	15.68	1.40	1,035

NOTES : *) Average FDI flows during 1991/92 divided by the 1991 population. **) Average FDI flows during 1991/92 divided by GDP in 1991.
***) On an approval basis. ".." = not available.

SOURCE : UNCTAD, Division on Transnational Corporations and Investment, based on International Monetary Fund, balance of payments tape, retrieved in April 1994; estimates of the Organisation for Economic Co-operation; and tables 1 and 2, pp A-3 -A-5; and annex table 1.

Bangladesh, which has been quite successful in absolute terms to attract FDI, ranks the lowest in terms of per capita FDI among the least developed countries shown in the table. Absolute FDI inflow into Bangladesh has been in the same order of magnitude as, for example, into Samoa. But absolute FDI inflows in 1991/92 into much smaller countries, such as Lao and Myanmar, have been higher by factor 3.3 and 3.5, respectively.

2.9 Bangladesh's Comparative Advantage and International Competitiveness

2.9.1 Measuring Comparative Advantage

The relatively old paradigm of comparative advantage (CA) implies that international trade is mutually beneficial for all trading partners. It is assumed that a country gains by specialising in the production and exportation of products, in which it enjoys CA and exchanging such products for goods, in which it does not enjoy CA. It follows that a country would logically prefer to allocate her resources in such a way as to produce more of those goods, in which it enjoys CA and less of those, in which it does not. Shifts in CA would therefore necessarily gradually alter the pattern of manufacturing activity in any country and also the international pattern for the location of industrial capacity.

However, the application of this paradigm for industrial planning purposes is plagued by significant difficulties at both levels, theoretical and empirical. Economic theory, which tries to identify products or product groups, in which a country enjoys CA assumes that (1) all currencies are freely convertible; (2) exchange rates are consistent with the long-run balance in each country's balance of payments; (3) exchange rates are reasonably stable; and (4) demand and supply equations are known for each product manufactured in the country as well as comparable equations for the rest of the world. Using these assumptions, the prices that ought to prevail in the absence of trade in the home country or elsewhere in the world could be calculated for each product.

These prices could then be compared with one another, using currency exchange rates to identify products, in which the country enjoys CA, that is those for which it has the lowest "common currency" prices. Those results would have to be adjusted for transport and trading costs, as trade would presumably not occur if such costs exceeded the difference between domestic and rest-of-the-world prices.

The problem with such an approach, however, is that the assumptions required to render the calculations operational are seldom true. In most cases there are exchange rate controls of varying degrees of rigidity and exchange rates are not always consistent with their balance-of-payments equilibrium. Furthermore, it is quite impossible to make accurate demand-supply estimates for all or only a large number of products produced by any country.

In other approaches a country's CA is attempted to be established by determining the actual value of its imports and exports. Such attempts are the "Balassa Index" and the Donges-Riedel

Index", in short RNX. The calculation of such indexes is feasible, but the results are often inconsistent. One country enjoying CA in a particular product category according to one indicator/index show comparative disadvantage (CD) according to another.

In view of the above uncertainties on both, theoretical and empirical levels, a more heuristic approach is followed below to discuss Bangladesh's CA.

2.9.2 Bangladesh's Comparative Advantage and International Competitiveness

In absolute terms, Bangladesh has been quite successful in obtaining a growing share of FDI inflows in particular into the manufacturing sector (see Section 2.8 before). The following two internal CAs have facilitated this trend :

- low wages, which are an important element in the total manufacturing cost (TMC) of labour intensive industries, and
- Bangladesh's unused quota for exporting textiles and apparel to the markets of the European Union and the United States of America.

However, these internal CAs were supplemented by trends in the global economy and in particular some Asian countries, in which rising labour cost and skills have led to the graduation to higher value added activities. Rising costs in excess of productivity gains and an overburdened urban and road transportation infrastructure have discouraged efficiency seeking and labour-intensive FDI in these economies in recent years.

Over the period 1985 to 1990, real wages increased by 30% in Hong Kong, by 68% in Korea and by 36% in Singapore. Productivity gains during the same period, however, were only 18% in Singapore and 46% in Korea. The loss of cost advantage at the lower end of the value added chain has caused domestic companies to shift labour-intensive production abroad, inter alia to Bangladesh.

Another important feature is the fact that the share of the newly industrialising economies in investment flows into Asia has diminished in recent years . This reflects the emergence of a "second tier" group of industrialising countries such as Indonesia, Malaysia, Thailand and China, where FDI grew rapidly in the late 1980s and early 1990s. Those countries became preferred locations for both, labour-intensive FDI seeking to reduce cost and market-seeking

FDI. For example, in Thailand there was only a 3% total increase in real wage rates between 1985 to 1991 and in 1991 the wage level was only 19% of that of the Republic of Korea.

Japan, which is still the principal source country for this region (as well as Bangladesh), has increased her investments into the new destinations at the expense of the newly industrialising economies. The share of Japanese FDI into the newly industrialising economies has declined steadily from some 60% in 1989 to 24% in 1992. Japanese Transnational Corporations (TNCs), which are under strong pressure from financial difficulties, low profit margins at home and abroad and an appreciating yen exchange rate are seeking to reduce costs further by shifting production abroad. Wage increases that outstrip productivity gains (as is the case in the newly industrialising economies of the region) appear to be an important consideration in the decision of Japanese firms as to where to locate production in Asia.

Bangladesh's main CA as a location for FDI and a production base for regional and global markets may therefore be summarised as follows :

- Comparative advantage is a relative and not absolute feature, which does not only depend on prevailing internal Bangladeshi characteristics, but also external global and regional trends, in particular the strategies of Transnational Corporation and, to an increasing degree, also those of medium and small size enterprises as well as the progress in regional groupings

- Bangladesh's absolute CA are her low labour cost, which make her a potential location for labour intensive industries. In the category of countries, which are potential locations for labour-intensive industries, Bangladesh is competing directly with :

    - China
    - India
    - Vietnam
    - Sri Lanka, and
    - Pakistan

- Bangladesh's relative CA is her position as a location for FDI of the newly industrialised Asian countries, in which absolute labour cost and/or wage and productivity increases have eroded the cost advantage in the FDI source countries (such as Hong Kong, Singapore, Thailand and Malaysia)

- Bangladesh's relative CA position will remain as long competitive with competing locations as long as absolute and real wage increases remain clearly below overall productivity

increases. Hence, it is important for Bangladesh that overall accelerated growth be accompanied by vigorously pursuing total factor productivity gains in the regionally and globally competing economic activities

- Another important feature is that Bangladesh has to eliminate, to the extent possible, cost resulting from system losses, which increase total manufacturing cost at micro-level thereby offsetting CAs resulting from the low labour cost.

2.9.3 Geographical Condition of Bangladesh

Figure 2.11 illustrates a concept of the Asian Industrial Corridors and Triangles. Located between East Asia and the Indian Subcontinent, the region surrounded by the Bay of Bengal is conceived as a new trade and industrial triangle where potential development centers are accumulated including Calcutta, Madras, Chittagong, Colombo, and Yangon of Myanmar in the future. Also, the "land-locked" regions and countries such as the North Eastern India, Bhutan, and Nepal should be recognized as the important hinterland of Chittagong.

Figure 2.11 Asian Industrial Corridors and Triangles