

Government and Rural Transformation

Role of Public Spending and Policies in Bangladesh

Mohinder S. Mudahar and Raisuddin Ahmed

Mohinder S. Mudahar
Raisuddin Ahmed

Government and
Rural Transformation



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Contents

<i>Abbreviations and Acronyms</i>	xv
<i>Glossary</i>	xix
<i>Acknowledgements</i>	xxi
<i>Preface</i>	xxv
Chapter 1 Introduction and Overview	1
1.1 Socio-Economic Transformation	2
1.2 Bangladesh in the South Asian Context	14
1.3 Emerging Development Challenges	19
1.4 Focus and Framework of the Study	23
Chapter 2 Role of Government and the Public Sector	29
2.1 Theoretical Approach to Define Public Area	29
2.2 The Real World Complexities and Diversity	31
2.3 Special Focus on Agriculture and Rural Development	38
2.4 Role of Government in Information and Economic Intelligence	39
2.5 Government Programmes should reach all Corners of the Country	41
Chapter 3 National Strategies for Rural Prosperity	43
3.1 Historical Perspective of National Policies	43
3.2 A Vision for the Future of Agriculture and Rural Development	83
Chapter 4 Size of the Government, Financing Options and Public Expenditure	89
4.1 Size of the Government	90
4.2 Determinants of the Size of Government: Demand Side Factors	93
4.3 Determinants of the Size of Government: Supply Side Factors	94
4.4 Budget Deficit and Development Financing Options	99

4.5	Taxation and Public Expenditure Trade-Off	106
4.6	The Budget Process	107
4.7	Trend of Public Expenditure	108
4.8	Sector based Distribution of Public Expenditures	116
4.9	Regional Distribution of Public Expenditure and Poverty Traps	124
4.10	Alternative Uses of Public Resources	126
4.11	Composition of Government Spending in the United States	131
Chapter 5	Public Expenditure in Agriculture and Rural Development	145
5.1	Definition of Agriculture and Rural Development	145
5.2	Expenditure in Agriculture and Rural Development	146
5.3	Investment in Water Resources	153
5.4	Investment in Agricultural Research	156
5.5	Rural Development and Local Governance	168
5.6	Priorities in Agriculture and Rural Development	174
Chapter 6	Efficiency and Impact of Public Expenditure on Rural Growth and Poverty	179
6.1	Goal Setting and the Strategy: The Case of PRSP	179
6.2	Leakage of Public Resources: Corruption, Transparently Speaking	190
6.3	Impact of Public Expenditure	204
6.4	Targeted Public Programmes for the Poor	214
Chapter 7	Institutions, Rural Credit and Input Subsidies	225
7.1	What is an Institution?	225
7.2	Development of Rural Credit Institutions	230
7.3	Competitiveness of Agriculture and the Role of Input Subsidy	242
7.4	Coordination across Institutions	254
Chapter 8	Free Market and Public Intervention for Food Security	263
8.1	Rice Markets	263
8.2	Public Food grain Distribution	270

8.3	Market Liberalisation and Price Management	272
8.4	Managing a Sudden Food Crisis	281
Chapter 9	Monitoring and Evaluation of Public Interventions	291
9.1	Governance, Transparency and Accountability	291
9.2	Effective Monitoring and Evaluation System	293
9.3	The State of Monitoring and Evaluation System in Bangladesh	304
9.4	Need for an Effective Monitoring and Evaluation System in Bangladesh	307
Chapter 10	Summary of the Past and Vision for the Future for Greater Rural Prosperity	311
10.1	Initial Conditions at Birth	311
10.2	Rural Transformation since Independence	314
10.3	Government and Rural Transformation	326
10.4	Impact of Public Expenditure on Growth and Poverty	336
10.5	A 2030 Vision for Bangladesh and Rural Prosperity	339
10.6	Challenging Tasks for the Government: An Agenda of Reform	348
	References	367
	Index	377

List of Tables, Figures and Boxes

Tables

1.1	Selected Indicators of Transformation: Structural Change in the Economy of Bangladesh	2
1.2	Growth Rates of GDP in Agriculture, Industry and Services Sectors in Bangladesh, 1981–2004	4
1.3	Selected Indicators of Transformation: Agriculture and Rural Transformation in Bangladesh	5
1.4	Shares of Rural Non-Farm Sector in Rural Employment and Income in Bangladesh, 2000	7
1.5	Income Elasticity of Demand for Major Product Groups in Bangladesh	9
1.6	Comparative Static Indicators of Development for South Asian Countries, 2003	13
1.7	Comparative Dynamic Indicators of Development for South Asian Countries	17
1.8	Comparative Per Capita Income Index in South Asian Countries	18
2.1	Government Ministries/Divisions and their Functions in Bangladesh, 2004	33
3.1	Selected Macroeconomic Policy Indicators in Bangladesh	45
3.2	Rice Production and Use of Modern Inputs in Bangladesh, 1980/82–2002/04	49
3.3	Release of High-Yielding Varieties from BRRI and Variety Attributes	51
3.4	Financial and Economic Profitability of Selected Crops in Bangladesh, 1996/97–1998/99	55
3.5	Estimated Net Returns for Selected Crops in 2006 in Bangladesh	56
3.6	National Average Monthly Wholesale Price of Aman Coarse Rice in Bangladesh, 1990/91–2004/05	58
3.7	National Average Yearly Wholesale Price of Aman Fine Rice in Bangladesh, 1999/00–2004/05	59
3.8	International Prices of Rice and Wheat (f.o.b.), 1980/81 to 2004/05	61
3.9	National Average Wholesale Price of Potato (local best) in Bangladesh, 1989/90–2004/05	62
3.10	National Average Wholesale Price of Ruhi Fish in Bangladesh, 1980–2005	64

3.11	National Average Wholesale Price of Local Chicken (live, big size) in Bangladesh, 1980-2005	66
3.12	National Average Wholesale Price of Hilsha Fish in Bangladesh, 1980-2005	67
3.13	Sources and Growth Rate in Fish Production in Bangladesh, 1997 through 2004	68
3.14	Projected Output of Fish in Bangladesh, 2012	69
3.15	Trends of Production in Livestock Products in Bangladesh, 1980 to 2000	69
3.16	General Characteristics of Surveyed Poultry Farms in Bangladesh, 1999/2000	72
3.17	Costs and Returns on Poultry Farms, Per Bird, in Bangladesh, 2000	74
3.18	Structure of Production of Forestry Products in Bangladesh, 1983/85 and 1992/95	75
3.19	Matrix of Post-Harvest Management Problems and Suggested Principal Agents for Solution in Bangladesh	77
3.20	Development of National, Regional and Rural Road Network in Bangladesh, 1998-2004	79
4.1	Size of the Government and Aggregate Public Expenditure to GDP Ratio over time in Bangladesh	91
4.2	Government's Revenue Receipts over time in Bangladesh	95
4.3	Central Government Revenue Collection Efforts in South Asian Countries	96
4.4	Structure of Tax Revenue (NBR Component only) in Bangladesh, 2001/02 to 2003/04	96
4.5	Overall Budget Deficit and Modes of Financing Deficit over time in Bangladesh, 1993/94-2003/04	99
4.6	Annual Flow of Foreign Aid to Bangladesh, 1980/81-2003/04	102
4.7	Annual Disbursement of Foreign Aid by Type in Bangladesh, 1980/81-2003/04	104
4.8	Trend in Development, Revenue and Total Public Expenditures in Bangladesh, 1989/90-2003/04	108
4.9	Development (ADP) and Non-Development (Revenue) Public Expenditure (in real terms) in Bangladesh, 1989/90-2003/04	109
4.10	ADP: Actual Expenditures and Allocations in Bangladesh, 1989/90-2004/05	111
4.11	Actual ADP Expenditure, Project Aid and Gross Public Investments in Bangladesh, 1990/91-2003/04	114

4.12	Sector based Development (ADP) Expenditures and Project Aid in Bangladesh, 1990/91–2003/04	117
4.13	Share of Sector based Development (ADP) Expenditures and Project Aid in Bangladesh, 1990/91 – 2003/04	118
4.14	Sector based Development (ADP) Expenditures and Project Aid in Bangladesh, 1996/97– 2004/05	119
4.15	Share of Sector based Development (ADP) Expenditures and Project Aid in Bangladesh, 1996/97–2004/05	120
4.16	Sector based Shares in Consolidated (ADP + Revenue) Public Expenditures in Bangladesh, 1990/91 and 2003/04	123
4.17	Government Spending (all levels of government combined) by Function, USA	132
5.1	Matrix of Ministerial Agencies and Functional Sub-sectors in Agriculture and Rural Development	146
5.2	Matrix of Output-oriented Functional Sub-sectors and Input-oriented Functional Sub-sectors	147
5.3	Relative Public Expenditure (ADP + Revenue) in Agriculture and Rural Development in Bangladesh	148
5.4	Shares of Sub-sectors in Total (ADP + Revenue) Public Expenditure in Agriculture in Bangladesh	149
5.5	Shares of Agriculture, RD1 and RD2 in Total Agriculture and Rural Development (AGRD2) Expenditure in Bangladesh	150
5.6	Distribution of Total Public Expenditure among Various Output Type and Input Type Sub-sectors in Agriculture and Rural Development in Bangladesh, 2002-03	151
5.7	Description of National Agricultural Research System (NARS) in Bangladesh, 2004	157
5.8	Proportion of Research Expenditure in Total Public Expenditure for Agriculture and Rural Development in Bangladesh, 1976–2004	160
5.9	Expenditure on Agricultural Research and Extension as Share of Agricultural GDP in Bangladesh	161
5.10	Approximate Rates of Return from Investment in Agriculture and Rural Development	175
6.1	Degree of Poverty or Affluence and their Typical Identifying Attributes in Bangladesh, 2000	183
6.2	Changes in Rural Households, Population and Farms Between 1983/84 and 1996 Censuses in Bangladesh	185

6.3	Distribution of Districts by Rates of Growth in Rice Production in Bangladesh, 1975/76-1996/97	186
6.4	Regional Gaps in Real Wages of Agricultural Labour in Bangladesh, 2000-04	188
6.5	The Cost of Bureaucracy and Corruption for a Garment Exporter, 1992	200
6.6	Corruption Perception Index for Selected Countries from a Total of 146 Countries, 2004	204
6.7	Poverty and Inequality in Bangladesh, 1991/92 and 2000	209
6.8	Specific Projects Targeting Poverty Alleviations in Bangladesh, 2000/01	215
7.1	Market Shares of various Formal and Semi-Formal Rural Credit Institutions in Bangladesh, 2004	232
7.2	The Scale of Non-Government Microfinance Activity in Bangladesh	233
7.3	Credit Operation of Public Supported Institutions in Rural Credit Markets in Bangladesh, 1992/93-2004/05	235
7.4	Advances and Deposits in Rural Areas of Bangladesh	236
7.5	Credit Disbursement by Public Supported Institutions for various Purposes in Bangladesh, 2003/04	237
7.6	Total Outstanding and Loan Recovery Position for Bangladesh Krishi Bank, 2000/01-2004/05	238
7.7	Income and Expenditure of Bangladesh Krishi Bank Over Time	239
7.8	Sub-sector Loan Disbursement by Microfinance NGOs in Bangladesh	240
7.9	Estimated Subsidies for Selected Products in FY 09 in Bangladesh	243
7.10	Comparison of Rice Prices in Bangladesh with Neighbouring Countries	245
7.11	Cost of Production of Rice in Bangladesh and Other Countries, 2000-2001	247
7.12	Cost of Production for Paddy in Selected Countries in Asia, 2000/01	249
7.13	Average Prices of Inputs in Bangladesh and India, 2001/02	250
8.1	Broad Changes in Bangladesh Rice Markets	264
8.2	Key Holders of Foodgrain Stocks, 1993-95	268
8.3	Public Foodgrain Distribution by Commodity	271

8.4	Functional Channels of Public Foodgrain Distribution in Recent Years	272
8.5	Month-wise Public Closing Stock of Foodgrains	273
8.6	Private and Public Import of Foodgrains (Rice and Wheat) Over Time	275
8.7	Comparison of Damage and Losses Resulting from the 1988, 1998, 2004 and 2007 Floods in Bangladesh	276
8.8	International Price of Rice and Wheat (FOB)	279
8.9	Average Wholesale Price of Coarse Rice	280
8.10	Comparison of Thai 5% Parboil Rice with Domestic Coarse Rice at Wholesale Border of Import Parity Price (Per Ton)	281
10.1	Trends in Nominal and Real Per Capita Expenditure (PCE) in Bangladesh	317
10.2	Sensitivity of Poverty Estimates to Measurement Methods in Bangladesh	318
10.3	Progress with Poverty Reduction in Bangladesh, 1984–2000	320
10.4	Historical Trend and Likely Future Scenarios of Absolute Poverty in Bangladesh	320
10.5	Regional Trends in Poverty in Bangladesh	321
10.6	Prospective Per Capita Income in Bangladesh, 2005-2030	343
10.7	Rice Supply and Demand Projections in Bangladesh up to 2025	346

Figures

3.1	Trends in Nominal Price of Aman Fine Rice in Bangladesh	59
3.2	Trends in Real Price of Aman Fine Rice in Bangladesh (base: 1995-96=100)	60
3.3	National Average Wholesale Price of Potato (local best) in Bangladesh	63
3.4	National Average Wholesale Price of Ruhi Fish in Bangladesh, 1980-2005	65
3.5	National Average Wholesale Price of Hilsha Fish in Bangladesh, 1980-2005	65
4.1	Government Spending in Selected South Asian Countries as a Percentage of GDP, 2003	92
4.2	Government Spending in Selected Developed Countries as a Percentage of GDP, 1999	92
4.3	Sector based Shares in Consolidated (Total) Public Expenditure in Bangladesh, 1990/91 and 2003/04	124

4.4	Proportion of Project Aid in Total Sector based Expenditures in Bangladesh, 1996/97 and 2003/04	125
5.1	Expenditure on Agricultural Research and Extension as Share of Agricultural GDP in Bangladesh	161
6.1	Impact of Public Expenditure on Poverty: A Conceptual Flow Framework	180
6.2	Poverty in Bangladesh, 2000	181
6.3	Incidence of Poverty in Geographic Divisions of Bangladesh, 2000	187
6.4	Market Structure for Trade in Public Power: Flow of Corruption	193
7.1	Economics of Institutions	229
8.1	Nominal Rice and Wheat Prices during 2006-2008	277
8.2	Trends in Real Price of Aman Coarse Rice (Base: 1995/96=100)	277
8.3	Visual Picture of Public Foodgrain Stock	285
9.1	Steps in Designing an Ideal M&E System	296
9.2	Results-based Monitoring System	301
9.3	A Diagrammatic Arrangement of Major Elements Influencing GDP and its Distribution for Poverty Reduction	309

Boxes

5.1	Conclusions from an Evaluation Report on Teesta Irrigation Project	155
9.1	M & E System: Readiness Assessment for Bangladesh	297

Abbreviations and Acronyms

ACC	Anti-Corruption Commission
ADB	Asian Development Bank
ADP	Annual Development Programme
AGDP	Agriculture GDP
ARD	Agriculture and Rural Development
ARI	Agricultural Research Institute
ASA	Association for Social Advancement (an NGO)
BADC	Bangladesh Agricultural Development Corporation
BARC	Bangladesh Agricultural Research Council
BARI	Bangladesh Agricultural Research Institute
BBS	Bangladesh Bureau of Statistics
BCIC	Bangladesh Chemical Industries Corporation
BFRI	Bangladesh Forestry Research Institute
BIDS	Bangladesh Institute of Development Studies
BINA	Bangladesh Institute of Nuclear Agriculture
BJRI	Bangladesh Jute Research Institute
BKB	Bangladesh Krishi Bank
BLRI	Bangladesh Livestock Research Institute
BRAC	Bangladesh Rural Advancement Committee (an NGO)
BRDB	Bangladesh Rural Development Board (Bangladesh MLGRDC)
BRRI	Bangladesh Rice Research Institute
BSRI	Bangladesh Sugarcane Research Institute
BTRI	Bangladesh Tea Research Institute
BUET	Bangladesh University of Engineering and Technology
BWDB	Bangladesh Water Development Board
CBN	Cost of Basic Needs
CDF	Credit and Development Forum (an NGO)
CGP	Competitive Grants Programme
CIF	Cost, Insurance and Freight

CIRDAP	Center for Integrated Rural Development for Asia and Pacific
CPD	Center for Policy Dialogue (Bangladesh)
CPI	Corruption Perception Index
CSO	Chief Scientific Officer
DAE	Department of Agricultural Extension (MOA)
DAP	Diamonium Phosphate
DCI	Direct Consumption Income
DFID	Department for International Development (United Kingdom)
DG	Director General
DGF	Directorate General of Food
DLS	Department of Livestock Services (MOFL)
DOF	Department of Fisheries (MOFL)
DPP	Development Project Proposal
ECNEC	Executive Committee for National Economic Council
EPADC	East Pakistan Agricultural Development Corporation
ERD	Economic Relations Division (Bangladesh Ministry of Finance)
FAO	Food and Agricultural Organisation of the United Nations
FCD	Flood Control and Drainage
FCDI	Flood Control, Drainage and Irrigation
FDI	Foreign Direct Investment
FFE	Food for Education
FFW	Food for Work
FMEC	Fisheries Management Executive Committee
FRI	Fisheries Research Institute
GB	Grameen Bank
GDP	Gross Domestic Product
GNI	Gross National Income
GOB	Government of Bangladesh
HES	Household Expenditure Survey
HIES	Household Income and Expenditure Survey
HYV	High Yielding Varieties
IFDC	International Fertilizer Development Center
IFPRI	International Food Policy Research Institute
IMED	Implementation Monitoring and Evaluation Division (MOP)

IMF	International Monetary Fund
IRRI	International Rice Research Institute
LGED	Local Government Engineering Department (Bangladesh MLGRDC)
M&E	Monitoring and Evaluation
MDG	Millennium Development Goal
MFI	Microfinance Institution
MLGRDC	Ministry of Local Government, Rural Development and Cooperatives
MOA	Ministry of Agriculture
MOEF	Ministry of Environment and Forests
MOF	Ministry of Finance
MOFL	Ministry of Fisheries and Livestock
MOP	Ministry of Planning
MTBF	Medium-Term Budgetary Framework
NARS	National Agricultural Research System
NBR	National Board of Revenue
NCB	National Commercial Bank
NEC	National Economic Council
NGO	Nongovernmental Organisation
NIE	New Institutional Economics
NRMC	National Research Management Council
O&M	Operations and Maintenance
OECD	Organisation of Economic Cooperation and Development
PCE	Per Capita Expenditure
PE	Public Expenditure
PKSF	Palli Karma Shahayak Foundation
PPP	Purchasing Power Parity
PPRC	Power and Participation Research Centre (an NGO)
PRSP	Poverty Reduction Strategy Paper
PSI	Public Supported (credit) Institution
PSO	Principal Scientific Officer
R&D	Research and Development
RAKUB	Rajshahi Krishi Unnayan Bank
REB	Rural Electricity Board

RFM	Rural Financial Market
RNFS	Rural Non-Farm Sector
SO	Scientific Officer
SOE	State-Owned Enterprise
SRDI	Soil Resource Development Institute
SSO	Senior Scientific Officer
SSP	Single Super Phosphate
TI	Transparency International
TIB	Transparency International Bangladesh
TPF	Total Factor Productivity
TSP	Triple Super Phosphate
UK	United Kingdom
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
USAID	US Agency for International Development
VAT	Value Added Tax
VGD	Vulnerable Group Development
VGf	Vulnerable Group Feeding
WBG	World Bank Group
WDR	World Development Report
WFP	World Food Programme of the United Nations
WTO	World Trade Organisation

Glossary

Aquaculture	Artificial and commercial cultivation of fish or shrimp
<i>Baor</i>	Oxbow lake; a closed body of water
<i>Beel</i>	Small lake, low lying depression, a permanent body of water in a flood plain
<i>Boro</i>	Dry Crop Season
<i>Char Land/</i>	
<i>Char Area</i>	Islands in floodplains, highly prone to inundation
<i>Haor</i>	Shallow lake or a low-lying depression in a floodplain that may be reduced during dry season to a series of beels
Hartal	Strike, work stoppage
<i>Jalmahal</i>	Body of water, publicly owned
Khas Land	Land owned by the Government
Polder	Area of low-lying land reclaimed from the sea by construction of a perimeter dike
Union	The lowest administrative unit. There are 4484 unions in Bangladesh
Upazila	Sub-district (also known as Thana). There are 465 Upazilas in Bangladesh
Zila	District. There are 64 districts in Bangladesh

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Preface

Since mid-1980s, the Government of Bangladesh abandoned the practice of following a five-year plan framework, as a part of longer-term perspective plan, to pursue economic development. It adopted instead a three year rolling plan, primarily for operation of public expenditures. Essentially, the rolling plan approach turned into an exercise of budget preparation for coming year with assessment of current and previous years' progress in expenditures, policies and major indicators of health of the economy. This shift is consistent with the shift to market-oriented development strategy, but it drastically narrows down the perspective within which government's role as promoter of development can be assessed and steered.

This book provides an analysis of long-term transformation of the economy, particularly for agriculture and rural development, since independence. Thus the book fills a gap arising from the change in planning approach and enables Bangladesh to look at transformation during the last 3 decades and develop a vision for the coming decades in the area of agriculture and rural development. Past progress has been phenomenal, particularly when viewed within the background of dismal initial conditions. But, though the general direction of policies has been right, there are many deficiencies in the areas of institutional, infrastructural, technological, and political developments. The progress would have been even faster without these deficiencies. However, what matters now is the future prospects if these deficiencies are not corrected in the coming years. Bangladesh is at the crossroad of the trajectory towards the status of a middle-income economy. Without the corrective measures at this stage, the possibility of economy missing the upward trajectory is very real.

The book identifies these deficiencies and indicates the necessity of appropriate reforms. The substance of the book is enriched through interactions with a large number of leaders and officers in various government departments, NGOs, and professional organisations. Extensive field visits to all parts of Bangladesh have been a major input in the identification of weak links and formulation of corrective measures. We have had a few subjective perceptions formed from the experience of

these field visits. Two of them can be considered quite significant, deserving a mention in this preface. The first one is the perception that farmers and rural producers have become extremely entrepreneurial and risk takers in advancing their income rapidly. This is reflected in extensive adoption of high yielding crop varieties, use of power tillers, commercial aquaculture, commercial poultry farming, maize production, and production of fruits, flowers and vegetables for sale in the market. The second perception is somewhat perplexing: improvements in housing and reduction in child malnutrition appear to be so insignificant that it creates a shadow of doubt on the claim of poverty reduction and spread of prosperity in rural areas. These contradictory perceptions would warrant objective rural studies in Bangladesh. We only hope that our second perception is wrong or that housing and child nutrition improvements occur at a later stage of rural transformation.

Mohinder S. Mudahar
Raisuddin Ahmed

Chapter 1

Introduction and Overview

The British finally granted independence to India in 1947 but the British India was divided into two independent states, India and Pakistan, in the acrimonious process of granting independence. Twenty four years after this landmark episode, another dramatic episode occurred in 1971 in the sub-continent's history that saw the emergence of another independent state, the People's Republic of Bangladesh. The same people who played a vigorous role in the struggle for Pakistan, became desperate to separate from West Pakistan to emerge as an independent nation. Even though the population of East Pakistan was larger than the population of West Pakistan, usurpation of political power by the West through military and dictatorial governments, resulted in egregious economic discriminations against the people of East Pakistan. The average per capita income in East Pakistan in 1948-50 was only about 3 percent lower than per capita income in West Pakistan. The income disparity widened glaringly by the end year of Pakistan's Third Five year plan; the per capita income in West Pakistan was about 65 percent higher in 1969-70 than that in East Pakistan. (Athukorala, 2000).

The income of the people of Bangladesh was stagnant during the Pakistani era. Poverty was widespread. The war of independence caused extensive damage to infrastructure and interrupted economic relations. Poverty level further widened as well as deepened. People, who did not sympathise with the emergence of Bangladesh as an independent country, expressed explicit as well as implicit doubt on the viability of this new country. Among these doubters, the feeling expressed by Dr. Henry Kissinger that Bangladesh will always remain a "basket case" depending on foreign aid for survival and a permanent breeding ground for communist insurgency, has remained to be the most pessimistic metaphor about the future of Bangladesh.¹ Even those, who sympathised with the cause of Bangladesh, were cautious in predicting the future, going as far as mentioning Bangladesh as a "test case" of development

¹ In a 1971 speech, Dr. Henry Kissinger used this memorable but unfortunate phrase.

(Faaland and Parkinson, 1976). It is mostly the people of Bangladesh who dearly nourished a dream of prosperity. The formulation of a respectful five-year plan within two years of independence, overcoming numerous hurdles immediately after the war and raising slogans of development by every government, autocratic or democratic, that have ruled the country since then, bear a testimony to the ardent desire of the nation. The results have been adequately captured in the systematic transformation of the Bangladesh economy since its independence.

1.1 Socio-Economic Transformation

1.1.1 Structural Change in the Economy

Structural change in the economy is considered to be a mirror image of progress in economic development. When development is equated with the progression of industrialisation, as theorised in development economics, change in the production structure could be considered to be an appropriate measure of progress. Using selected indicators of structural change we propose to demonstrate the remarkable progress that Bangladesh has made since independence. The indicators demonstrate changes from 1972 through 2004. Comparisons of indicator-values, between the average of 1972-75 and the average of 2002-04, measure the magnitudes of change. These changes are shown in [Table 1.1](#). Production structure of the economy of Bangladesh has evolved over the years from

Table 1.1 Selected Indicators of Transformation: Structural Change in the Economy of Bangladesh

Indicator	Average (1972-75)	Average (2002-04)
1. Share of agriculture in GDP (%)	59	21
2. Share of industries in GDP (%)	10	27
(a) of which share of manufacturing (%)	(7)	(17)
3. Share of services (%)	31	52
4. Investment as % of GDP	11	24
(a) of which private (% of total)	(48)	(75)
(b) of which public (% of total)	(52)	(25)
5. Gross domestic savings as % of GDP	2	18
6. Value of import plus export as % of GDP	16	44
7. Average inflation rate (%)	64	5

Source: Computed by authors from information in: (i) Khan and Hossain, 1989; (ii) Ahmed Raisuddin et al, eds, 2000; and (iii) Asian Development Bank, 2004.

a predominantly agricultural economy to one with a large base of industries and services. The average share of agriculture in gross domestic product (GDP) was 59 percent in 1972-75 and it declined to 21 percent in 2002-04. The average share of industries, comprising manufacturing, mining and construction, increased from 10 percent in 1972-75 to 27 percent in 2002-04. Similarly, the average share of services expanded from 31 percent in 1972-75 to 52 percent in 2002-04. This structural change is profound and rapid; the change symbolises a dynamic and forward moving force of economic transformation. Emergence of an industrial society begins with this process of transformation.

Change in investment rates and domestic savings rates demonstrate a pattern and pace of change which are consistent with the structural change in production. In this context, three indicators: (a) change in the structure of investment, (b) increased openness of the economy, and (c) the control of high inflation rate engulfing the economy from the very beginning after independence, deserve a special notice. The philosophy of political economy, that heralded the beginning of Bangladesh and as documented in the first Five-Year Plan, was wrapped in socialism. A consequent reflection was in the allocation of investment, 52 percent in the public and 48 percent in the private sectors. This political philosophy shifted drastically over time, as reflected in the allocations of investment in 2002-04. The average public to private sector ratio in investment was 25:75 during 2002-04. From early 1980s, the emphasis on market rather than government in direct production of goods and services became a hallmark of developmental policies. Consistent with this shift, the openness of the economy was also expanded as reflected in the ratio of trade to GDP; trade ratio ((export + import) as percent of GDP) went up from 16 percent in 1972-75 to 44 percent in 2002-04. Another hallmark in achievements of the last 3 decades is the macro-economic stability. One aspect of this stability is the inflation rate which was very high in the beginning but was brought under control during the last decade.

The structural change demonstrating a decline of the share of agriculture in the GDP should not be construed as a reflection of failure in agricultural development or stagnation in agricultural production. This decline in the share of agriculture, however, implies a pace of growth in agricultural production that was slower than the growth in industry and services sectors (see [Table 1.2](#) for evidence of sector based growth rates of GDP). Growth rates in the table represent short term (five-year periods) as well as long-term (1981-2004) rates of growth. Agricultural growth rate was respectable during 1996-2000, when it surpassed population

Table 1.2 Growth Rates of GDP in Agriculture, Industry and Services Sectors in Bangladesh, 1981 - 2004

(Average Annual Growth Rates in Percent)

Sector	1981-85	1986-90	1991-95	1996-00	2001-04	1981-04
Agriculture	2.68	2.40	1.55	4.88	2.23	2.77
Industry	5.70	5.86	7.47	6.44	7.24	6.51
Services	3.83	3.58	4.15	4.81	5.51	4.33
Total GDP	3.72	3.74	4.39	5.21	5.12	4.41
Per capita GDP	1.54	1.50	2.36	3.83	3.70	2.54

Source: Bangladesh Ministry of Finance, 2004, *Bangladesh Economic Review*, Dhaka.

growth rate. Growth rates in production of rice, poultry and fish were significantly higher than average agricultural growth because of superior technological progress in these products relative to other areas.

1.1.2 Agricultural and Rural Transformation

While the implication of structural change is a matter for an economist to appreciate, the transformation of agriculture, rural life, and overall socio-economic conditions of people represent development that ordinary people enjoy and appreciate (see [Table 1.3](#)). These indicators pertain to agricultural diversification, commercialisation and rural advancement, infrastructural development and accumulation of social capital, including human resources. These elements are basic ingredients for modernisation and emergence into a powerful nation.

Consistent with the structural change in the economy, the crop sub-sector of agriculture has declined, not in absolute terms but, in terms of its relative share in the agricultural GDP; this share has declined from 70 percent in 1972-75 to 56 percent in 2002-04. It is still the largest sub-sector in agriculture. The fisheries sub-sector has had the fastest growth in agriculture, resulting in increase of its share from about 11 percent in 1972-75 to 23 percent in 2002-04. This is a doubling of its share during the three decades. Livestock sub-sector has a modest increase in its share, from 10.5 to 12 percent during the same period. Forestry sub-sector has remained almost stable, its share increasing from 8.7 percent to 9.0 percent.

It seems that agriculture still has considerable progress to make by diversifying from crops to various high-valued products such as horticultural crops, fisheries, and possibly poultry and dairy in the livestock sub-sector. Structural changes in the economy and agricultural diversification are shaped by the structure of demand, domestically as

Table 1.3 Selected Indicators of Transformation: Agriculture and Rural Transformation in Bangladesh

Indicator	Average (1972-75)	Average (2002-04)
1. Agricultural Diversification		
(a) Share of crops in agricultural GDP (%)	70	56
(b) Share of fisheries in agricultural GDP (%)	10.8	23
(c) Share of forestry in agricultural GDP (%)	8.7	9
(d) Share of livestock in agricultural GDP (%)	10.5	12
2. Commercialisation and Rural Diversification		
(a) Share of rural non-farm sources in total household Income	29	52
(b) Percent of rice marketed	16	65
(c) Share of purchased inputs in production	13	39
3. Infrastructure Development		
(a) Road density (kilometer per 1000 sq. kilometer), (hard surfaced)	51 (1981)	142 (2002)
(b) Percentage of villages electrified	negligible	29.5
(c) Telephones (in thousands)	56	1750
4. Social Development		
(a) Per capita income (US\$)	88	420
(b) Population growth rate (%)	2.7	1.4
(c) Literacy rate (% of adult population)	23	65
(d) Net primary school enrollment (%)	47	88
Male (%)	73	50
Female (%)	27	50
(e) Under 5 mortality rate (Per 1000)	152	76
(f) Life expectancy (years)	48	62
(g) Poverty rate (headcount %)	58	49.8 (2000)
(h) Access to clean drinking water (% of houses)	65	93

Source: Computed by authors from information in: (i) BBS, *Statistical Yearbook*, various years; (ii) Asian Development Bank, 2004; and (iii) Ahmed, Raisuddin, 2001.

well as internationally. Because of lower income elasticity of demand for agricultural products than industrial goods and services, agriculture generally loses its share to industry and services. Similarly, higher income elasticities of demand for fish, livestock products and horticultural products than cereals, pulses and oils, portend a decline in the shares of this latter category of products in favour of horticulture, fish, and livestock products, as income levels of consumers increase.

Commercialisation and Rural Diversification. Commercialisation and rural diversification are closely related to structural change and agricultural diversification. Commercialisation is antithesis of subsistence orientation in farming system. Similarly, rural diversification is a phenomenon of increased integration of farm and non-farm sources of income in rural areas. As farmers become increasingly specialised, motivated by profit opportunities, they have to increasingly interact with markets for buying and selling with considerations for profit rather than subsistence considerations. For example, during the 1960s farmers stored rice to meet household consumption needs through out the year. Therefore, they marketed approximately 10 percent of production during that time and small farmers seldom had opportunities to sell (Ahmed, 1979). However, changes in farming practices and improved market linkage have meant small farmers can sell their rice after harvest and invest the proceeds in non-farm activities. The household consumption is met through need-based cash purchase of rice. As a result, the marketed quantity of rice among farmers has increased to about 65 percent (Chowdhury and Haggblade, 2000).

This increased proportion of marketed surplus, combined with a total change in the method of conversion of paddy into rice, from home-pounding to mill-processing, has created enormous scope of rural industrialisation. The transition to commercialisation also had implications on the use of production inputs. Purchased inputs in farm production were only about 13 percent of total cost during the 1960s, but estimated proportion of purchased inputs in the total cost of production was about 40 percent in the early 2000s (Ministry of Agriculture and FAO, 2004). Specialisation in production has increased in vegetables, fruits and certain types of cash crops (e.g. medicinal plants, flowers, nurseries, and beetle leaf), aquaculture, and poultry production. Geographic specialisation has become more pronounced than farm level specialisation. These changes have implied that the farmers' income sources have also diversified. This diversification entails significant processing, packaging, special marketing arrangements and quality controls which create opportunities for rural non-farm income.

Rural Non-Farm Economy. The picture of structural change depicted through analysis of macro indicators, like GDP and various components of GDP, does not reveal true picture of transformation of rural economy. Without reflections on changes in rural economy, distributive quality of socio-economic transformation remains questionable. Unfortunately, statistics on rural economy are not as comprehensive, regular and reliable as those on aggregate economy. We have to depend on household

surveys of income and expenditures for developing a picture of rural non-farm economy. Household income does not correspond accurately to GDP because value added in government and corporate sectors, while included in GDP, is not fully included in household surveys. For a consistent estimate of rural and urban GDP, distributed by household categories, an approach of social accounting matrix, where production sectors and household sectors are accounted in the same framework, is required. Such social accounting matrix of Bangladesh economy is rare. Nevertheless, it is hoped that household surveys provide statistics to portray a picture of rural non-farm and farm economy and their transformation over time, in a manner closely similar to the transformation in aggregate economy.

A reasonably elaborate picture of rural non-farm economy, based on household surveys, is available for recent years. Information on rural non-farm economy during the seventies and eighties is quite scattered, based on small surveys, and of diverse quality. Therefore, drawing a complete picture of transformation over the last 3 decades becomes difficult. Studies on rural non-farm economy for recent years, reported in Mandal and Asaduzzaman (2002), Hossain (2003), and World Bank (2004a) are based on information in Bangladesh Bureau of Statistics (BBS), Household Income and Expenditure Survey (2000), Labour Force Surveys, and Bangladesh Institute of Development Studies (BIDS) Household Surveys, conducted first in 1994 and repeated in 2002. The composition of rural farm and rural non-farm employment and income is compiled from the World Bank (2004a) (see [Table 1.4](#)). This table shows

Table 1.4 Shares of Rural Non-Farm Sector in Rural Employment and Income in Bangladesh, 2000

Sector	Employment			Labour Income		
	Poor	Non-poor	Total	Poor	Non-poor	Total
Farm	62.07	53.35	57.77	37	22	32
Non-farm	37.93	46.15	42.23	41	47	40
Total	100.00	100.00	100.00	78	68	72

Notes: (a) Labour income and non-labour income (i.e. capital, transfers, remittances) together make 100. Therefore, non-labour income for the poor is 22 percent, for the non-poor is 32 percent and over-all 28 percent.

(b) Assuming that non-labour income (28 percent) is split between farm and non-farm sectors, it is estimated that 46 (32+14) percent of total rural income originates in the farm and 54 (40+14) percent in the non-farm sectors.

Source: World Bank, 2004a.

income and employment not only by farm and non-farm sectors, but also by poor and non-poor groups. The data show that about 58 percent rural employment is provided in farm and 42 percent in non-farm sectors in 2000. Non-poor groups are more likely to be employed in non-farm sectors as compared to poor groups.

However, distribution of rural income into farm and non-farm categories is difficult to estimate, mainly because of problem of distribution of capital income into farm and non-farm categories. Labour income is distributed with a share of 32 percent for farm and 40 percent for non-farm sources. Labour income is 72 percent of total income in rural areas. Capital (i.e. rent, interest income) and other sources of income (i.e. remittances, transfers) constitute the remaining 28 percent of total rural income. Assuming that half of the non-labour income is accounted in farm and the other half in non-farm sector, it is estimated that 46 (32+14) percent of total rural income originates in farm and 54 (40+14) percent originates in non-farm sector. The fact that rural non-farm sector shares 42 percent in employment but 54 percent in income is indicative of a higher productivity of labour and wages in rural non-farm than in the farm sector. Another interesting feature of the sources of the rural non-farm income is that international remittances constitute 9 percent of the income of the non-poor, as compared to only 3 percent of income of the poor.

The structure of the rural non-farm employment demonstrates the relative importance, in terms of percent shares, of various sectors. These are as follows:

Rural Non-Farm Sectors	Percent Share
Rural manufacturing	22
Construction	7
Commerce and trade	22
Professional and personal services	22
Transportation	15
Others	12
Total	100

The picture of rural non-farm economy in recent years (i.e. the two to three years of the 21st century) is reasonably well established by empirical studies. But such a picture for 1970s or early 1980s is not available. Therefore, a measure of transformation over the three decades is impossible to construct. However, scattered surveys (e.g. the Ganges—Kobodak Irrigation Project survey in 1983-84, estimates reported in

Haggblade, Hazell and Reardon, 2002) and project appraisal assessments in unpublished Planning Commission documents, indicate a rough order of magnitude of about 33 percent that rural non-farm sector shared in total rural income in early 1980s. The surveys undertaken by BIDS (1994 and 2001) also indicate an increase in the share of rural non-farm sector in total household income from 41 to 52 percent. Moreover, factors such as agricultural growth, development of rural infrastructure, commercialisation, diversification and income elasticity have changed in a manner that can only mean a rapid increase in the size of the rural non-farm economy in the rural areas. Some of these factors are examined further here in order to strengthen the evidence on transformation of rural non-farm economy.

Income Elasticity and Growth Linkages. As per capita income grows, the demand for different commodities expands differently, as determined by their respective income elasticity of demand. **Table 1.5** highlights the elasticity for different food and non-food commodities

Table 1.5 Income Elasticity of Demand for Major Product Groups in Bangladesh

Product	Income Elasticity	
	Rural	Urban
Food:	0.65	0.58
Cereals	0.30	0.23
Non-cereal crops	0.72	0.55
Fruits	1.15	1.04
Fish	1.08	0.87
Livestock products	1.50	1.25
Manufactures:	0.89	0.78
Clothing	0.92	0.80
Other industrial	0.80	0.77
Services:	1.52	1.39
Housing	1.18	1.30
Education	2.01	1.70
Health care	1.13	0.92
Transport	1.70	1.65
Recreation	2.36	1.82
Other services	1.46	0.97

Source: Hossain (2003).

which indicate that they do not remain static but decline as income level goes up. But they give an indication to the differential pace of growth of demand for different commodities as income levels rise. Changing demand structures, as influenced by these elasticity and income growth, shape the pace of growth in production and product composition in an economy. In an open economy, demand constraint to production growth is small because export demand can compensate for deficiency in domestic demand, if comparative advantage is not weak. For example, Thailand has been able to continually increase rice production, despite a decline in income elasticity of demand which has remained negative for a number of years.

As shown in Table 1.5, income elasticity of demand for non-food is about 2 to 3 times that of food. Even among food, high-value food products like meat, fish, eggs, milk, fruits and vegetables have higher income elasticities than cereals. It is therefore natural to expect diversification away from agriculture to non-agriculture and from cereals to high-value products in agriculture. This natural strength arising from income elasticity bears upon the speed of transformation in the rural non-farm economy. In Bangladesh, the initial push to expansion of the rural non-farm economy came from technology driven agricultural growth, particularly rice, which doubled in production within a period of 12 years. However, a sharp decline in real rice prices and moderately sharp increase in input prices did not fully translate the technology-driven growth in agriculture into a commensurate growth in farm income and hence a robust linkage of agricultural growth to demand for non-farm products.

Infrastructure Development. Most of the advances achieved in the areas of production and diversification can be attributed to progress in the development of rural infrastructure, particularly rural roads, electrification of villages and rural towns, and an unprecedented growth in cellular telephone system in the rural areas. The improvement in infrastructure, along with market liberalisation, development and operation of nongovernmental organisations (NGOs), has led to an upsurge in entrepreneurial development in agriculture and rural economy. Road density, measured as kilometers of road per 1000 square kilometer of areas, increased from 51 in 1981 to 142 in 2002. Rural roads comprise a large segment of this development. Rural electrification was a non-entity at the time of independence in 1971. Currently, almost 30 percent of villages have access to electricity (even though less reliable) and extension of electricity supply to rural towns and hubs of commercial activities, popularly known as rural growth centres, has induced many

industries, including processing in rural areas. A survey, recently conducted by the Bangladesh Bureau of Statistics, estimated that in 2003-04 rural non-farm enterprises hiring more than 5 people number 4.2 million in the rural areas of Bangladesh (BBS, 2005).

Farm Structure and Entrepreneurship. The average size of a farm was 1.5 acre in 1995/96 (BBS, 1996 Agricultural Census), consisting of 6 plots of land. There have been two agricultural censuses (1983/84, 1996) since independence in 1971. A comparison of the inter-census change in farm structure is shown elsewhere (see Table 6.2). The average farm size was 2.0 acres in 1983/84 and declined by 25 percent in 1996.

The overall cultivable land has declined by 11.86 percent during the inter-census period due to increased urbanisation, improvement of road network and housing. Proportion of small farms (0.05 to 2.49 acres) has increased by 9.5 percent and the proportions of medium (2.50 to 7.49 acres) and large (7.5 acres and above) farms have declined by 7.11 percent and 2.43 percent, respectively. The number of farm holdings was 10.0 million in 1983/84 and 11.8 million 1996; the proportions of farm holdings in the total rural holdings (farm and non-farm) was 72.7 percent in 1983/84 and 66.18 percent in 1996. It is clear that farms are becoming smaller and smaller in size and rural landscape is gradually changing with increasing prevalence of non-farm households. Such an increasing dominance of small farms in agriculture, and increasing interdependence of farm and non-farm sources of income for rural households, have raised doubt that agriculture of Bangladesh would be able to improve its comparative advantage and competitive strength in global market (Ministry of Agriculture and FAO, 2004).

The shrinking farm sizes have coincided with a rise in agricultural entrepreneurship in recent years. A survey conducted under a USAID project has estimated that about 0.8 to 1.0 million entrepreneurs are involved in new ventures in high value production of crops (e.g. flowers, fruits, vegetables, maize, medicinal plants etc.), fish (aquaculture), and livestock (poultry and dairy). These entrepreneurs are related to capital sources of remittances and micro-credit and dependent on imported as well as local technology obtained through trade and foreign-work connections. It is difficult to imagine how small-structure farming could generate such a dynamic upsurge of entrepreneurship in rural Bangladesh. This is an area where intensive field research would shed useful light for charting a future course in rural development. Information technology, as reflected in the use of cellular telephones, has expanded leaps and bounds in rural areas as well as in the urban areas, particularly during the last decade. This information technology has been a strong pillar for

business development and drastic change in attitudes of a traditional population.

Social Development and Poverty Reduction. Key indicators of socio-economic transformation testify for impressive progress (see Table 1.3). The basic indicator of change in average income reflects a five-fold increase. Per capita income increased from US\$88 to 420 between 1972-75 and 2002-03. In light of an aggressive policy to check over-valuation of exchange rate, this is by no means a small achievement. Part of this increase is of course attributed to a declining trend in the growth rate in population. Population growth rate slowed down from about 2.7 percent in 1972-75 to 1.4 percent in 2002-04.² This slow-down in population growth is a remarkable achievement that claimed world-wide attestation to the successful population control measures in Bangladesh. Besides family-planning measures involving use of contraceptives, the rapid expansion of female education, reduction in child mortality rate, rising marriage-age and improvements in health measures contributed to the process of slowing population growth. The implication of the spectacular rise in female enrollment in both primary and secondary schools has long-term positive consequences in the social development in Bangladesh.

In one area, out of several that are included in Table 1.3 and Table 1.6, Bangladesh seems to have made only modest gain and still has to go a long way. Bangladesh inherited chronic poverty after independence with 58 percent in 1972-75 and 49.8 percent in 2000 and 40 percent in 2005, of people without resources to consume 2,200 calories a day and meet other minimum basic non-food needs. The poverty reduction strategies undertaken until the 1990s failed to significantly improve the lives of the majority poor. From 1991 onwards, Bangladesh saw a rapid reduction of poverty but with 40 to 50 percent of the population below the poverty line there is no reason to be complacent about implementing effective poverty reduction strategies and implementing policies to improve food security.³

With historical experience of development efforts in Bangladesh, the transformation that has taken place in this country would appear to be a big puzzle to students of development economics. It has turned out to be a truly “test case” of development, of course, if events continue to unfold

² The population growth rate of 1.4 percent in 2004 is based on declining trend line. You may observe different growth rates in different publications; but that is due to differences in period or linear trend versus declining trend. The linear growth rate of 1.74 percent during 1991/92 to 2003/04, is consistent with 1.4 percent rate in 2003/04 based on a declining trend.

³ The initial results, based on the 2005 Household Survey, indicate that poverty has declined to 40 percent in 2005. On the other hand, the floods and cyclone Sidr in 2007 and substantial increase in food prices in 2008 may already have reversed the trend of a decline in poverty.

Table 1.6 Comparative Static Indicators of Development for South Asian Countries, 2003

Indicator	Bangladesh	India	Pakistan	Sri Lanka	Nepal
1. Population (million)	138	1064	148	19	25
2. Population density (persons per sq km)	1061	358	193	298	172
3. Gross national income (\$ billion)	58	570.8	77.6	17.8	5.9
4. National income per capita (\$)	420	540	520	930	192
5. National income per capita (PPP dollar)	1870	2880	2040	3740	1420
6. Share (%) in GDP					
Agriculture	22	22	24	19	41
Industry	26	27	23	26	21
Services	52	51	53	55	38
7. People under poverty line (%) (survey year)	49 (2000)	29 (2000)	33 (1999)	25 (1996)	n.a.
8. Life expectancy at birth (years)					
Male	62	63	63	72	60
Female	63	64	65	76	60
9. Adult literacy rate (%)					
Male	60	68	n.a.	95	62
Female	31	45	n.a.	90	26
10. Prevalence of child mal-nutrition (% of under 5 years old)					
Underweight	52	47	35	33	48
Stunting	49	45	37	20	51
11. Infant mortality (under 5 mortality per 1000)	69	87	98	15	99
12. Net enrollment rate (% of relevant age group)					
Primary	85	83	59	93	70
Secondary	44	41	n.a.	86	n.a.
13. Ratio of female to male enrollment in primary schools (%)	107	80	71	103	83

Note: (a) PPP dollar means purchasing power parity dollar. One dollar may purchase different quantities of goods and services in different countries due to differences in price levels. PPP dollar is measured after adjusting for this price differences.

(b) n.a. means not available.

Source: World Bank, *World Development Indicators*. 2005a.

as it has so far. But it does not have to be a puzzle if one can fully perceive the impact of synergy that arises from simultaneous occurrences of a number of key causal factors. The synergy arising from simultaneous changes in (a) market reform, (b) technological progress in agriculture, (c) extensive development of rural infrastructure, (d) high priority to primary and secondary education and population control, (e) inflow of enormous amount of remittance resources to rural areas, (f) unique growth of nongovernment organisations (NGOs) to infuse innovative ideas and undertaking enterprise development, particularly through micro-credit, and (g) stable macro-economic environment, extending the frontier of trade links to the rest of the World, thus facilitating export-oriented industrial development. Not least, the assistance provided by donors in terms of financial resources and policy analysis, has also made a significant contribution. The meaning “simultaneous changes” does include changes in appropriate sequences, but all happening within a short time period of 15 to 20 years.

1.2 Bangladesh in the South Asian Context

The achievements described thus far do not provide a sense of relativity without comparisons with other countries, particularly South Asian countries. Such a comparative assessment will contribute to better understanding of the progress made in Bangladesh. It may, at the same time, generate lessons for South Asian countries to learn from one another.

Comparison of one country with another, particularly through statistical numbers, is however fraught with numerous pitfalls. Definitions of terms, methods of data collection, institutional mechanisms for providing societal well-being, and various other attributes could widely differ among countries. For example, how can one compare income of one country with another unless the purchasing powers of nominal income of countries are standardised through systematic studies of relative prices and exchange rate of currencies of various countries? The comparisons of South Asian countries that follow,⁴ is based on standardised data that the World Bank and the Asian Development Bank have developed for global comparisons. This is a complex problem and warrants all the carefulness that a researcher could offer. One can not, however, be sure that results are absolutely true.

We begin with a comparative picture of South Asian countries as they stand in 2003, in respect of selected economic indicators (see Table 1.6).

⁴ The South Asian countries include India, Pakistan, Bangladesh Sri Lanka, Nepal, Bhutan and Maldives. We have not included Bhutan and Maldives for brevity. It is not expected to make any difference in our conclusions.

India is the largest country in South Asia; with the combined population of Bangladesh, Pakistan, Sri Lanka and Nepal making-up less than one-third (31 percent) of the total population. India was a US\$571 billion economy in 2003 as compared to US\$58 billion of Bangladesh; US\$78 billion of Pakistan, \$18 billion of Sri Lanka, and about \$6 billion economy of Nepal. The combined dollar income of all these countries is only about 28 percent of India's. It is worth noting that population density of Bangladesh is about three-fold that of India. One can sense problems and prospects that this unique attribute might throw on the path of development in Bangladesh.

Perhaps the most popular indicator that people talk about in making comparison of countries is the level of average per capita income. Comparison of per capita income involves an exchange rate to convert incomes of various currencies into a standard one. We use two standard currencies (a) US dollar equivalent income, and (b) purchasing power parity (PPP) dollar equivalent income. While the US dollar equivalent income is obtained by converting local currency into US dollar by using prevailing average exchange rate, the PPP dollar equivalent is obtained by adjusting the US dollar equivalent income for differences in power of dollar in purchasing goods and services in different countries. The World Bank development indicators, that report gross national income (GNI) of various countries in PPP dollar, are used in the income comparison (see Table 1.6).

In terms of US dollar equivalent of per capita income, the highest level prevails in Sri Lanka (\$930) which has already gained the status of a middle-income country. First in line, waiting at the door of this club is India, having a per capita income of US\$540 in 2003. (Note that the crossing line income dividing middle income from low income groups is US\$765). India is closely followed by Pakistan (US\$520) which in turn is followed by Bangladesh (US\$420) at a modest distance. Nepal stands far away in the line with a per capita income of only US\$192 in 2003. When income is measured in PPP dollar equivalent, the level of income goes up significantly for all countries. Income per capita becomes PPP\$1870 for Bangladesh, PPP\$2880 for India, PPP\$2040 for Pakistan, PPP\$3740 for Sri Lanka and PPP\$1420 for Nepal in 2003. Thus, the ratio of PPP\$ to US\$ measures of income is 4.67 for Bangladesh, 5.33 for India, 3.92 for Pakistan, 4.02 for Sri Lanka and 7.40 for Nepal. Goods and services are cheapest in Nepal, followed by India, Bangladesh, Sri Lanka, and Pakistan.

In the areas of structural change and social development, South-Asian countries have all made progress that precedes a sort of take-off to

accelerated stage of development, except perhaps Nepal. The structure of production is now dominated by industry and services in all countries except Nepal where agriculture still contributed 41 percent to GDP in 2003. Indicators of social development are closely supportive of structural transformation. Bangladesh has reached almost to the levels of India in many respect of social development. Life expectancy, literacy rate, equalisation of gender in primary school enrollment, represent some areas where Bangladesh has reached the levels, even surpassed in some cases, to that of India. However, in one area Bangladesh still lags glaringly behind all; it is the extent of poverty in Bangladesh. In 2000, Bangladesh had a poverty rate of 49.8 percent as compared to 29 percent in India, 33 percent in Pakistan and 25 percent in Sri Lanka. Bangladesh slightly lags behind India in adult female literacy, infant mortality, and child malnutrition. The NGO sector of Bangladesh has made major contributions to improved education, health and other social indicators (World Bank, 2006a).

The foregoing picture of current status (2003) of socio-economic development is a static version i.e. at one point in time. What has been the pace of change—the dynamics of socio-economic transformation in the South Asian countries? An attempt is made to capture the dynamics of change through indicators presented in [Tables 1.7 and 1.8](#). From 1990 to 2003, the annual rate of growth in GDP in India' was 5.9 percent, the highest among all South Asian countries. All other countries followed India within the range from 4.9 percent of Bangladesh to 3.8 percent of Pakistan. In terms of per capita GDP, India had the highest growth rate but Pakistan slipped down further to only 1.4 percent, because Pakistan had one of the highest population growth rates. In terms of per capita GNI, India's growth rate slipped slightly behind Bangladesh because of higher inflow of per capita factor income (mainly remittances) to Bangladesh. Pakistan was once again at the bottom of the group in terms of growth of per capita GNI. Bangladesh made remarkable progress in accelerating domestic savings rate also.

The most significant factor for Bangladesh to boast about was, however, the growth rate of industrial GDP. The growth rate of industry was 7.1 in Bangladesh as compared to 6.0 percent in India. Indian industry is, of course, more diversified than Bangladesh. On the other hand, India had experienced the highest growth rate of the services sector (7.9 percent) as compared to 4.7 percent in Bangladesh, 4.3 percent in Pakistan, 6.3 percent in Sri Lanka and 5.5 percent in Nepal. Export of services provided a significant force behind the growth of the services sector in India. The ratio of services export to goods export was 37.4

Table 1.7 Comparative Dynamic Indicators of Development for South Asian Countries

Indicator	Year	Bangladesh	India	Pakistan	Sri Lanka	Nepal
1. Growth rate of per capita GNI (%)	1990-95	2.7	2.3	1.7	4.3	2.9
2. Growth rate of per capita GNI (%)	1997-02	4.3	4.0	1.8	2.3	3.2
3. Growth rate of per capita GDP (%)	1990-03	3.2	4.1	1.4	3.3	2.2
4. Growth rate of GDP (%)	1990-03	4.9	5.9	3.8	4.7	4.6
Agricultural GDP		3.1	2.7	3.7	1.5	2.8
Industrial GDP		7.1	6.0	3.9	5.8	6.0
Services GDP		4.7	7.9	4.3	6.3	5.5
5. Population growth rate (%)	1990-03	1.7	1.8	2.4	1.3	2.4
6. Domestic savings rate (% of GDP)	1990	10.0	23.0	16.0	14.0	7.0
	2003	18.0	22.0	16.0	16.0	14.0
7. Integration with Global economy	1990	18.0	13.0	33.0	57.0	24.0
Goods trade/ GDP ratio (%)	2003	42.0	21.0	30.0	65.0	41.0
8. Ratio of services export/ goods export (%)	2003	5.7	37.4	12.4	27.0	45.0
9. Ratio of computer based service export to total service export (%)	2003	39.5	75.1	32.8	25.4	20.0
10. Road density (km/sq. km)	1998-2003	1440	1008	324	1474	104
11. Average annual growth rate of per capita energy use (%)	1996-2002	2.6	1.6	2.4	2.4	0.5
12. Domestic credit to private sector (% of GDP)	2003	28.8	32.0	26.0	29.9	n.a.
13. Growth rate in export (%) annual	1990-02	15.7	9.1	4.0	8.9	9.5
14. Years away from middle income line of per capita income		15	8	22	A	43

Note: (a) Assuming that the GNI per capita for countries will grow, as it did for 1997–2002 in table; (b) n.a. means not available, (c) A - means already in middle-income class; and (d) Middle income line of \$ 765 per capita is assumed to remain the same.

Source: Computed from information in:

- (i) World Bank, *World Development Indicators*, 2005a, and
- (ii) Asian Development Bank, *Key Indicators*, 2004.

percent in India and only 5.7 percent in Bangladesh. India's services export through computer based information technology services constituted 75 percent of all services export.

Table 1.8 Comparative Per Capita Income Index in South Asian Countries

	Based on \$ Income Equivalent (Bangladesh=100)			Based on PPP Dollar Equivalent (Bangladesh=100)		
	1990	1996	2003	1990	1995	2003
Bangladesh	100	100	100	100	100	100
India	153	142	135	92	94	154
Pakistan	192	137	130	101	90	109
Sri Lanka	270	291	233	151	151	200
Nepal	n.a.	n.a.	48	61	55	76

Note: n.a. means not available.

Source: Computed from data in

(i) World Bank, *World Development Indicators*, 2005a;

(ii) Athukorala, 2002; and

(iii) Ahmed, Raisuddin et al, 2000.

It seems quite logical to expect that export of services (through export of computer based technological products and tourism) can contribute substantially to the growth rate of overall GDP and GDP from services sector in Bangladesh. India seems to suffer seriously from weakness in integration with global economy and low rate of growth in energy use. Market liberalisation has still to spread further in India. The ratio of goods trade to GDP was 13 percent in 1990 and had gone up only to 21 percent in 2003. This ratio has expanded from 18 percent to 42 percent in Bangladesh during the same period. The ratio is very high (65 percent) for Sri Lanka and only 33 percent for Pakistan in 2003. It is often argued that a large country like India cannot have a high trade/GDP ratio. But China, a larger country than India, had a trade/GDP ratio of 62 percent in 2003 (World Bank, *Development Indicators*, 2005a). In fact, there exists a strong positive correlation between trade/GDP ratio and growth rates of GDP in Asian countries.⁵ Bangladesh appears to have experienced the fastest growth in exports in South Asia.

Similarly, given the initial backwardness of Bangladesh compared to other countries, its achievements in development of infrastructure, expansion of credit to private sector, and development of education and nongovernmental organisations are all praiseworthy and present a strong

⁵ This result, based on research, conducted by the Asian Development Bank, was presented by G. Quibria, at the International Food Policy Research Institute (IFPRI) in March 2005. This was an unpublished manuscript at that time.

basis for building up a prosperous future. On the basis of this optimistic vision, senior leaders of Bangladesh have occasionally made public statements that Bangladesh would soon be knocking at the door of middle-income club of world economies. We made some calculations to see how far the countries of South Asia would have to travel to enter the club if they continue with the growth performance experienced during 1997–2003, and the dividing line between low and middle income remains valid at US\$765 per capita. The exercise indicates that, under these assumptions, it will take 8 years for India, 15 years for Bangladesh, 22 years for Pakistan, and 43 years for Nepal to be classified as middle income countries. As mentioned earlier, Sri Lanka is already a middle income country.

Bangladesh's prospects are good in light of the experience of the last 15 years. But the future may not follow the past if future challenges emerge to be daunting. Prospect of such a pessimistic future can not be dismissed. It is these prospective challenges that we now turn to indicating some likely consequences.

1.3 Emerging Development Challenges

Instead of compiling a long list of challenges, we propose to focus on three broad challenges: (a) poverty, (b) governance, and (c) political development. These challenges involve issues which have direct bearing on economic and social development that a failure to successfully meet these challenges would negate the high hope of a bright future of Bangladesh.

1.3.1 Poverty

As depicted in the previous section, pervasive poverty is still prevailing as a serious concern and a development challenge. Only during the last few years (i.e. since mid-1990s) poverty has shown some sign of reduced intensity. Government has recognised the serious implications of continued pervasive poverty and drawn up a program of reducing poverty which is widely known as PRSP (Poverty Reduction Strategy Paper).

The PRSP is a timely and an important initiative, even though the document is not perfect, particularly the absence of a clear priority and focus.⁶ It is not yet very clear how much commitment and dedication the

⁶ The Government of Bangladesh has adopted (October 23, 2008) the second PRSP for three years upto FY 2011. The plan is expected to cost Tk. 2668 billion (US\$ 38.44 billion) over a 3 – year period and the expected resource gap in implementing the second PRSP is likely to be Tk. 631 billion (US\$ 9.01 billion).

government is placing on the PRSP while some have argued that the document exists to attract donor resources. Whether donor driven or driven by urgency of reality in the country, PRSP has struck a balance of approaches between the view that growth is the primary road to solution of poverty and the view that growth will not solve the problem of poverty unless specific measures are taken for the poor and specific conditionalities are imposed on the mechanism of growth. Relevant issues of priority, that have received analytical treatment in the PRSP, will appear in analytical contexts of subject matters of various chapters of this book. The challenge of poverty reduction will continue to underlay the discussions in this book. However, one challenge that has repeatedly been raised in popular and professional debate and writings in Bangladesh is the question of governance.

1.3.2 Governance

Dysfunctional and ineffective governance has quite frequently been cited as the dominant hurdle to reduction of poverty and to continued socio-economic development of the country. The poor governance situation has emerged as a result of corruption within the bureaucracy and politicians, and combined with an unresponsive public sector and flagging law & order situation, the overall governance scenario is bleak. These sort of vices are present in almost all societies. But the pervasiveness of vices is perceived to have a dangerously increasing trend in Bangladesh since early 1990s when democracy was introduced into the political system.⁷ While research is always desirable, we need to understand the problem of governance and seek remedial measures on an urgent and sustained basis.

Governance is a term having wide-ranging meanings. It is necessary to define the pieces that collectively represent governance so that institutional solutions to improvement of governance are understood with utmost clarity. The first and most important component of dysfunctional governance is corruption. Corruption means misuse or abuse of power, vested by public on political leaders in government and the bureaucracy, for personal and parochial gains. It is often complained that there is corruption in the private sector. It is appropriate to classify private corruption under a different category simply because of the fact that private persons or institutions are not vested directly with public power. Government corruption, as well as other classes of vices, has

⁷ This does not imply a causal relationship between democracy and vices. The perception of an increased vice, following democratic political system, may reflect simply the effect of free press and higher scale of reporting on social issues in democratic than autocratic societies.

ethical and economic implications. The consequence of corruption on ethical values of a society and the consequence of erosion of ethical values on corruption could be more important than economic implications. Here we would, however, limit our discussion on economic consequence of corruption. Defined this way, corruption involves exchange of resources and power where monetary or tangible resources flow to political leaders, bureaucracy, and their intermediaries from public who benefit from the misuse or abuse of power.

This direction of resource flow changes the expenditure propensity of corruptly earned resources from the expenditure propensity of corruption-free income. Let it be made clearer by an example. Government approves a project for building a road in rural areas. The Government engineers responsible for construction of the road, in connivance with contractors, misappropriate 50 percent of the estimated cost of the road and use the remaining 50 percent for construction of the road. The original plan of road construction, in corrupt-free environment, would imply an expenditure pattern and propensity in which labour expenditure will go to the poor in the short run, and income originating from the project impact will entail a long-term expenditure impact on rural economy. Both short and long-run effects will have poverty reduction impact under corruption-free situation compared to corruptive situation.

In corruptive situation, the 50 percent money gained by engineers and contractors would most likely be spent in buying apartments, sending children to expensive private schools/universities etc. The growth effect of such expenditures could be as much as the expenditure under corruption free model in the short-run. In the corruptive model, the 50 percent expenditure would create little long-term impact unless the project is repeatedly revised, cost enhanced and time lag increased to get gross-benefit. By that time net effect would either be negative or small. The conclusion is that corruption may not adversely affect growth in the short or medium run; it is conceivable that it may even have a greater growth effect. But corruption will definitely affect poverty adversely both in the short-run and long-run. Corruption will also adversely affect growth in the long-run, if corruptly earned resources are spent abroad or transferred outside the country. We shall look into this question of poverty impact and growth impact of corruption in a later chapter.

The second component of governance or dysfunctional governance is gauged by the law & order situation. Violent crimes, including torture, extortion, abduction, rape, acid-throwing are some of the explicit symptoms of a breakdown in law & order. A breakdown in law & order

create an extreme sense of insecurity and helplessness among the public. The consolidation of such criminal activities is exemplified by the collusion of law enforcement officers. The economic impact of lawlessness as an element of dysfunctional governance is not clear cut except an increase in the cost of doing business. The income distributional effects of lawlessness are also extremely speculative in nature.

The third component of dysfunctional governance is what we term broadly as government inefficiency arising from institutional weakness/absence, lack of knowledge and imbalance in priority. When the mode of economic development was shifted from big public role to market-oriented approach, the necessary institutional changes were not made or given attention to. By institution we mean a set of rules and organisations to enforce those rules. Thus we do not have effective regulatory institutions for overseeing private sector whose small stock holders could be regularly cheated. We do not have effective institutions for rendering check-balance, accountability, and transparency in actions. We do not possess effective institutions to fight distribution of drug among youths, monitor underworld transactions in drugs and arms, food adulteration and offences of similar nature. Our police and civil security forces are still molded to the old structure that prevailed during time of independence from the British rule. These forces are not adequately equipped and trained to handle a crime regime that is constantly emerging formidable from global influences.

1.3.3 Political Development

It is argued, perhaps quite rightly, that the challenges of poverty reduction and improvement in governance cannot be effectively tackled unless the challenge of political development i.e. effective democracy (not simply election) and dedicated political leadership are established and driven to the path of a respectable tradition. It is also true that such a development cannot be implanted from outside, it will take root gradually overtime and for that to happen we need to recognise the role of a number of critical institutions. Fortunately, Bangladesh does have most necessary political institutions, which unfortunately do not function or are not made to function effectively. The country has a number of constitutional bodies e.g. Comptroller General of Audits, Public Service Commission, Election Commission, recently established Anti-Corruption Commission, Permanent Parliamentary Committees etc. While the Judiciary branch of the government is now separated from the Executive but this is yet to start functioning effectively as an autonomous body.

All these institutions are fundamentally needed in order to establish a basis for social capital. Economists often refer to social capital as the glue that holds the society together. Violence and mafia capitalism are often reflection of erosion of social capital. Corruption, lawlessness, extortion are destructive to trust and confidence (the glue of society) that nourish and sustain social capital. If civil society, media, dedicated political activists and even some donors would like to pursue some action to accelerate the process of social capital development, the cause would be served most efficiently if such actions are focused on few issues at a time, and three issues stand out in priorities. These are: (a) effective operation of the Judiciary, independent of the Executive, (b) sustaining the Anti-Corruption Commission in effective operation, and (c) decentralisation.

1.4 Focus and Framework of the Study

1.4.1 *The Focus*

As indicated by the title, the goal of the study is to unravel the nature and process of development of rural transformation and the role of government in bringing about that transformation. Rural prosperity is a multidimensional goal and concerns people who are generally poorer than urban people. It concerns improvement of income of rural people in a manner that ensures distributive justice and reduction of poverty. It concerns social development that guarantees a quality of living with good health, housing, education, clean water, sanitation and an environment free from violence and terror. An ideal level in all these dimensions may remain unattainable in a real world context. But a progress towards prosperity and the pace of movement towards the goals of prosperity may be influenced by government's actions and policies. Understanding this influence on the forces of rural prosperity can have profound impact on formulation of conducive public actions for rural development.

Can public policies really influence outcomes in favour of the poor, where most economic agents are profit-seekers and free market forces dominate economic exchanges and relations? The answer is generally, yes. The discipline of development economics is rich in theoretical constructs and empirical assessments of policies and strategies that accelerate pace of growth in income and influence this growth in desirable directions so that certain products or group of people benefit more from the growth than others. These policies and strategies, that a government can adopt, generally constitute two types of actions: (a) macro-economic policies, and (b) sector based policies. Macro-economic

policies include the instruments of trade, exchange rate, interest rate, monetary and fiscal policies that generally have economy-wide implications.

Sector based or microeconomic policies, on the other hand, are generally designed for specific sectors or targets and include such policies as (a) public expenditure or investment policies for development of infrastructure, institutions, generation of technology, spread of technology and information, and human resource development, (b) incentive policies such as pricing, subsidy and targeted credit, (c) regulatory policies that attempt to tame collusive behaviour in market, and (d) special policies for market stability, and control of situation arising from unusual events. These policies and strategies available at the discretion of government signify that government can play a powerful role in shaping the outcome in terms of economic and social development, the pace of such development and distribution of the fruit of development among all people in the society. It is not a question of whether the government has a credible role; whether the government has the ability and political will to deploy the required policy instruments in order to attain the desired national goals is the central question.

As mentioned earlier, our focus is on rural transformation and prosperity which is a sector based concept within the context of the economy of Bangladesh. Naturally, sector based policies and strategies concerning rural development, broadly defined, dominate the subject matters of the study. Public expenditures, including investment and non-investment development expenditures, become a central part of the arrays of sector based policies for rural prosperity. When the public expenditure system is examined within a long-term historical perspective, it provides numerous lessons on what went wrong, what resulted in excellent outcome, and what ought to be the future directions of sector based policies. Governments generally design their annual expenditure patterns to support a long-term strategy for development.

In the context of agriculture and rural development, the strategy that the government develops is expected to be supported through annual budgetary allocation. An analysis of public expenditure enables researchers to confirm whether this support to sector based strategy was effective and consistent, whether the design of the strategy was right, and how the sectoral priority in budgets conformed to government's professed priorities among sectoral developments. These questions drive the focus towards examination of size, composition, trends, and use efficiency of public expenditure in general, and public expenditures for rural development in particular. A particular analytical focus is laid on

governance of projects, impact of public expenditures on growth and equity, extent of leakage and its impact on poverty, in the area of agriculture and rural development. The role of institutions in coordinating and monitoring public expenditure in order to enhance and maximize the impact of such policies becomes quite clear from the analysis of expenditure systems.

Looking through the windows of public expenditure will not cover all dimensions of sector based policies; some policies such as credit, subsidy, promotion of entrepreneurship development, policies to change structure of relative prices warrant independent analysis. Similarly major elements of macro-economic policies are required to be analysed within the framework of macro-relations which may have little to do with public expenditures at sector based levels. We selectively include independent treatment of such sector based and aggregate policies, from the angle of their implications for agriculture and rural development. The framework of the present study, therefore, encompasses (a) public investment policies for infrastructures, institutions and technology, (b) sector based incentive policies, and (c) aspects of macro-economic policies that influence agriculture and rural development outcome.

Examining these policies in historical perspective enables identification of strength and weakness of past policies and factors for success or failure. Lessons from the past are then combined with the emerging scenario of future developmental prospects, as shaped by likely global and domestic changes, in order to develop an agenda of reforms. Again, the focus is on strategic areas of reform and not to prepare an inventory of reforms.

A big government, spending a large share of the economy, is not necessarily a good government that is effective in reducing poverty and increasing income at a faster pace. A government driven fully by market forces is also not desirable at an early stage of development in a country such as Bangladesh. Such a government, in the developing stage of less developed economies, is not conducive to growth of social capital and physical infrastructure. It is the quality of government judged from the angle of its ability to mix a balanced agenda of actions by public and private entrepreneurs, which matters most. Some professionals have questioned the significance of government in promoting development in light of the puzzling fact that economic growth has apparently accelerated in Bangladesh *pari passu* with falling governance. This is a consequence of one's inability to see beyond immediate to ultimate relations. This study brings home the success and the failure of government in guiding the economic development in Bangladesh, particularly the agriculture and

rural sector during the last 15 to 20 years. The study attempts to indicate appropriate direction that the country should follow in its struggle for emancipation from poverty, attainment of higher levels of income and rural prosperity.

1.4.2 The Framework

In this book, the themes and analytical materials are organised in ten chapters. Immediately after this introductory chapter, the role of government and public sector is enunciated in Chapter 2, explaining theoretical and real-world principles involved in distinguishing the divide between public and private activities. A democratic government in a low income economy confronts numerous social obligations that hardly can wait market solutions. Yet, failure of governments can imply waste of resources while problems linger. Government's program of resource utilisation and its meeting of democratic obligations, however, generally do not and should not be undertaken in ad-hoc and inefficient manners.

A blue-print of national strategies is fundamental to the context of public resource utilisation. Chapter 3 examines the national strategy for agriculture and rural development in Bangladesh, first from historical perspective and then with a visionary, long-term context of the future. In the historical perspective, the priority to technological, institutional and infrastructure development for the rural sector has been strongly underlined. It has been argued, in the long-run context, that competitiveness in the globalised environment will warrant much stronger support for agriculture research and its redirection to high-value products and processes. The role of entrepreneurship development in rural economies has also been emphasised.

To play its proper role, how big should the government be and how big, as measured by the size of public expenditure relative to Gross Domestic Product (GDP), has been the government in Bangladesh? Bangladesh is a low-income country where government's ability to mobilise resources, for mitigating developmental and welfare needs of the state, is constrained. Therefore, foreign aid becomes a critical determinant of the level of public expenditure. How public expenditure is financed, short and long-term implications of various mechanisms of financing public expenditures, and a particular focus on the supply and use of foreign aid are examined in Chapter 4.

This chapter also analyses the sector based composition and overall trend of public expenditure. This analysis of composition and trend of public expenditures connects the understanding of government's strategy

and structural change. This chapter reveals the nature of shift in sector based shares of public expenditure over time. It shows the increasing emphasis on social sectors and infrastructural development, and a declining share of public investment on agriculture, with the growth of the economy and structural change. Analysis of project aid in various sectors is also included in this chapter.

Though the share of agriculture in public expenditures has declined overtime, this is not the case with overall rural development. The sharply rising public expenditures on rural institutional and infrastructural development have caused such an outcome. However, a declining share of public expenditure on agricultural research is a serious concern; research is crucial for technological development to enhance agriculture's competitiveness in global markets. Obviously, public resources have alternative uses, and expenditures in any one sector or sub-sector has to be seen in the context of their alternative uses. These sub-sector based issues in agriculture and rural development are examined in Chapter 5.

The issues related to the efficient use and impact of public expenditures on growth and equity are presented in Chapter 6. Impact depends very much on efficiency of resource use and leakage of resources. Leakage of resources through corruption constitutes a major section of this chapter. This analysis tends to demonstrate that short to medium-term impact of corruption on growth rate is small; under some assumptions short to medium-term growth rate could even be higher with corruption than without corruption but corruption increases poverty. In the long-run, corruption negatively impacts both growth rate and poverty. Public expenditures in agriculture and rural development have contributed substantively to agricultural growth.

Of course, the use and efficiency in raising resources as well as expenditures of the resources are largely determined by the extent and efficiency of existing institutions. Institutional capacities in the public sector and efficiency in coordination among various institutions represent a set of vital questions that are examined in Chapter 7. In Bangladesh, development of this institutional framework has been quite imbalanced, excess in some areas and absent in others. The coordination among institutions is also quite weak, reflecting the overall weakness in governance. Some of the central problems of governance and how these problems are linked to impact of public policies and strategies are examined in this chapter. This chapter also deals with rural credit and input subsidies.

Historically, food security and intervention in the food grain market have remained to be significant tenets of public policies in Bangladesh.

Evolution of competitive food grain markets in balancing the food security concerns of burgeoning population of non-farm consumers and the incentives considerations of food grain producers has constantly remained in the watchful preview of policy makers. Chapter 8 provides an account of this evolution of food grain markets in Bangladesh. Unlike the other chapters, this chapter has been updated to include a brief analysis of the 2008 food crisis and its implications for future direction of food grain policies. Effectiveness of public policies and development programs can be enhanced through carefully designed evaluation and monitoring mechanisms. Such a mechanism contributes to government's ability to learn from failures and successes and enables correction of the future course of action. Evaluation and monitoring keep the implementing agencies alert and accountable. Chapter 9 presents an account of the existing evaluation and monitoring mechanism with identification of weak links and recommendation for a superior design.

Finally, the objective of the study was never to end in a mere presentation of factual events. The purpose, explicit or implicit, was to correctly identify problems and weaknesses of public strategies and programs, particularly in agriculture and rural development. Therefore, the lessons, recommendations and other propositions that analytically flow from the study are included in the final chapter, i.e. Chapter 10. An integrative synthesis of various strategic issues, treated in the main text of the book, is presented in this chapter. This synthesis is organised around a thematic structure consisting of (a) initial conditions, (b) transformation of the rural sector, economy and the society during the post-independence years, (c) causal factors and the role of government in the transformation, (d) a vision for the future, specifically, a 2030 vision for Bangladesh, (e) an agenda of reforms in order for the government to work towards fulfillment of the vision, and (f) a few concluding observations on growth-poverty-governance conundrums.

Chapter 2

Role of Government and the Public Sector

Government is an overarching institution for human society and its evolution is akin to that of human beings. The modern concept of State and nation is intertwined with the concept of government. The utility of Government cannot be disputed but its structure has been challenged by opposing ideologies, including that of Marx and economic system formulated and reformulated by thinkers such as Friedman and Keynes. Human societies have ferociously debated in all ages on what should a government do? How far should a government move to extend its activities so that it does not infringe on private domain (i.e. activities that private persons or institutions can do better than government) for mitigating some welfare functions of the government? This welfare function is presumably defined by people or a political mechanism. The continuum between two extreme positions-socialism and capitalism-provides the canvas for making a division between public and private sectors. Obviously, there is a wide scope of disagreement among people, policy makers and politicians about the role of the government.

2.1 Theoretical Approach to Define Public Area

Why does government invest in creating public assets or developing institutions to correct certain problems in society? Can the market intervene to provide these public assets? Classical and neoclassical economists argue that market failures and equity considerations are two important reasons for a government to be directly involved in a market economy. Conceptually, users of a road can form a solid basis for demand of the services of the road and private investors running after profit should be attracted to construct the road and sell the service, thus requiring no government to invest in road construction. This supply and demand for road services does not exist and in many instances markets fail and government intervention becomes a necessity. Even if market could do the job of building the road, an equity consideration could have

been so weighty that government intervention would have been desirable. When resources in the economy are not allocated through competitive operations of markets, market failure occurs. The typical market failures are identified by following through a number of principles and government intervention merits consideration (Samuelson, 1955; Atkinson and Stiglitz, 1980; and Bruce, 2001). The conditions are:

- a) **Absence of Competitive Market:** A monopoly may exist because of natural and other reasons. Monopoly leads to lower production than a competitive market and leads to higher prices than marginal cost of production. In this case, adequate competition does not exist and overall efficiency of resource use in the society is not optimal.
- b) **Externalities:** The process of production or consumption sometime result in either positive or negative side-effects which fall on others. For example, tube-well irrigation by farmers may reduce ground water levels that may cause negative impact on drinking water from hand tube wells. These side effects spill over to others who are not using irrigation water. Many examples of negative externality, like pollution of environment, can be observed in the economy. Some form of government intervention becomes necessary either to compensate the people who are adversely affected or undertake some corrective measures. External positive effects occur when the production or consumption process generates effects that are positive and spill over to others beyond the original producers and consumers. The effect of primary education and health investments generally spills over beyond the original beneficiaries to the whole society.
- c) **Public Goods:** These are predominantly provided by Government. For example, national defense, protection of property right etc. cannot be ensured through market mechanisms. Why market fails in the case of public goods? The efficient quantity of a private good can be achieved by charging a price to ration the quantity available. Consumers are willing to buy the private good only if their offer price (or willing price) is at least as high as the market price. Furthermore, producers of a private good find it profitable to produce if they can sell it for a price that is at least as high as its marginal cost. In contrast, it is either impractical or inefficient to ration a public good by charging a price for it. It is impractical to charge a price when the public good has the property of non-excludability i.e. you cannot distinguish between those willing to

- pay and the free riders. It is inefficient to charge a price when the public good has the property of non-rivalry i.e. when use of the good by one does not reduce its supply for others. In case when market price is higher than the socially optimal price (that would be the case of non-rival good), it is better that government supplies the good by using tax revenue from the whole society.
- d) Imperfect Information: Producers or consumers may have poor or incomplete information regarding technologies, products or prices and are thus not in a position to make informed decisions, which may result in market failure. Since information has some public good characteristics and it is costly to acquire, the private sector may have little incentive to collect and disseminate information.
 - e) Missing or Incomplete Markets: In many low income countries, missing insurance market for risk management is quite common. Private markets can fail to provide a service (e.g. insurance) even though the cost of providing it is less than what individuals are willing to pay. The major reason is the existence of asymmetric information (i.e. one side does not know what the other side is doing or the cost associated with marketing of innovation etc.). Moral hazards involved in assessing crop damage and fraud in insurance payment are often sufficient to prevent development of private insurance market.
 - f) Equity Consideration: A market based economy may distribute income in socially unacceptable ways and it gives a reason for government intervention to protect poor people. Generally two approaches, (i) promoting pro-poor growth by investing in certain sectors or regions, and (ii) using government financial transfer instruments to directly transfer income to the poor, are adopted by government to ensure equity in distribution of income.

2.2 The Real World Complexities and Diversity

While the theoretical guidelines, defining areas for public actions, have useful restraining effect on expansion of government into areas of private domain, political compulsions, poverty related considerations, and strength or weaknesses of governance can lead to government activities that are difficult to justify by the theoretical principles. Degree of this non-conformity generally varies widely because of differences in level of development, system of government, and ethical, cultural and regional diversity. A democratic government is prone to satisfy voters and appear to be proactive in handling shocks without waiting for automatic market

solutions. Thus, a democratic government has to be quick in response to natural disasters, price instabilities, unemployment and control crisis, including food crisis. A democratic government has to look at the future of a nation, even though ordinary voters may not be directly concerned about collective future of a nation.

It may be useful at this point to present a snapshot of activities of the Bangladeshi Government. Bangladesh has a unitary form of government and the formulation of this snapshot of activities is less complex than what it would have been in case of a multi-layered government, e.g. India, China, USA etc. The example of government activities, presented in **Table 2.1**, will give a clear idea of diverse areas of government interventions in a real world context, some of which may not conform to the principles of public domain. But most activities might be explained through the logic of public choice.

The functions or activities, listed in the Table 2.1 against each branch of the government, are also briefly summarised in the table. Though extremely brief, the meaning is expected to be clear. From this description it would appear that all branches of the government listed under serial number 1 through 12 perform functions which closely conform to the characteristics of “pure public goods”. The functions of the rest of government branches are “para-public goods” and extensively vary in terms of their proportion of “public goods” attributes in activities. They range from development of infrastructures, institutions, technology, human resources on the one side and state trading, public enterprise, etc. on the other. In between, there is a long list of government branches meant for targeted development, stabilisation of prices, cultural harmony and a wide variety of affirmative action. Most of the activities can be justified for public action, in the light of a very flexible definition of public good, as is generally advanced by politicians. So it may not be very productive to argue what a government should or should not do, but how efficiently a government does it. A number of aspects of how a government performs an activity, warrant special emphasis in the context of this chapter. Subsequent chapters in this book will treat the questions of efficiency in government activities. A few special issues are, however, mentioned in this section because they are perceived to have significant implications for public interventions.

2.2.1 Constitutional Mandates of the Government

It is not difficult to relate the motivations underlying the organisations of government, as listed in Table 2.1, to the fundamental principles for State policies enunciated in the Constitution of Bangladesh. In part II of the

Table 2.1 Government Ministries/Divisions and their Functions in Bangladesh, 2004

Sl.No. Ministry /Divisions	Functions / Activities
1. President	Institutional Head of State. Protect Constitution, with advice from the Prime Minister
2. National Parliament	Political forum of elected representative. Enactment of laws
3. Prime Minister	Head of Government. Lead, formulate, oversee, and direct national policies
a. Cabinet Division	Coordination of ministries, decision making
b. Establishment	Oversee the bureaucracy and its operation
c. Special Affairs	Deals with special areas not, otherwise, covered by line ministries
4. Election Commission	Conduct and oversee elections
5. Public Service Commission	Recruits and develop policies for development of senior positions
6. Comptroller General of Audit and Accounts	Constitutionally responsible for auditing government accounts
7. Anti-Corruption Commission	Develop and implement anti-corruption measures
8. Ministry of Finance and Planning	Formulate and implement financial policies
a. Finance Division 1	Prepare budget, provide loan services and subsidies
b. Finance Division 2	Debt management, accounts management, pensions etc
c. Internal Resource Division	Mobilise resources through taxes etc
d. External Resource Division	Mobilise resources through foreign aid
e. Bangladesh Bank	Monetary policy, supervision of banks, interest rate, foreign exchange rates etc
f. Planning Division	Process public investment programmes and provide input in policies and planning
g. Implementation Monitoring and Evaluation Division	Evaluate and monitor public investment programmes
h. Statistical Division	Collection, processing, and publication of national and regional statistics
9. Ministry of Law and Justice	Formulate laws, implement laws through various courts
10. Ministry of Home	Maintain law and order, passport, visa issues
a. Police	Protection against property rights violation and criminal activities
b. Bangladesh Rifle	For border protection

(contd.)

(Table 2.1 contd.)

Sl.No.	Ministry/Divisions	Functions/Activities
11.	Ministry of Defense	Protection against foreign aggression
12.	Ministry of Foreign Affairs	Maintain foreign relations
13.	Ministry of Land	Keep records of land ownership and their transfer
14.	Ministry of Local Government, Rural Development and Cooperation	Organise, guide, and finance local governments, undertake various types of institutions and rural infrastructures development
15.	Ministry of Chittagong Hill Tract Affairs	Specific measures to solve ethnical backwardness
16.	Division of Primary and Mass Education	Human resource development for children and adults.
17.	Ministry of Education	Human resource development through education
18.	Ministry of Science and Technology	To promote scientific knowledge and skills
19.	Ministry of Health and Family Welfare	Human resource development through good health
20.	Ministry of Social Welfare	Taking care of vulnerable groups
21.	Ministry of Women and Children Development	Promoting welfare of women and children
22.	Ministry of Food and Disaster Management	Protect people in the event of disasters and stabilise foodgrain prices through procurement, open sale and stock holding
23.	Ministry of Liberation Affairs	Protect welfare of freedom fighters and their families
24.	Ministry of Housing and Public Works	Develop and maintain public buildings and promote town planning
25.	Ministry of Information	Provide public information and promote press development
26.	Ministry of Cultural Affairs	Promote Bengali culture
27.	Ministry of Religious Affairs	Keep religious harmony and help religious groups
28.	Ministry of Youth and Sports	Promote sport activities
29.	Energy and Mineral Resources Division	Explore and develop coal, gas and oil sources
30.	Power Division	Develop generation and distribution of electricity
31.	Ministry of Agriculture	Promote research and extension on crops
32.	Ministry of Fisheries and Livestock	Research and extension of livestock and fisheries
33.	Ministry of Environment and Forests	Research and extension of forestry and control of pollution
34.	Ministry of Water Resources	Control floods, develop water resources for irrigation

(contd.)

(Table 2.1 contd.)

Sl.No. Ministry/Divisions	Functions/Activities
35. Ministry of Industries	Develop industrial policies, run public industries and pioneer some industries
36. Ministry of Jute	Jute marketing
37. Ministry of Textile	Guide and formulate policies for textile
38. Ministry of Commerce	Negotiate commercial agreements, stabilise prices of consumer goods
39. Ministry of Labour & Manpower	Register unemployment, guide manpower development
40. Ministry of Expatriate Welfare and Employment	Look after the interest of workers working abroad
41. Ministry of Communication, Road, River Transport and Railway Board	Develop transportation infrastructure and policies
42. Ministry of Posts and Telecommunication	Develop infrastructure and policies related to information
43. Ministry of Shipping	Operate and develop Bangladesh shipping in ocean
44. Ministry of Civil aviation and Tourism	Develop tourism and operate civil airports, fleet of plane etc.

Source: Developed from: Bangladesh Ministry of Finance, 2005d. *Annual Budget 2004-05*, Demands for Grants and Appropriations (Development and Non-Development).

Constitution, articles 8 through 25 are devoted to define the “Fundamental Principles of State Policy.” Some selected articles are quoted here so that the readers can get a reasonably good understanding of the obligatory nature of some activities that the government performs by using its resources and power:

Article 8(2). The principles set out in this part shall be fundamental to the governance of Bangladesh, shall be applied by the state in making of laws, shall be a guide to the interpretation of the Constitution and of the other laws of Bangladesh and shall form the basis of the work of the state and of its citizens, but shall not be judicially enforceable.

Article 9. The state shall encourage local government institutions composed of representatives of the areas concerned and in such institutions special representation should be given, as far as possible, to peasants, workers, and women.

Article 15. It shall be a fundamental responsibility of the state to attain, through planned economic growth, a constant increase of productive forces, and a steady improvement in the material and cultural standard of living of the people, with a view to securing for its citizens the following:

- (i) The provision of basic necessities of life, including food, clothing, shelter, education and medical care;

- (ii) The right to work, that is the right to guaranteed employment, at a reasonable wage having regard to the quantity and quality of work;
- (iii) The right to reasonable rest, recreation, and leisure; and
- (iv) The right to social security, that is to say, to public assistance in cases of undeserved want arising from unemployment, illness or disablement, or suffered by widows or orphans or in old age, or in other such cases.

Article 16. The state shall adopt effective measure to bring about a radical transformation in the rural areas through the promotion of an agricultural revolution, the provision of rural electrification, the development of cottage and other industries, and the improvement of education, communication, and public health, in those areas, so as progressively to remove the disparity in the standards of living between the urban and the rural areas.

Article 19. The state shall endeavour to ensure equality of opportunity to all citizens.

Article 22. The state shall ensure the separation of the judiciary from the executive organs of the state.

(Source: The Constitution of the People's Republic of Bangladesh, as modified upto May 31, 2000, Ministry of Law and Justice, Dhaka).

The political and social priorities, as expressed through constitutional provisions, do reflect in government resource allocation and institutional framework. Even though the Constitution of Bangladesh has been subjected to amendments a number of times, the basic socio-economic spirit of the Constitution has not been altered. Priority has been given to the poor and women. The primary role of the State in bringing about agricultural revolution and rural transformation has been specifically emphasised. So is the emphasis on provision of basic needs of citizens. Empowering the local governments, provision of free education to children, improvement of nutritional status of the people, ensuring the health facilities to all, and social security allowances to vulnerable, are specifically underscored in constitutional mandates to the government. As we have seen in Chapter 1, and will repeatedly see in the following chapters, these constitutional priorities are reflected, in a general manner, in budgetary allocations and policies of the government. The Constitution is not a place to raise concerns about how and with what degree of efficiency a government should function. But such questions should be encouraged in democratic societies. In the light of this general approach to the role of a government, we would include a few special topics for the attention of contemporary policy makers in Bangladesh.

2.2.2 Liberalisation of Markets and Market Behaviour

During the last two decades, most commodity markets have been liberalised, meaning withdrawal of controls of market, privatisation of

most public production and trade enterprises, reduction of tariff barriers, and drastic reduction in non-tariff barriers in export and import of goods and services. Often, these liberalisations have occurred under donor pressure, without any mechanism to monitor whether the liberalised markets were in fact working competitively or not. Government had relinquished all responsibility of service delivery once control was transferred. This resulted in an anti-market environment among consumers who would blame market collusion, business syndicates and greedy businessmen for every crisis in the market. Examples of such behaviour and blame are numerous. The recent fertilizer crisis in 2005 and the famous fertilizer crisis of 1995 were blamed to have been caused by fertilizer importers and traders. Most tradable commodities have witnessed similar crisis and the anti-business euphoria. Government has a role to ensure development of competitive markets. Regulatory institutions often recommend solutions, which critiques argue create the space for spiralling corruption. The Government role in competitive market development cannot be forsaken on any grounds. Therefore, a balance must be found.

2.2.3 Government Partnerships with NGOs and the Private Sector

The debate pertaining to appropriate areas of government action becomes less controversial if government activities can be suitably combined with private agents; particularly NGOs which have shown a healthy growth of private initiative based on non-profit motivation in Bangladesh (see World Bank, 2006a, on the economics and governance of NGOs in Bangladesh). All public-private collaborations do not produce desired results; collaboration for the sake of collaboration is undesirable. It is necessary to examine what gains in efficiency would be achieved in a particular case of collaborative arrangement. When the propensity of misusing or abusing entrusted public power for personal gain is high, as has been the trend in Bangladesh, public-private collaboration can impart a restraining influence on misuse/abuse of power. Public projects meant for development in remote rural areas can often avoid scrutiny by beneficiaries and thus appear attractive for scheming personal gains. Collaborative arrangement with NGOs can minimise the scope of such leakage of public resources.

Government-NGO collaboration is not a new idea. In the past, some projects were implemented through government-NGO collaboration (Mubin, 2004). Results have not been consistent with expectation in some cases. Some perceptive studies are considered necessary to find out

(a) lessons from past collaboration, (b) the principles that should guide such collaborations, and (c) conditions that increase (or decrease) the chances of success (or failures). In the context of this question of public—private collaboration, the recommendation in the World Development Report (WDR) (World Bank, 1994) in the development of infrastructures is still very relevant and applicable. The WDR suggested that various components of a project should be “unbundled” to figure out which components could be executed through private and which components are desirable for public agents to implement. An overall framework for public—private collaboration should encompass this “unbundling” exercise.

2.3 Special Focus on Agriculture and Rural Development

Table 2.1 includes a list of government agencies involved in agriculture and rural development. All the activities are inter-related, some directly and some indirectly. The following ministries/divisions of the Government of Bangladesh are considered directly active in agriculture and rural development:

- (i) Ministry of Agriculture
- (ii) Ministry of Fisheries and Livestock
- (iii) Ministry of Environment and Forests
- (iv) Ministry of Water Resource
- (v) Division of Rural Development in the Ministry of Local Government, Rural Development and Cooperatives
- (vi) Ministry of Land
- (vii) Ministry of Food and Disaster Management
- (viii) Rural Electrification under Power Division
- (ix) Ministry of Jute
- (x) Agricultural Development Banks under the Ministry of Finance

It seems that these ten Ministries or Divisions are directly involved in agriculture and rural development. Their combined efforts determine the extent and nature of public input in agriculture and rural development. But the totality of combined efforts can never be seen unless compiled, adding public expenditures and achievements under each of them. Such *post fact* additions can never reveal how *a priori* strategies, that each agency might have followed, were consistent with each other, and whether their achievements can conceptually be added up. The overall impact of all of their activities on agriculture and rural development,

through interface with farmers and rural inhabitants, are hardly evaluated in any public agencies. The Ministry of Agriculture has little scope to ask the Ministry of Water Resources about the latter's contribution to the former. We shall include a treatment of institutional coordination in a separate chapter. But the importance of synergy of activities, performed by all relevant agencies, is underlined in this section. To measure, maximise, and formalise this synergy, it is argued strongly that an institutional forum at the central level is necessary for all these agencies to discuss and debate their strategies and see every one's role in the development of agriculture and rural development.

Government input in agriculture and rural development is determined mostly by historical traditions. Thus, agricultural interventions are dominated by traditional research, extension, and input supply measures, including subsidy on them. Activities for rural development are dominated by old-style cooperative institutions, rural works, and credit. Rural road development strategy is an exception. The rural scene is brewing with dynamic changes—changes in housing, supply of drinking water, sanitation, and the emerging new entrepreneurship in the rural areas. Land use is changing fast. Susceptibility to local floods, because of no coordinated consideration for local level drainage while building new roads and houses, has been increasing. The point to make here is that agriculture and rural development plans are not being based on the dynamic changes occurring in the rural areas. Till the problems become acute, causing public outrage, issues do not crystallise into public action.

Government interventions must be based on correct information on emerging areas of change. The BBS occasionally feels the pinch of dynamic changes (e.g. the recent changes in GDP figures were caused by the problems of emerging areas) and undertakes ad-hoc measures in revising national statistics. The BBS is not concerned about information on rural development issues as it is for national statistics. Agriculture and rural development agencies have yet to realise implications and act on rural housing, water logging, land grabbing and land robbery, piped water supply in rural areas, sanitation, death of rivers etc. A mechanism of constant information collection on dynamic changes in rural economy has to come into existence for timely and correct intervention by government.

2.4 Role of Government in Information and Economic Intelligence

A columnist in a Dhaka-based English daily wrote a very humorous, skeptical, and enormously significant piece of commentary.

“Newton’s three laws of motion in physics have counterparts in the dynamics of governance in Bangladesh. These are:

- (a) Most ministries and departments are at rest unless acted upon by a crisis.
- (b) The acceleration of work is inversely proportional to the need for that work and directly proportional to the lobbying for that assignment.
- (c) For every attempt to do a task, there is an equal and opposite reaction to stop it”

Source: Daily Star, August 10, 2005

The points made in this skeptical note relate to (a) an absence of mechanisms to monitor emerging developments so that action can be taken in time instead of a crisis situation warranting government actions; (b) most government actions result from lobbying of vested groups rather than evaluated needs; and (c) action taken by government is controversial that often make the action a stagnant one. These interpretations of the messages underlying the humourous note, if correct, clearly vindicate the need for relevant and timely information and economic intelligence gathering mechanism in the government. Lobbying will always remain in a democratic system, but the scope and effectiveness of lobbying can be blunted by unleashing flows of facts in time.

The same English daily published another news item on the same day stating that 40 to 90 percent of public expenditure in 2004-05 was spent in the last quarter of the fiscal year. The payment for Government contracts, especially contracts involving arrangement with private parties, is paid generally at the end of the year. Work, however, is done throughout the year at various places and payment is made when work is complete. This uneven payment over four quarters of a year is not a reasonable ground to allege corruptive practice in the government. This fact, however, does not imply that there is no corruption in government work. The point that government does not have effective mechanisms to gather information and monitor public activities, and corruptive practices, is reflected in the episodes cited above.

The Government of Bangladesh has liberalised the economy and reduced the extent of public role in direct production and distribution of goods significantly over the years. In most cases, government has undertaken this measure to relieve the State of its responsibilities. As a result, some new activities, generally gathering of market information, monitoring market behaviour, and needed regulatory institutions, have not been developed and placed in the system. This has caused a sense of complacency in government departments.

Some of the issues discussed here may appear again in other chapters in a different context. What a government should do and how it actually

does them depend on many factors. Government actions should, and generally do, follow a chartered path, often called the strategy of development. Public actions in terms of policies and resource allocations conform to this strategy. This strategy is considered the basis for public expenditure, outlining the public role in complement with private activities that shape up the progress of socio-economic development of Bangladesh. A treatment of this strategy, with respect to government actions for agriculture and rural development, is presented in the next chapter before examinations of public expenditures in Bangladesh. This sequence of presentation is believed to be congenial for understanding the role and activities of government in economic growth and poverty reduction in Bangladesh.

2.5 Government Programmes should reach all Corners of the Country

We hear and know accounts of transformation, including that of the Dhaka-Chittagong corridor of landmark prosperity, in the network of roads connecting various cities with Dhaka, in the rural infrastructural developments, in the spread of information technology, in the rise of sky scrapers in Dhaka, in the overcrowding of Dhaka city with private universities, in the spread of agricultural technology, in the growth of micro-credits and numerous other dimensions of socio-economic scenes. These are true developments, but do not represent a full story. That there are zones of utter backwardness, isolated spaces where government virtually does not exist, questionable State sovereignty within the boundary of Bangladesh, are facts of life. The stretches of sea running from St. Martin Island, along the coasts of Cox's Bazar, Chittagong and Swandip, are infested with pirates who quite frequently attack (and even kill workers) fish boats, trading trawlers, and even ships. The Sundarban and Meghna estuaries are increasingly becoming zones of horror for fishermen, trading trawlers, and private boats venturing in forest areas. The *char* areas of Noakhali, Barisal and Chandpur suffer from illegal raids by armed gangs to steal new harvest of rice. The *char* areas along Jamuna and the Ganges rivers have become well known havens for militants and terrorists. The forest areas of Gazipur-Tangail and the entire zone of Chittagong Hill Tract districts shelter smugglers of guns, drugs, and various contraband commodities.

These areas are often the training grounds for the sprawling armies involved in unlawful activities. Government has responded to these problems in a reactionary manner, including creating permanent Army cantonments to combat insurgencies in the Chittagong Hill Tracts. A small

coast guard system is being organised to fight sea and coastal piracy. These responses are half-hearted with limited success. Government should attempt to develop all areas so that no part remains a liability. Government's role in the development of the backward areas should have a higher priority than the priority for other areas where private sector enjoys good enabling environment.

Chapter 3

National Strategies for Rural Prosperity

The purpose of this chapter is to document the evolution of national strategies and policies responsible for agriculture and rural transformation achieved in the last three decades as well as to provide a vision for promoting rural prosperity in the future in Bangladesh. A policy is a broad but precise blue print for attaining certain objectives. Strategies are detailed instruments to implement the broad policy for realisation of the objectives. The primary objective of agricultural development in the 1960s through 1980s had been to achieve self-sufficiency in food production. Rural development objectives during those days were enmeshed with the food self-sufficiency objective, and rural development efforts were focused on developing institutions to complement agriculture. From early 1990s, food self-sufficiency objective has been cast more in line with self-reliance (meaning a type of self-sufficiency that may enhance ability to import by expanding export). Similarly, objective of rural development has been broadened to include reduction of rural poverty and improvement in rural life. Increase in the pace of production in agriculture (i.e. agricultural growth rate) has, however, remained operational targets of policies and strategies in the short and medium-run public plans.

3.1 Historical Perspective of National Policies

Bangladesh has historically been deficit in production and dependent on imports for most agricultural products. Only jute and tea were two major agricultural exports. Thus, the overall strategy for agricultural growth in Bangladesh has coincided with typical measures for import-substitution. Import substitution was of course, a main theme behind policies for industrialisation. Both macroeconomic and sector based policies, meant for self-sufficiency in goods and services, were designed to reduce supply constraints in production. Considerations for expanding demand of agricultural commodities (e.g. through export) started to attract policy attention, first slowly in the beginning of mid-1980s, and gradually getting momentum from early 1990s (Chowdhury and van der Geest, 2004).

3.1.1 Macroeconomic Policies

Three elements of macroeconomic policies are included in the discussion here; they are (a) exchange rate, (b) trade, and (c) interest rate for credit. Macroeconomic policies do have far reaching consequences for agricultural and rural development, is well recorded in development literature (Bautista, 1993). Exchange rate policy is by far the most important one in that exchange rate policies involve the interlinked effects of trade as well as monetary and fiscal policies. Bangladesh, like most other countries in the region at that time, adopted a fixed exchange rate policy, with rigorous control on foreign exchange. The exchange rate of taka against US\$ (i.e. Taka per US\$) was around 8 from 1971-75. The taka was devalued in 1975/76 at 15 taka per dollar; this rate was almost static till 1980. From the early 1980s the exchange rate was allowed limited floating so that taka gradually depreciated against dollar from about 23 taka per dollar in 1980/81 to 33 in 1989/90.

Since early 1990s, the exchange rate has been opened to considerable degree of competition for supply and demand for foreign exchange, as determined by forces of export, import, and inflow of capital. The exchange rate of taka against dollar was floated in 2003-04 and the rate registered at an average of Taka 58.9 per dollar. By 2005, the country was passing through a period of sharply declining value of taka; the rate hovering between 62 to 66 taka per dollar (approaching 70 taka in the second half of 2006). In terms of real effective exchange rate (i.e. deflating nominal exchange rate by the general price index in the country), the exchange rate in the 1990s and early 2000s had remained reasonably stable. The index of real effective exchange rate has varied between 95 to 102 during 1993 through 2004 except the years 1998, 1999 and 2000 when the index went around 110 (see [Table 3.1](#)). The management of exchange rate, preventing it to relapse to the mode of over-valuation, provided positive incentives to production of tradable goods, particularly agricultural commodities.

This trend in liberalisation of exchange rate bears a close correspondence to liberalisation of trade policies. All these changes in trade and exchange rate policies were driven by the overall shift in approach from a socialistic to a market oriented mechanism of development announced in early years of 1980s. Licensing of export and import trade and quantitative restrictions were considerably relaxed. The tariff rate on import was reduced from an average of about 110 percent in mid-1980s to about 27 percent in 2004 (Rahman, 1994a and 1994b, World Bank, 2005). Tax holidays and export subsidies for certain export products are examples of export promotion in deviation from the old

Table 3.1 Selected Macroeconomic Policy Indicators in Bangladesh

Indicator	Average 1980-85	Average 1990-95	Average 2000-05
1. Annual increase in general prices (%)	10.25	4.49	4.50
2. Annual rate of change in nominal exchange rate (%) ^a	11.17	5.12	4.03
3. Interest rate on loans (%)	14.50	12.40	12.40
4. Import tariff rate (%)	98.60	n.a.	27.00
5. Index of real wage rate ^b			
General wages	95	110	136
Agricultural wages	82	101	114

Note: ^aThe rate changes indicate depreciation of Taka value against US\$.

^bIndex of real wage is based on 1969/70=100; Real wage = nominal wage ÷ consumer price index.

Source: Compiled from information in:

(i) Ministry of Finance, 2004, *Bangladesh Economic Review*, Dhaka.

(ii) Bangladesh Bureau of Statistics, 1985, *Statistical Yearbook*, Dhaka.

(iii) Sultan Hafiz Rahman, 1994b.

import substitution policies.¹ Domestic credit policies have not seen the same extent of liberalisation as with trade policies. Financial market in Bangladesh was predominantly a sector of public banks which has been gradually opened for private banks since early 1990s. Still, about 50 percent of the market is shared by public banks. Reform in financial market has been slow but gradually moving forward.

The general policy of interest rate has been to keep a high nominal interest rate around 12-14 percent. In 1980s, when inflation rate was high (about 16 to 20 percent), the 12 percent interest rate meant a negative real interest rate. In 1990s and early 2005, when inflation rate came down to about 6 percent, a 12 percent nominal interest rate means a high (about 6 percent) real interest rate. Agriculture and rural development sectors enjoy some special institutional credit (e.g. agricultural development banks and micro-credit institutions). Interest rate for credit from these special institutions is also quite high. Moreover, in spite of numerous micro-credit institutions for the rural economy, credit for small and medium farms in Bangladesh is considered inadequate (Zeller and Sharma, 1997). This is generally referred to as a problem of the “missing middle”

¹ Different aspects of progress in trade policy in Bangladesh over time are discussed in World Bank (1999) about trade liberalisation, World Bank (2005b) about export competitiveness, World Bank (2006b) about the impact and options following the end of MFA quotas, and World Bank (2006c) about India – Bangladesh trade relations.

in the sense that small/medium farmers and small/medium rural entrepreneurs do not have adequate access to rural institutional finance.

Macroeconomic policies have gradually evolved to provide a stable and congenial environment for economic growth in Bangladesh. This gradual evolution follows from the strategy shift from State controlled economic activities to market driven path of development. In this approach, exploration of export potential and harnessing those potentials by policy support and infrastructure development constitutes a key role for the government to play. Macroeconomic environment is still somewhat weak in the financial sectors where interest rate is high and financial market has yet to gain functional efficiency to a significant extent desirable. Occasional macroeconomic crisis, because of still existing weaknesses in management and policies, has remained as persistent snag in the otherwise stable macroeconomic environment.²

Macroeconomic policies were geared to promote private sector for increasing production and employment. One element of macroeconomic policy, namely the fiscal policies of public investment, expenditure and resource generation, was particularly employed to create new infrastructures, such as roads, waterways, railways, electrification, energy supply, information and communication infrastructures, human resource development and development of new institutions for technology, development of natural resources, including water resources. These developments have been pursued through consecutive five-year or three-year plans and budgetary instruments. These public endeavours for development are meant to create enabling environment for the private sector to expand and operate at maximum capacity.

This strategy of synchronised public and private sector operation, one complementing rather than competing with the other, has been reasonably successful in Bangladesh, as reflected in the rural transformation presented in Chapter 1. In a number of subsequent chapters, the pictures of public investment for development in various sectors of the economy have been portrayed. A special account, detailing articulation of policies for agricultural and rural development, is presented in the remaining part of this chapter. Readers may recall the constitutional mandates for “agricultural revolution and rural transformation” that was presented in Chapter 2. The strategy for agriculture and rural development thus represents the executive response to that constitutional exhortation for rural transformation.

² Economic transformation in Bangladesh, in the context of economic reforms, growth, poverty, governance and social development, are discussed in Mahmud, Ahmed and Mahajan (2008), Ahluwalia and Mahmud (2004), Ahmed and Mahmud (2006) and World Bank (2007a).

3.1.2 Agricultural Policies

In the first Five-Year Plan of Bangladesh, primary objective of food grain self-sufficiency was discussed in every sphere of agriculture and rural development. This was also the case with Five-Year Plans during the Pakistan era. Growth in food grain production thus became a principal criterion for measuring success in agriculture and rural development. Thus, the Academy for Rural Development at Comilla, under the leadership of Akhtar Hamid Khan, concentrated on irrigation problems (e.g. innovation of shallow tube wells), development of suitable agricultural equipment (e.g. organising Mohajer Karkhana at Comilla), experimenting with HYV seeds from the International Rice Research Institute (IRRI), and emphasis on cooperatives for supply of fertilizers and other agricultural inputs. This was, in addition to the primary activities of the Ministry of Agriculture for agricultural research, extension and input supply. The strategy for agriculture and rural development bears some common elements for all sub-sectors under agriculture and rural development as well as some specialised elements for each sub-sector. Before discussing sub-sector strategies, the common elements of agriculture and rural development strategy and policies deserve a brief mention.

The *first* common element of agricultural strategy is the prominence of technology development and its spread for increasing production. It was mentioned in Chapter 1 that Bangladesh is one of the most densely populated countries. Low land-man ratio constrains extensive cultivation. Growth in productivity is the largest and most important source of growth in production. Therefore, top priority to generate and spread technology is a natural choice.

The *second* common element is the priority to development of rural infrastructure, including rural electrification, and means of transport and communication. Rural infrastructure plays a critical role in the development of efficient markets, spread of technology and modern inputs, development of agriculture-based rural industries, and opportunities for rural non-farm sources of income (see Ahmed and Hossain, 1994).

The *third* common element of agriculture strategy is the liberalisation of markets—both input and output markets. From the early days of independence, Bangladesh followed a general policy in which the government had a virtual monopoly in agricultural input markets (fertilizer, seed, pesticide, irrigation water) and pursued extensive intervention in food grain market. A reversal of these policies, creating competitive markets for agricultural inputs and outputs, began in mid-1980s and almost completed by mid-1990s (see Ahmed, 2000 and Chowdhury and Haggblade, 2000).

The *fourth* and final common element of strategy for agriculture and rural development is the shift from a one-sided thrust on growth in order to achieve self-sufficiency to a broad based rural development through agricultural growth, rural income growth and poverty reduction. This redirection of the purpose of development entailed a modified role for the Ministry of Local Government, Rural Development and Cooperatives. A strong department, Local Government Engineering Department (LGED), was created under this Ministry to build rural roads, markets, water structures etc. Moreover, the Ministry focused on institutional development for rural areas, de-emphasising its earlier involvement in technical agriculture. Achievements in some of these developments will be highlighted in sub-sector based discussions.

Crop Sub-sector. The importance of the crop sub-sector lies in the fact that the objective of food grain self-sufficiency pertains to the achievement in this sub-sector. Rice accounts for more than 90 percent of food grain consumed in the country. So, rice production was the focus of crop sub-sector.

The strategy for increasing production of food grain was formulated through the creation of the East Pakistan Agriculture Development Corporation (EPADC) in 1964. This corporation began immediate operation to increase rice production through application of mechanised cultivation and low-lift irrigation in the *Haor* areas (low lying areas of the greater Sylhet and Mymensingh districts). This operation gradually expanded to other areas where surface water was suitable for low-lift pumps. EPADC was given the tasks of supplying improved seeds and fertilizers to farmers; for this, EPADC developed elaborate infrastructures (such as seed multiplication farms, fertilizer storage and distribution centers) throughout the country. By 1970, BADC (successor to EPADC) could make only small progress in rice production (Ahmed, 1980). Absence of truly high-yielding varieties did not make irrigation and fertilizers sufficiently profitable to farmers, even with high subsidy. High-yielding varieties, developed at the International Rice Research Institute (IRRI), had begun to make appearances in Asian agriculture by then but Bangladesh lagged behind due to the devastation of the war of independence and only used the technology in 1976.

This first phase placed highest priority to the use of IRRI varieties of rice, irrigation, fertilizer, and pesticides, as the basic ingredient for seed-fertilizer technology in agriculture. The success was quite slow initially, because IRRI seeds suitable for local conditions were yet to be evolved at the local rice research institute [i.e. the Bangladesh Rice Research Institute (BRRI)] and irrigation expansion based on public sector development was

slow. The second phase began around 1985 through market liberalisation. Government liberalised the input market and BRRRI developed a number of varieties adapted to local Bangladesh conditions (see Ahmed, 2001). The result was dramatic (see Table 3.2) and food sector got a new market environment after liberalisation of output markets (elimination of numerous public controls on food markets) (see Chowdhury and Haggblade, 2000).

Table 3.2 Rice Production and Use of Modern Inputs in Bangladesh, 1980/82 - 2002/04

Indicator	Average 1980-82	Average 2002-04	Percent Change
Rice production (million tons)	13.26	25.18	90
Rice yield (ton/ acre)	0.51	0.95	86
Area of rice under HYV seeds (million acres)	2.34	17.94	667
Proportion of HYV in total rice area (%)	9	69	667
Area under irrigation (million acres)	3.34	13.50	304
Proportion of irrigated in total rice area ^a (%)	13	52	300
Fertilizer use (million tons) ^b	0.76	3.30	334
Fertilizer use per acre of land (kg/acre)	29.5	127.0	420
Proportion of cultivated land ploughed by power tillers (%)	<1(1983/84)	30(1996)	-

Note: ^aIrrigated area represents total; the share of rice was 87% in 80-82 and 81 percent in 2003. Irrigated area does not include irrigated area by indigenous method which was about 18 percent of total in 1981, but only about 3 percent in 2003.

^bRepresents total; of which 87 percent was estimated to be used on rice in 1995/96.

Source: Compiled from information in:

(i) Ahmed, Raisuddin, 2001.

(ii) Ministry of Finance, 2005a, *Bangladesh Economic Review*.

(iii) BBS, 2004a, *Statistical Yearbook*.

The technology package consisting of HYV seeds, irrigation development, and fertilizer use warranted public investment in research, extension, and establishment of seed multiplication farms. The investments on fertilizer production and irrigation are readily recognised but investment on research and extension is not generally appreciated as basic factors behind the success in crop production. As would be shown later, funding research has remained quite low in public resource allocation. Table 3.2 indicates almost a doubling of rice production in 22 years. It translates into an annual growth rate of 3 percent. How much of

this growth rate can be attributed to agricultural research and how much to other factors like irrigation, cultivation equipment, fertilizers and labour? Established procedures measure contribution of research as a residual after deducting the economic cost of capital (irrigation, cultivation equipment etc.), current inputs (like fertilizer, pesticide), labour and land from the value of output (see Evenson, Pray and Rosegrant, 1999; Ahmed, 2001). This approach is termed as the Total Factor Productivity (TFP) as an indicator of technological progress.

Note that the doubling of rice production in Bangladesh occurred without any increment of land under rice. Ahmed (2001) estimated that total factor productivity growth in rice ranged from 1.10 to 1.37 percent per annum depending on constant or current price assumption. Let us assume that roughly one percent is the right estimate of growth in TFP. From this we can conclude that, of the three percent growth rate in rice production over the 22 years from 1980s through 2003, the contribution of research was one third and the remaining two-third was accountable to incremental capital, labour and current inputs. This contribution was possible because of achievements of rice research in Bangladesh to evolve 38 varieties with yield as high as 3 to 5 tons of clean rice per hectare of land (see [Table 3.3](#)). Some people think that most success in rice research is attributable to IRRI. IRRI's contribution, through providing genetic material of rice to Bangladesh, is understandable. But BRRI's success in evolving locally adaptable varieties, which now cover almost 70 percent of the rice area in Bangladesh, is a basic source of success in rice production. Unlike industrial technology, agricultural technology has to be thoroughly adaptable to local agro-climatic conditions.

Generation of research results (e.g. a new HYV) warrants an efficient mechanism for dissemination of the results to farmers. This transfer of knowledge through the extension service involved a series of questions. What is the optimal balance between research and extension? What models of knowledge transfer are most appropriate at various phases of diffusion of knowledge? Research and extension are like two wings of a bird and the bird would fly only through synchronised motion of the wings. Development of extension service has received a particularly high priority relative to research. The experiments with open-ended approach versus model farmer approach to reach farmers, the village aid mechanism, the T and V system (Training and Visit) evolved by the World Bank and the current open-ended but deeply decentralised, developing block by block service dissemination foci, bear testimony to the heightened priority to extension. Before the discovery of HYVs, however, the impact of the extension service working with the so-called "improved local

Table 3.3 Release of High Yielding Varieties from BIRRI and Variety Attributes

Variety Name	Growth Season	Period of Maturity (days)	Quality of Grain	Yield (tons/ha of clean rice)	Year of Release
1. Chandina (BR-1)	Boro	150	coarse	3.69	1970
	Aus	120	short	2.68	
2. Mala (BR-2)	Boro	160	medium fine,	3.35	1971
	Aus	125	white	2.68	
	Boro	170	medium coarse	4.36	
3. Biplab (BR-3)	Aus	130	white strip	2.68	-
	Aman	145		2.68	
4. Brishail (BR-4)	Aman	145	medium coarse, white	3.35	1975
5. Dulabhog (BR-5)	Aman	150	small, round aromatic	2.01	1976
6. BR-6	Boro	140	long fine, white	3.02	1977
	Aus	110			
7. Bri Balam (BR-7)	Boro	155	long fine	3.02	1977
	Aus	130			
8. Asha (BR-8)	Boro	160	medium coarse	4.02	1978
	Aus	125	with white strip	3.35	
9. Suphaja (BR-9)	Boro	155	long medium	4.02	1978
	Aus	120	coarse, white	3.35	
10. Progati (BR-10)	Aman	150	medium fine	4.36	1980
11. Mukta (BR-11)	Aman	145	medium coarse	4.36	1980
12. Moyna (BR-12)	Boro	170	medium coarse,	3.69	1983
	Aus	130	white	3.02	
13. Gazi (BR-14)	Boro	160	medium coarse,	4.02	1983
	Aus	120	white	3.35	
14. Mohini (BRI-15)	Boro	165	medium fine,	3.69	1983
		125	white	3.39	
15. Shahi Balam (BR-16)	Boro	165	long fine, white	4.02	1983
	Aus	130		3.35	
16. Hashi (BR-17)	Boro	55	medium coarse	4.02	1985
17. Shahjalal (BR-18)	Boro	170	medium coarse	4.02	1985
18. Mangal (BR-19)	Boro	170	medium coarse	4.02	1985
19. Nizami (BR-20)	Aus	115	medium coarse, glossy	2.35	1986
20. Niamat (BR-21)	Aus	110	medium coarse, glossy	2.01	1986
21. Kiran (BR-22)	Aman	150	short coarse white	3.35	1988
22. Dishari (BR-23)	Aman	150	long fine, white	3.69	1988
23. Rahmat (BR-24)	Aus	105	long fine, white	2.35	1992
24. Naya Pajam (BR-25)	Aman	135	short coarse, white	3.02	1991

(contd.)

(Table 3.3 contd.)

Variety Name	Growth Season	Period of Maturity (days)	Quality of Grain	Yield (tons/ha of clean rice)	Year of Release
25. Shraboni (BR-26)	Aus	115	fine long, white	2.68	1993
26. Bri Dhan (BR-27)	Aus	115	medium coarse	2.68	1994
27. Bri Dhan (BR-28)	Boro	140	medium fine, white	3.35	1994
28. Bri Dhan (BR-29)	Boro	160	medium fine, white	5.03	1994
29. Bri Dhan (BR-30)	Aman	145	medium fine, white	3.35	1994
30. Bri Dhan (BR-31)	Aman	140	medium coarse, white	3.35	1994
31. Bri Dhan (BR-32)	Aman	130	medium coarse, white	3.35	1994
32. Bri Dhan (BR-33)	Aman	118	short coarse, white	3.02	1997
33. Bri Dhan (BR-34)	Aman	135	short coarse, glossy white	2.35	1997
34. Bri Dhan (BR-35)	Boro	155	short, coarse	3.35	1998
35. Bri Dhan (BR-36)	Boro	140	long, fine	3.35	1998
36. Bri Dhan (BR-37)	Aman	140	medium, fine	2.35	1998
37. Bri Dhan (BR-38)	Aman	140	long, fine	2.35	1998
38. Bri Dhan (BR-39)	Aman	122	long, fine	3.02	1999

Source: Bangladesh Rice Research Institute (BRRI). 1999. *Adhunik Dhaner Chash (Modern Rice Cultivation)*.

varieties” was disappointing (Ahmed, 1980; Asaduzzaman, 1969). The lesson is quite clear; without profitable innovation, strengthening of extension service is unproductive and a balance between research results and extension efforts must always be sought.

One of the key elements for growing modern seeds is irrigation and water control. Currently about 13.5 million acres of land is irrigated and only 4 percent of this total is estimated to be covered by publicly provided irrigation schemes of the Bangladesh Water Development Board—BWDB (see Ahmed, 2001 and the list of references there on the evaluation of BWDB’s contribution to the crop sector). About 96 percent of the irrigation coverage is attributable to farmers’ groups—a sort of cooperative venture without any formal recognition as cooperatives. Of the private coverage of irrigation investment, about 70 percent is based on ground water and 30 percent on surface water (Ahmed, 2001). There is a general consensus among professionals and also among ordinary people (as seen in occasional press reports on corruption and inefficiency in the BWDB’s projects), that the public sector, particularly the BWDB, which draws a significant share of the budget on agriculture and rural development, has been wasteful. This shortfall in the performance of the public sector has prevented the spread of modern varieties in low-lying

areas where water control measures were supposed to be developed by BWDB (see Soussan and Datta, 1998).

The other key factors in the package of modern agricultural technology is fertilizer and seeds. Seed supply has been shifted to private sector, with a significant role still being played by the BADC. But fertilizer supply has experienced many ups and downs in the liberalisation of market. Urea fertilizer is used in large quantities by farmers; it is mainly produced by the public sector in Bangladesh. Phosphate and potassium fertilizers are mostly imported. Production and import of urea is still a public sector activity and the import of other fertilizers is left with the private sector. Liberalisation of fertilizer markets in the early 1990s allowed private traders to take delivery of urea from factory gates at a fixed price and to import freely from abroad any quantities of phosphate and potassium fertilizers they could sell at free market prices to farmers. In 1995, a crisis in the supply of fertilizers, mostly urea, developed and at one point it became so serious that government had to resort to firing in order to control revolting farmers (Ahmed, 2001). The aftermath of this crisis, witnessed a reversal of market liberalisation but it did not cause a complete takeover by the government.

Fertilizer is distributed through licensed dealers who can sell only within designated areas. Import of phosphate and potassium fertilizers are still the field for private dealers. Dealers are organised into a politically powerful association. This association can potentially render the market into an oligopolistic structure, resulting in prices higher than the price that would prevail under a competitive market. Government provides a supervisory role on the trade through a district committee headed by the District Commissioner, which also sets an indicative price level for traders to abide-by. Dealers get allocation of urea quotas from the Ministry of Agriculture and fertilizer factories deliver urea to the dealers, according to these quotas. There are always streams of complaints that (a) prices are high and fertilizers are not available in time, (b) fertilizers are being smuggled out to Myanmar and India, (c) impure (adulterated) fertilizers are fraudulently sold to farmers (e.g. selling single super phosphate as triple super phosphate, fertilizers mixed with foreign materials, false fertilizers produced in clandestine facilities to produce look-alike products etc.), and (d) persistent reports of pockets of crisis even if overall supply appears adequate at the national level.

These complaints profusely appear in daily news papers during crop production seasons. There seems to be a consensus that fertilizer subsidy does not reach farmers and is misused (see Shaukat Ali, 2005). Government generally alleges that the private dealers are the culprits

who collude and create artificial price-hikes. Because of a policy of discriminatory pricing in favour of urea and against phosphatic and potassium fertilizers for a long time, the NPK balance in the soil has been seriously distorted, thus creating a long term adverse impact on soil nutrition. "Given that the economically optimal level of fertilizer use is generally lower than the level warranted for a maximum level of yield, the level of actual use of urea fertilizer does not pose a serious concern. However, the drastically low levels of actual use of phosphatic and potassium fertilizers do pose serious concern. Use of these fertilizers has to go up by 60 to 70 percent if the imbalance in NPK ratios in soil has to be restored in order to arrest the deteriorating soil-nutrition status" (Ahmed 2001, p.73).

There are apparently frequent complaints about the operations of the fertilizer market in Bangladesh. But no reliable assessment of the complaints, in term of their credibility, causes, and extent, exists. Government does not have an effective monitoring³ and regulatory mechanism, except permanent or temporary committees consisting of busy officials who in some respect find some conflict of interest in pursuing the issues. This is an area which warrants a comprehensive evaluation in order to arrive at sets of guiding principles to lead the market towards a competitive structure.

Diversification to High Value Crops. Production can be increased by means of application of improved technology, increased land, labour and capital, as well as by changing composition of products by increasing proportion of high value products. Bangladesh has been following a strategy of food grain self-sufficiency, implying a mode of rice monoculture in agriculture. Only recently, this strategy has shifted, by a modest degree, towards diversified agriculture. Efforts so far have been limited, in the crop sub-sector, to develop some non-rice high-yielding strains with only limited success (see Evaluation Report of the Crop Diversification Project of the Ministry of Agriculture, prepared by a group of consultants in 1997). Beside this technical approach of limited scope, the process has basically been left to market forces to determine the crop composition. Even though statistics on non-rice crops are not collected as methodically as rice, some useful conclusion can be derived from these statistics. During the last 15 years, the land area devoted to production of potato, banana, vegetables, mango and pineapples has increased but area and production of sugarcane, oilseeds and pulses have declined. Production of potato has grown the fastest, and the production

³ The fertilizer monitoring unit was established several years ago in the Ministry of Agriculture but it has not been functioning effectively.

of oilseeds, pulses and jute have declined at highest paces. New crops like maize has expanded fast because of its demand for fish and chicken feed manufacturing and industrial uses. Medicinal plants, flowers, fruits (e.g. litchi, pineapple, and mango) have begun to spread, but their share in crop GDP is still extremely small.⁴

Estimates of the profitability of crops are provided in **Table 3.4** for the 1990s and **Table 3.5** for 2000s to highlight the fluctuations in profitability of individual crops in the crop sub-sector. Before drawing quick

Table 3.4 Financial and Economic Profitability of Selected Crops in Bangladesh, 1996/97–1998/99

Crop	Net Financial Return (Tk/hectare)	Net Economic Return (Tk/hectare)	
		Import Parity	Export Parity
Boro rice HYV, modern	7,299	18,172	7,254
Boro rice local	3,953	9,245	3,758
Aman rice, HYV, modern	9,782	19,682	9,090
Aman rice, local T.	4,250	10,105	4,003
Wheat modern	2,819	6,466	–
Jute (tassa)	2,804	–	11,140
Cotton (rainfed)	18,665	16,886	–
Sugarcane (gur making) non-irrigated	25,726	–5,795	–
Mustard oil	4,235	–2,747	–
Sesame oil	4,235	3,576	–
Masur (lentil)	3,542	2885	–
Khesari	4,538	8,551	5,454
Potato (HYV fresh)	5,2636	194,815	29,130
Potato HYV (chilled)	49,140	120,926	–
Brinjal (modern)	53,206	–	322,014
Radish	13,572	–	351,669
Tomato	93,730	–	553,940
Cabbage	42,638	–	498,056
Cucumber	26,213	–	194,865

Note: The estimates are averages of 1996-97, 1997-98, and 1998-99, expressed at 1997-98 prices.

Source: Dorosh et al (ed), 2004.

⁴ An assessment of agro-business opportunities and constraints in the context of high-value agriculture in Bangladesh is available in World Bank (2008b), with a particular focus on fisheries, poultry, fruits, vegetables, high-value rice and dairy.

Table 3.5 Estimated Net Returns for Selected Crops in 2006 in Bangladesh

Crop	Gross Returns ¹ (Tk/Ha)	Total Cost of Production ² (Tk/Ha)	Net Returns ³ (Tk/Ha)
Rice			
• Local Aus	22713	24778	-2065
• HYV Aus	36480	33070	3410
• Local Aman	33828	27701	6127
• HYV Aman	39012	32077	6935
• HYV Boro	69620	55946	13674
Wheat	35153	34403	750
Maize	54079	45617	8462
Jute	46026	50068	-4042
Sugarcane	108502	76157	32345
Potato	225692	188894	36798
Gram	42726	28209	14517
Lentil	32587	29516	3071
Moong	30535	24200	6335
Mustard	27659	29291	-1632
Linseed	14562	15940	-1378
Brinjal	410866	244312	166554
Tomato	295660	159745	135915
Cucumber	195447	120359	75088
Radish	155192	94008	61184

Note: ¹Includes the value of main product and by-product.

²Includes the cost of seeds/seedlings, fertilizer, pesticides, labour (family and hired), land preparation, irrigation and rental value of land.

³Gross returns minus total cost of production.

Source: Bangladesh Institute of Development Studies, Report on Cost of Production Surveys (in 2006), February, 2007.

conclusion, it should be known that all these crops are seasonal except sugarcane which takes land for the whole year. Its comparison with others, should assume two other crops equitable to one crop of sugarcane. Moreover, all crops do not compete for land during the same season. *Boro* season rice crop competes with most vegetables, pulses, cotton and oilseeds. One may wonder why farmers grow *Boro* rice when the opportunities of increasing income through high value products, even in domestic market, is so high. Two reasons seem logical. First, the demand in the domestic market in the harvest season for perishable products are

limited. Therefore, any sudden surge in production implies a drastic fall in prices. The solution remains with using cold storage facilities, preservatives to increase longevity and expanding the export market. Second, some farmers are still concerned about food security and tend to produce a certain quantity of rice for home consumption. The most pertinent question that comes in mind from the data in these tables is “why export does not increase faster if it is profitable to export horticultural products”? Again the issues of quality, shipping, infrastructures, and phytosanitary conditions for export of perishable products are cited for the slow growth of exports (ADB, 1999). In 2004/05, vegetable and fruit exports from Bangladesh were about \$64 million, mainly to ethnic overseas markets but their scope for expansion is relatively limited.

The diversification to high value crops in agriculture is proceeding, albeit slowly, mostly driven by market forces. One such force in the market is price. Real price for coarse rice has declined at about 1.8 percent annually during 1990-2004. During the same period the real price of fine varieties of rice has declined at about 1.1 percent per annum. But potato (fresh) prices in real term has increased at about 1.9 percent annually during the same time. Real prices of most vegetables and spices have shown similar increases. It is clear that price incentive for growing crops has been increasingly moving towards high value products thereby reducing the share of rice, particularly coarse rice, in crop production. Bangladesh used to maintain a policy of protection of rice price before 1994/95 which resulted in higher domestic prices than world prices. After liberalisation, domestic prices started declining at a rate faster than world prices. But from mid-1990s, domestic prices of rice in real term have been falling at about the same rate as the world prices of rice. More recently, however, there has been a substantial increase in nominal prices of rice in Bangladesh as well as in the international market and it will be discussed in Chapter 8 that deals with food security.⁵

Fisheries Sub-sector. As mentioned earlier, fisheries sub-sector has become the most vibrant and fastest growing sub-sector in agriculture. Fisheries possesses a natural comparative advantage in Bangladesh. This sub-sector now contributes about 23 percent to the agricultural GDP compared to its share of only about 12 percent 20 years ago. The composition, sources, and growth rate in production of fish during 1997-2004 are shown in **Table 3.13**. Inland fisheries accounts for 78 percent of total fish production. The remaining 22 percent comes from marine

⁵ The historical price trends for various agricultural products (rice, wheat, potato, fish and chicken), which have contributed to diversification in agriculture, are reported in Tables 3.6, 3.7, 3.8, 3.9, 3.10, 3.11 and 3.12 and in Figures 3.1, 3.2, 3.3, 3.4 and 3.5.

Table 3.6 National Average Monthly Wholesale Price of Aman Coarse Rice in Bangladesh, 1990/91 – 2004/05

Month	(Tk. per quintal)																			
	1990/ 91	1991/ 92	1992/ 93	1993/ 94	1994/ 95	1995/ 96	1996/ 97	1997/ 98	1998/ 99	1999/ 00	2000/ 01	2001/ 02	2002/ 03	2003/ 04	2004/ 05					
July	968	1089	1106	769	1088	1281	1080	946	1251	1243	1103	1107	1228	1210	1277					
August	993	1088	1055	782	1092	1273	1029	938	1313	1243	1051	1186	1234	1290	1350					
September	1005	1130	1007	881	1155	1257	992	948	1417	1239	1104	1129	1300	1345	1360					
October	1098	1147	967	898	1179	1253	931	980	1411	1280	1240	1169	1343	1308	1470					
November	970	1018	890	842	1207	1184	928	1013	1417	1195	1129	1143	1348	1302	1449					
December	983	1037	820	887	1190	1163	910	1119	1450	1201	1185	1208	1340	1299	1523					
January	1050	1084	842	930	1227	1195	899	1244	1435	1157	1130	1252	1395	1334	1585					
February	1072	1133	825	1035	1245	1214	943	1349	1462	1207	1166	1271	1391	1356	1628					
March	1130	1157	833	1095	1367	1257	984	1357	1454	1227	1178	1275	1400	1361	1588					
April	1096	1207	859	1101	1359	1150	1050	1422	1400	1237	1213	1269	1393	1308	1561					
May	1053	1042	844	1075	1276	1080	1047	1260	1268	1286	1173	1210	1260	1307	1423					
June	1069	1050	822	1077	1244	1093	956	1199	1240	1179	1103	1209	1273	1262	1469					
Average	1041	1099	906	948	1219	1200	979	1148	1377	1225	1148	1202	1325	1307	1474					

Note: 1 Quintal = 100 kg = 0.1 metric ton.

Source: Department of Agricultural Marketing (DAM), Ministry of Agriculture.

Table 3.7 National Average Yearly Wholesale Price of Aman Fine Rice in Bangladesh, 1999/00 – 2004/05

Year	Nominal Price (Tk/quintal)	Real Price (Tk/quintal)	GDP Deflator (Base: 1995-96=100)
1999/00	1608	1390	115.69
2000/01	1586	1349	117.53
2001/02	1615	1332	121.28
2002/03	1702	1342	126.77
2003/04	1731	1302	132.93
2004/05	1836	1323	138.78

Source: Department of Agricultural Marketing (DAM), Ministry of Agriculture.

fisheries. The annual growth rate in total fish production has been 6.2 percent; growth rate in fish production from inland fisheries has been 5.6 percent and that from marine fisheries has been 8.5 percent. The most significant achievement in the fisheries sub-sector is the emergence of cultured fisheries (aquaculture), particularly pond fisheries and shrimp culture as the leading source of increase in fish production. Growth rate in production from marine sources is high but its share in total fish production is still very low.

Pond fisheries have a significant implication for income distribution because ponds are scattered throughout the country and because of the

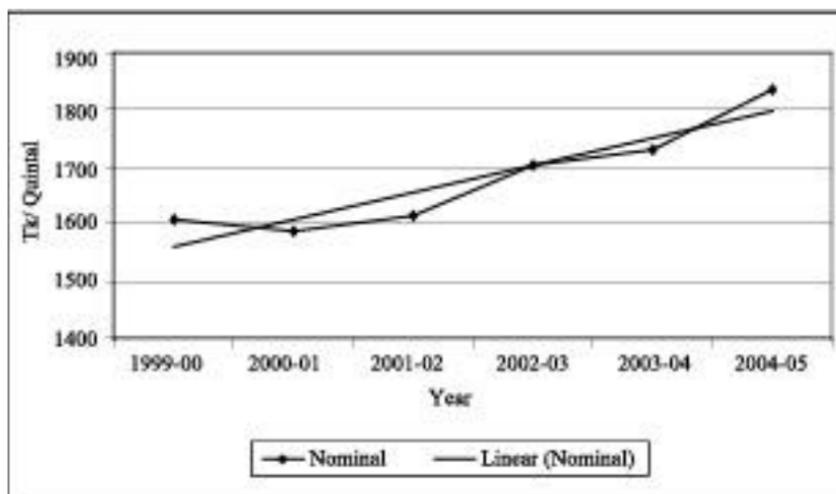


Figure 3.1 Trends in Nominal Price of Aman Fine Rice in Bangladesh

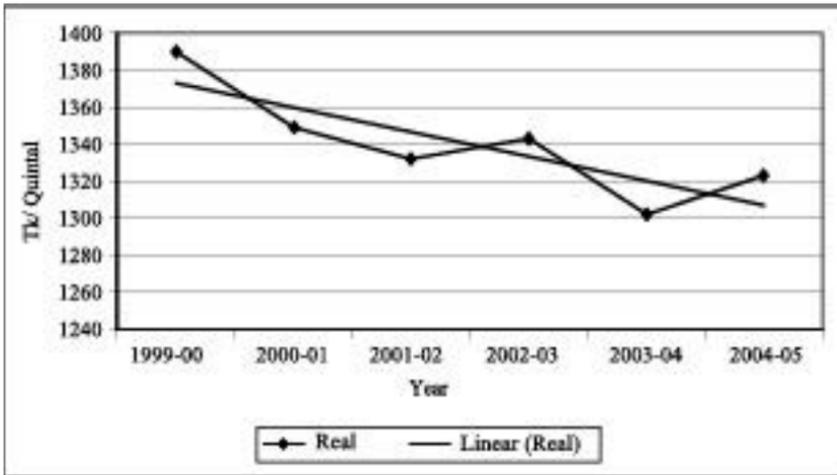


Figure 3.2 Trends in Real Price of Aman Fine Rice in Bangladesh (base: 1995-96=100)

widely practiced joint ownership of ponds. The high rate of return has brought the erstwhile scattered owners to form formal or informal cooperatives for the exploitation of ponds and tanks. A number of initiatives were undertaken during the 1970s and 1980s to bring the derelict ponds and tanks into productive use. Success came only after new aquaculture technology was readily available and market for fish was growing rapidly which made the ponds an attractive source of income.

Shrimp is concentrated in the coastal areas and is a large foreign exchange earner; export of shrimp earns about US\$300 million annually. Although a large part of shrimp production is obtained in large enclosures (called Ghers), small scale farmers have recently started to cultivate shrimp (Golda Chingree) in their rice fields impounded for both rice and shrimp cultivation. The Bagerhat district in the Khulna area has many farmers having made fortune by cultivating shrimp in rice fields, so much so that the area is euphemistically called the “Kuwait” of Bangladesh. Because of dependence on exports, shrimp cultivation is required to observe strict hygienic methods of production and processing.

Baors (Ox-bow lakes) are natural water bodies, small in size, scattered throughout the country and primarily a community/government owned facility for fisheries. This has all the attributes of open water fisheries except that it is smaller and increasingly being leased out to private

Table 3.8 International Prices of Rice and Wheat (f.o.b.), 1980/81 to 2004/05

(US\$/metric ton)

Year	Thai Rice*			US Wheat		Argentina Wheat Trigo Pan
	100% Grade B	5% Parboiled Broken	15% Broken	No. 2 Hard Red	No. 1 Soft Red	
1980/81	477	n.a.	n.a.	183	179	n.a.
1981/82	440	n.a.	n.a.	170	169	n.a.
1982/83	249	n.a.	n.a.	160	158	n.a.
1983/84	241	n.a.	n.a.	154	153	n.a.
1984/85	218	n.a.	n.a.	148	148	n.a.
1985/86	191	159	n.a.	129	128	n.a.
1986/87	189	168	172	110	113	n.a.
1987/88	266	255	249	123	120	88
1988/89	286	279	270	167	164	144
1989/90	300	267	270	161	153	136
1990/91	292	272	257	118	112	85
1991/92	289	266	259	150	147	114
1992/93	251	231	223	143	142	124
1993/94	294	244	243	142	132	136
1994/95	290	266	270	156	156	136
1995/96	362	344	335	216	198	218
1996/97	338	323	303	181	158	157
1997/98	302	292	275	142	129	137
1998/99	284	276	261	120	100	118
1999/00	231	242	209	112	97	104
2000/01	184	187	167	128	101	124
2001/02	201	198	176	127	113	119
2002/03	200	194	186	161	138	145
2003/04	220	200	207	161	149	154
2004/05	275	275	261	154	138	123

Note: *Indicative traded price, f.o.b. Bangkok.

n.a. means not available.

Source: Food and Agricultural Organisation (FAO) and Food Planning and Monitoring Unit (FPMU), Ministry of Food and Disaster Management, Dhaka.

individuals for fish culture. Ponds, coastal shrimp aquaculture, and *Baors* constitute a significant part of cultured fisheries. Inland pond and coastal shrimp aquacultures are considered to hold the best prospects for future

Table 3.9 National Average Wholesale Price of Potato (local best) in Bangladesh, 1989/90 to 2004/05

Year	Average Price		GDP Deflator (Base=1995/96=100)
	Nominal (Tk/quintal)	Real (Tk/quintal)	
1989/90	676	864	78.24
1990/91	501	628	79.80
1991/92	545	655	83.25
1992/93	613	736	83.25
1993/94	637	713	89.37
1994/95	619	645	95.94
1995/96	675	675	100.00
1996/97	686	665	103.09
1997/98	565	521	108.53
1998/99	740	652	113.58
1999/00	861	744	115.69
2000/01	503	428	117.53
2001/02	596	491	121.28
2002/03	891	703	126.77
2003/04	897	675	132.93
2004/05	813	586	138.78

Source: a. Department of Agricultural Marketing, (DAM), Ministry of Agriculture

b. *Handbook of Agricultural Statistics*, Ministry of Agriculture

growth (see Muir (ed), 2003, Fisheries Sector Review). And these culture-fisheries have also been the sources of fast growth in the past. However, public policies to increase fish production began in the late 1960s with marine fisheries, aided by the landmark establishment of the Chittagong Fish Harbour. A fleet of trawlers for deep-sea fishing was also organised. A thriving wholesale fish market surrounding the fish harbour, Kaptai Lake and small-scale coastal fishing fleet soon developed at Chittagong.

Government also established country-wide fish-seed production centers and provided extension service to farmers for adoption of modern pisciculture methods. Initial outcomes were, however, very feeble. Fish production picked up momentum from early 1990s, as if from an inspiration from success in shrimp cultivation in coastal areas. Entrepreneurs in rural areas began to invest in development of ponds and *baors* for pisciculture. Private trade in hatchery and production of

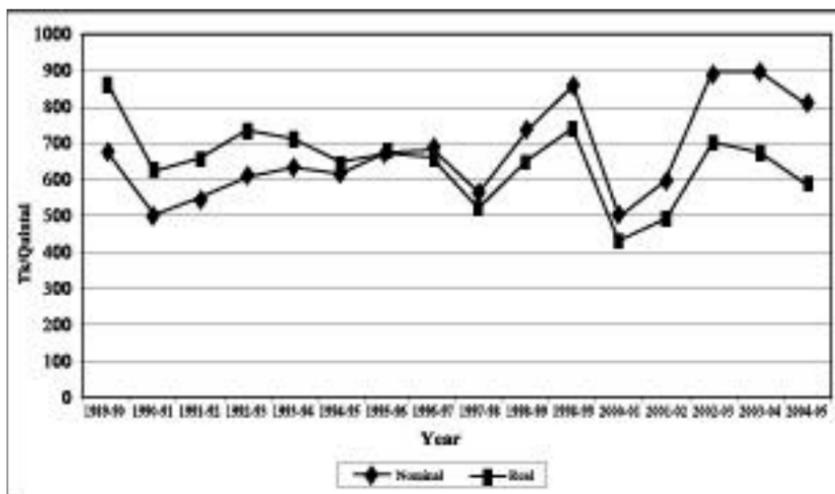


Figure 3.3 National Average Wholesale Price of Potato (local best) in Bangladesh

fish multiplied to contribute to the expansion of cultured fisheries. The Department of Fisheries (DOF) undertook special efforts to develop institutions and involve NGOs in turning some 'jalmahals' (Government owned water bodies) into profitable ventures for fish production. Through a series of World Bank financed fisheries projects (the implementation of Fourth Fisheries Project was completed on June 30, 2006), the drive for increasing fish production received special technical, institutional and investment support, resulting into a growth record in fisheries that was unprecedented. This record holds high hope for the future of the fisheries sub-sector in Bangladesh.

The fisheries sector review, edited by Muir (2003), developed a strategy for increasing fish production that relied heavily on cultured fisheries.⁶ This emphasis implies a greater role of diffusion of technology, supply of fish-seeds, modification of institutions or enactment of new law, and a vigorous investment and information support to the sector, than was possible in the past. The projected output, very feasible and realistic, as developed in the sector report, is shown in Table 3.14. It implies a growth rate in GDP from fisheries of 5.29 percent per year. The underlying strategy for achievement of the projected output is the

⁶ Under the World Bank - financed Fourth Fisheries Project, the Department of Fisheries (DOF) has prepared a comprehensive National Fisheries Strategy that has been approved by the Ministry of Fisheries and Livestock (MOFL). There is now a need to implement the approved strategy for the fisheries sub-sector.

Table 3.10 National Average Wholesale Price of Ruhi Fish in Bangladesh, 1980 -2005

Year	Nominal Price (Tk/quintal)	Real Price (Tk/quintal)	GDP Deflator (Base=1995/96=100)
1980	2162	6850	31.56
1981	2363	6774	34.88
1982	2388	6242	38.26
1983	2888	6957	41.51
1984	3196	6749	47.35
1985	4272	8117	52.63
1986	5291	9309	56.84
1987	5357	8501	63.02
1988	5643	8321	67.81
1989	6900	9379	73.57
1990	7092	9064	78.24
1991	7603	9527	79.80
1992	8873	10659	83.25
1993	10475	12582	83.25
1994	10054	11250	89.37
1995	11039	11506	95.94
1996	10577	10577	100.00
1997	11071	10739	103.09
1998	10932	10073	108.53
1999	11211	9870	113.58
2000	12836	11095	115.69
2001	13103	11148	117.53
2002	15601	12864	121.28
2003	17632	13909	126.77
2004	16216	12199	132.93
2005	14832	10687	138.78

Note: The deflator is same as used for national income.

Source: Department of Agricultural Marketing, (DAM), Ministry of Agriculture.

development of cultured fisheries. It automatically points to the cardinal role of seed supply and the infrastructure and institutional requirement for ensuring supply. The strategy does not view post-harvest marketing to be a serious problem. There is already a vibrant marketing structure that is flexible to adjust and competitive to provide services to producers.

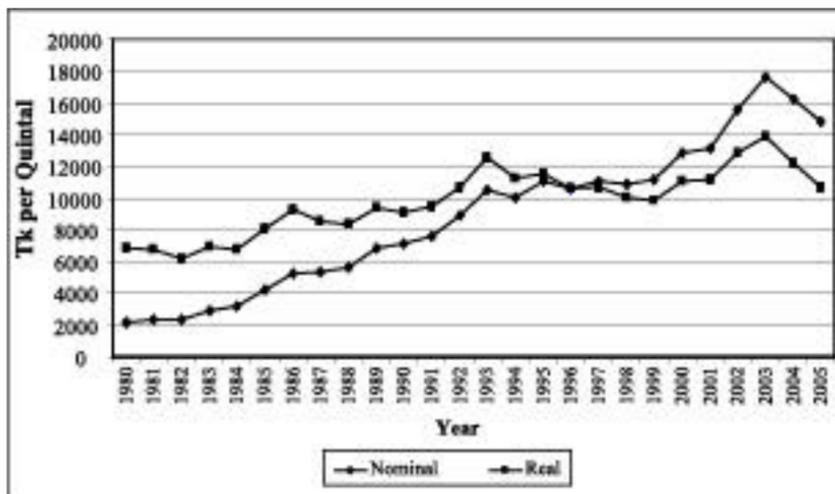


Figure 3.4 National Average Wholesale Price of Ruhi Fish in Bangladesh, 1980–2005

This view about market is consistent with the price incentives that prevailed historically in fish production. The real price of fish, in spite of a robust increasing trend in production, did not fall, nor the increase was too steep (see Figures 3.4 and 3.5). The increasing trend in real price was moderate but effectively stemmed the growth of large fish imports from India.

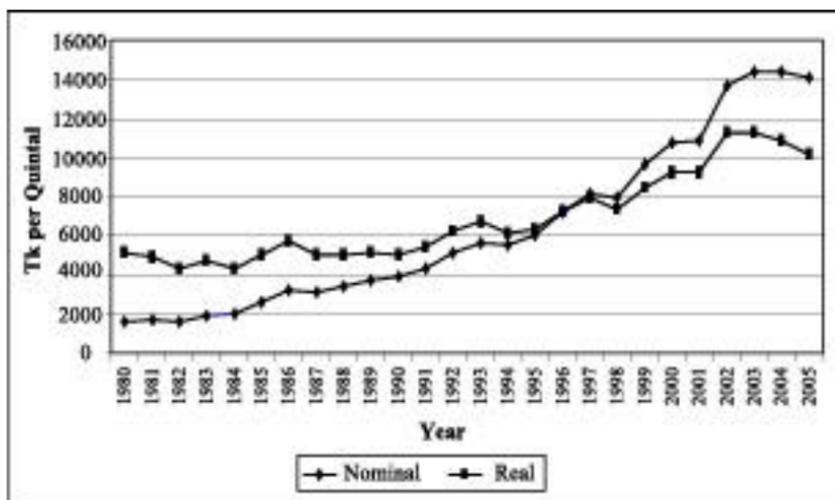


Figure 3.5 National Average Wholesale Price of Hilsha Fish in Bangladesh, 1980–2005

Table 3.11 National Average Wholesale Price of Local Chicken (live, big size) in Bangladesh, 1980 - 2005

Year	Nominal Price (Tk/quintal)	Real Price (Tk/quintal)	GDP Deflator (Base=1995/96=100)
1980	1751	5549	31.56
1981	2051	5880	34.88
1982	2076	5426	38.26
1983	2252	5424	41.51
1984	2744	5795	47.35
1985	3504	6658	52.63
1986	3836	6749	56.84
1987	3821	6064	63.02
1988	4286	6321	67.81
1989	4608	6264	73.57
1990	5097	6515	78.24
1991	5679	7116	79.80
1992	6077	7299	83.25
1993	6428	7721	83.25
1994	6663	7455	89.37
1995	7103	7403	95.94
1996	7374	7374	100.00
1997	8451	8197	103.09
1998	8089	7453	108.53
1999	8343	7345	113.58
2000	8910	7702	115.69
2001	8954	7618	117.53
2002	8700	7173	121.28
2003	9538	7524	126.77
2004	9994	7518	132.93
2005	10337	7449	138.78

Note: The deflator is same as used for national income.

Source: Department of Agricultural Marketing (DAM), Ministry of Agriculture.

For the fisheries sector to play a leading role in agricultural growth and poverty reduction, the sector review recommended a large number of measures. A few major ones are noted here:

- (a) It is essential to develop a strategy for fisheries sector outlining long-term goals, investment plans and a framework for implementation.
- (b) A National Resource Management Council (NRMC) at the apex level should be constituted to draw plans and policies and coordinate policies.

Table 3.12 National Average Wholesale Price of Hilsha Fish in Bangladesh, 1980 – 2005

Year	Nominal Price (Tk/quintal)	Real Price (Tk/quintal)	GDP Deflator (Base=1995/96=100)
1980	1634	5179	31.56
1981	1730	4960	34.88
1982	1641	4289	38.26
1983	1948	4693	41.51
1984	2046	4321	47.35
1985	2653	5041	52.63
1986	3234	5689	56.84
1987	3153	5004	63.02
1988	3443	5077	67.81
1989	3748	5095	73.57
1990	3904	4990	78.24
1991	4372	5479	79.80
1992	5152	6189	83.25
1993	5641	6776	83.25
1994	5496	6149	89.37
1995	6085	6342	95.94
1996	7238	7238	100.00
1997	8178	7933	103.09
1998	7964	7338	108.53
1999	9623	8472	113.58
2000	10765	9305	115.69
2001	10866	9245	117.53
2002	13690	11288	121.28
2003	14347	11317	126.77
2004	14428	10854	132.93
2005	14090	10152	138.78

Note: The deflator is same as used for national income.

Source: Department of Agricultural Marketing (DAM), Ministry of Agriculture.

Table 3.13 Sources and Growth Rate in Fish Production in Bangladesh, 1997 through 2004

Source	Share in Total Production in 2004 (%)	Annual Growth Rate (%)
A. Inland Fisheries (1+2)	78.0	5.6
1. Inland open water ¹ (capture)	36.4	4.1
2. Inland close water (culture) (a+b+c)	41.6	7.0
a) Ponds	36.2	7.6
b) <i>Baor</i> (ox-bow lake)	0.2	5.6
c) Shrimp farms	5.2	4.1
B. Marine Fisheries (a+b) (capture)	22.0	8.5
a) Commercial/ Industrial	1.3	9.6
b) Artisanal	20.7	8.4
Total (A+B)	100	6.2

Note: ¹Includes river estuaries, Sundarban, *beel* (depression), Kaptai lake, flood plain.

Source: Computed from information in (i) BBS, *Statistical Yearbook, 2000a*, and (ii) Ministry of Fisheries and Livestock, *Economic Review, 2005*.

(c) A Fisheries Management Executive Committee (FMEC) should be established to implement policies made by NRMC.

(d) A commercial/private sector development strategy should be formulated and implemented.

Going through the list of recommendations, it becomes puzzling that the need of statistical body for regular fisheries data collection is not recognised and included in the list, even though the review noted, on many occasions, that the information was unreliable. Similarly, the creation of a new body like NRMC, without detailed analysis of its relation with current ones or framework for its functions, leaves the recommendation in a questionable state. These observations are not meant to criticise the sector review; the review brings out many useful elements of a future direction for the fisheries sector. But further debate is necessary to crystallise future course of action. Under the World Bank-supported Fourth Fisheries Project, the National Fisheries Strategy deals with a set of recommendation for each component of the fisheries sub-sector. One key recommendation with favourable implication for fish production growth as well as poverty reduction among fishermen is the elimination of current leasing policy for “*jalmahals*” and instead giving these to real fishermen with clearly articulated fisheries management plan.

Table 3.14 Projected Output of Fish in Bangladesh, 2012

Sources	Current Level (2002)	Projected Level (2012)	Annual Growth Rate (%)
Seed purpose			
Post Larvae (million)	7,552	58,000	22.5
Fish Fry (mt)	269,382	1,181,000	15.9
Market purpose			
Inland aquaculture (mt)	850,000	2,524,455	11.5
Coastal aquaculture (mt)	94,580	228,000	9.2
Inland capture fisheries (mt)	750,419	679,000	-0.9
Coastal/ marine capture fisheries (mt)	589,500	552,000	-0.6
Total, excluding seed (mt)	2,284,499	3,983,455	5.29

Note: The base year was assumed at 2002 and projection was for 10 years. The year 2012 was not explicit in the report.

Source: Muir James (ed.). 2003. *The Future for Fisheries (A Sector Study for Bangladesh)*, World Bank, DANIDA, USAID, DFID, FAO, MOFL and DOF sponsored.

Table 3.15 Trends of Production in Livestock Products in Bangladesh, 1980 to 2000

Products	Year (000 mt)				Annual Growth Rate (%)	
	1980	1990	2000	Projection 2015	1980-90	1990-2000
Meat	200	298.3	418.9	856.2	3.9	3.4
Beef and buffalo	122.7	142.8	175.5	273.1	1.5	2.1
Mutton and goat	24.4	75.2	131.7	238.3	11.9	5.8
Poultry	52.9	80.3	111.7	344.8	4.3	3.4
Milk	1162.3	1593.5	2112.0	3597.5	3.2	2.5
Eggs	62.2	85.7	159.0	447.3	3.2	6.4

Notes: a. The year 2015 represents FAO's projection, other years represent actuals. Actuals are estimated on the basis intra and extrapolation of census statistics.

b. The livestock GDP, as reported in BBS *Statistical Yearbooks* for various years, indicates growth rate of 2.38 percent annually during 1990/91 to 1994/95 and an annual growth rate of 2.63 percent during 1995/96 to 1999/2000. Product values are measured at 1984/85 constant prices.

Source: FAO, *Statistical Yearbook*, 2002 and 2003

Livestock Sub-sector. In Bangladesh, agriculture generally means crop production and crop sub-sector is considered synonymous with agriculture. Most public documents and statistical publications present statistical

information on agriculture largely covering crops with scant coverage of other sub-sectors in agriculture. Livestock is particularly a glaring example of this neglect.⁷ Even government documents cite FAO as the sources of many livestock statistics. The trend of livestock production, as presented in **Table 3.15**, is based on FAO data and growth rates refer to physical production, not value-added. Livestock GDP (not shown in the table) has grown at around 2.5 percent during 1990-2000, as compared to 2.4 percent during 1980-90. In terms of physical quantity, milk constitutes the largest product, followed by meat and then eggs. Poultry and mutton-goat meats have contributed most to the overall growth in meat. Production of eggs has the highest growth rate among livestock products.

Livestock sector is perceived to have limited prospects in Bangladesh. This sector makes an important contribution to the nutrition intake of the population and the export of hide and skin, including leather products, constitutes about 5 percent of the export earnings of Bangladesh. Draft-power for cultivation is provided by livestock but introduction of power tiller is increasing rapidly to substitute for livestock draft power. At present, about 40 percent of land is cultivated by power tillers. Similarly, an increasing flow of cattle from India to Bangladesh has been the most important source of beef consumption in the country. The perception of limited potential for livestock sector to contribute to agricultural growth is based on the reality of intense pressure on land arising from adverse land-man ratio in the country. Milk production has, however, increased modestly (at annual growth of 2.9%) mainly because of stall feeding, growth in some specialised areas suitable for rearing of cows, and cooperative marketing and processing (e.g. Milk Vita). This sub-sector faces increasing competition from imported (often subsidised) powdered milk. The only part in the livestock sub-sector that has shown dynamism in recent years and bears some prospect for future growth is poultry. We shall focus on poultry in a greater detail than other aspects of livestock. Before we do that, however, a brief historical discussion of government strategy for the livestock sub-sector is warranted.

The Government does not have a coherent sectoral strategy on livestock. It is, however, possible to paint a picture of an “implicit strategy” from various plans and budget documents. It seems that livestock development has been pursued by governments through (a) disease control, (b) improvement of indigenous birds and bovine population through replacement by improved breeds, (c) development of

⁷ Recently, the Bangladesh Ministry of Fisheries and Livestock, with assistance from FAO, has prepared a preliminary Livestock Policy and Action Plan for Bangladesh (MOFL, 2005).

suitable fodder and feed, and (d) conducting research and providing extension service to farmers. Every Upazilla has a veterinary center for disease control. Artificial insemination, exchange of improved breeds for indigenous birds, introduction of fodder crops, organisation of cooperatives for milk supply and processing and operation of government poultry and cattle farms, are some of the examples of public action. The impact of these programmes on the livestock sub-sector has been questionable. The private sector driven poultry development is considered to be the outcome of emerging tide of entrepreneurs in many sub-sectors of Bangladesh, including high value crops, fish and livestock.

The poultry production system is classified into two types: (i) the unorganised, backyard or traditional production system, and (ii) commercial production system. Commercial system can be further classified into (a) household based business entrepreneurship, and (b) large commercial farms. We will call the former system as traditional and the commercial system as modern. Most of the modern farms are located around big cities and district towns; they are concentrated in Gazipur, Dhaka, Manikganj, Chittagong, Jessore, Serajganj, Bogra and Faridpur. The discussion of poultry industry in this book is based on a study jointly conducted by the International Food Policy Research Institute (IFPRI) and the Bangladesh Institute of Development Studies (BIDS) in 2000. The study surveys 71 poultry farms. The total size of the modern, commercial poultry industry was estimated at 1,18,526 farms in 2003 (Ahmed Nazir, 2005). Therefore, the survey covered only about 0.06 percent of the population.

Some general characteristics of modern poultry farms are presented in **Table 3.16**. The household category is also commercial enterprise but these farms are located in temporary or semi-pucca extension of houses. It appears that most of the modern farms emerged during the second half of the 1990s. Initial investment made by a layer farm averaged about Tk.50,000 for household type and Tk.190 thousand for commercial type with stock size of 607 and 4,870 birds, respectively. Therefore, stock size for every Tk.1000 of investment was 12.7 in household type and 25.6 in commercial layer farms. Capacity utilisation was 57 percent in household and 81 percent in commercial layer farms. Most (81 percent) of investment in household type and 41 percent of investment in commercial type of layer farms were self-financed. Apparently, commercial farms depended more on bank credit than household type in the layer farm business. Employment/investment ratio, measured as investment required for creation of one unit of employment, was Tk.28.8 thousand for household type and Tk.32.3 thousand for commercial type layer farms.

Table 3.16 General Characteristics of Surveyed Poultry Farms in Bangladesh, 1999/2000

Characteristics	Layer Farms		Broiler Farms		All Farms
	Household	Commercial	Household	Commercial	
Number of farms	33	20	9	9	71
Age of farms (years)	3.9	6.1	4.3	6.6	5.1
Percentage established after 1995	73	25	67	67	61
Initial investment (1000 Tk)	47.8	190.5	20.0	70.1	87.3
Stock size (number)	607	4870	622	1544	1872
Capacity utilisation (%)	57	81	70	82	78
Self financing (%)	81	41	98	92	46
Number of workers (per farm)	1.66	5.9	1.74	2.89	-

Source: Quasem and Islam, 2004. "The Emerging Livestock Sector in Bangladesh" In *The 1998 Flood and Beyond*, edited by Dorosh, Paul, Carlo del Ninno and Quazi Shahabuddin (2004).

Average investment on broiler farms was smaller than layer farms. On average, a household type broiler farm invested Tk.20 thousand and a commercial farm, Tk.70 thousand. Stock size per Tk.1000 investment was 31.1 for household and 22.0 for commercial broiler farms. It seems that the broiler farms of household type could raise more than twice the number of stock than the same type of layer farms for the same investment level. Most of the investment in broiler farms is self-financed. Creation of employment of one worker warrants an investment of Tk.11.5 thousand in household type and Tk.24.3 thousand in commercial type broiler farms. Broiler farms are more labour intensive than layer farms. The modern poultry industry, as has emerged in the country, is more labour intensive than small-scale manufacturing industries in Bangladesh.

The central element of poultry production is feed. Feed cost accounts for 67 to 73 percent of total cost in layers and about 40 percent in broiler farmers. Efficiency indicator in poultry production is measured as the increase in weight (broiler) and laid eggs for the increase of the consumption of feed. This conversion factor depends largely on the type of breed used. Bangladesh appears to have poultry breeds which are half as efficient as in China (see Quasem and Islam, 2004). Because of low efficiency, value-added from poultry is only about 40 to 50 percent of gross production.

The profitability in poultry industry has reached a level by 2000 that is comparable with general level in most industries (i.e. around 15 to 25 percent on annual basis). The returns from the poultry farms covered in the survey are shown in **Table 3.17**. The layer operation is of a 2-month cycle and the broiler operation has a cycle of 18 months. From this data, it is possible to estimate annual rates of return which are summarised below:

(a) Layer Farm: Household:	19.8%
Commercial:	138.0%
(b) Broiler Farm: Household:	31.2%
Commercial:	20.8%

Commercial egg production (layer farm) seems to yield an extremely high rate of return. One could expect a further acceleration in this business. Broiler production seems to yield a profit rate of 21 to 31 percent and household type appears to make more money than commercial type. In general, these data show that attractiveness in poultry industry is still quite high in commercial egg production and household type broiler production. Real prices of chicken and egg during the last 15 years have exhibited a rising trend. However, prices in the past two years have shown a declining phase. It is difficult to say whether it is a signal for a declining price regime. If so, then, the expansion of this labour intensive sub-sector in the future will have to depend on a moderate level of export. Some thinking along this line is necessary.

Poultry industry, all over the world, is threatened by the probability of being hit by avian flu. This happened in Bangladesh in 2007 and the chances of the budding poultry industry being overwhelmed by the scourge are very high. Bangladesh does not have any reliable laboratory to detect the avian flu virus. The country also lacks any access to avian flu vaccines, either through its own production of vaccines or arrangement of cooperation with countries that have capacity to supply this vaccine. This threat is serious and not a fiction. Therefore, Bangladesh should ponder seriously how to be prepared for any event of avian flu. In this context, Bangladesh needs to focus on expanded surveillance; appropriate diagnostic laboratories; awareness and communication strategy; and a compensation strategy.

Forest Sub-sector. Like the livestock sub-sector, data on forestry is equally thin and most often based on guess estimate. Forestry production is based on extraction, i.e. the quantity of wood, leaves, firewood etc. harvested in a year. Excessive deforestation may increase harvest, and therefore production, even though the stock of forest is

Table 3.17 Costs and Returns on Poultry Farms, Per Bird, in Bangladesh, 2000

Item	Layer House- hold	Layer Commercial	Broiler House- hold	Broiler Commercial
Costs				
Chicks (Tk)	26.60	26.60	25.20	24.00
Labour (Tk)	128.00	40.00	16.50	23.00
Feed (Tk)	552.00	536.00	39.50	38.00
Investment cost (Tk)	12.00	33.00	0.50	0.65
Utilities (Tk)	26.50	23.50	5.00	4.00
Sub-Total (Tk)	745.10	695.10	86.74	89.63
Cost at a survival rate of 90%	828.00	732.00	96.40	99.60
Returns				
Sale price (Tk/Kg)	-	-	60	62
Sale price (Tk/100 eggs)	250.00	250.00	-	-
Weight gained (Kg)	-	-	1.69	1.98
Egg laid by a layer (number)	314	333	-	-
Value of broiler (Tk)	-	-	101.4	122.8
Value of eggs (Tk)	785	833	-	-
Sales value of layer (Tk)	70	65	-	-
Sales value of poultry litters (Tk)	0.5	0.5	-	-
Gross income (Tk)	855.5	898.5	101.4	122.80
Net return (Tk)	27.5	168.5	5.0	23.30
Net return of broiler farm per batch (Tk)	-	3,110	35,821	
Net return of layer farm per batch (Tk)	16,692	810,855	-	-

Note: For Broilers, labour is 1.74 persons for 2 months, investment cost is Tk. 20,028 for a household and Tk. 70,111 for commercial farm at 10 percent interest for 2 months.

For Layers, labour is 2 persons for household and 4 persons for commercial farm for 18 months, investment in Tk. 41,908 for a household and Tk. 748,638 for a commercial farm at 10 percent interest for the period.

Source: Quasem and Islam, 2004.

depleted and scope of future harvest shrinks. Government national income accounting shows that GDP from forest sub-sector increased at annual rate of 3 percent between 1990/91 and 2003/04. However, the rate of increase during 1990/91 through 1996/97 was 2.4 percent as compared to 3.8 percent annual growth during 1996/97 through 2003/04. This case was pursued with those who compile national income accounts and it was told that the recent high rate is attributable to: (a) new harvests from

coastal forestry which was nurtured for about two decades in the past, (b) new harvests or accelerated harvest from plantations and reserve forests in Chittagong Hill Tracts, and (c) new harvests from social forestry (i.e. road side and community forests). There is little objective basis for countering the arguments above.

The structure of production of forestry products from 1984 through 1994 is shown in **Table 3.18**. Without converting these physical quantities into value-term, it is not possible to make any estimate of the respective shares of these products. The data, therefore, serve a limited purpose, indicating only the extent of diversity of forest products in Bangladesh. The table does not reflect recent (1995 and after) production, but that should not probably disqualify the question raised about the growth rate in forestry GDP. Given that the figures in the table show declines in output of most forest products, the 2.4 percent annual growth during 1996/97-2003/04 raises a number of questions. Timber and firewood show sharp decline; only bamboo, cane and golpata show increasing trend in production. Their shares in total value of forestry are not that high to cancel the negative impact of other products and then cause a high growth rate in forestry. Data on forestry is really suspect.

Table 3.18 Structure of Production of Forestry Products in Bangladesh, 1983/85 and 1992/95

Products	Unit	Average (1983/85)	Average (1993/95)	Annual Growth (%)
Timber ¹	000 cft	17423	6766	-9.5
Firewood	000 cft ²	31368	9481	-12.0
Golpata	000 mt	61	68	1.1
Bamboo	000 Nos.	76989	119206	4.4
Sungrass	000 bundle	1295	1092	-1.7
Honey	000 mt	256	159	-4.8
Wax	000 mt	64	36	-5.8
Cane	000 Rft ³	1688	2938	5.5

Notes: ¹Does not include social forestry.

²cft means cubic feet.

³Rft means running feet

Source: BBS, *Statistical Yearbooks*, 1995 and 2000.

Forestry in Bangladesh is very important from environmental point of view. It is widely believed, and one can see visible signs on spot check,

that deforestation by illegal means has been devouring the forest resources of Bangladesh. Development of road infrastructures near and within forest areas has caused acceleration in deforestation. It is widely known that those meant for guarding government forest, are in fact collaborators in the process of illegal exploitation. In a country with so high population density, it is natural to experience pressure for clearance of forest for cultivation of crops.

There is no explicit strategy document for the development of the forestry sub-sector. Analysing annual budget documents of past years, it is possible to portray a picture of a strategy. Such a probe indicates that government has been pursuing policies to augment production through (a) coastal afforestation, (b) reforestation of existing reserve forests, including rubber plantation in Chittagong Hill Tracts, and (c) promotion and development of social forestry. Plantation of trees along road sides, around homesteads and on scattered spots of community land constitute elements of development of social forestry. Forest lands in Bangladesh are located in the greater districts of (a) Chittagong Hill Tracts, (b) Madhupur and Bhawal forests in Tangail, Mymensingh and Gazipur, (c) Sundarban forest in Khulna coastal areas, (d) Sylhet, (e) newly accreted forest along the coastal shores of Barisal and Noakhali, and (f) Dinajpur. While coastal afforestation in Barisal and Noakhali is a visible success, the reforestation programmes in old forest areas have become glaring cases of failures. Social forestry has, however, gained popularity as is exemplified in the growth of private nurseries all over the country for sale of saplings. Moreover, roadside plantations are also visible along some highways.

3.1.3 Policies for Marketing and Processing

We have examined earlier certain marketing issues and argued that development of food grain market liberalisation has been phenomenal (Ahmed, Haggblade, and Chowdhury, 2000). We have also discussed development of fish markets for consumers and providing competitive services by private traders. However, some post-harvest problems are emerging in domestic and external segments of market that warrant close monitoring and prompt resolutions. A matrix of such post-harvest management problems in markets for perishable agricultural products and indications of which agents should take initiative to resolve these problems is presented in **Table 3.19**.

The matrix is revealing in the sense that the government initiatives and investments have limited scope, but the role is important. Government has to exercise its power in applying credit, tax, and subsidy

Table 3.19 Matrix of Post-Harvest Management Problems and Suggested Principal Agents for Solution in Bangladesh

Type of Problem	Principal Agent	
	Private	Government
1. Cold storage of perishables products	Entrepreneurs	Credit policy
2. Technology for short storage and packaging	–	Research
3. Processing fruits & vegetables	Entrepreneurs	Credit policy
4. Linking super market chains and contract growers	NGOs, super market	–
5. Infrastructures for external trade in perishables	–	Container shipping and air cargo
6. Promotion of exports	Exporters	Air cargo, subsidy, tax holidays, credit policy
7. Quality control, phyto-sanitary certificate, standards	–	Government regulations
8. Market information (not the traditional type but analytical, predictive forecasts of market conditions)	Private-public cooperation	Government research

Source: Developed by authors from unpublished reports in

- a. Hortex Foundation, Dhaka.
- b. Alternative Technology Development and Business (ATDB) project of USAID, Dhaka and Ministry of Agriculture.
- c. Reports on Agricultural Diversification in Northern Bangladesh by Agro-processing Consultant.

instruments which constitute the domain of the Ministry of Finance. The public investment for port infrastructure and development of quality control measures also fall outside the domain of the Ministry of Agriculture. Agriculture Ministry's role lies in information and research activities. However, the unspoken role of the Ministry of Agriculture in initiation and negotiation of joint effort between private entrepreneurs and NGOs, NGOs and Government, and sole initiatives of NGOs, are quite critical for success. Agriculture Ministry has to keep the Finance Ministry under pressure for designated developments. This role of technical ministries, under the emerging structure for economic development, contrasts sharply with the old pattern in which technical ministries undertook direct investments to solve agricultural problems. Adjustment in thinking and expectation is a necessity, not easily perceived. A detailed analysis of food grain marketing is presented in Chapter 8.

3.1.4 Rural Development Policies

While crop, fish, livestock and forest production involve largely a technical approach, improvement of rural living standards and creation of environment that is conducive to economic activities, call for a wider than the technical approach. Beside growth in agricultural production, overall rural welfare necessitates development of (a) rural infrastructures (e.g. roads and electricity), (b) institutions (e.g. cooperatives), (c) local governments for people to participate and sustain developmental works collectively, and (d) collectively undertake health, education, drinking water, sanitation and housing development in rural areas. The Ministry for Local Government, Rural Development and Cooperatives houses some key programmes in this respect. Beside this Ministry, there are a number of other important agencies e.g. Rural Electrification Board (REB), under the Ministry of Energy; primary and secondary education in rural areas under the Ministry for Education and Prime Minister's Office; health and family planning programmes for rural areas under the Ministry of Health and Family Welfare.

Rural Roads Programme. The rural roads programme under the Ministry of Local Government, Rural Development and Cooperatives (implemented by LGED) is complementing the road network development under the Roads and Highway Department of the Ministry for Communications. An up-to-date picture of road development in Bangladesh is portrayed in **Table 3.20**. The roads under LGED can be considered as purely rural roads. Of the three categories of rural roads, the village road or Rural Road Class 2 can hardly be used by motorised vehicles. However, bullock carts, rickshaw, baby taxis or bicycles can ply on large segments of this class of road. The crest of this class of road varies from 2.44 meters to 3.72 meters. Union roads (Rural Road Class 1) and village roads have initially been developed under food-for-work programmes, but improved subsequently by using cash budget allocations.

LGED programme for rural roads has contributed rather significantly to farm and rural non-farm income growth and to the transformation of the rural economy. But maintenance of rural roads has become a serious problem. A survey in 1998 (annual road condition survey by LGED) found that only 37 percent of road mileage was in good condition. Moreover, rural road system has serious gaps; every 8 km of road needs a bridge or culvert to close the gap (World Bank, Consultant Report, 2000). Maintenance of rural roads is such a complex problem that without effective local governments working at Union and Upazilla levels, this problem will continue to fester around rural development.

Table 3.20 Development of National, Regional and of Rural Road Network in Bangladesh, 1998-2004*(Roads in km)*

Category	1998	2004	Definitions
<i>(A) Under R&H</i>			
National Highway (NH)	3144	3723	Connect national capital with divisional Headquarters, sea ports, land ports and Asian highway
Regional Highway (RH)	1746	4832	Connect district HQs or main river or land ports, or with each other, not connected by national highway
Zilla Road (Feeder Road A)	15964	16823	Connect district HQs with Upazilla HQs or one Upazilla with another by a single main connection with national/ regional highway through shortest distance/ route
<i>(B) Under LGED</i>			
Upazila Road (Rural Feeder Road)	19490	36343	Connect Upazilla HQs with growth centers or one growth center with another by a single road or connect growth centers to higher road system, through shortest distance/ route
Union Road (Rural Road Class 1)	65222	65200	Connect union HQs with Upazilla HQs, growth centers or local markets or with each other HQ.
Village Road (Rural Road Class 2)	11727	138891	Connect villages with union HQ, local markets, ghats or with each other. This category also includes within village roads (within village roads comprise about 56% of this)
Total	117293	265812	

Note:: LGED: Local Government Engineering Department, Ministry of Local Government, Rural Development and Cooperatives.

R&H: Roads and Highway Department, Ministry of Communication.

Source: Ministry of Finance, *Bangladesh Economic Review 2004* and *2005a*; and LGED.

Local Governments and Decentralisation. Local governments, particularly Upazilla Council and Union Council, are relevant to the process of rural development. These local institutions are currently utilized as extended arms of the unitary central government. Their current functions include cooperation with agencies of various ministries in the conduct of activities in rural areas, including delivery of services. Generally, local governments are required to look after village markets (up-keep of markets, stall allocation to traders, resolve disputes among traders etc.) and organise disbursement of social security payments, issue Vulnerable Group Development (VGD) cards among the ultra poor, in

cooperation with relevant agencies of the government. Local governments in rural areas have no power to raise resources except minuscule amounts by Union Councils through market charges from traders and poll taxes. Only the Ministry of Agriculture has regular employees at the Union and village levels. Therefore, the Union Councils and Upazilla Councils serve as the eye of the government in the context of information on happenings in rural areas.

There have been volumes of writings and probes on the question of transforming local governments into real governments. Instead of assisting central agencies, they ought to have power to act on local problems, raise resource and spend resources for doing the developmental works. It would not be inaccurate to say that there is consensus among professionals on the need for transformation of local bodies into effective local governments but this has yet to happen. Central government is reluctant to devolve power to local authorities; this has cross-party support, with implications on the local power structure and the patron-client relationship which lies at the foundation for each Member of Parliament (MP). However, gradual changes of minor consequence, are taking place which includes the establishment of permanent office buildings for Upazilla and Union Councils. The hope remains that popular pressure, exerted through democratic parliamentary elections, would accelerate the process of change but slow move in the devolution of power to local governments will adversely affect the speed of progress on rural development.

Cooperative Institutions. The present day Department of Cooperatives under the Ministry of Local Government, Rural Development and Cooperation is an institutional continuation that was started during British rule. The approach of organising cooperative societies under public initiative has largely failed. However, the approach partly succeeded in areas where economic incentives were strong and the government agencies gradually withdrew, allowing the cooperatives to stand on their own. The present approaches to cooperative development reflect some modifications needed by circumstances, but still appears to be out of tune of the time. It is necessary to objectively evaluate the activities of the Department of Cooperatives. Private sectors are increasingly cooperating among them within the context of big mutual profit opportunities. It is necessary to identify the elements of public good in the formation of cooperatives.

Nongovernmental Organisations (NGOs). Bangladesh is known in the world for the involvement of NGOs in development, poverty reduction and environmental protection activities. Services provided by NGOs have

grown significantly during the last 15 to 20 years. There are an estimated 2000 development NGOs in Bangladesh but most of them are small. However a few very large ones, like BRAC, ASA, and Proshika, have national programmes, with tens of thousands of employees and multi-million dollar budget. In a sample of 720 NGOs, it was found that 90 percent had programmes in less than 5 (out of 64) districts and only three NGOs had programmes in more than 200 (out of 507) Upazilas (World Bank, 2006a). Innovative services delivery to the poor, particularly women, is a hallmark of NGO activities, delivering credit to the previously “unbankable poor”, developing a non-formal education programmes to cater to poor children, particularly girls, and the use of thousands of village-based community health workers providing door step services, in partnership with government, constitute major categories of NGO activities. Some NGOs are involved in pro-poor and pro-women advocacy activities. It may be noted here that, even if the Grameen Bank’s activities are very similar to what most NGOs are doing, and the micro-credit idea is an innovation of the Grameen Bank, it is technically not an NGO. NGOs have developed commercial ventures in order to link poor producers with input and output markets as well as to develop sources of internally generated revenue.

Micro-credit dominates NGO activities and reaches as many as 37 percent of Bangladesh households and around 60 percent of poor households. The sector is dominated by the Grameen Bank, BRAC, ASA, and Proshika, who between them lend to 76 percent of all borrowers (World Bank, 2006a). Micro-credit programmes are generally meant to generate income and employment for borrowers, even though a part of micro-credit usually goes for consumption during periods of hardships.

The NGOs use village-based community health workers to provide door-to-door health services, mainly focusing on preventive care and simple curative care targeted at women and children. The NGO facility-based health care is still relatively small. While expenditures by NGOs on health grew significantly since the mid-nineties, they constitute equivalent to about one-third of the public sector expenditure on health. The impact of NGO interventions on a range of health and nutritional indicators is striking. Cure rates averaged 85% in tuberculosis programme and malnutrition rates dropped by about 20 percent among the poor due to the presence of NGOs. Neo-natal mortality among NGO clients has been found to be significantly lower when compared with a control group of households (World Bank, 2006a).

About 1.5 million children, around 8 percent of primary school enrollment, are in NGO schools, mostly non-formal primary schools. The

NGO education sector is highly skewed with one large NGO, BRAC, receiving around three-fourths of donor resources. BRAC franchises, in addition to its own programme, its model by sub-contracting two hundred small NGOs to deliver non-formal education programmes. NGO education programmes are effectively targeted to the poor, particularly girls. NGO schools impact positively on school enrollment but there is little official recognition of NGO education programmes, which depend largely on external grants.

The share of aid going to NGOs has risen sharply even though the overall aid flow to Bangladesh has declined. It is estimated that total aid to NGOs rose from an annual average of US\$232 million (0.7% of GDP) during 1990-95 to an average of \$326 million (0.7% of GDP) during 1996 – 2004. Between the same two periods, the total aid to Bangladesh fell from an annual average of \$1.62 billion (4.9% of GDP) to \$1.35 billion (2.9% of GDP). As a result, the share of aid to NGOs, as proportion of total aid to Bangladesh, has risen from 14.4 percent in the first half of the nineties to 24.5 percent presently. These figures include financial support to NGOs from multilateral development agency loans, typically through Annual Development Programme projects that contract NGOs. The World Bank estimates that, on average, 20% of aid, averaging around US\$77 million a year, that is provided to NGOs comes through Government from the lending agencies in recent years (World Bank, 2006a).

Often a concern is raised in professional debates about the impact of NGOs on reduction of poverty. In spite of well organised and extensive coverage by NGOs, why the poverty rate has not fallen faster? This raises question about the micro-credit's impact on income and employment generation. Poverty is measured in reference to certain income level. But education and health programmes of NGOs, successful as they are, have no immediate impact on conventional measure of poverty. As mentioned earlier, micro-credit is meant for income and employment generation as well as consumption smoothing. The extent of income and employment generation, whether this extent has been sufficient enough to pull the poor out of poverty or has reduced simply the vulnerability of borrowers, are the facts needed for answering these questions. These facts are yet to be measured up.

There are serious concerns for the provision of a regulatory framework for NGOs in Bangladesh. The NGO Bureau of the government is merely a listing agency. Similarly, a legal framework for micro-credit operations is necessary. These are known and relevant concerns that should be resolved in order to guide future course of NGOs in the development of Bangladesh.

3.2 A Vision for the Future of Agriculture and Rural Development

Governments generally remain so immersed in short and medium-run problems that they do not develop any strategic vision for the future. This myopic behaviour is natural but could be a grievous source of harm to long-run progress of a nation. A number of factors loom so large in the determination of future course of Bangladesh that these factors warrant a serious consideration. The present time is a critical juncture for the country's trajectory to an accelerated path of development.⁸

The *first* consideration is the high population density, along with declining land resources for agriculture. Population growth rate has been declining but remains at 1.4 percent in 2004. Cultivated land has been declining at an increasing rate; the cultivated area declined by 2.4 million acres between 1983/84 and 1996, the two agricultural census years. This means an annual loss of 1.0 percent of cultivated land from crop production to urbanisation, construction of houses, infrastructure and other users. Projecting this trend of land loss for urbanisation, housing, and infrastructure, implies farms are smaller in size, and scattered. Land uses for agriculture are bound to mean a production pattern of high value products only. A strict discipline in land use, avoiding wasteful loss, will warrant a carefully drawn land use plan.

The *second* consideration relates to widely known process of globalisation and its implications for Bangladesh. Whether we like it or not, agricultural producers and consumers will be gradually placed in direct competition with producers and consumers of other countries. In this environment of competition, agriculture of Bangladesh must increase its competitive strength through enhancement of technological edge. Agricultural research naturally comes to the focus of national policies.

The *third* consideration is Bangladesh's geographic neighbourhood and economic-political issues that arise as a result of this factor. It goes beyond agriculture but has points to be considered from agricultural angle. The whole eastern India, including West Bengal, Bihar, Jarkhand and Indian seven provinces in north and north-east of Bangladesh, and Nepal and Bhutan in the north and Myanmar in the east, comprise Bangladesh's neighbourhood. Maoist guerrillas are waging various types of underground movements that are spreading across the region. Bangladesh has two opposing forces working within—one is political extremism and the other is religious militancy. These destabilising forces

⁸ The role of agriculture in development has been analyzed recently in the 2008 World Development Report by World Bank (2008c).

within Bangladesh and its neighbouring regions and countries, will some time find convenient to cooperate with each other in creating terrorism and keeping population in terrifying anarchy. This is going to be bad for all countries concerned. India as the big player must recognise this potential danger, as it is important for Bangladesh to eradicate religious militancy.

The long-run solution to this serious problem is rapid economic development and spread of education which cannot occur without close cooperation of the countries in the region. From the point of view of economic development in the region, planned trade and infrastructural integration is the first pre-requisite. The agriculture of Bangladesh appears to have weaker competitive strength with India, on average. But the scope of agricultural and non-agricultural products of Bangladesh to successfully compete in the eastern Indian provinces, Nepal and Bhutan is bright. The region as a whole would prosper through cooperation and would decay from non-cooperation. This realisation must dawn on political actors and thinkers in the region.

With these strategic factors in the background, a number of new elements in the strategy for future agriculture and rural development are listed with very brief discussion. The strategy and policy for agriculture and rural development, in a historical perspective, have been examined earlier with identification of strengths and weaknesses. The futuristic perspective would include strong dimensions of historical perspective and some new ones to encompass strategy and policies implicit under the long-term vision for agriculture.

3.2.1 Accord Priority to High Value Agriculture

Fisheries represent high rates of return products in agriculture. Some horticultural products also have potential to yield as high or higher return but demand conditions impose limitation to this potential to be realised. Both fisheries and horticultural products, along with poultry, will comprise the areas to be pursued to increase agricultural growth. Because of limited competition for national resources used in these high value products with the primary staple food production (i.e. rice), a higher priority to high value agriculture would constitute a strategic path to accelerated growth.

3.2.2 Put Agricultural Research at the Top

Fisheries, horticultural products, poultry and other high value products will call for significant contribution of research in the form of improved technology. Though most agricultural products would be used for domestic consumption, the ability of agriculture to prevent foreign

competition from taking over domestic market under WTO managed globalisation would remain weak and vulnerable. Moreover, selective exports of some of these agricultural products would play vital role in accelerating growth in agricultural production. Top priority to research implies larger public allocation of budgetary resources for production and improvements in quality and development of post-harvest management and technology for high value agriculture.

3.2.3 Maintain a Trade Friendly Approach

A trade friendly attitude and approach would mean that agriculture is producing either for import substitution or export augmentation, both imply trade. Trade considerations would compel Bangladesh to develop ocean freight and air cargo infrastructures, information on global markets, international quality and hygienic standards (including sanitary and phyto-sanitary standards). Bangladesh should vigorously attempt to connect with Myanmar, eastern states of India, Nepal and Bhutan to create a hub of regional trade.

3.2.4 Promote the Emerging Rural Entrepreneurs

The agriculture in Bangladesh is being gradually led by a small, adventurous (in the sense of risk taking) group of entrepreneurs. Various surveys and observations put an estimate of about 800 thousand to a million such entrepreneurs in crop, fisheries, and livestock sub-sectors. They are expected to be the torch bearers of modernisation in agriculture. The government needs to track and monitor these entrepreneurs in order to help them through credit and/or information, and promote the process and investment climate for a healthy development.

3.2.5 Modify Rural Development Strategy

Rural development strategy has been particularly successful because of the organisation of the LGED (as part of the Ministry of Local Government, Rural Development and Cooperatives) as a pioneering venture for the development of rural roads, markets and community centers. However, the Department of Cooperatives is still continuing with the outmoded approach of institutional development. Two modifications are needed:

- (a) Development of an integrated programme of rural housing, sanitation and water supply, electricity connection to rural residents, and rural health and education service provisions. The center piece should be rural housing. Approach for this

modification should include systematic plans for these elements and large involvements of NGOs.

- (b) Create an effective government at the Upazilla and the Union levels. Without effective local governments, maintenance of rural infrastructures will not be sustained. Effective execution of social security payments and Vulnerable Group Development (VGD) would not be achieved without empowered local governments.

3.2.6 Recognise Limitations of Traditional Policy Instruments

Bangladesh inherited a bureaucracy designed for and accustomed to widespread interventions in the economy. The system has since changed to market-oriented framework. While the rules of the game have changed, the bureaucratic structure has not or changed only a little. Under the new rules, the problems are supposed to be corrected generally through incentive policies exerting influence on private actors of the economy. Interest rate, credit, tax, subsidy, regulatory actions and information service constitute to be the main policy instruments. This list implies very little for sector based bureaucracy. Consequently, they tend to move within the government for reversal of some of the reforms.

For example, revitalising BADC, reintroduction of public trading corporation and high-level of subsidy in agriculture reflect the move of sector based bureaucracy. They do not show enthusiasm in regulatory functions or provision of information necessary for private sector growth. Even when subsidy resources are allocated, they cannot disburse in a manner that ensures subsidy to reach the intended beneficiaries. Subsidy channelled through market intermediaries is not likely to reach producers if market is not competitive. Whether the market is imperfect is not known. The limitations of traditional policy instruments under new environment have not fully dawned on the bureaucracy. Sector based bureaucracy must be told and trained to make adjustments that are consistent with the new environment.

3.2.7 Make Necessary Institutional Rearrangements

In order to increase the role of agriculture and rural development in economic growth and poverty reduction, institutional rearrangements are needed for at least the following four areas:

- (a) If high value product sectors have to play leading roles, the Ministry of Agriculture should not represent only the crop sector. It is suggested that the Ministry of Crops, Ministry of Fisheries and Livestock and Ministry of Forestry are placed under the

overall charge of a Senior Minister for the Ministry of Agriculture. In the absence of this change, fisheries and livestock will continue to remain neglected areas, breeding non-cooperation or always in move for a higher but separate entity.

- (b) Modify the tradition of BBS collecting mostly crop statistics. Collection of statistics on fisheries, livestock and forestry should be established on scientific basis.
- (c) Policy research, monitoring and evaluation, and the regulatory institutions should be developed in an integrative fashion so that PRSP implementation and its connection with budget do not remain arbitrary and shrouded in the veil of ambiguity.
- (d) Bangladesh's farm sizes are tiny and fragmented; 80 percent of 12 million farms were below 2.5 acres in size and half of the 12 million farms were of a size of 1.2 acres or less in 1996. Growth in entrepreneurship will push many of the tiny farms out of farming to the swelling class of landless households. While this ultimate outcome cannot be avoided, the speed and scope of this process can be slowed down and reduced by organising these tiny farms into cooperatives/contract farms around production of high-value products. Government intervention would be necessary and the work has to be done through NGOs.

3.2.8 Prioritise the Development Agenda

Finally, two areas warrant public attention which include (a) develop the "Monga" areas or eliminate the poverty traps, and (b) take the rapidly developing "environmental problems" with serious earnestness. The areas of Rangpur, Nilphamari, Lalmonirhat, Kurigram, Gaibandha, and "Santhal Pargona" in Rajshahi and Dinajpur represent the Monga region and poverty traps. The solution to the poverty traps is at the heart of the PRSP. The environmental problems relate to "death of rivers", arsenic contamination, rising sea level and disaster risk management. Instead of professional debate only, these issues must cover the core of public development agenda.

It seems that the discussion of strategy and policy, as the underlying context of public expenditure, has taken a longer space than expected. Public expenditure analysis, without this contextual background sufficiently developed, remains somewhat sterile in substance. We intend to make the analysis of public expenditure more substantive than the usual practice. That makes the discussion of national strategy and policies to promote rural prosperity a bit long and detailed.

Chapter 4

Size of the Government, Financing Options and Public Expenditure

A detailed analysis and chronological accounts of various elements of strategic steps, that the government has followed in the past and ought to follow in the future, were articulated in the previous chapter. This blue print of a strategy for rural transformation relies heavily on fiscal policies pertaining to mobilisation and use of public financial resources. Public investments for development of infrastructures, institutions, technology, incentives and targeted developments constitute sets of sector based activities by the government that are usually termed as sector based policies.

The design of public investment and expenditure for rural transformation is based on considerations of three inter-related aspects: (a) size of the government as determined by its relative ability to mobilise financial resources, (b) how the government priorities the use of these resources for various sectors in the economy, and (c) how the resources available to the sector comprising agriculture and rural development are used among various sub-sectors of the rural economy. Each of these inter related aspects are important in shaping up the pattern and pace of rural transformation. The size of the government, as determined by its ability to raise financial resources, serves as a limiting factor for government's expansionary plan for rural transformation. There are factors, both on the supply and the demand sides of public resources, which constitute the determinants of the size of the government.

This chapter is devoted to the analysis of these factors. This chapter also examines the issues related to inter-sector based and intra-sector based use of public resources, with a particular focus on the intra-sector based problems and prospects of the rural economy. It is also proposed to present an analytical account of the size, trend, composition, and options for allocation in public expenditure in this chapter. Public expenditures that are provided through the budgetary process of the government are included in this accounting. State-owned enterprises, both financial and non-financial, which are not included in the budget, are not considered as

public expenditures. However, some of these enterprises undertake certain designated activities for the government utilising funds provided in the budget. These portions of expenditures by State-owned enterprises are included in the accounting of public expenditures. Currently, there are 44 non-financial public enterprises operating in various fields in Bangladesh. Till 2001/02, these enterprises were running huge operational deficit (meaning revenue fell short of operational costs); the operational loss in these enterprises, for example in 2000/01, was Tk.17.73 billion or equivalent to 4.8 percent of total public expenditure in that year. This loss has been reduced through elimination of some enterprises and, currently, public enterprises are yielding small surpluses in operational account. In the sense of economic accounting, these public enterprises, are still incurring loss.

4.1 Size of the Government

During the eighties, the phrase, “cut down the size of the government”, was quite common in the parlance of public debate. The measure of the size of government is generally indicated by the size of public expenditure relative to GDP. Public expenditure as a ratio to GDP is a reasonable indicator of the size of the government because it tells how much of the total expenditure in an economy is shared by the public sector. The public expenditure to GDP ratio (henceforth PE/GDP ratio) depends on the dynamics of both PE and GDP. Therefore, it becomes necessary to examine the dynamics of both PE and GDP in order to trace the origin of change in the ratio. A stable ratio obviously means that both PE and GDP are changing in same direction and at the same rate. The PE/GDP ratios for Bangladesh from 1993/94 through 2003/04 are shown in **Table 4.1**. It will be seen from the table that the ratio of PE to GDP is small, floating between 13 to 15 percent. The ratio demonstrates a declining trend till 1997/98, then gradually rising to stabilise at around 14.7 percent during the last 5 years. In terms of annual changes in nominal budget expenditures, a couple of years prior to election years, show a higher than average increase of public expenditure. The increase in PE was more than 15 percent in 1998-99 and 1999-00, and 12.4 percent in 2003/04; the increase, as evident from the revised allocations, would also be about 14 percent in 2004-05.¹

¹ Public expenditure data of Bangladesh is straightforward and reliable. But GDP data has been questionable. In 2002/03, the GDP data was revised on arguments that GDP estimation excluded a large segment of informal sectors which were growing fast. The revised estimation procedure warranted a revision of time series of GDP figures. The time series data back to 1990/91 were thus revised. The revision shows a difference of about 22 percent i.e. the old estimate was about

Table 4.1 Size of the Government and Aggregate Public Expenditure to GDP Ratio over time in Bangladesh

Year	PE at current price (billion Tk)	GDP at current price (billion Tk)	PE/ GDP Ratio	Annual change in PE (%)	Annual Change in GDP (%)
1993/94	203.68	1354.123	15.04	–	–
1994/95	220.13	1525.178	14.43	8.10	12.60
1995/96	231.65	1663.240	13.93	5.20	9.10
1996/97	240.82	1807.013	13.33	4.00	8.60
1997/98	258.59	2001.766	12.90	7.40	10.80
1998/99	297.79	2196.972	13.55	15.20	9.80
1999/00	344.64	2370.856	14.54	15.70	7.90
2000/01	373.99	2535.664	14.75	8.50	7.00
2001/02	407.57	2732.010	14.92	9.00	7.70
2002/03	439.04	3005.801	14.61	7.70	10.00
2003/04	493.67	3329.700	14.84	12.40	10.80

Note: PE refers to actual total public expenditures. These expenditures include food related expenditure, net lending and other development expenditures not included in ADP. Exclusion of this category makes the PE/GDP ratio to vary from 13 to 14.5 percent. In certain years, this type of expenditures were large, e.g. 1.83 percent of GDP in 1993/94, 1.15 percent of GDP in 1994/95, and 1.12 percent of GDP in 2001/02. In all other years, this category of expenditures varied from 0.38 to 0.95 percent of GDP.

Source: Computed with data from the Bangladesh Ministry of Finance, *Bangladesh Economic Review*, 2004.

We observe that the PE/GDP ratio, by international comparison, (see **Figures 4.1 and 4.2**) is relatively small in Bangladesh. International comparison, however, is a bit complex and warrants carefulness. The comparison is in terms of PE/GDP ratio; therefore, the purchasing power of currencies is not relevant. What can make the comparison hazardous is the inability to identify correctly the real extent of public expenditures in different countries? Countries differ in terms of institutions, type of government and management style. These differences can make comparison among countries difficult because it involves spending which are not strictly comparable. The public spending, reported by the World Bank and IMF, represents spending by the central government. The institutions in South Asian countries are such that the distinction between Federal and Unitary forms of governments probably will not cause much

20-22 percent smaller. This revision did not significantly change the growth rate of GDP. The PE/GDP ratios, estimated with the old GDP figures, were higher. For example for 2000/01, a ratio of 17.5 percent with old GDP figures as compared to 14.5 percent with revised GDP.

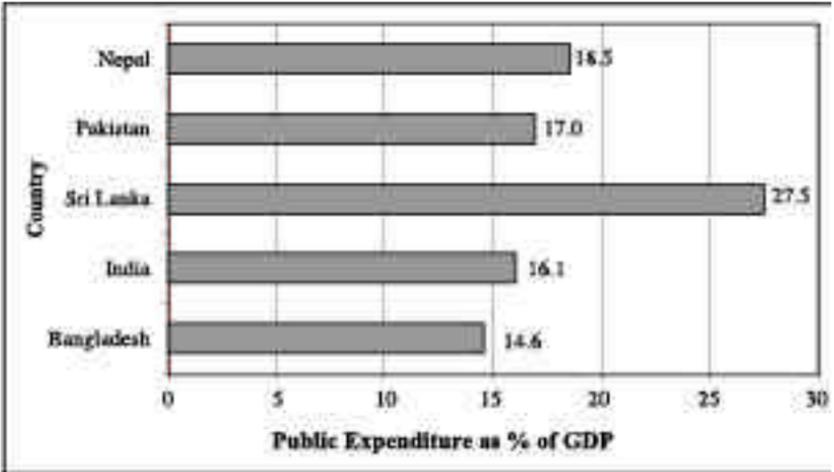
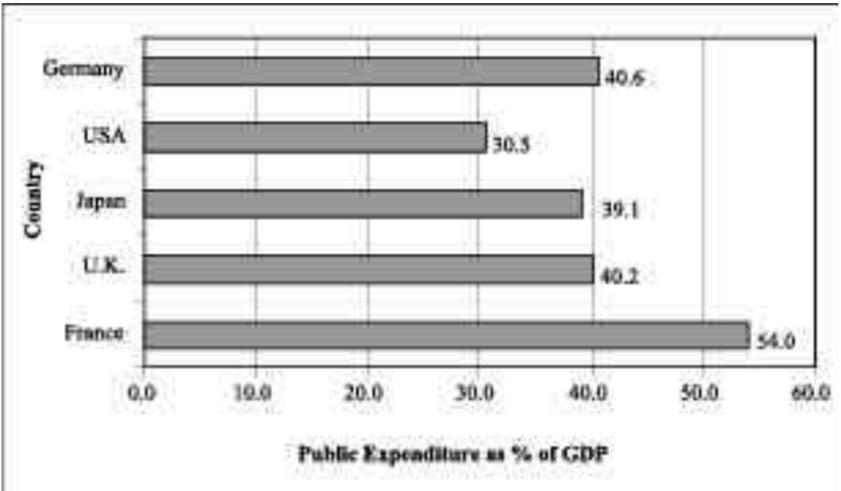


Figure 4.1 Government Spending in Selected South Asian Countries as a Percentage of GDP, 2003



Source: For Bangladesh, Table 4.1.

For other South Asian countries: World Bank, 2005a. World Development Indicators.

For developed countries: Bruce, 2000.

Figure 4.2 Government Spending in Selected Developed Countries as a Percentage of GDP, 1999

difference in data on public expenditure. This will not be the case with developed countries included in Figure 4.2. For example, in USA, state and county governments collect taxes which are equivalent to about 10 percent of GDP (Bruce, 2000).

The comparison in Figures 4.1 and 4.2 demonstrates that Bangladesh, in comparison with its South Asian neighbours, has the smallest size of government, as measured by the PE/GDP ratio. The developed country data in the table include state government expenditures; therefore, can easily be considered comparable with other countries in the table. Developed countries do have a much larger size of governments than developing countries. But within developed countries, France's public expenditure is much higher than in USA. The public spending in the USA relative to GDP is higher than in Bangladesh by a factor of 2.25, and higher than India by a factor of 1.9. Higher levels of welfare spending, including health, social security payments etc. in the developed countries, make them to have a higher public spending as compared to the developing countries.

4.2 Determinants of the Size of Government: Demand Side Factors

Determinants of the size of a government are equivalent to the determinants of the size of aggregate public expenditure. The details of public expenditure reflect on underlying forces that determine the pattern of public expenditure. Prior to that, we discuss both demand and supply factors of public expenditure. However, we cover only the principles of demand side factors in this section. The key principles of demand for public expenditure, hence the size of the government, are the following:

- (i) *Welfare Orientation.* Welfare orientation of a government places weighty consideration on how large Government expenditure should be. France and UK are more welfare oriented nations than USA therefore spend a large share of their GDP compared to the USA. Sri Lanka is similarly more welfare oriented than other South Asian Countries.
- (ii) *Employment Generation.* Creation of employment is another principle behind determination of the size of public expenditure. In Bangladesh, this principle played a stronger role in earlier decades than in the decades of 1990s and 2000s. Now-a-days, it is the private sector that is considered to be more cost effective than public sector in the creation of employment. The size of public

sector employment in Bangladesh was about 1.2 million jobs in 2003, which was only 1.7 percent of labour force in that year. Bangladesh has, in comparison with the other South Asian countries, the smallest or one of the smallest shares of public sector employment (World Bank, 2005a).

- (iii) *Security Consideration.* Security considerations, against both domestic as well as external aggression, explicitly or implicitly exert influences on the government to spend money for protection. Police and para-military forces for domestic peace were designed, in terms of structure and function, during the British time. The growth of these forces has not kept pace with the growth of population and complexities of the socio-economic institutions. Similarly, Bangladesh ranks one of the lowest in terms of per capita defense expenditures or as proportion of GDP among the South Asian countries.
- (iv) *Development Objectives.* Developmental objectives of a nation generally drive it to spend considerable amount of resources for building infrastructures, institutions, research capacity, and various sorts of investments intended to remove constraints in the path of development. Perhaps, Bangladesh is one of the few countries in the world, which plans public expenditure for development under a distinct and separate budget category called the Annual Development Programme (ADP) for many years.² This budget is equivalent to public sector investment for economic development.

4.3 Determinants of the Size of Government: Supply Side Factors

4.3.1 Tax Revenue

Public expenditure is composed of earnings from tax revenue. Governments also borrow from domestic and foreign sources. These borrowings are temporary sources of financing because money borrowed today must be repaid by tax revenue or budget surplus tomorrow. The extent and trend of government revenue from tax and non-tax sources are shown in **Table 4.2**. Total revenue consists of tax revenue and non-tax revenue. Non-tax revenue originates from State-owned enterprises.

² From 2005 onwards, the two budgets i.e. development (the annual development program) and revenue (operational budget) have been unified, mostly to conform to international standard practices. In the consolidated budget, the previous practice of development project and operational heads of expenditures will, however, continue.

Table 4.2 Government's Revenue Receipts over time in Bangladesh

Year	Tax Revenue (billion Tk)	Non Tax Revenue (billion Tk)	Total Revenue (billion Tk)	Tax Revenue as % of GDP	Total Revenue as % of GDP
1993/94	95.80	29.09	124.89	7.07	9.22
1994/95	120.54	29.54	150.08	7.90	9.84
1995/96	121.24	32.09	153.33	7.29	9.22
1996/97	142.61	31.24	173.85	7.89	9.62
1997/98	153.90	36.30	190.20	7.69	9.50
1998/99	161.67	36.00	197.67	7.36	9.00
1999/00	160.79	39.95	200.74	6.78	8.47
2000/01	197.78	45.64	243.42	7.80	9.60
2001/02	213.32	65.61	278.93	7.81	10.21
2002/03	249.50	61.70	311.20	8.30	10.35
2003/04	283.00	71.00	354.00	8.51	10.64

Source: Bangladesh Ministry of Finance, *Bangladesh Economic Review*, 2004.

Non-tax revenue appears to move quite consistently with tax revenue and the ratio of tax revenue to total revenue is very stable at 80 percent, except 1993/94 when tax-revenue was 77 percent of total revenue. In general, there is an increasing trend in revenue collection relative to GDP; the ratio of tax revenue to GDP increased from about 8.5 percent in 1999/2000 to about 10.5 percent by 2003/04. Before 1999/2000, tax revenue/GDP ratio was stable at around 9.5 percent for all the years back to 1993/94. A stable ratio means that tax collection moved at the same rate as GDP. An increasing trend of the ratio means tax collection increasing at a faster rate than GDP. The year 1999/2000 was a particularly bad year for tax collection. Again, election related forces might have worked in low tax collection in 1999/2000.

Bangladesh has been able to raise revenue collection during the last decade reasonably fast. But the country still ranks quite low in comparison with the other South Asian countries, when revenue collection is measured as a ratio of GDP (see Table 4.3). In 2003, Bangladesh collected revenue from tax and non-tax sources which was equivalent to 10.3 percent of GDP. This ratio in that year was 11.6 for India, 14.6 for Pakistan, 16.4 for Sri Lanka and 11.6 for Nepal.

Another important feature of tax revenue is the tax structure or sources of collection of taxes (see Table 4.4). Any detailed analysis on tax collected is restricted due to the limitations of the dataset which provides

Table 4.3 Central Government Revenue Collection Efforts in South Asian Countries

Countries	Revenue/ GDP Ratio (%)	
	1995	2003
Bangladesh	9.8	10.3
India	12.3	11.6
Pakistan	17.2	14.6
Sri Lanka	20.4	16.4
Nepal	10.5	11.6

Source: World Bank, 2005a. *World Development Indicators*.

Table 4.4 Structure of Tax Revenue (NBR Component only) in Bangladesh, 2001/02 to 2003/04

Source of Tax ¹	2001/02		2002/03		2003/04	
	Billion Tk	Percent of Total	Billion Tk	Percent of Total	Billion Tk	Percent of Total
1. Import duty	53.95	26.67	66.77	28.23	70.87	27.06
2. Value-added tax (import)	37.58	18.58	41.20	17.42	43.98	16.79
3. Supplementary duty	13.32	6.59	12.71	5.37	16.88	6.44
4. Total import related (1+2+3)	104.85	51.84	120.68	51.02	131.73	50.29
5. Excise tax	2.93	1.45	3.19	1.35	1.59	0.61
6. Value-added tax (local)	32.29	15.97	36.60	15.47	43.16	16.48
7. Supplementary (local)	22.76	11.25	31.39	13.27	35.46	13.54
8. Total internal trade related (5+6+7)	57.98	28.67	71.18	30.09	80.21	30.62
9. Income tax ²	37.89	18.73	42.36	17.91	47.07	17.97
10. Other taxes	1.53	0.76	2.30	0.97	2.93	1.12
11. Total revenue (4+8+9+10)	202.25	100.0	236.52	100.0	261.94	100.0

Note: ¹A small amount of revenue is collected by agencies other than National Board of Revenue (NBR).

²Includes income of export firms; therefore, accounts for any export duty. This is one of the reasons for total revenue in this table being smaller than total revenue in Table 4.2.

Source: Computed from data in (i) Ministry of Finance, Economic Division, 2004; and (ii) Battacharya, Debapriya, "State of Bangladesh Economy in FY 2003." In CPD (2004).

information for only three fiscal years. It is widely known that import duty was once the main source of tax revenue; the duty rate was about 90 percent on average in early 1990s (Rahman, 1994b). This rate was

gradually reduced to about 27 percent in 2003/04. Value added tax gradually expanded to substitute for revenue loss in the reduction of import duty. Conclusions, which can be drawn from the table, have important policy implication. First, the bulk of the tax collection comes from indirect sources and only about 20 percent of total revenue is raised from direct taxes on income. The remaining 80 percent comes from trade related taxes i.e. taxes on import of goods and services and taxes on domestic trade such as excise tax, value added tax on domestic marketing, processing etc. This structure of tax revenue collection implies that any change in taxes will directly affect prices of outputs and inputs. This being the case, the supply side of public expenditure (i.e. taxes) exerts a direct and significant influence on decisions of numerous producers and consumers in the economy.

Government's fiscal policy thus makes the government to stand out in its ability to influence private sector production and consumption, i.e. the performance of the economy. By the same token, this trade related tax becomes a potentially wasteful and risky route of influencing producers and consumers if the level of corruption in the government is high and monitoring and analytical basis for policies are weak. Tax holidays are known to have contributed to growth in investment in certain areas, but the same instruments have been found to be wasteful under conditions of risk-free investment opportunities. For various reasons, it is considered a risky tax structure if the government has to depend too much on indirect taxes and too little on direct taxes. It is risky in the sense that the government loses its leverage to handle a crisis without affecting prices. Bangladesh's effort to increase revenue collection by improving efficiency in collection of income tax should therefore be strengthened.

4.3.2 Incidence of Taxes in General

One important issue in tax policy is the question of incidence of taxes and bearing the burden of tax. Two general types of incidences are involved. The statutory incidence of a tax describes its incidence solely in terms of taxes actually paid by different groups. If no taxes are paid, no tax burden is incurred. Economic incidence, on the other hand, takes into account not only the taxes paid by different groups in the economy, but also the effect on real income caused by changes in wages and prices when the tax is levied. Economic incidence differs from statutory incidence because of the shifting burden of tax. For instance, if apartment rents increase when property taxes are increased for apartment owners, we would expect property tax burden has been shifted, at least partly, from the owners to the tenants.

A general principle, in this respect, is useful in getting some idea of the possibility of shifting and degree of shifting. The burden of a tax is shifted away from persons or firms who can easily alter their economic behaviour (face elastic demand schedule) in response to the change in tax, and toward those who are least able to alter their plan (face inelastic demand schedule). Unfortunately, there is hardly any study in Bangladesh on the economic incidence of taxes. Anecdotal evidence on statutory incidence of taxes indicates that taxes are progressive in Bangladesh. It means that richer people not only pay higher amount of taxes but they pay a proportionately higher amount of taxes. Higher tax rates on luxury goods and very small tax rate on essential goods (e.g. free import of grains) tend to support the progressive tax incidence hypothesis. In making judgment about economic incidence of taxes, arbitrary assumptions are used very freely not only in Bangladesh but in various countries in the world. For example, it is widely assumed in USA that (a) half of the property tax is borne by property owners and the other half is borne by tenants, (b) burden of personal income tax is not shifted, (c) corporate income taxes as well as trade related taxes on goods and services are certainly shifted (Bruce, 2001).

4.3.3 Incidence of Taxes on Agriculture and Rural Sector

Direct taxes on agriculture are represented by land tax and agricultural income tax. Agricultural and rural sector bears, perhaps, very small burden of direct tax. It is estimated that agricultural income and land taxes constitute only about 3 percent of the total direct tax reported in Table 4.4 for 2003/04. Indirect tax through shifting of tax burden of imported consumers goods, imported agricultural inputs and value added tax, on to rural consumer and producers could be of some consequence. There is no credible study available to reflect on the incidence of indirect tax on agriculture and rural sector. Only speculative judgment could be offered. The general judgment is that agriculture and rural sector bears low tax burden. For agricultural inputs, there is generally a negative tax and agricultural consumer goods of foreign origin enters the consumers' basket as commodities of quite price elastic nature of demand. Therefore, the extent of shifting would remain limited. Agricultural production of cereals takes place in an environment where prices received by farmers, after adjusting for quality differences, are quite close to world prices. Therefore, the old theme that agriculture is taxed highly through trade and exchange rate policies is no longer valid. These assertions aside, the importance of a study on tax incidence on agriculture and rural sector is emphatically underlined.

4.4 Budget Deficit and Development Financing Options

4.4.1 Budget Deficit

Before examining the other sources of financing public expenditure, a summary of how budget deficits are met and the extent of such deficits, is presented in Table 4.5. Budget deficit measures the shortfall in public revenue to meet total public expenditures. This deficit is financed by borrowing resources from domestic and foreign sources. Loans from foreign sources comprise largely concessionary loans from donors, but the government also takes small amounts of loan in the form of suppliers' credit. The overall budget deficits from 1993/94, through 2003/04 are shown in Table 4.5. Except the years 1993/94, 1999/00, and 2000/01,

Table 4.5 Overall Budget Deficit and Modes of Financing Deficit over time in Bangladesh, 1993/94 – 2003/04

Year	Percent of GDP			Share of sources in total domestic borrowing (percent)		
	Overall deficit ¹	Net foreign financing ²	Net domestic financing ³	Bangladesh Bank	Commercial Banks	Non-Bank Sources
1993/94	-5.8	3.8	1.1	-29.00*	79.30	49.70
1994/95	-4.6	3.8	0.7	23.70	-30.3*	106.60
1995/96	-4.7	2.8	1.8	54.10	-2.6*	48.50
1996/97	-3.7	2.8	1.5	54.70	9.60	35.70
1997/98	-3.4	2.3	1.6	25.50	14.20	60.60
1998/99	-4.6	2.5	1.9	22.40	19.20	58.40
1999/00	-6.1	2.5	2.8	25.70	26.40	47.80
2000/01	-5.1	2.0	2.8	28.20	12.60	59.20
2001/02	-4.7	2.1	2.6	25.90	8.30	65.80
2002/03	-4.2	2.3	1.9	-67.9*	42.10	125.80
2003/04	-4.2	2.4	1.8	28.10	-5.8*	77.70

Note: ¹Net foreign financing plus net domestic financing may not equal to overall deficit because of check float and other errors and omission.

²Net foreign financing = (foreign borrowing + grants – principal payment on foreign debt).

³Net domestic Financing = net borrowing form public + borrowing from schedule banks. Net borrowing from public = total sale of savings certificates – principal payments for saving certificates.

*Negative because of debt repayment to respective source.

Source: Computed from data in: the Bangladesh Ministry of Finance, *Bangladesh Economic Review*, 2004.

budget deficit has varied from 3.4 to 4.7 percent. Budget deficit was higher than this norm in 1993/94 (5.8 percent), in 1999/2000 (6.1 percent) and in 2000/01 (5.1 percent). Again, we suspect that the election spending in prior years of election as well as natural disasters might have caused these bulges of budget deficit. In general, budget deficit in Bangladesh is lower than budget deficits in the other South Asian countries. In the year 2001, budget deficit in India was 5.3 percent of GDP, in Pakistan was 5.3 percent, in Sri Lanka was 10.8 percent, compared to 5.1 percent in Bangladesh (World Bank, 2005f).

4.4.2 Domestic Borrowing for Financing Budget Deficit

Domestic borrowing from commercial banks and public by means of sale of government bonds and savings certificates, generally at interest rates higher than the rate offered by commercial banks, is a deficit-financing mechanism which reduces availability of funds for private sector. Borrowing from central bank is simply an expansionary monetary policy. These policies have limitation in the sense that they cause inflation. Borrowing from domestic markets to cover budget deficit has not caused any serious management problem, particularly in recent years. The recourse to this route of public deficit financing is also small in magnitude compared to other South Asian as well as less developing countries. Various sources of domestic financing of budget deficit are shown in Table 4.5. It will be seen that non-bank sources (i.e. sale of savings certificates) have consistently remained as the major source of domestic funds for the government with modest borrowing from the central and commercial banks. This source of borrowing has occasionally been used “to borrow from one in order to reduce debt with the other.”

4.4.3 Foreign Sources for Financing Budget Deficit

Foreign sources for financing budget deficit consist of the flow of foreign funds to the public sector. It does not include foreign grants to NGOs (about \$260 million a year) and private sector receipts of foreign funds. Bangladesh Bank estimates such private foreign funds in 2002/03 to be equivalent to about 4 percent of annual disbursement of foreign aid. Foreign aid is a popular term to mean Government's receipt of foreign grants and concessionary loans. Every year donors determine the amount of foreign aid that each donor would commit to the government. Actual disbursement, however, falls short of the committed fund for various reasons. The amount that is not disbursed generally remains in the pipeline for use in subsequent years. Therefore, availability of foreign aid

in any year is equal to the opening amount in pipeline and commitment in that year. Disbursement figure is the actual receipts of foreign aid in a particular year. The availability, disbursement and proportions of grants and loans in total disbursement are shown in **Table 4.6**.

The table reveals a number of facets of foreign aid to Bangladesh. *First*, the amount of commitment of foreign aid is much larger than the amount of disbursement (actual receipt) in most of the years. In 1980s, about 23 to 26 percent of committed aid was received by Bangladesh. The disbursement remained about 20 percent throughout 1990s. In 2003/04, only 13.5 percent of committed foreign aid was actually released by donors and received by government. Why is the gap so wide? The answer to this question varies. There are two main reasons. First, all the commitments for investment or technical assistance projects are for longer periods, generally 3 to 5 years. Second, due to weak implementation capacity of the implementing agencies, the utilisation rate is very low. Of course, donors generally blame government's inefficiency and government generally blames donor's conditionality in the use of aid. Syeduzzaman (2004) has made an excellent review of this issue. We shall discuss more on this when we analyse sector based allocations and use of project aid.

The *second* aspect of external resource flows to Bangladesh is the question of how much of this is real aid (i.e. grant) and how much is credit, i.e. concessional credit? The statistics in the Table 4.6 show that Bangladesh used to get foreign aid with about 50 percent of the aid as grant. The proportion of grant has been gradually declining and reached 32.8 percent level in 2003/04. The corresponding implication of the decline in grant element is, of course, a rising share of loans in the foreign aid. Because of large grant element in foreign aid in the past, accumulated foreign debt has been light vis-a-vis Bangladesh's ability to service such debt. However, as the proportion of loan element increases and as government shows an increasing tendency to use suppliers' credit, the burden of debt servicing would increase. It is essential that the government watches the sustainability of the burden of debt as the country ventures to a new phase of economic development.

The *third* point to note from the table is the dependence of public expenditure on foreign aid. The proportion of foreign aid in total public expenditure has a declining trend. The proportion was about 30 percent in early 1990s and has come down to 12.4 percent in 2003/04. During the 4 years of 2000s, the average proportion of foreign aid in total public expenditure was about 18 percent.

Table 4.6 Annual Flow of Foreign Aid to Bangladesh, 1980/81 – 2003/04

Year	Total available (\$ million)	Total disbursement (\$ million)	Disbursement as % of Available	Proportion of Grants in Disbursement ¹ (%)	Public Expenditure (\$ million)	Disbursement as % of Total Public Expenditure ²
1980/81-84/85 average	4672.83	1220.26	26.11	53.60	-	n.a
1985/86-89/90 average	7046.59	1603.90	22.76	43.20	-	n.a
1993/94	7392.07	1558.04	21.10	45.60	5078.30	30.70
1994/95	7338.53	1739.09	23.70	51.20	5475.90	31.80
1995/96	7366.36	1443.75	19.60	46.90	5672.10	25.50
1996/97	6369.58	1481.23	23.25	49.70	5639.80	26.30
1997/98	6411.08	1251.37	19.52	40.20	5688.30	22.00
1998/99	7506.82	1536.07	20.46	43.60	6196.20	24.80
1999/00	7325.66	1587.95	21.68	45.70	6850.30	23.20
2000/01	7594.50	1368.80	18.02	36.80	6930.90	19.70
2001/02	6618.87	1442.23	21.79	33.20	7094.30	20.30
2002/03	7127.01	1585.02	22.23	32.20	7582.70	20.90
2003/04	7653.11	1033.43	13.50	32.80	8365.90	12.40

Note: ¹Proportion of loan would be = (1-proportion of grant).

²The percentage is calculated by converting total public expenditure in Taka into US\$ by using annual average exchange rate reported in the above source (Disbursement in \$ / PE in \$) X 100).

Source: Computed from data in: The Bangladesh Ministry of Finance, 2005b, *Flow of External Resources into Bangladesh*.

What forms of foreign aid are supplied by donors to the government of Bangladesh? **Table 4.7** provides some information on this question. Foreign aids are made available in three main forms: (a) food aid, (b) commodity aid, and (c) project aid. Food aid mostly comes in the form of food to alleviate Bangladesh's need for import on cash. A large chunk of this food aid is used for targeted food distribution programmes. Market sale for budget support, particularly non-cereal foods, comprises a relatively modest proportion of food aid. Commodity aid comes both in-kind and in-cash as credit, primarily for balance of payment and budget support. The share of commodity aid has also been declining rather sharply; the share of commodity aid in total foreign aid has declined from about 30 percent in 1980s and early 1990s to around 10 percent in recent years. The share of project aid has however, increased quite rapidly. The share was around 50 percent in 1980s and has increased to dominate the foreign aid portfolio in recent years. The share of project aid in total foreign aid in 2003-04 was 96 percent. These changes reflect the Bangladesh's success in development and its priority to public investment through development projects.

4.4.4 Public-Private Partnership for Financing Infrastructure

It is generally viewed that if you plan to expand public expenditure, you should simultaneously be prepared to increase taxes. The view creates a public psychology of "tax-tax, spend-spend" in the government. With new thinking on public-private partnership in financing infrastructure projects, it has been suggested that government should build and operate large infrastructure projects (e.g. the Jamuna bridge project) on the basis of corporatisation of agencies (i.e. the Jamuna Bridge Authority) and go public for raising capital through sale of shares. This is undoubtedly an innovative idea for raising private resources for financing infrastructure. On the basis of funds raised in the capital market by sale of shares of Jamuna Bridge Authority Corporation, the government may be able to finance another bridge on Padma or elsewhere. The suggestion appears attractive on the face of it. But some reality check of such propositions, particularly the expected operational efficiency of the would-be corporation, deserves an analytical examination. In the environment of pervasive corruption and indiscipline, how could one expect that a corporation would survive and attract private investment in the share market? However, it cannot be denied that various forms of public-private partnerships are conceivable in the construction of infrastructures. Regulatory measures and enactment of appropriate laws can very often serve certain public objectives without any additional expenditure.

Table 4.7 Annual Disbursement of Foreign Aid by Type in Bangladesh, 1980/81 – 2003/04

Year	Million US\$				Percent Share		
	Food Aid	Commodity Aid	Project Aid	Total Aid	Food Aid	Commodity Aid	Project Aid
1980/81 – 84/85 Average	240.68	427.01	552.56	1220.25	19.70	35.00	45.30
1985/86 – 89/90 Average	228.60	459.94	915.35	1603.89	14.30	28.70	57.00
1993/94	117.85	451.26	989.54	1558.65	7.60	29.00	63.40
1994/95	137.43	332.75	1268.92	1739.10	7.90	19.10	73.00
1995/96	138.02	229.36	1076.37	1443.75	9.60	15.90	74.50
1996/97	100.94	263.14	1117.15	1481.23	6.80	17.80	75.40
1997/98	93.11	119.56	1038.70	1251.37	7.40	9.50	83.10
1998/99	176.94	323.91	1035.20	1536.05	11.50	21.10	67.40
1999/00	142.17	282.95	1162.83	1587.95	9.00	17.80	73.20
2000/01	50.80	183.68	1134.33	1368.81	3.70	13.40	82.90
2001/02	36.05	154.91	1251.28	1442.24	2.50	10.70	86.80
2002/03	47.75	175.20	1362.07	1585.02	3.00	11.00	86.00
2003/04	31.58	0.80	1001.85	1033.43	3.10	0.00	96.90

Source: Computed from data in: the Bangladesh Ministry of Finance, 2005b, *Flow of External Resources into Bangladesh*.

4.4.5 Suppliers Credit for Financing Infrastructure

Since early 1990s, use of suppliers' credit for financing power and telecom infrastructures has been a new mode of financing public projects. During 1991 through 1995, suppliers' credit worth \$389.53 million was used in infrastructural development. The amount of suppliers' credit used during 1997 through 2000 was \$347.41 million and contracts for suppliers' credit worth \$534.88 million were signed during 2002 through 2004, (Ministry of Finance, 2005). Suppliers' credits have certain attractive features i.e. you get a job done quickly, with least amount of hassle. However suppliers' credits are extremely expensive. The interest rate involved in suppliers' credit range from 3 to 12 percent, in most cases 6 percent, and a short repayment period of up to 12 years. In comparison, interest-free soft loans from the Asian Development Bank and the World Bank carry service charge of less than one percent with a repayment period of 35-40 years. Moreover, the goods under a supplier's credit generally are valued at prices which are much higher than prices in world market by a factor of 2 to 5 times. The cost of infrastructure under supplier's credit is indeed very high. Why then the government takes recourse to supplier's credit when soft loans from multilateral and bilateral donors are available?

The issue of conditionality has been a longstanding topic within development discourse and developing States such as Bangladesh has, in recent times, began to question the utility of such policies while donors have strengthened their stance on good governance. A combination of these factors have led to a situation where Government has been unable to undertake crucial infrastructure projects stunting growth and continuing economic depression in particular regions. While donors have adopted good governance policies which, amongst other things, emphasise on effective measures to reduce leakage on both aid and credit allocations, something which Bangladesh, and many developing States have failed to curb. A concomitance of these factors have been the development of a relationship between donors (both bilateral and multilateral) and the State, which has not resulted in a cessation of resource allocation but the development of institutions which act as checks on fund disbursement. This has not only slowed down fund disbursement but reduced government's ability to undertake large infrastructure projects that are vital for continuous economic growth.

Bangladesh has advanced along a route of reducing external dependence for its development. It has come to a stage where some exploration in the open capital market of the world is expected of the government. But that course of exploring capital market should not be shorn of cost consideration, particularly arising from availability of soft

credit provided by donors. Bangladesh gets some comfort in the facts that its (a) outstanding external debt was about 32 percent of GDP, and (b) total debt servicing obligation was only 8 percent of the value of export of goods and services in 2003/04 (Ministry of Finance, 2005b). As per the World Bank (2005a), the annual external debt service, as percentage of total exports of goods and services, in selected South Asian countries in 2003 was: Bangladesh: 7.3%, India: 18.1%, Pakistan: 12.7%, Nepal: 9.7%, and Sri Lanka: 7.2%. Obviously, Bangladesh draws courage from these facts to venture into the open corridor of world capital market.

4.5 Taxation and Public Expenditure Trade-Off

Resource raised through taxes obviously involve a choice i.e. whether to raise more resources through taxation or reduce public expenditure thus requiring lesser taxation? Assuming a completely tax-based budgeting, if tax is reduced by 20 percent, government can reduce expenditure by 20 percent, without any change in budgetary balance. Thus the opportunity cost of public expenditure is the benefit given up from the use of resources in private expenditure. Rate of return at the margin for use of resource in private sector is the opportunity cost of public expenditure. Application of this principle is fraught with numerous practical problems. Publicly constructed infrastructure is not a substitute for privately developed infrastructure, rather it complements private expenditure. Therefore, the concept of comparing marginal rates of return from complementary options may immediately appear to be invalid as measures of opportunity cost. However, various levels of infrastructural expenditures (as a proxy of public expenditure) can be simulated with various level of private investment, in a general-equilibrium framework to deduce results in terms of say, national income. The combination of public-private expenditures that gives the highest national income could be considered as the optimal level of public expenditure and taxes. The point is that the determination of the size of a government involves a cost—an opportunity cost in terms of lost benefit in the private sector. Bangladesh's stage of development is such that this question of the size of the government is perhaps not yet quite relevant. But the principle of alternative use of public resources is more valid in sector based and sub-sector based context than in aggregate context.

The discussion of resource mobilisation for financing public expenditure has been presented within a traditional format. There are numerous details that underlie the traditional format. We hope to unfold some of these details in the subsequent chapters. We began this chapter with the question of what ought to be the size of a government. Total

public expenditure and total revenue generation to finance the expenditure do not provide an accurate answer to the question of government size. How efficiently the government performs its activities and how innovative the government can be in “more governance with lesser money” and involvement of people in government activities, determine the right size of a government.

4.6 The Budget Process

Public budget is prepared in June for the following July 1 through June 30 financial year. Budgetary allocations made at the time of budget preparation is termed as ‘original allocation’. A revision of the allocations made in the previous year (for example the allocation of 2000/01 budget is revised in June 2001 when the budget for 2001/02 is prepared) is completed at the time of budget preparation. This revised budget for the previous year is based on actual expenditures up to March and projected expenditures for 3 months i.e. April, May and June of the previous financial year. This is called the revised budget of the previous year. Thus, a budget document, say for 2001/02, contains allocations for 2001/02 activities, and a revised estimate of expenditures for 2000/01. After a year or two of the preparation of a budget, a full account of yearly actual expenditures (distinct from revised budget expenditures) is possible to construct and is generally done by the Ministry of Finance.

Historically, Bangladesh has been following the practice of preparing two budgets i.e. one for developmental purposes, called the Annual Development Programme (ADP) and the other for operation and maintenance of the Government, called the Revenue budget. Together, these two budgets represent a consolidated account of public expenditure. The tradition of a separate budget for developmental projects (ADP) emanated from the five-year plans that the government used to prepare and implement during the Pakistani era as well as during the first decade of independent Bangladesh. This dual structure of budgeting is now gradually being abandoned from 2005/06 onward in order to unify the budgeting process which is considered internationally standard. However, the structure of ADP in the form of project-by-project allocations, and the appraisal mechanism for inclusion of projects in the budget, are being retained.

We have shown earlier in this chapter that foreign aid is extended to Bangladesh in three categories: (a) food aid, (b) commodity aid, and (c) project aid. This project aid is tied to development projects included in the ADP. Food aid and commodity aid are meant for budget and balance of payment support. Even though these supports to budget and balance

of payment are direct, indirectly the resources thus available are also used in financing of development projects. With these explanatory and definitional notes, let us now look at the trend and composition of public expenditure in Bangladesh.

4.7 Trend of Public Expenditure

The total public expenditure, at current prices and broken up into development and revenue expenditures, are shown in **Table 4.8**. The same expenditures in real terms (i.e. nominal values deflated by GDP deflator) are shown in **Table 4.9**. From **Table 4.8**, it can be concluded that

Table 4.8 Trends in Development, Revenue and Total Public Expenditures in Bangladesh, 1989/90 to 2003/04

Year	In billion Tk (current price)			Share (%)	
	Actual Development Expenditure	Actual Revenue Expenditure	Actual Total Expenditure	Development Expenditure	Revenue Expenditure
1989/90	57.17	67.40	124.57	45.90	54.10
1990/91	52.69	173.11	125.80	41.90	58.10
1991/92	60.24	78.30	138.54	43.50	56.50
1992/93	65.50	84.10	149.60	43.80	56.20
1993/94	89.83	91.50	181.33	49.50	50.50
1994/95	103.03	104.00	207.03	49.80	50.20
1995/96	100.16	118.14	218.30	45.90	54.10
1996/97	110.41	125.35	235.76	46.80	53.20
1997/98	110.37	145.00	255.37	43.20	56.80
1998/99	125.09	167.65	292.74	42.70	57.30
1999/00	154.71	184.44	339.15	45.60	54.40
2000/01	162.40	206.62	369.02	44.00	56.00
2001/02	140.90	226.92	367.82	38.30	61.70
2002/03	154.34	253.07	407.41	37.90	62.10
2003/04	168.17	287.83	456.00	36.90	63.10

- Notes: a. Development expenditure refers to the Annual Development Programme (ADP).
 b. The difference in total public expenditure reported in this table and in **Table 4.1**, is due to the fact that total expenditure in this table does not include food related expenditure, net lending and other development expenditures not included in ADP. These expenditures are included in **Table 4.1**.

Source: Computed from data in: the Bangladesh Ministry of Finance, *Bangladesh Economic Review*, 2004.

Table 4.9 Development (ADP) and Non-Development (Revenue) Public Expenditure (in real terms) in Bangladesh, 1989/90 to 2003/04

Year	(in Billion Tk)		Index of Change (1989/90=100)		Total Real Public Expenditure as % of GDP	GDP Deflator (Base=1995/96=100)
	Real ADP Expenditure	Real Revenue Expenditure	ADP	Revenue		
1989/90	78.41	92.44	100.00	100.00	13.32	72.91
1990/91	66.03	91.61	84.20	99.10	11.38	79.80
1991/92	72.36	94.05	92.28	101.74	11.59	83.25
1992/93	78.68	101.02	100.34	109.28	11.93	83.25
1993/94	100.51	102.38	128.19	110.75	13.39	89.37
1994/95	107.39	108.40	136.96	117.26	13.57	95.94
1995/96	100.16	118.14	127.74	127.80	13.12	100.00
1996/97	107.10	121.59	136.59	131.53	13.05	103.09
1997/98	101.70	133.60	129.69	144.53	12.76	108.53
1998/99	110.13	147.61	140.46	159.67	13.32	113.58
1999/00	133.73	159.43	170.55	172.46	14.31	115.69
2000/01	138.18	175.80	176.22	190.17	14.55	117.53
2001/02	116.18	187.10	148.16	202.40	13.46	121.28
2002/03	121.75	199.63	155.27	215.95	13.55	126.77
2003/04	126.51	216.53	161.34	234.23	13.59	132.93

Source: Computed from data in: the Bangladesh Ministry of Finance, *Bangladesh Economic Review*, 2004.

during the last 15 years, the proportion of actual public expenditures under the development budget has remained below the proportion of total expenditures spent under revenue budget for running the government and maintaining its assets. And this proportion of expenditure spent under revenue budget has taken a sharp turn up from the year 2000/01. It implies a sharp fall in the proportion of total expenditures for developmental purposes. Table 4.9 indicates the trend in real terms.

Real public expenditures, the total of both development and non-development expenditures, have grown over time at a rate of 4.9 percent per annum as compared to the annual growth rate of real GDP at 4.5 percent. It, therefore, appears that total public expenditures have grown at a slightly higher rate than GDP. This trend of course implies a slightly increasing trend in the PE/GDP ratio that is borne out by the facts in Table 4.9. Again, as in the case of nominal expenditures, the indexes of real expenditures demonstrate developmental expenditures (i.e. ADP) lagged behind non-developmental expenditure. The index of real development expenditures rose from 100 in 1989/90 to 161 in 2003/04 and the same index for non-developmental expenditure went up from 100 in 1989/90 to 234 in 2003/04. These trends of development, non-development, and total public expenditures are statements of facts. Why the trends are what they are and what should be the appropriate mix of development and non-development expenditures, are some questions that would be examined later. Before, we discuss inter-sector based allocations, alternative uses of public resources and related issues, it is appropriate to present a few features of development budget and the mechanism of using project aid.

4.7.1 Annual Development Programme

The development budget of the government is meant to enhance (a) formation of physical capital, (b) development of social capital, and (c) development of human capital. The annual allocations are supposed to create building blocks towards achievement of the objectives of a five year plan. From 2005/06, the Poverty Reduction Strategy Paper (PRSP) will serve the purpose of five-year or three-year plans, which have historically guided ADP. The link between public plans and private resource allocations is crucial for overall impact and achievement of plan goals. Unless public projects are carefully formulated and efficiently implemented, there is no guarantee that the expenditures under ADP will be of significant consequence. Unfortunately, there are plenty of complaints in most circles that economic governance in general and ADP expenditures in particular, have lost significant credibility, effectiveness and efficiency.

One of the complaints is related to utilisation of budgeted resources (see Table 4.10 for indicators of ADP allocation and utilisation). The figures show that actual use of budgetary resources fall short of allocation by about 15 percent in most years; the shortfall becomes smaller, to about 10 percent when actuals are seen as a proportion of revised allocation. However, expenditures are posted only when incurred. Most expenditure on contract jobs are paid at the end of the year although work continues round the year. Therefore, it is expected that, when all expenditures are accounted, the proportion of utilisation to allocation generally increases for the latest quarter of the year. There is scope to improve the utilisation rate of allocated budget. Furthermore, the utilisation of project aid has fallen in recent years and about 20 percent of project aid remains unutilised. This is a serious concern when seen within the context of a clogged pipeline of foreign aid as reported in the previous chapter.

Table 4.10 ADP: Actual Expenditures and Allocations in Bangladesh, 1989/90–2004/05

Year	Actual Expenditure as % of Original Allocation	Actual Expenditure as % of Revised Allocation	Actual Expenditure as % of Taka Allocation	Actual Project Aid Expenditure as % of Project Aid Allocation
1989/90	99.0	112.0	143.0	94.0
1990/91	93.0	86.0	94.0	81.0
1991/92	80.0	84.0	85.0	84.0
1992/93	76.0	81.0	81.0	80.0
1993/94	92.0	94.0	93.0	94.0
1994/95	94.0	92.0	92.0	93.0
1995/96	93.0	96.0	101.0	89.0
1996/97	88.0	94.0	101.0	86.0
1997/98	86.0	90.0	96.0	82.0
1998/99	92.0	89.0	95.0	81.0
1999/00	100.0	94.0	100.0	85.0
2000/01	94.0	89.0	97.0	78.0
2001/02	74.0	88.0	94.0	81.0
2002/03	80.0	90.0	86.0	81.0
2003/04	83.0	89.0	93.0	80.0
2004/05	85.1	91.4	90.3	75.0

Source: Computed from information collected from the Implementation Monitoring and Evaluation Division (IMED) of the Ministry of Planning.

The rate of utilisation of project aid seems to be about 10 percent lower than the rate of utilisation of taka allocation for projects. Why is this difference? The use of project aid implies that the development partners exercise some monitoring right over the implementation process, but government agencies often dislike to extend that transparency to donors. While inquisitive attitude of donors and evasive tendency of aid users may create some dilatory events in release of funds, there are other serious erosions in the whole project processing practices and discipline that are considered to have negative implications for the basic purpose of ADP.

First, the number of projects in the ADP has been increasing from 305 in 1984/85, to 1,120 in 1996/97 and to 1,383 in 2001/02. The average size of a project has also increased in real term, but not to a great extent (the average project size was about Tk.8 crore in 1991/92 and Tk.9.0 crore (at 1991/92 prices) in 2001/02. This seems usual with the increasing size of ADP. However, the number of unapproved (i.e. not approved by authorities) projects in 2001/02 ADP was 350 (25% of total), as compared to almost none in 1984/85. It appears that with the democratic government in power since 1990/91, the rate of increase in the number of unapproved projects in ADP has been increasing at a rapid rate. Unapproved projects avoid the rigor of project appraisal process and do have uncertain bearing on the objectives of national plans (for details see the paper by the Bangladesh Planning Commission, *The Need for a New Focus in ADP*, 2004). Unapproved projects accounted for 14 percent of total allocation in 2001/02.

Second, majority of unapproved projects receive small allocations. For example, in 2001/02, majority of such projects were allocated Tk.50 million or less and 12% of the projects received less than Tk.1.0 million. This pattern of resource allocation implies that the resources are spread too thin over too many projects and large numbers of projects are included in the ADP without undergoing the established process of scrutiny. The 2001/02 ADP included 17 projects which do not reveal even their cost. But resources were allocated to them. The 2001/02 study, referred to earlier, indicates that unapproved projects tend to crowd-out resources from approved projects. The worst apprehension about the small but large number of unapproved projects is that these are meant for individual political constituencies (350 unapproved projects for 300 constituencies is not an entirely irrelevant coincidence).

Third, a study of a randomly drawn sample of 30 projects from the broadly defined agricultural sector revealed that 27 projects (or about 90 percent of the sample) suffered from time over-run and 20 projects (or

two-third of the sample) suffered cost over-run. The average time over-run was 2 years (65 percent of the original time period) and the average cost over-run was 40 percent of the original cost. However, the average does not reveal the shocking cases of time and cost over-runs. In case of time over-run, the same study showed that 57 percent of the projects were completed 2 years after their original schedules of completion date, 26 percent were completed 2-4 years or more after their scheduled date of completion. There were cases where a project or projects were completed within 3 times the years envisioned in the original project document for completion of projects. Time over-run and cost over-run are, in a sense, the two sides of the same coin.

Fourth, it seems that indiscipline in project processing and awarding discretionary power to certain officials were consciously provided in the rules of business through the 1990/93 revision of procedures originally enunciated in the Planning Commission Handbook. One may wonder whether political exigencies were the underlying factors for the change. The mode of excluding economic analysis/costbenefit analysis has become a tradition in the selection of projects in the ADP. Whether the changes are caused by political consideration or a reflection of overall dysfunction in economic governance, the high hope of poverty reduction through close links of PRSP and ADP will remain a dream or only a remote possibility, unless this dysfunction in project processing and management are corrected.

Fifth, the development projects that are funded by ADP (funded from the domestic budget or credits from the international financial institutions) are required to prepare Development Project Proposal (DPP) which has to be approved by the Executive Committee of the National Economic Council (ECNEC). Once the DPP is approved by the ECNEC, the implementing agencies are required to closely follow this DPP. During the life of the project, DPP can be changed but no more than two times. While there is a need for accountability and discipline on the part of the implementing agencies, DPP has become an inflexible document and a major impediment to accelerate project implementation. This problem is even more serious for projects that are required to address the emergency problems. Consequently, there is an urgent need to replace DPP with a more flexible instrument for implementing ADP.

The ADP is the primary vehicle for public investment for economic development. However, total ADP expenditures do not seem to equal total public gross investment; expenditures for repairs and replacement of old investments are provided in the revenue budget. **Table 4.11** provides some indicators of public investment, project aid and ADP

Table 4.11 Actual ADP Expenditure, Project Aid and Gross Public Investment in Bangladesh, 1990/91 -2003/04

Year	ADP Total (billion Tk)	Project Aid (billion Tk)	Proportion of Project Aid in ADP (%)	Gross Public Investment (billion Tk)	Project Aid as proportion of Public Investment (%)
1990/91	52.69	29.72	56.40	-	-
1991/92	60.24	33.92	56.30	-	-
1992/93	65.50	33.87	51.70	81.20	41.70
1993/94	89.83	40.69	45.30	90.00	45.20
1994/95	103.03	43.10	41.80	102.80	41.90
1995/96	100.16	39.56	33.50	106.70	37.10
1996/97	110.41	42.33	38.30	127.00	33.30
1997/98	110.37	42.14	38.20	127.50	33.10
1998/99	125.09	46.65	37.30	147.60	31.60
1999/00	154.71	57.41	37.10	175.70	32.70
2000/01	162.40	58.22	35.80	183.80	31.60
2001/02	140.90	55.01	39.00	174.00	31.60
2002/03	154.34	51.48	33.40	186.30	27.60
2003/04	168.17	56.22	33.30	206.20	27.30

Note: a. Total ADP is at current prices.

b. Gross public investment includes replacement expenditures provided under revenue budget. ADP expenditures do not entirely represent public investment because it contains expenditures which are of transfer of payment nature (e.g. land acquisition costs etc.).

Source: Computed from data in: Ministry of Finance, 2004, *Bangladesh Economic Review*; and Ministry of Finance, 2005b, *Flow of Foreign Aid to Bangladesh*.

expenditures. It will be seen in the table that project aid measured as a proportion of ADP has been declining; the proportion of project aid in ADP was about 56 percent in the early 1990s and has come down to around 33 percent in recent years. Project aid measured as a proportion of total gross public investment has also declined, from around 42 percent in early 1990s to about 27 percent in recent years. We will examine some of these issues in the context of sector based and sub-sector based analysis of ADP later.

4.7.2 Revenue/Non-Developmental Budget

We have already mentioned that the revenue budget is meant for the operation and maintenance of the government. Payment of salaries of

officers and staff of ministries, agencies and public bodies (like parliament, local governments, office of the president, constitutional bodies, boards) is made from the revenue budget. We shall present more details of this budget when we discuss inter-sector based allocations. Because the revenue budget is meant for running the government, its structure is not based on projects and its flexibility is extremely limited. With the data from 1989/90 thorough 2003/04, we estimated the annual fluctuations in real expenditures under ADP and revenue budget. We found that the annual fluctuation in expenditure averaged 11 percent in ADP and 7 percent in the revenue budget. However, in 4 out of 14 years, real ADP expenditure fell from previous year (i.e. rate was negative) but such negative rate or a fall occurred only once in the revenue budget. The fluctuation in the revenue budget ranged from -0.9 to 10.5 percent; the fluctuation in the ADP, however, ranged from -15.9 to 27.7 percent. Obviously, good times and bad times in fiscal arena of the government are distributed unevenly between ADP and revenue budgets. Political economy considerations play a dominant influence on this.

We have also shown that expenditures under revenue budget have increased faster than the expenditures under ADP. Does this trend make a good economic sense? Is it true that this trend, i.e. higher rate of increase in expenditure for operation and maintenance than the rate of increase in capital expenditure, is a growth retarding path of public expenditures? Not necessarily so. Although there has not been any specific research on this issue in Bangladesh, a study by Devarajan et al (1996) using data of a number of developing countries, has demonstrated that the rate of return on operation and maintenance expenditures of governments is much higher than the rate of return on expenditures on capital accretion. This is generally viewed that, although Bangladesh has been highly successful in building rural infrastructure, lack of maintenance has not yielded adequate return from investments. This general view seems to be consistent with the study by Devarajan et al.

The revenue budget is the vehicle of payment to regular government employees. It has a seal of permanence and contrasts with the ADP where project employees of fixed term appointments are housed. After a project is completed temporary project employees are cut out of public employment, unless the project activity is sustained through a formal transfer from the ADP to the revenue budget. This process has always maintained a tension among project employees. This tension has affected project performance and from 2005/06 onward the separation between two budgets has been addressed for 4 pilot ministries (the medium term budgetary framework is being extended to other ministries over time) by

unifying the public budgets for all types of expenditures. This unification is not going to ensure automatic absorption of temporary employees into regular employments. But it will reduce considerable confusion and sources of tension arising from the split accounts of ADP and revenue budgets.

Expenditures of uncertain nature, like relief related to emergencies caused by natural disasters, are met from resources in revenue budget. Such expenditures generally cause higher fluctuations in expenditure than the normal pattern with the revenue budget. Regular targeted intervention for the poor, e.g. food for education, vulnerable group development, vulnerable group feeding, social security payment to older people's grants, and subsidies to selected economic activities are accommodated in the revenue budget. We will provide further details when we examine sector based distribution of expenditure.

4.8 Sector based Distribution of Public Expenditures

4.8.1 Annual Development Programme

Public expenditures are processed through ADP and revenue budgets. The ADP is designed to develop infrastructure, institutions, technology and human resources. These developments strengthen the private propensity to invest and enhance the productivity of private investments. The ADP is a growth promoting public instrument that supports national goals of economic growth and poverty reduction. Sector based priorities in allocation of public resources is a strategic side of this instrument of public investment. The detailed sector based allocations in the ADP expenditures are shown in **Tables 4.12 and 4.13** and in **Tables 4.15 and 4.16**. This data show that agriculture, rural development and water resources sectors (defined generally to represent broad agriculture and rural development sector) to have received about 20 percent of total ADP expenditures in 2003/04. This proportion of ADP resources for agriculture and rural development in 2003/04 is lower than the proportion of allocation in 1990/91 when it was 23 percent. We shall see further in the next chapter that the change in intra-sector based distribution (i.e. distribution to various sub-sectors of agriculture and rural development) was much sharper than the change in the overall sector based allocation.

The next real sector for production of goods is industries; expenditures for this sector in the ADP is less than one percent and have not changed much over the last 14 years. This is a reflection of the fact that industrial sector is almost entirely a private sector production

Table 4.12 Sector based Development (ADP) Expenditures and Project Aid in Bangladesh, 1990/91 – 2003/04

Sector	(In Crore Tk.)													
	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Agriculture	306	422	373	521	546	451	552	487	613	727	731	620	577	685
Rural Development	221	319	367	476	680	681	927	905	1263	1887	1981	1550	1557	2054
Water Resources	674	536	616	566	649	561	905	894	876	1067	991	761	662	640
Industries	95	120	72	153	134	150	155	88	100	263	536	268	176	417
Power	364	741	1009	1213	1525	1372	1490	1203	1501	1996	1981	1705	2114	2733
Gas, Oil and Natural Resources	379	325	478	323	237	411	486	541	588	665	406	437	625	776
Transport	632	837	969	1545	1947	2013	2472	2174	2239	2692	3313	2804	2493	2995
Communication	116	163	144	539	453	290	210	177	350	480	455	859	560	410
Physical Planning & Housing	232	313	236	314	484	461	596	563	675	1083	1218	930	866	969
Education and Religion	174	301	531	916	1463	1302	1457	1424	1689	1980	2160	2001	2142	2148
Health and Population	458	410	485	692	845	691	872	1004	1026	1253	1186	1113	1037	1743
Other	1618	1536	1271	1716	1339	1643	894	1556	1601	1408	1267	1043	2624	1226
Total ADP Expenditure	5269	6024	6550	8983	10303	10016	11041	11037	12522	15471	16240	14090	15434	16796
Total Project Aid	2972	3392	3387	4097	4310	3956	4233	4214	4665	5741	5822	5501	5148	5622

Source: IMED, Ministry of Planning and the Bangladesh Ministry of Finance, *Bangladesh Economic Review* 1999 and 2004.

Table 4.13 Share of Sector based Development (ADP) Expenditures and Project Aid in Bangladesh, 1990/91 – 2003/04

Sector	(Share in percent)													
	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Agriculture	6.0	7.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0
Rural Development	4.0	5.0	6.0	5.0	7.0	7.0	8.0	8.0	10.0	12.0	12.0	11.0	10.0	12.0
Water Resources	13.0	9.0	9.0	6.0	6.0	6.0	8.0	8.0	7.0	7.0	6.0	5.0	4.0	4.0
Industries	2.0	2.0	1.0	2.0	1.0	2.0	1.0	1.0	1.0	2.0	3.0	2.0	1.0	2.0
Power	7.0	12.0	15.0	14.0	15.0	14.0	13.0	11.0	12.0	13.0	12.0	12.0	14.0	16.0
Gas, Oil and Natural Resources	7.0	5.0	7.0	4.0	2.0	4.0	4.0	5.0	5.0	4.0	3.0	3.0	4.0	5.0
Transport	12.0	14.0	15.0	17.0	19.0	20.0	22.0	20.0	18.0	17.0	20.0	20.0	16.0	18.0
Communication	2.0	3.0	2.0	6.0	4.0	3.0	2.0	2.0	3.0	3.0	3.0	6.0	4.0	2.0
Physical Planning and Housing	4.0	5.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	7.0	8.0	7.0	6.0	6.0
Education and Religion	3.0	5.0	8.0	10.0	14.0	13.0	13.0	13.0	13.0	13.0	13.0	14.0	14.0	13.0
Health and Population	9.0	7.0	7.0	8.0	8.0	7.0	8.0	9.0	8.0	8.0	7.0	8.0	7.0	10.0
Other	31.0	26.0	19.0	19.0	13.0	16.0	8.0	14.0	13.0	9.0	8.0	7.0	17.0	7.0
Total ADP Expenditure	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Total Project Aid	56.0	56.0	52.0	46.0	42.0	39.0	38.0	38.0	37.0	37.0	36.0	39.0	33.0	33.0

Table 4.14 Sector based Development (ADP) Expenditures and Project Aid in Bangladesh, 1996/97 – 2004/05

(In Crore Tk.)

Sector	1996/97		1997/98		1998/99		1999/00		2000/01		2001/02		2002/03		2003/04		2004/05	
	Sector based Aid	ADP	Project Aid	ADP	Sector based Aid	ADP	Project Aid	ADP	Sector based Aid	ADP	Project Aid	ADP	Sector based Aid	ADP	Project Aid	ADP	Sector based Aid	ADP
Agriculture	552	228	497	274	613	279	727	333	731	330	620	213	577	238	679	272	373	219
Rural																		
Development	927	378	905	368	1263	580	1887	710	1981	696	1550	491	1557	402	2326	561	1472	528
Water Resources	905	554	894	535	876	614	1067	395	991	366	761	207	662	117	679	113	252	99
Industries	155	4	88	3	100	4	263	46	536	211	268	37	176	8	461	271	250	312
Power	1490	431	1203	337	1501	103	1996	554	1981	682	1705	808	2114	778	2903	1215	2139	1261
Gas, Oil and																		
Natural																		
Resources	486	210	541	233	588	253	665	192	406	209	437	185	625	306	873	289	623	66
Transport	2472	1148	2174	1123	2239	1146	2692	1362	3313	1670	2804	1633	2493	1350	3034	1417	1265	995
Communication	210	0	177	133	350	200	480	106	455	230	859	444	560	217	375	19	302	90
Physical Planning																		
and Housing	596	195	563	184	675	319	1083	402	1218	476	930	493	866	354	994	311	622	265
Education and																		
Religion	1457	285	1424	436	1689	378	1980	459	2160	373	2001	500	2142	515	2053	431	1413	497
Health and																		
Population	872	294	1004	0	1026	762	1253	1012	1186	566	1113	474	1037	836	1391	700	842	764
Other	894	507	1556	588	1601	27	1408	170	1267	12	1043	15	2624	28	1049	22	761	28
Total	11041	4233	11037	4214	12522	4665	15471	5741	16240	5822	14090	5501	15434	5148	16817	5622	10313	5124

Note: Project Aid Expenditure 2004-05 from Revised ADP.

Source: IMED, Ministry of Planning, the Bangladesh Ministry of Finance, *Bangladesh Economic Review*, 1999, 2004 and 2005a, and the Bangladesh Ministry of Finance, *Annual Development Program (ADP)*, 2005c.

Table 4.15 Share of Sector based Development (ADP) Expenditures and Project Aid in Bangladesh, 1996/97 -2004/05

Sector	1996/97		1997/98		1998/99		1999/00		2000/01		2001/02		2002/03		2003/04		2004/05	
	ADP	Project based Aid																
Agriculture	5.00	41.23	4.50	55.16	4.89	45.59	4.70	45.80	4.50	45.22	4.40	34.36	3.74	41.28	4.04	40.08	3.62	58.77
Rural Development	8.40	40.74	8.20	40.69	10.09	45.94	12.20	37.63	12.20	35.11	11.00	31.69	10.09	25.79	13.83	24.13	14.27	35.88
Water Resources	8.20	61.24	8.10	59.81	6.99	70.07	6.90	37.01	6.10	36.95	5.40	27.19	4.29	17.63	4.04	16.64	2.44	39.35
Industries	1.40	2.47	0.80	3.15	0.80	4.05	1.70	17.32	3.30	39.40	1.90	13.71	1.14	4.55	2.74	58.76	2.42	124.99
Power	13.50	28.94	10.90	28.04	11.99	6.84	12.90	27.74	12.20	34.42	12.10	47.42	13.70	36.77	17.26	41.86	20.74	58.97
Gas, Oil and Natural Resources	4.40	43.24	4.90	43.12	4.70	43.07	4.30	28.90	2.50	51.59	3.10	42.45	4.05	48.95	5.19	33.13	6.04	10.62
Transport	22.39	46.42	19.70	51.64	17.88	51.20	17.40	50.58	20.40	50.42	19.90	58.23	16.15	54.17	18.04	46.70	12.27	78.63
Communication	1.90	0.00	1.60	75.05	2.80	56.98	3.10	22.17	2.80	50.58	6.10	51.70	3.63	38.73	2.23	5.13	2.93	29.79
Physical Planning and Housing	5.40	32.66	5.10	32.76	5.39	47.23	7.00	37.14	7.50	39.04	6.60	52.97	5.61	40.92	5.91	31.32	6.03	42.61
Education and Religion	13.20	19.56	12.90	30.65	13.49	22.38	12.80	23.18	13.30	17.29	14.20	24.99	13.88	24.04	12.21	21.01	13.70	35.16
Health and Population	7.90	33.72	9.10	0.00	8.19	74.29	8.10	80.72	7.30	47.74	7.90	42.58	6.72	80.56	8.27	50.33	8.17	90.68
Other	8.10	56.71	14.10	37.78	12.79	1.69	9.10	12.08	7.80	0.96	7.40	1.48	17.00	1.08	6.24	2.10	7.38	3.70
Total	100.00	38.34	100.00	38.18	100.00	37.26	100.00	37.11	100.00	35.85	100.00	39.04	100.00	33.36	100.00	33.43	100.00	49.69

Note: 1. Project aid for industries only: one project makes the proportion of project aid high because of small domestic sector based ADP for industries in 2003/04.

structure, as is also the case with agriculture. But agriculture's small-scale production units, geographic spread, seasonality of production and vulnerability to natural calamities, have entailed larger share of public investment than industries. Both agriculture and industries sectors have benefited from the development of infrastructures and human resources through ADP expenditures.

Transport and communication represent the core of infrastructural development. This sector received 20 percent of ADP expenditures in 2003/04, compared to only 14 percent in 1990/91, thus implying a huge boost during 1990/91 through 2003/04. The general understanding that infrastructural development is a key ingredient in the strategy of market-led growth and development becomes quite transparent from budgetary allocations. The energy sector (power and gas) expenditures reflect a similar role of energy in industrialisation as perceived in the case of infrastructure. Share of the energy sector (power, gas and natural resources) in the ADP expenditures increased to 21 percent in 2003/04 from 14 percent in 1990/91.

Education and health sectors are key areas of public expenditures for the development of human resources. Bangladesh has attached a particularly high priority to education. A country with such a large population as Bangladesh, no strategy could be as crucial as the development of human resources for long-term prosperity. With this perception of the strategic role of education, ADP expenditures for education have been brought up to 13 percent of total developmental expenditures in 2003/04 from only 3 percent in 1990/91. With similar understanding, the expenditures for health and population control sector in the ADP has been raised from 9 percent in 1990/91 to 10 percent in 2003/04. This small rise in the health sector may appear to be inconsistent with the claim of parallel priority of education and health in human resource development. But the apparent higher priority to education in the last decade should be seen in the context of a large historical gap between health and education. The average share of education in total ADP during 1976-81 was 3.2 percent compared to 5.8 percent for health and family planning (Ahmed, 2002).

4.8.2 Revenue Budget

As mentioned earlier, revenue budget provides expenditures for running the operations of government and maintaining public assets. All government agencies, including ministries and commissions, receive resources which are considered necessary for the operation and administration (see appendix tables for this chapter). However, the

allocations are disproportionate to human resource and institutional requirements. Thus, (a) financial services (loans, advances premium, etc.) under the Ministry of Finance received 11.34 percent of total, (b) defense, 13.13 percent, (c) internal security (police etc.), 7.07 percent, (d) education, 15.54 percent (e) health, 5.14 percent, and (f) debt servicing received 20.3 percent of total revenue budget in 2003/04. These 6 heads of account took 72.62 percent of the revenue budget in that year. Another 4 sectors (a) agriculture and rural development (4.42 percent), (b) post and telegraph (2.17%), (c) transport and communication (4.37%), and (d) disaster management and relief (2.72 percent)—together received 13.68 percent. The remaining 13.7 percent of the revenue budget was shared by a large number of smaller agencies and sectors in 2003/04. In comparison of shares in revenue budget between 2003/04 and 1990/91, it appears that education, defense, external debt servicing and a few other sectors lost in shares, while shares for internal debt servicing, agriculture and rural development, transport and communication increased.

4.8.3 Consolidated Budget Expenditure

To provide a consolidated picture of development and revenue expenditures, we made an attempt to add up revenue and ADP expenditures in 1990/91 and 2003/04. There was a serious problem in this simple process of addition. The definition of sectors or heads of account in the revenue budget, as available in budget documents, was changed from 1997/98 (see appendix tables). It was not possible to construct a time series of public expenditure for all the sectors, adding ADP and revenue expenditures, from 1990/91 through 2003/04 because of differences in definition. The data from 1990/91 through 1996/97 were for functional categories of expenditures, while the data for 1997/98 through 2003/04 were organisation by organisation. It was possible to convert one into the other for some sectors but not for all sectors. Therefore, we present a consolidated picture in **Table 4.16** where all sectors which could not be added separately are grouped as “all others” category.

The share of internal security (police and paramilitary) was 3.53 percent in 1990/91 and increased to 4.46 percent in 2003/04. The share of defense dropped from 9.38 percent to 8.29 percent, and the share of agriculture and rural development fell slightly from 11.25 percent to 10.87 percent. The big gainers in overall public resource allocation were education (from 10.65 to 15.26 percent), transport and communication (from 6.8 percent to 11.58 percent), and domestic debt servicing (from 3.31 to 10.62 percent). Health and population control retained virtually a constant share (i.e. 6.84 percent in 1990/91 and 7.00 percent in 2003/04).

Table 4.16 Sector based Shares in Consolidated (ADP + Revenue) Public Expenditures in Bangladesh, 1990/91 and 2003/04

Sectors	(Percent Shares)					
	ADP		Revenue		Total	
	1990/91	2003/04	1990/91	2003/04	1990/91	2003/04
1. Internal Security	-	-	6.08	7.07	3.53	4.46
2. Defence	-	-	16.14	13.13	9.38	8.29
3. Power, Gas, Mining	14.00	21.00	0.36	0.30	6.10	7.90
4. Education	3.00	13.00	16.17	15.54	10.65	15.26
5. Health and Population	9.00	10.00	5.29	5.24	6.84	7.00
6. Agriculture and Rural Dev.	23.00	21.91	2.78	4.43	11.25	10.87
7. Transport and Communication	14.00	20.00	1.61	6.67	6.80	11.58
8. Debt Servicing	-	-	11.69	20.30	6.90	12.82
Domestic	-	-	5.70	16.82	3.31	16.62
External	-	-	5.99	3.48	3.48	2.20
9. All others ¹	37.00	14.09	35.04	24.85	36.42	20.28
Total share (%)	100.00	100.00	100.00	100.00	100.00	100.00
Total Expenditure (in billion Tk)	52.69	167.96	73.11	287.83	125.80	455.79

Note: ¹All others includes organs of government and administration, audit, accounts, retirement costs, various social services, grants, subsidies, relief, foreign affairs etc.

Source: Computed from data in the Appendix Tables and Tables 4.12, 4.13, 4.14 and 4.15.

In the context of an increasing size of real public expenditure, a constant share means a larger absolute amount of real resources available to the sector. The government has increased investment in the power, gas, and mining sector from 6 to about 8 percent. The shares for remaining sectors, termed as “all others”, had declined substantially, from 36 percent to 20 percent between 1990/91 and 2003/04. The change in consolidated expenditures for these two years is shown in **Figure 4.3**.

4.8.4 Sector based Distribution of Project Aid

In 2003/04, the intensity of project aid (i.e. project aid as percent of total sector based expenditure under ADP) was highest in the health sector (50.33%). The highest rate in industry in 2003/04 and 2004/05 is an illusion only one project in a sector with little local allocation makes the proportion of project aid artificially high. Health is followed by transport (46.7%), power (41.86%), and agriculture (40.08%). Proportions of project aids in all other sectors, excluding education, physical planning and housing, gas, oil, and natural resource, rural development, and water

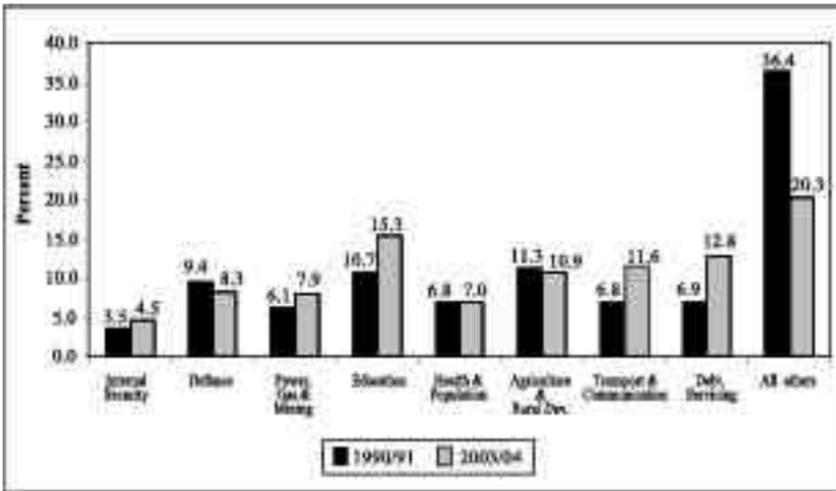


Figure 4.3 Sector based Shares in Consolidated (Total) Public Expenditure in Bangladesh, 1990/91 and 2003/04

resources sectors, are very little. The proportions range in these sectors from 16 percent in water resources to 33 percent in gas, oil, and natural resources sector.

Proportions of project aid in sector based expenditures are illustrated in Figure 4.4, showing the changes between 1996/97 and 2003/04. It seems that intensity of project aid has remained almost constant in agriculture, transport and communication, physical planning and housing, and education sectors. Drastic fall in project aid proportion has occurred in water resources sector, a fall from 61 percent to 17 percent. Drastic increase has taken place in health and population sector, from 34 to 50 percent. Share of project aid in total sector based expenditures has fallen, from 40 to 24 percent in rural development sector, has increased from 29 to 42 percent in power sector, and has fallen from 43 to 33 percent in gas and natural resources sector. These changes, to a large extent, reflect donors' perception of changing priorities and sectors' ability to impress donors through sector based performance.

4.9 Regional Distribution of Public Expenditure and Poverty Traps

Public sector resource allocation is based on the principle of strengthening the forces of growth nationwide and alleviating specific

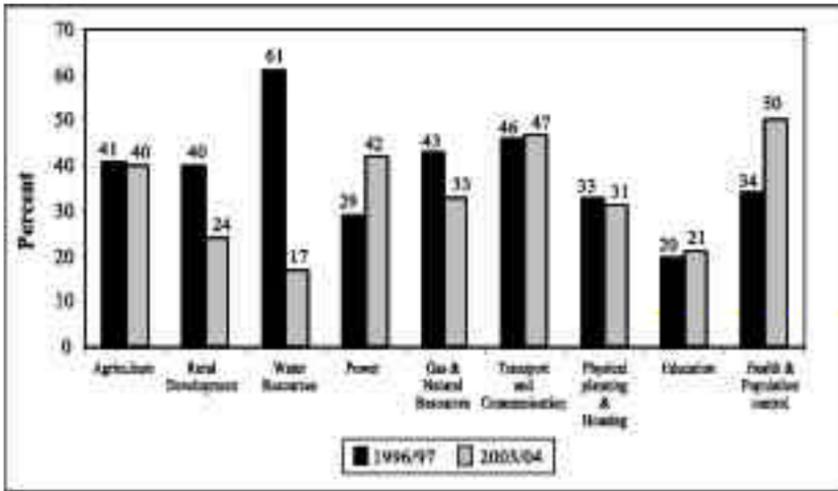


Figure 4.4 Proportion of Project Aid in Total Sector based ADP Expenditures in Bangladesh, 1996/97 and 2003/04

problems in specific locations. These geographic locations of specific expenditures become necessary on grounds of (a) technical specificity of a location, (e.g. promoting orange production in Sylhet), (b) political exigency (e.g. the Chittagong Hill Tract special development programme), (c) correcting a particular regional backwardness (e.g. the Barind Development Board), and (d) serving political constituencies of influential political personalities. A careful reading of the list of projects in the ADP will make these points self-evident.

Critics of HYV technology in agriculture also highlighted the imbalance in regional income due to uneven spread of modern agricultural technology (see Griffin and Khan, 1969). But an analysis of the case of Bangladesh has demonstrated that the fast agricultural growth in the districts of north and north-west Bangladesh contributed to equalisation of income of the people in these regions to the income of people in slow-growing districts in coastal areas and the districts in the low-lying Meghna Valley. These results are obtained from the high-growth in initially poor areas and slow growth in initially rich districts (Ahmed, 2001). This consequence of green revolution in Bangladesh resulted from certain natural advantages of regions and not from pursuance of specific policy preferences for regions.

Income distribution or poverty considerations are yet to play a significant influence on allocation of public resources for solving the well

publicised problems of poverty traps and “monga phenomenon” in certain areas of Bangladesh. Monga phenomenon is defined as a famine like situation for poorer people in certain areas and generally in the months of September through December. This phenomenon is widely known to prevail in Kurigram, Rangpur, Lalmonirhat, Nilphamari, Gaibandha, and some parts of Dinajpur and Jamalpur districts of Bangladesh.

Why is there no development project in ADP for a lasting solution to the problem of “monga” or poverty traps? There are plenty of public relief operations and NGO micro-credit programmes in these areas, with little apparent success. Do we know why these traps of poverty exist? From workshops or seminars on “monga”, it becomes clear that everybody behaves as if he/she knows the causes. But concerns on underlying causes remain far-fetched and serious investigations on poverty traps and monga phenomenon are yet to come. It is no wonder that these sorts of regional problems do not get a comprehensive analysis in the PRSP. Mitigating the curse of poverty traps and monga phenomena should constitute to be a major plank in the programme of public expenditure to support PRSP.

4.10 Alternative Uses of Public Resources

Governments prepare budgets and spend resources. In the use of any resource, it is usual to think and examine whether the particular use is the best option. In the context of public expenditure this question is not irrelevant. Perhaps it is more crucial to ask this question in public expenditure than private investment because private investment is protected by personal vigil whereas public investment is vulnerable to misuse. How this question of alternative uses of public expenditures is handled in the context of planning and implementation of public resources in Bangladesh? In Bangladesh, as anywhere else, this question is handled at three levels: (a) macro level examination of alternatives, (b) sector based level examination of alternatives, and (c) sub-sector based level examination of alternatives. We have briefly mentioned the macro level examination in the previous chapter where public expenditure financed by raising taxes is conceived to have the alternative of not raising a particular tax and allow the private sector to spend the money. We casually rejected the problem at the macro level in Bangladesh because of the less developed stage of the economy and because of a small size of government in comparison with other countries. But this question assumes a particularly weighty importance in the context of sector based and sub-sector based allocations. We shall include discussion

on sector based allocations in this chapter and leave sub-sector based discussion for the next chapter where sub-sectors of agriculture and rural development will be subjected to a special and detailed examination.

4.10.1 Search for Alternatives in Sector based Allocations

How does the Minister for Finance and Planning make sector based allocations annually in the budgets presented at the Parliament? The Minister and his staff in the Planning Commission and Finance Division prepare preliminary allocations based on past trends and current or emerging priorities. The structure of budget is, of course, derived from the current three-year plans i.e. the medium-term budgetary framework. Sector based allocations in plans are determined on the basis of a modelling exercise (at least an input-output framework). This exercise attempts to find a set of sector based allocations that maximise a number of objectives, e.g. growth rates in GDP, specific objectives like foodgrain self-sufficiency, acceleration in exports etc. Growth rate remains the central focus and other specific objectives most often remain on the sideline for marginal adjustments. These sideline objectives, including the objectives of poverty reduction, are not generally incorporated in the analytical framework, mainly because of analytical complexities that such incorporation entails. Professional expertise is generally scarce, even as consultants, to handle such a quantitative exercise.

For the past few years, these sector based allocations are the results of compromise among various influences e.g. (a) past year facts, (b) political exigencies, (c) bureaucratic haggling among ministries, and (d) influence of popular issues debated in civil societies and often pursued by donors. It can perhaps be argued that this style of determination of sector based priorities is not that bad, because the results have been a movement towards desirable direction. Growth rate is respectable and allocations have shifted more towards infrastructural development, health, education and rural development. So why worry about the style for determination of sector based allocations? Are we not missing opportunities for achieving even a better performance? A 5 percent growth rate is no small achievement, to be complacent about, for a country besieged with so many social problems, natural disasters and with so pervasive a level of poverty. Moreover, the style of currently practiced sector based allocations does not provide the assurance that we are building our future prospects and will not be sucked into sudden collapse by following a method of resource allocation that is so subjective. The opportunities that we now have may not exist for long. We must develop a foundation that can sustain a trajectory for prosperity for many years to come in the future.

What would constitute to be an ideal approach to sector based allocations? A list of salient features of such an approach is summarised below:

First, planning framework with a 3- 5 years perspective should guide the annual budget formulation. Such a length of time is short enough to be realistic and long enough to see results of most projects funded by public funds. Five-year or three-year plans provide the space to evaluate the impact of a programme and debate alternatives on the basis of analysis. This also makes the process transparent by reducing the scope of pet political ideas or projects to creep in, and provide a clear direction of principal national objectives. Unlike the past plans of public investments, these new planning perspectives should focus more to identify and establish links between public expenditures and private investment, consumption and savings.

Second, a fresh and meaningful functional classification of public expenditure should be developed. We have developed the basic ingredients for such a classification. A tentative suggestion is presented below.

A. Pure Public Goods

- a. Administration of parliamentary and government organisations
- b. Property rights protection (law and justice and similar agencies)
- c. Internal Security (Police, Bangladesh Rifles etc.)
- d. External Security (Defense)
- e. Foreign Affairs
- f. Miscellaneous Funding

(emergency relief, disaster management, targeted programme of food security, unforeseen expenditures, public marketing at odd times, subsidy grants etc., avian flu surveillance or surveillance of other contagious diseases)

B. Social Capital Formation

- g. Education
- h. Health and Population
- i. Children, youth, women and cultural development
- j. Safety net for vulnerable

C. Physical Capital, Technology and Institutions

- k. Agriculture, rural development and rural institutions
- l. Infrastructure: transport and communication

- m. Industry and natural resource mining
- n. Energy (electricity, gas and oil etc.)
- o. Research and technology development
- p. Institutions: social, government and other institutions
- q. Maintenance of public assets

The above functional classification is conceived as most relevant and useful in the context of economic and social analysis of plan expenditure and impact. For administrative purposes, allocation by ministries or agencies can be done; in fact, the present practice is to report allocation and expenditures by ministries and agencies. There should be a matrix showing expenditures by functional classes as well as ministerial classification. Functional classification allows for comparative analysis of resources among (a) pure public goods (b) social capital formation, and (c) physical capital, technological and institutional development. Different stage of economic development will call for different priorities among these 3 groups. The classification will also facilitate making a judgment on sector based allocations.

In the context of a five-year plan, as well as during the phase of processing of proposals for inclusion in the budget, the scope of appraisal of pure public goods will be different from the scope of appraisals of proposals under the other two categories. The public goods sector would remain an area where political and bureaucratic judgment will play the greater role. But social and physical capital formation sectors would warrant rigorous economic analysis to ensure their contribution to growth and long-term reduction in poverty. These are the sectors where public-private participation is widely expected. These are the sectors through which link between public and private sectors would have to be identified and measured. In the age of market-oriented development mechanisms, this link becomes the central focus of planning.

Within a plan framework, sector based allocations are made generally to maximise overall growth rate in GDP on the basis of sector based input-output relations (popularly known as capital/output ratio), with additional considerations for sector based or parochial objectives (e.g. food grain self sufficiency, education of the poor etc.). Sector based allocations may also reflect some political judgment or preferences which the politicians may convey to planners/bureaucrats at the time of interactions between both the groups. But an ideal approach will include a respectable analysis of economic and social rates of return from projects of various sectors. These would be rates of returns on investments at the margin, not the average for the entire sectors. After this exercise is

completed, politicians might change them on consideration of non-economic factors. Politicians are supreme decision makers. But before they make those decisions, they should have information on the opportunity cost of their changes or modifications.

Sector based allocations in the medium-term plans assume certain rate of return from capital on the basis of prevailing knowledge generated by project appraisals in various sectors. This project analysis is part of sub-sector based allocations and processing of project. The portfolio in sub-sector based allocation/expenditure consists of projects; this is the subject to be elaborated in the next chapter in the context of a comprehensive examination of sub-sectors under agriculture and rural development sector.

4.10.2 The Necessity of Building Capacity

If a reform in public expenditure processing is needed, it should begin with upgrading of capacity both in the Planning Commission and planning units of technical ministries. This upgrading is required both in terms of quality and quantity. Through interviews with some key planners, it became very clear that economists in these units often do not have the skill of conducting a benefit-cost analysis. A study of the ADP processing, cited earlier, finds that few investment projects (only 12% of projects in agriculture) do provide some crude benefit-cost analysis. In inter-ministerial meetings for approval of projects, high officials have objected to entrust Implementation Monitoring and Evaluation Division (IMED) because “they do not know how to calculate internal rates of return”. Very few planning economists possess that skill. However, though few, some skilled personnel do work in the Planning Commission who are not only frustrated but consider the situation not redeemable.

But large projects, requiring donor financing, must have benefit-cost analysis. It was pointed out that the Jamuna Bridge Project involved about five benefit-cost analyses at various times. And foreign consultants and donors covered the expenses for such analysis. But Bangladesh must have some internal and in-house capacities to dialogue with external consultants. One of the reasons for occasional irritating relations between the donors and government agencies is this unequal skill levels for intensive interaction between domestic and donor professionals.

4.10.3 Do the Allocations in Pure Public Goods Sector Seem Right?

There is very little guidance that economic analysis can provide to guide allocation and expenditures for purely public goods. Protection of

property rights from fraudulent practices, illegal usurpation, extortion and various other forms of illegal grabbing of property are posing serious challenges in Bangladesh. Public resource allocations for internal security and law and justices appear to be so small that, even if the corruption level were lower, the capacity of law enforcement agencies, courts, and investigative apparatus of the government would be considered inadequate. It has sometimes been argued that increasing these capacities would not improve the situation unless the sources of corruption are tackled. Such an attitude would be untenable in the long-run. We do not have accurate information on how much resources are spent by successful countries on internal security and protection of property rights, but Bangladesh spends about one-tenth per capita on internal security as compared to that in Malaysia.

Under the situation of threat from extremists, both political and religious, we should probably double the shares of allocations of resources to internal security and protection of property rights. Increases should come within a planned framework, and possibly by reallocation from other expenditures, or at least partly. Again, a solid criterion to make changes in allocations to purely public goods sectors is so fragile. But ordinary people will probably support higher levels of police presence on the street and speedy disposal of cases in public courts. Bangladesh has only a brief period of democratic experience. Results of the last parliamentary election were influenced by the perception of voters of relative commitment of political parties to restore rule of laws in the country. If we continue with the democratic process for long enough a time, perhaps our voters will send signals to policy makers on allocations of public resources to purely public goods sectors, like internal security and property right protection. Some times that hope may appear to be a pious hope. Every politician on the winning side may think that it is his or her last chance to amass fortunes for future family members. This attitude of politicians will be non-conforming with the principles that sustained democracy will cure all evils.

4.11 Composition of Government Spending in the United States

A comparison of government spending of Bangladesh with other countries would have been very appropriate. Comparison of public expenditures among countries cannot be based on secondary and the public expenditures statistics like those collected by the IMF. These statistics are very rough, do not represent expenditures at all levels of governments and definitional differences are not sorted out to reflect

comparison of comparables. However, a study of United States public expenditure (Dawson and Stan, 1995) had some comparable estimates which would make a worthwhile comparison with Bangladesh, despite the fact that the two countries contain vastly different socio-economic cleavages. The United State estimates are shown in **Table 4.17**.

Table 4.17 Government Spending (all levels of government combined) by Function, USA

Functions	Percent of Total Spending	
	1952	1995
National defence	50.0	14.5
International relations	2.5	1.0
Education	9.8	15.9
Health	3.5	16.4
Transport and communication	5.8	4.5
Civil safety (internal security)	2.3	4.4
Income and other support to individuals	10.4	21.2
Support to economy (mostly agriculture)	3.8	5.3
Support to labour (training)	1.7	3.2
Utilities and commercial activities	1.8	0.2
Interest on debt	4.9	5.7
Other	3.8	7.8
Total	100.0	100.0

Source: Dawson and Stan, 1995, *Public Expenditure in the United States 1952-1995*.

The table shows that US government spending has changed remarkably between 1952 and 1995. In 1995, the largest fraction of government spending was on programmes that provided income support for individuals. These programmes, which account for 21 percent of government spending, include social security and federal, state, and local welfare programmes. By comparison, in 1952, half of government spending was for national defense. In 1952, the cold war had begun and the Korean conflict was still underway, so the largest part of spending was military spending. The share of government spending on defense declined steadily after 1952, while the share of social spending rose. By 1995, national defense accounted for only 14.5 percent, the fourth largest share after income support for individuals, health and education. This shift is often termed as “peace dividend.”

This case of US government spending may appear to be irrelevant to Bangladesh. For that matter, any international comparison may appear to be pointless because country conditions are often so unique. But similarity in the pattern of certain expenditure, in spite of sharply different conditions, may be indicative of some universal harmony in the midst of a far-flung diversity. The similarity between fractions of expenditures of USA and Bangladesh on education and health is thought-provoking; perhaps these sectors are universally important in all times. The higher proportions of expenditures on infrastructure and support to economy in Bangladesh than USA are consistent with the wide differences in these developments in the two countries. It is true that only limited lessons can be drawn from Bangladesh and USA comparison of public expenditures. But the rationality of expenditure allocation in USA affords some comfort in the sense that some parallel exists, even within a range of wide contrasts, between Bangladesh and USA. When hard and fast rules are absent in allocation of public resources, some comparison with other countries often becomes a source of confidence or warning-bell for policy makers.

Appendix Table 4.1 Non-Development (Revenue) Expenditures by Sectors in Bangladesh, 1987/88 - 1996/97

Revenue Expenditure Item	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97
Organs of government	43	32	52	58	79	57	69	64	151	87
Administration and law	29	30	34	33	40	50	47	51	52	53
Audit	27	28	34	35	39	48	57	61	62	63
Fiscal services	128	131	175	177	245	268	273	293	292	350
Secretariat	44	46	52	53	56	71	81	89	93	93
Foreign affairs	91	67	73	93	105	103	106	117	110	113
Administration (excluding police and BDR)	175	189	210	199	219	245	253	294	324	333
Police	230	245	304	305	350	419	449	490	519	579
Bangladesh rifles	102	124	130	140	171	205	209	136	249	255
General services	150	161	174	188	208	238	241	248	253	279
Defence	832	1015	1149	1180	1301	1494	1634	1887	2069	2265
Education	820	948	1094	1182	1382	1674	1756	2008	2148	2296
Health and population control	305	321	367	387	431	517	607	685	730	769
Pension and retirement benefits	123	144	169	224	250	300	370	650	508	565
Social and community services	525	720	563	709	621	689	727	805	990	1039
General economic services	53	56	63	66	74	86	98	104	120	122
Agriculture and allied services and water resources	149	156	188	203	212	346	393	451	570	528
Industry, mining and energy	22	23	28	26	29	33	36	43	40	41
Water, electricity and power	47	78	68	79	87					

(contd.)

(Appendix Table 4.1 contd.)

Revenue Expenditure Item	(in crore Tk.)												
	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97			
Communication (except railway, T & T and post office)	86	98	113	118	167	209	242	245	296	277			
Extraordinary expenditure	-	-	-	66	5	-	-	-	-	-			
Subsidies	65	706	941	771	589	187	242	296	285	483			
Grants-in-aid contribution	84	119	96	101	109	124	135	159	173	162			
Interest on domestic debt	240	250	285	417	565	550	519	606	1040	1080			
Interest on foreign debt	350	483	377	438	473	475	549	600	700	676			
Unexpected expenditure	10	-	1	63	23	22	57	18	40	27			
Total Revenue expenditure	4730	6170	6740	7311	7830	8410	9150	10400	11814	12535			

Source: Computed from data in: the Bangladesh Ministry of Finance, *Bangladesh Economic Review*, 2004.

Appendix Table 4.2 Non-Development (Revenue) Expenditures by Sectors in Bangladesh, 1997/98 - 2004/05

Revenue Expenditure Item	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05
President	3	3	3	3	3	4	3	3
National Parliament	26	26	35	33	31	32	44	43
Prime Minister	46	40	48	53	57	57	77	62
Cabinet Division	8	7	13	14	10	15	11	12
Special Affairs Division	106	-	-	-	-	-	-	-
Election Commission	56	22	51	88	103	78	27	26
Ministry of Establishment	208	210	235	248	260	309	303	325
Public Service Commission	4	4	5	5	5	6	7	6
Finance Division-loan and advances, except repayment of domestic loan and investment	1274	1330	1363	1514	1760	2731	3263	5747
Internal Resources Division	338	462	697	1063	1029	567	568	564
Economic Relations Division	29	18	20	21	24	22	23	22
Planning Division	8	9	10	10	48	51	54	58
Implementation Monitoring and Evaluation Division	2	2	3	3	3	3	3	4
Statistical Division	29	32	35	37	-	-	-	-
Ministry of Foreign Affairs	134	156	168	174	174	184	194	234
Local Government Division	277	291	314	348	377	449	506	685
Rural Development and Cooperatives Division	69	74	81	83	83	86	227	219
Ministry of Chittagong Hill tracts Affairs		69	85	91	99	98	78	115
Ministry of Defence	2644	2940	3217	3392	3391	3406	3778	3866

(cont'd.)

(Appendix Table 4.2 contd.)

Revenue Expenditure Item	(in crore Tk.)									
	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05		
Ministry of Law and Justice	88	100	116	128	133	144	160	160		
Ministry of Home Affairs	1181	1299	1520	1587	1605	1803	2034	2247		
Anti Corruption Commission	-	-	-	-	-	-	-	5		
Primary and Mass Education Division	1145	1199	1312	1378	1428	1469	1630	1646		
Ministry of Education	1544	1769	1945	2209	2311	2494	2844	2963		
Ministry of Science and Technology	65	69	69	86	73	78	88	97		
Ministry of Health and Family Welfare	813	887	972	1099	1286	1334	1497	1652		
Ministry of Social Welfare	86	126	136	181	202	255	318	416		
Ministry of Women and Children Affairs	13	15	41	22	27	28	137	444		
Ministry of Disaster Management and Relief/ MO Food and Disaster Management	490	1050	688	772	661	611	784	715		
Ministry of Liberation Affairs	-	-	-	-	9	47	75	80		
Ministry of Housing and Public Works	228	233	259	285	299	369	472	524		
Ministry of Information	117	118	126	144	137	186	184	183		
Ministry of Cultural Affairs	28	29	31	31	32	35	38	36		
Ministry of Religious Affairs	17	20	22	27	30	45	66	32		
Ministry of Youth and Sports	36	26	42	36	39	49	102	101		
Energy and Mineral Resources Division	-	-	-	-	6	7	7	8		
Power Division	6	7	7	8	2	2	2	2		
Ministry of Agriculture	205	273	284	307	308	331	416	1194		

(contd.)

(Appendix Table 4.2 contd.)

Revenue Expenditure Item	(in crore Tk.)									
	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05		
Ministry of Fisheries and Livestock	117	121	132	147	156	184	227	305		
Ministry of Environment and Forest	44	47	52	57	59	72	102	90		
Ministry of Land	122	141	148	160	165	173	182	194		
Ministry of Water Resources	132	146	138	177	165	202	344	344		
Ministry of Food	3	2	2	2	2	5	3			
Ministry of Industries	23	23	26	28	30	36	40	40		
Ministry of Jute	8	7	8	8	8	8	11			
Ministry of Textile and Jute	10	11	12	14	16	19	19	31		
Ministry of Commerce	35	32	25	24	24	27	33	35		
Ministry of Labour and Manpower	27	28	31	35	25	13	13	13		
Ministry of Expatriate Welfare & Employment	-	-	-	-	11	29	28	29		
Ministry of Communication (Except Railway)	313	321	337	374	916	1026	1257	1294		
Ministry of Shipping	22	23	24	27	29	31	35	35		
Ministry of Civil Aviation and Tourism	1	1	1	2	1	2	2	1		
Ministry of Post and Telecommunication (Except Post and T&T)	1	1	1	1	520	521	625	628		
Interest on Domestic Debt	1594	2221	2769	3306	3585	4617	4841	5380		
Interest on Foreign Debt	725	725	785	820	935	957	1001	1153		
Total	14500	16765	18444	20662	22692	25307	28783	34068		

Appendix Table 4.3 Share of Sectors in Total Revenue Expenditure in Bangladesh, 1987/88 - 1996/97

Revenue Expenditure Item	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97
Organs of government	0.91	0.52	0.77	0.79	1.01	0.68	0.75	0.62	1.28	0.69
Administration and law	0.61	0.49	0.50	0.45	0.51	0.59	0.51	0.49	0.44	0.42
Audit	0.57	0.45	0.50	0.48	0.50	0.57	0.62	0.59	0.52	0.50
Fiscal services	2.71	2.12	2.60	2.42	3.13	3.19	2.98	2.82	2.47	2.79
Secretariat	0.93	0.75	0.77	0.72	0.72	0.84	0.89	0.86	0.79	0.74
Foreign affairs	1.92	1.09	1.08	1.27	1.34	1.22	1.16	1.13	0.93	0.90
Administration (Excluding police and BDR)	3.70	3.06	3.12	2.72	2.80	2.91	2.77	2.83	2.74	2.66
Police	4.86	3.97	4.51	4.17	4.47	4.98	4.91	4.71	4.39	4.62
Bangladesh rifles	2.16	2.01	1.93	1.91	2.18	2.44	2.28	1.31	2.11	2.03
General services	3.17	2.61	2.58	2.57	2.66	2.83	2.63	2.38	2.14	2.23
Defence	17.59	16.45	17.05	16.14	16.62	17.76	17.86	18.14	17.51	18.07
Education	17.34	15.36	16.23	16.17	17.65	19.90	19.19	19.31	18.18	18.32
Health and population control	6.45	5.20	5.45	5.29	5.50	6.15	6.63	6.59	6.18	6.13
Pension and retirement benefits	2.60	2.33	2.51	3.06	3.19	3.57	4.04	6.25	4.30	4.51
Social and community services	11.10	11.67	8.35	9.70	7.93	8.19	7.95	7.74	8.38	8.29
General economic services	1.12	0.91	0.93	0.90	0.95	1.02	1.07	1.00	1.02	0.97
Agriculture and allied services and water resources	3.15	2.53	2.79	2.78	2.71	4.11	4.30	4.34	4.82	4.21
Industry, mining and energy	0.47	0.37	0.42	0.36	0.37	0.39	0.39	0.41	0.34	0.33

(contd.)

Appendix Table 4.4 Share of Sectors in Total Revenue Expenditure in Bangladesh, 1997/98 - 2004/05

Revenue Expenditure Item	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05
President	0.02	0.02	0.02	0.01	0.01	0.02	0.01	0.01
National Parliament	0.18	0.16	0.19	0.16	0.14	0.13	0.15	0.13
Prime Minister	0.32	0.24	0.26	0.26	0.25	0.23	0.27	0.18
Cabinet Division	0.06	0.04	0.07	0.07	0.04	0.06	0.04	0.04
Special Affairs Division	0.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Election Commission	0.39	0.13	0.28	0.43	0.45	0.31	0.09	0.08
Ministry of Establishment	1.43	1.25	1.27	1.20	1.15	1.22	1.05	0.95
Public Service Commission	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.02
Finance Division-loan and advances, except repayment of domestic loan and investment	8.79	7.93	7.39	7.33	7.76	10.79	11.34	16.87
Internal Resources Division	2.33	2.76	3.78	5.14	4.53	2.24	1.97	1.66
Economic Relations Division	0.20	0.11	0.11	0.10	0.11	0.09	0.08	0.06
Planning Division	0.06	0.05	0.05	0.05	0.21	0.20	0.19	0.17
Implementation Monitoring and Evaluation Division	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01
Statistical Division	0.20	0.19	0.19	0.18	0.00	0.00	0.00	0.00
Ministry of Foreign Affairs	0.92	0.93	0.91	0.84	0.77	0.73	0.67	0.69
Local Government Division	1.91	1.74	1.70	1.68	1.66	1.77	1.76	2.01
Rural Development and Cooperatives Division	0.48	0.44	0.44	0.40	0.37	0.34	0.79	0.64
Ministry of Chittagong Hill tracts Affairs	0.00	0.41	0.46	0.44	0.44	0.39	0.27	0.34
Ministry of Defence	18.23	17.54	17.44	16.42	14.94	13.46	13.13	11.35

(contd.)

(Appendix Table 4.4 contd.)

Revenue Expenditure Item	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05
Ministry of Law and Justice	0.61	0.60	0.63	0.62	0.59	0.57	0.56	0.47
Ministry of Home Affairs	8.14	7.75	8.24	7.68	7.07	7.12	7.07	6.60
Anti Corruption Commission	-	-	-	-	-	-	-	0.01
Primary and Mass Education Division	7.90	7.15	7.11	6.67	6.29	5.80	5.66	4.83
Ministry of Education	10.65	10.55	10.55	10.69	10.18	9.85	9.88	8.70
Ministry of Science and Technology	0.45	0.41	0.37	0.42	0.32	0.31	0.31	0.28
Ministry of Health and Family Welfare	5.61	5.29	5.27	5.32	5.67	5.27	5.20	4.85
Ministry of Social Welfare	0.59	0.75	0.74	0.88	0.89	1.01	1.10	1.22
Ministry of Women and Children Affairs	0.09	0.09	0.22	0.11	0.12	0.11	0.48	1.30
Ministry of Disaster Management and Relief	3.38	6.26	3.73	3.74	2.91	2.41	2.72	2.10
Ministry of Liberation Affairs	0.00	0.00	0.00	0.00	0.04	0.19	0.26	0.23
Ministry of Housing and Public Works	1.57	1.39	1.40	1.38	1.32	1.46	1.64	1.54
Ministry of Information	0.81	0.70	0.68	0.70	0.60	0.73	0.64	0.54
Ministry of Cultural Affairs	0.19	0.17	0.17	0.15	0.14	0.14	0.13	0.11
Ministry of Religious Affairs	0.12	0.12	0.12	0.13	0.13	0.18	0.23	0.09
Ministry of Youth and Sports	0.25	0.16	0.23	0.17	0.17	0.19	0.35	0.30
Energy and Mineral Resources Division	0.00	0.00	0.00	0.00	0.03	0.03	0.02	0.02
Power Division	0.04	0.04	0.04	0.04	0.01	0.01	0.01	0.01
Ministry of Agriculture	1.41	1.63	1.54	1.49	1.36	1.31	1.45	3.50
Ministry of Fisheries and Livestock	0.81	0.72	0.72	0.71	0.69	0.73	0.79	0.90

(contd.)

Chapter 5

Public Expenditure in Agriculture and Rural Development

The basic unit of a proposal for public expenditure is a project which are conceived and formulated at sub-sector based levels. Therefore, a close look at public expenditures in sub-sectors and projects can provide qualitative and quantitative dimensions of building blocks of public programmes. A detailed sub-sector based examination is conducted only for agriculture and rural development. Agriculture and rural development is considered crucial for PRSP and this sector is the chosen focus of present endeavour.

5.1 Definition of Agriculture and Rural Development

It is necessary to sort out definitions of agriculture and rural development. It is quite common to perceive agriculture mainly as crop production. Rural development is similarly viewed by some as different from agriculture and represents development of rural transport, communications and institutions. These views of what constitute agriculture and what is meant by rural development vary, not only in Bangladesh but also internationally. In the context of the present study, we make the definitions very specific so that chances of misunderstanding arising out of definitional differences are minimised. The UN classification includes (a) crop production, (b) fisheries, (c) livestock, and (d) forestry production activities in the agriculture sector. The definition of rural development has no unified standard, although its focus is wider than the production oriented sectors. Rural development embraces economic and social development of the rural people as its goal. Thus, poverty alleviation, takes a central place in the programmes of rural development. As most poor households in the rural areas are small farmers, agricultural development becomes an obvious facet of rural development.

Budget allocations are made to ministries, and activities of ministries contribute to various substantive functions of the rural economy. Therefore, it is necessary to convert public expenditures by ministries

into expenditure by functional categories. Two types of functional sub-sectors are defined: (i) sub-sectors oriented to production of goods and services, and (ii) sub-sectors of inputs geared to production of goods and services. The conversion matrix for government agencies and production oriented sub-sectors is shown in Table 5.1, and the matrix for conversion of input oriented sub-sectors to production oriented sub-sectors (see Table 5.2). Table 5.1, clearly defines what we include in agriculture and rural development in our analysis of public expenditure. Table 5.2 defines the relative roles of inputs like infrastructure, research, extension, institutions, transfer payments, etc. in various production oriented functional sub-sectors. With this definitional clarification, let us now focus on distribution of public expenditures for agriculture and rural development into various functional sub-sectors.

Table 5.1 Matrix of Ministerial Agencies and Functional Sub-sectors in Agriculture and Rural Development

Ministries/ Board	Sub-sectors: Output Type				Rural Dev.	Rural
	Crops	Fish	Livestock	Forest	Institutions (RD ₁)	Dev. (RD ₂)
1. Agriculture	X					
2. Fisheries		X				
3. Livestock			X			
4. Forest				X		
5. Water Resource ¹	X					
6. Rural Development and Institutions					X	
7. Rural Electricity Board						X
8. Land Administration						X
Total Agriculture	X	X	X	X		
Total Agri-Rural Dev. (AGRD ₁)	X	X	X	X	X	
Total Agri-Rural Dev. (AGRD ₂)	X	X	X	X	X	X

Note: ¹Excludes town protection projects. Town protection schemes accounted for 12.2 percent of total expenditure for water resources.

5.2 Expenditure in Agriculture and Rural Development

5.2.1 Total Expenditure

Recalling sector based distribution of public expenditures, presented in the previous chapter, agriculture and rural development received about 11 percent of total consolidated (ADP and revenue) public expenditure in

Table 5.2 Matrix of Output-oriented Functional Sub-sectors and Input-oriented Functional Sub-sectors

Input-type Functional Sub-sectors (Xi)	Output-type Functional Sub-sectors (Qj)						RD1	RD2	Sum of Xi
	Crops Q1	Fisheries Q2	Livestock Q3	Forestry Q4	Q5	Q6			
1. Infrastructure (X1)	X1Q1	X1Q2	X1Q3	X1Q4	X1Q5	X1Q6	X1Q6	$\Sigma X1Qj$	
2. Research (X2)	X2Q1	X2Q2	X2Q3	X2Q4	X2Q5	X2Q6	X2Q6	$\Sigma X2Qj$	
3. Extension and development (X3)	X3Q1	X3Q2	X3Q3	X3Q4	X3Q5	X3Q6	X3Q6	$\Sigma X3Qj$	
4. Markets and institutions (X4)	X4Q1	X4Q2	X4Q3	X4Q4	X4Q5	X4Q6	X4Q6	$\Sigma X4Qj$	
5. Human resource development (X5)	X5Q1	X5Q2	X5Q3	X5Q4	X5Q5	X5Q6	X5Q6	$\Sigma X5Qj$	
6. Subsidies, grants (direct only), incentives (X6 ¹)	X6Q1	X6Q2	X6Q3	X6Q4	X6Q5	X6Q6	X6Q6	$\Sigma X6Qj$	
Sum of Qj	$\Sigma XiQ1$	$\Sigma XiQ2$	$\Sigma XiQ3$	$\Sigma XiQ4$	$\Sigma XiQ5$	$\Sigma XiQ6$	$\Sigma XiQ6$	$\Sigma \Sigma XiQj$	

Note: ¹Includes rural housing, sanitation etc. Does not include social security and targeted program for the poor. Also includes direct agricultural input subsidy.

2003/04. This share has not changed much during the last 14 years. This share, however, refers to $AGRD_1$, as defined in Table 5.1. The share of agriculture (including water resources) was 6 percent and the share of rural development (RD_1) was 5 percent in the total of 11 percent for $AGRD_1$ in 2003/04. Sometime, sector based public expenditure is judged with respect to its adequacy or inadequacy by international comparison or by comparison with sector based GDP. Such comparisons cannot be made without analysing the meaning and contents of public expenditure in each country. We however made a comparison with USA because of good data availability.

International data (e.g. the IMF Financial Statistics) are not suitable for sector based level comparison, even though such data may be suitable for aggregate/macro economic analysis.¹ Therefore, we only remain contented by comparing public expenditure in agriculture relative to agricultural GDP. This estimate of public expenditure as proportion of agricultural GDP and total public expenditures (ADP plus revenue) are shown in Table 5.3 but such estimates serve only limited purpose. It shows that proportion of public expenditures on agriculture as well as agriculture

Table 5.3 Relative Public Expenditure (ADP + Revenue) in Agriculture and Rural Development in Bangladesh

Year	Expenditure in Agriculture as percent of Ag. GDP	Expenditure in Agriculture and Rural Development as percent of. Ag GDP	Expenditure in Agriculture as percent of Total Public Expenditure	Expenditure in Agriculture and Rural Development as percent of Total Public Expenditure
1997/98	3.9	6.8	7.4	11.8
1999/00	3.8	7.2	6.7	12.5
2003/04	3.5	7.0	5.1	10.7

Note: Agriculture and rural development here uses the definition of $AGRD_1$ (as in Table 5.1). $AGRD_1$ = Agriculture + Rural Development (RD_1).

Source: Computed by authors.

¹ Using data from IMF Financial Statistics, International Food Policy Research Institute (IFPRI) has assembled a global table showing country by country estimates of (a) agricultural public expenditure as percentage of agricultural GDP, and (b) agricultural public expenditure as percentage of total public expenditure. In this document, for Bangladesh, the proportion of agricultural expenditure in total public expenditure is 12.25 percent in 2000 and agriculture expenditure as percentage of agricultural GDP is 6.59 percent in 2000. Our estimates for the two indicators for the same year are 7.1 percent and 3.8 percent, respectively. This discrepancy led us to look into the IMF data. IMF data for Bangladesh appears to include only expenditures under revenue budgets.

and rural development, including development and revenue expenditure, are small in Bangladesh. Agriculture receives resources equivalent to about 3.5 percent of the agricultural GDP and combining rural development (RD₁) to agriculture makes this share about 7 percent of Agricultural GDP. Overtime, growth of agricultural expenditures has fallen behind the growth of agricultural GDP. However, a higher growth in expenditure on rural development (RD₁) than the agricultural sector has contributed to a stable share of combined agriculture and rural development in total public expenditure.

5.2.2 Sub-sector based Distribution of Expenditure

This sub-sector based distribution follows the structure outlined in Appendix Table 5.1. It shows conversion of budgetary expenditures by ministries/agencies to expenditures by output-oriented sub-sectors in agriculture. In this scheme, there are four sub-sectors that together constitute agricultural sector. These are (a) crops (including water resources), (b) fish, (c) livestock, and (d) forests. Beside sub-sectors under agricultural production, we include two sub-sectors under rural development sector i.e. (a) RD₁, and (b) RD₂. RD₁ includes rural development and institutions and RD₂ includes rural electrification and land administration. Agriculture, along with RD₁ and RD₂, represent a broad sector of agriculture and rural development (AGRD₂). Agriculture and RD₁ represent a narrowly defined agriculture and rural development sector (AGRD₁). With these definitional clarifications, the sub-sector based distribution of expenditures in agriculture and rural development is shown in Table 5.4.

The conclusion that can be derived from Table 5.4 is that crop sector takes about 75 percent of total resources spent for agricultural development. Other sub-sectors in agriculture become blurred in public domain under

Table 5.4 Shares of Sub-sectors in Total (ADP + Revenue) Public Expenditure in Agriculture in Bangladesh

Sub-sector	(Percent)					
	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Crops	77	77	75	75	74	71
Fisheries	6	6	8	9	10	11
Livestock	10	8	8	8	7	8
Forest	7	9	9	8	9	10
Total	100	100	100	100	100	100

Source: Computed from Appendix Table 5.3.

the thick shadow of the crop sub-sector. While crop sub-sector has historically received elevated recognition in public policies, a shift of historical policies, giving higher priority to other sub-sectors, particularly fisheries, is an urgent necessity. Already some declining trend in the share of the crop sub-sector is discernible. Public resources to fisheries and forest sub-sectors are creeping up while the share of livestock is slowly declining. In order to increase the role of fisheries sub-sector in agricultural growth, the pace at which resources are allocated is required to be expanded.

Agriculture is an important part of rural economy but the welfare of rural people warrant overall development that enhances the scope of rural non-farm income through infrastructural development, and improves the quality of life through increased access to clean water supply, sanitation, health and education. Resources allocated to rural development and agriculture represent the primary dimension of public effort to develop rural areas. Table 5.5 shows that agriculture used to get 50 percent of overall allocation of resources for agriculture and rural development. This pattern started to change at the beginning of the 21st century. The resources allocated for agriculture as a share of rural development has been in decline *vis-à-vis* rural infrastructure and institutions. We shall come back to these changes in sub-sector based efforts after presentation of another sub-sector based dimension of public expenditures for agriculture rural development.

Production sub-sectors are results oriented. Sub-sector classification based on causal factors underlying production often serves as a better guidepost for public policies than the production oriented sub-sectors. A schematic outline of such a set of sub-sectors is depicted in Table 5.2. Sub-sectors of input type are conceptually clear and relevant to public expenditures that focus on the method of creating impact. Where projects provide detail of expenditure items, estimation of the levels of

Table 5.5 Shares of Agriculture, RD₁ and RD₂ in Total Agriculture and Rural Development (AGR_{D2}) Expenditure in Bangladesh

	(Percent)				
Sub-sector	1999/00	2000/01	2001/02	2002/03	2003/04
Agriculture	50	44	44	42	40
RD ₁	34	38	40	36	39
RD ₂	16	18	16	22	21
Total (AGR_{D2})	100	100	100	100	100

Source: Computed from Appendix Table 5.3.

expenditures by input category is not difficult. Expenditures against block allocations in the budget are not reported in detail and, therefore, pose problems of breaking down the block expenditures by input type sub-sectors. In regard to block expenditures, therefore, we assumed that distributions of block expenditures to various input type sub-sectors followed the same pattern and maintained the same proportions among various input categories as was found in case of projects. The revenue budget expenditures cannot all be distributed to input-type categories because some provisions in the budget are not meant for production activities. Provisions like debt services, transfer payments and many other economically non-productive, but socially necessary, expenditures are accommodated in revenue budget. We only included those revenue expenditures that could be related to input-type sub-sectors.

The distribution of expenditures (both ADP and revenue) by both input-type and output-type sub-sectors for the year 2002/03 is shown in **Table 5.6**. Overall, two-third of public expenditures in agriculture and rural development is spent for development of infrastructure, mostly in crop, RD₁ and RD₂ sub-sectors. In crop sub-sector, 49 percent of sub-sector based expenditures were spent for the development of infrastructures, mostly flood control structures, irrigation canals and pumping stations, embankments and dams. These are done primarily by the Bangladesh Water Development Board (BWDB) but also by BADC and Local Government Engineering Department (LGED). The flood control costs for protection of towns are excluded. With such a large share of crop sub-sector expenditure being spent on these infrastructures,

Table 5.6 Distribution of Total Public Expenditure among Various Output Type and Input Type Sub-sectors in Agriculture and Rural Development in Bangladesh, 2002/03

Input Type Sub-sector	Output Type Sub-sectors						(Percent)
	Crops	Fish	Livestock	Forest	RD ₁	RD ₂	Sum Row
Infrastructure	49.0	2.7	0	3.3	85.7	100	66.3
Extension and Development	24.0	82.6	75.5	85.0	0.1	-	17.2
Research	6.9	5.7	5.9	4.6	0.2	-	3.1
Market and Institutions	2.8	9.0	18.6	7.1	14.0	-	7.2
Subsidy	17.3	-	-	-	-	-	6.2
Sum Column	100	100	100	100	100	100	100

Source: Computed by authors from detailed expenditure for agriculture and rural development.

it becomes essential to see that the resources spent by BWDB are effective in making impact on crop production. This will be discussed later.

About 86 percent of all expenditures under RD₁ (Rural Development and Institutions) is spent on rural roads, market places and local government offices. The RD₂ expenditures are almost entirely for rural electrification since expenditure on land administration is relatively small. Expenditure on sub-sector specific infrastructure in fish and forestry is very small; in fisheries, these relate to fish habitat development and in forestry, forest roads. Most sub-sector based expenditures in fisheries and livestock are spent on extension of knowledge, promotion of new technology and area development initiatives. The category called extension and development covers all activities of the Departments of Agricultural Extension, Fisheries and Livestock. The crop sub-sector spends 24 percent of sector based expenditure on extension and development, mainly through the Department of Agricultural Extension.

All sub-sectors in agriculture and rural development sector spend quite a small share on research. Crop sub-sector spends only about 7 percent, fish about 6 percent, livestock about 6 percent and forestry about 5 percent of their respective sub-sector based expenditures on research. Overall, only 3.1 percent of total public expenditure on agriculture and rural development sector was spent on research in 2002/03. A similar study carried out by Ahmed (2002) found the shares of research to be 4.73 percent in 1984/85, 4.14 percent in 1989/90, and 3.57 percent in 1994/95, of the total expenditure in agriculture and rural development sector (2002). Thus, a clear declining trend in public spending on agricultural research is discernible. This is a serious concern and we would examine the issue in a greater detail quite soon.

Expenditure on market and institutions is modest. In crop sector, these expenditures relate to public food grain marketing in the Ministry of Food and Disaster Management, seed marketing by BADC and activities of the Department of Marketing in the Ministry of Agriculture. Livestock sector's production and marketing of vaccines, cooperative and group activities in agriculture and rural non-farm sectors under the Ministry of Local Government, Rural Development and Cooperatives, and development of fish marketing institutions are also part of this category of expenditure. It is necessary to point out that, among all these sub-sectors, forestry is the one which makes direct public investment for the development of forestry due to all forests in Bangladesh being the property of the Government. In case of other sub-sectors, investments are undertaken to create an enabling environment for private producers to make productive investments. This difference among sub-sectors

influences the choice of approach for the development of projects in sub-sectors.

5.3 Investment in Water Resources

Water resources in crop sub-sector were found to account for the largest part of public expenditure in the crop sub-sector. But what has been its contribution to growth in crop production? It has been ascertained that private sector development of tube-well and low-lift irrigation has been the leading factor in the success of green revolution in Bangladesh (Ahmed, 2001; Dorosh et al, 2004; Shahabuddin, 2005). The BWDB draws resources from the national budget for the development of irrigation and flood control but the contribution of BWDB to increase in agricultural production has been assessed as quite small (Ahmed, 2001). A few consulting firms and the Institute of Flood Control and Drainage at BUET (Bangladesh University of Engineering and Technology) have evaluated the impact of flood control and drainage projects implemented by BWDB (Rahman and Chowdhury, 1997). Their reports show a large number of BWDB projects have reportedly covered about two-third of the areas vulnerable to flood and water logging yet their impact has been imperceptible. The Rahman and Chowdhury evaluation adopted a national and regional approach in their evaluation. Neither national nor the district-by-district approach found any positive impact of these projects on *aman* rice production, a crop such projects were designed to protect from floods.

Project-by-project analysis indicated some positive impact within the project area but the impact was negative outside the project area, implying a shift of risk from protected to unprotected area. Ahmed (2001) attempted to estimate the contribution of BWDB to the total irrigated areas in Bangladesh in 1997/98 and came to an estimate of 353,000 acres of cultivated land covered by BWDB irrigation projects. According to a census of irrigated area in Bangladesh, conducted by the Ministry of Agriculture in 1997/98, the total cultivated area covered by irrigation in that year was 8,385,000 acres (Bangladesh Ministry of Agriculture, 1999). Thus, BWDB has contributed to only about 4 percent of total irrigated capacity in the country. Thus, public sectors contribution to irrigation, in spite of huge public expenditure through BWDB, is very small indeed. Various studies of BWDB projects generally provide a dismal picture with regard to their impact (see HTSL et al 1992; Harza, 1991; Shawinigan Lavalin, 1993; Mott MacDonald and others, 1993; Khan, 1991). Why has this public organisation performed so poorly?

The poor performance of BWDB can be traced to two sources. First, the approach of BWDB to formulate, design, implement and operate projects is utterly technocratic. Engineers perceive the problem that a project is supposed to mitigate, mainly from an engineering perspective. The agency has little interaction with local people during project design and implementation. Therefore, they miss local technical considerations. Without cooperation and participation of the local people the efficiency and effectiveness of these facilities falters, once created. Second, once a structural facility is created, its operation and maintenance become dependent on public funds, which may not always be available, as demanded by engineers. The BWDB does not charge farmers any fee for irrigation facilities but a fee would create the scope for accountability of BWDB, while at the same time providing resources for maintenance. Lack of resources for maintenance, BWDB complains, has rendered most irrigation and flood control projects impotent. In spite of many recommendations and even government decisions to levy water fees to users, the practice has not become an operational principle of BWDB.

A situation where you have so many projects completed but so little impact to show, has remained as a nagging concern. To rectify the situation, government implemented a System Rehabilitation Project (SRP), initially planned for 80 projects/ sub-projects, but later revised to cover only 35 projects. The SRP emphasised on institutional, structural and participatory elements of project management. The evaluation of SRP provides extremely useful lessons for future direction of such projects (Soussan and Datta, 1998). Some salient points of the evaluation are noteworthy:

- (a) The original purpose of a project was vindicated by more than 80 percent of the people in the project area;
- (b) Only one of the 35 projects could be successfully rehabilitated. Complex problems surround this failure;
- (c) Many problems with design specifications were identified; in particular, neglect of the details of local circumstances was a profound cause of failure; and
- (d) To capture local diversity and to provide a strong foundation for smooth operation and maintenance, local participation is crucial. Local participation, in turn, is contingent upon institutional structure.

Small-scale projects may be too complicated, warranting intensive and continuous interaction with end users/farmers, to cause a technique-oriented and top-heavy organisation like BWDB to fail in managing such

projects. But BWDB has not fared well in large scale projects either. The experience of Barisal Irrigation Project and the Teesta Irrigation Project does not auger well to create confidence in BWDB. Some observations from an evaluation report on Teesta project is presented in Box 5.1.

Box 5.1 Conclusions from an Evaluation Report on Teesta Irrigation Project

- a. The project has taken 40 years to complete, starting in 1958. The project was revised seven times due to (a) cost over-run, (b) time over-run, and (c) decrease in scope of work. The site of the project has been changed three times. The final goal of the project is still uncertain, even after spending Tk.10.73 billion. The abnormally long time taken and the huge cost over-run to complete the project with still uncertain goal, is symptomatic of the inefficiencies and weaknesses in planning, implementing, monitoring and managing the project.
- b. While Bangladesh was progressing slowly with construction of the Teesta barrage, India had constructed a barrage at Gazaldoba, about 100km upstream from the Teesta barrage in Bangladesh. No serious consideration appeared to have been given by the BWDB to the fact that flow of water had already been reduced by the upstream Indian barrage. Furthermore, there were changes in pattern of agricultural development and other socio-economic activities in the area, which were not fully recognised by BWDB in revisions of the project.
- c. By June 1999, BWDB claims to have irrigated only 20,000 hectares (a claim some people doubt) against an estimated 1, 11,406 hectares of irrigable capacity.

Source: Compiled from "Presentation of Teesta Barrage Project in Bangladesh," Agriculture Division, Planning Commission, Dhaka, undated.

The foregoing review of irrigation, flood control and drainage development, under the BWDB, does not reflect all aspects of water resources development of Bangladesh. Water is critical element for development of crop sector, fisheries, health, housing, transport, environment, townships, industries, and in many other spheres of life. Therefore, criticism only from crop production angle may not be appropriate. A recent review of water resources development problems in Bangladesh by the World Bank covers a wider range of issues than the agriculture related projects of BWDB that were examined and presented above (World Bank, 2005c). With elaborate examinations of past reports, plans, policy statements, and project evaluations, this World Bank report provides some guideposts for future water resources development in Bangladesh. It concludes that while some successes in projects on town protection, water supply to urban users and flood control measures are

appreciable, “success has been elusive in the many attempts to achieve effective long-term operation and maintenance of flood control and drainage interventions” (World Bank, 2005c). This conclusion confirms the views expressed earlier on agricultural related projects of BWDB.

The report develops a principle which would form the basis of organisational framework for managing water resource interventions: “Infrastructure designated as serving national common good would remain under the control of the government designated agency, with rehabilitation, operation, and maintenance financed entirely by the government. Rehabilitation of infrastructure designated as local would require significant prior financial commitment from local stake holders for long-term operation and maintenance, would be implemented through or by local government.” The report indicates that BWDB would be “encouraged” to work on broad region-wide projects while local governments would work with interventions in local projects and service delivery such as arsenic contamination, minor irrigation, small surface water irrigation and drainage and community fisheries development. The LGED and Department for Public Health Engineering would help local governments. The report recommends for a regulatory body/bodies formed to ensure quality and cost effective water service delivery.”

5.4 Investment in Agricultural Research

Agricultural research policy in Bangladesh has recently been evaluated by the World Bank as a prelude to support agricultural research in the country. We intend to present the substantive elements of the report after some relevant and supplementary facts are discussed first.

The creation of the Bangladesh Agricultural Research Council (BARC) in 1973 was considered to be a strategic step to enhance efficiency in research management. Initially BARC was conceived as a body to coordinate discrete research institutes under the ministries of agriculture, fisheries and livestock, and forestry; but through a number of legal enactments, particularly one in 1996, BARC has become the leading institution responsible not only for coordination but also for the preparation and implementation of an agricultural research strategy that maintains the administrative autonomy of individual institutes. BARC has, however, not been able to bring fisheries and livestock research under its effective direction, as was originally expected. The names of individual institutes under BARC, their functions, staff strength, and extent of staff exodus are shown in **Table 5.7**. The table clearly indicates that research on crops dominates the national agenda, reflecting an early development policy pre-occupation with achieving food grain self-

Table 5.7 Description of National Agricultural Research System (NARS) in Bangladesh, 2004

Institute	Acronym	Year of inception	Ministerial affiliation	Primary functions	Number of scientists, average (1995-2000)	Departure of scientists, (1995-2000)
Bangladesh Agricultural Research Institute	BARI	1970	Agriculture	Crop research, with the exception of rice, tea, sugarcane, and jute	700	230
Bangladesh Rice Research Institute	BRRI	1970	Agriculture	Rice research	230	58
Bangladesh Jute Research Institute	BJRI	1958	Agriculture	Jute research (various aspects)	200	8
Bangladesh Sugarcane Research Institute	BSRI	1973	Agriculture	Sugarcane research	75	9
Bangladesh Tea Research Institute	BTRI	-	Commerce	Tea research	36	35
Bangladesh Institute of Nuclear Agriculture	BINA	1972	Atomic Energy Commission	Nuclear science in agriculture	107	2
Bangladesh Fisheries Research Institute	FRI	1984	Fisheries	Fish culture (various aspects)	65	1
Bangladesh Livestock Research Institute	BLRI	1984	Livestock	Cattle and poultry research	35	1
Bangladesh Forest Research Institute	BFRI	-	Forest	Forestry (various aspects)	100	27
Soil Resource Development Institute	SRDI	1986	Agriculture	Soil and fertility research and monitoring (various aspects)	454	4

Note: Number of scientists excludes research managers.

Source: Ahmed, Raisuddin and Zahurul Karim, 2006, "Agricultural R&D Policy in Bangladesh", a chapter in Pardey, et. al. (eds.), 2006.

sufficiency and expanding jute exports. The research institutes generally organised with a central research hub for each institute and a large number of sub-stations located around the country, with the intent that research can be tailored to various agro-climatic conditions prevailing in Bangladesh. BARC has always been led by a crop scientist. The success of BARC in inducing vitality into, and cooperation of, non-crop research institutes has remained limited.

5.4.1 Role of Private Sector Research

Bangladesh has virtually no private institutions for agricultural research. To strengthen the incentives for private participation in research, the British Raj enacted legal provisions for patent rights almost a century ago, along with trade mark protection legislation in 1940 and a copyright act which came into force in November 2000. While non-agricultural innovations have been registered for patent rights (59 applications by residents in 2001, with 21 granted as of May 2003), none have been registered for seeds, crop varieties, plant types or any other agricultural technologies.

Sources of information on private agricultural research are limited mostly to personal experiences before 1986 when a survey was conducted under a project organised jointly by the University of Minnesota and Rutgers University. The survey reports that there was little private agricultural research undertaken in Bangladesh (Pray, 1987), and what was perceived as private research was, in fact, an act of transfer of technologies from domestic and foreign research stations to local private companies. The most effective programme was the Bangladesh Tobacco Company's applied research involving adaptive trials of imported Virginia and Burley tobacco. Several pesticide companies had small R&D programmes and the largest pump manufacturer did some research on designs for pumps. Finally, one company was conducting some trials on different varieties of vegetables.

To update the 1986 survey, IFPRI and BARC sought information on private-sector agricultural R&D during September/October, 2001 and February/March, 2002. This re-survey showed that the scope and intensity of private sector R&D activities have expanded somewhat. However, like the situation in the mid-1980s, most of this private activity concerns the importation of new technology rather than local inventive effort. Pesticide companies, poultry producers, fish farmers, and certain NGOs are importing a host of technologies ranging from seeds to plant growth regulators. Some of these importers are making efforts to fit these agricultural techniques into domestic production practices.

Few large commercial poultry farms, for example, are importing chicks (now stopped due to import ban for fear of avian flu) from The Netherlands, along with the complementary, modern technology for controlling disease on their farms. There are also a number of NGOs involved in small-scale adaptive research and dissemination of modern agricultural technology. In addition, food processing enterprises, increasing rather rapidly both in number and volume of business, are involved in R&D pertaining to packaging material, quality of processed products, and storability of products, particularly those meant for export market.

Even though private investors are gradually coming forward to invest in agricultural R&D, the total effort of the private sector is still very small. Why has the private sector remained so reticent in agricultural research? The Minnesota- Rutgers Universities study speculated that the small size of the modern agricultural input and processing sector and government policies are responsible. The binding constraints, the report argues, are underdeveloped agriculture and government interventions in industries. While few would disagree with this broad conclusion, there are other reasons for the lack of private participation in agricultural research in Bangladesh. Risk is a formidable constraint. Weak demand for new innovations from a large number of small and semi-subsistence farmers, who are perennially poor, is also a significant barrier. Perceived competition from government research, the slow growth of big business conglomerates in food industries and frequent natural disasters are additional contributing factors.

5.4.2 How Much Public Resource for Agricultural Research?

This is a complex question with no straightforward answer, not least because public research allocations are ultimately made by politicians, not economists. Beyond the equi-marginal benefit-cost investment principle recommended by economists, various rules of thumb have been used as a basis for guiding the overall allocation of funds to agricultural research. The 1974 U.N. World Food Conference suggested that developing countries should aim for a 1985 target of 0.5 percent of AgGDP on agricultural research (United Nations 1977). The World Bank (1981) in a widely quoted statement asserted that a "desirable [agricultural research] investment target...would be an annual expenditure (recurrent plus capital) equivalent to about 2 percent of agricultural gross domestic product." Imperfect as this ratio may be, it serves as a reference for making a judgment on the adequacy or inadequacy of public resources for agricultural research. However, as Pardey, Kang and Elliot (1989)

pointed out, the ratio of agricultural research expenditure to agricultural GDP is best seen within the broader context of the process of public resource allocation in a particular country.

Earlier, we have shown (Table 5.6) that only 3.1 percent of total public expenditure for agriculture and rural development in 2002/03 was spent on agricultural research. We show some carefully estimated statistics for long periods of time in Table 5.8. We have drawn on the detailed analyses of annual research and extension expenditure reported in the recent World Bank report (World Bank, 2005d). These are presented in Table 5.9 and Figure 5.1. These estimates show that proportion of research expenditure in total public expenditure for agriculture and rural development has not only fluctuated widely overtime, but the trend of these proportions has a declining direction. The fluctuation seems to be highly correlated with the proportion of foreign aid that agricultural research sub-sectors were able to attract. The level of project aid in agricultural research expenditure

Table 5.8 Proportion of Research Expenditure in Total Public Expenditure for Agriculture and Rural Development in Bangladesh, 1976 - 2004

Indicators	(Percent)				
	1976-81	1984-90	1991-95	1996-00	2000-04
1. Ratio of research expenditure to total expenditure on agriculture and rural development (RD ₁)	3.9	5.8	3.0	3.6	2.9
2. Ratio of research expenditure to agricultural GDP	0.35	.34	0.27	0.25	0.24
3. Proportion of project aid in research development expenditure	42.9	55.9	38.2	48.2	38.4

Notes: Periods (e.g. 1976-81) represent the average of years in the period. This average is calculated as:

$$\text{Indicator 1} = \frac{(RE_1 + RE_2 + \dots + RE_n)}{n} / \frac{(TE_1 + TE_2 + \dots + TE_n)}{n}$$

$$\text{Indicator 2} = \frac{(RE_1 + RE_2 + \dots + RE_n)}{n} / \frac{(AgGDP_1 + AgGDP_2 + \dots + AgGDP_n)}{n}$$

Where: RE_i = Research expenditure in year *i*
 TE_i = Total expenditure on agriculture and rural development in year *i*
 AgGDP_i = Agricultural GDP in year *i*
 (*i* varies from 1, ..., *n*).

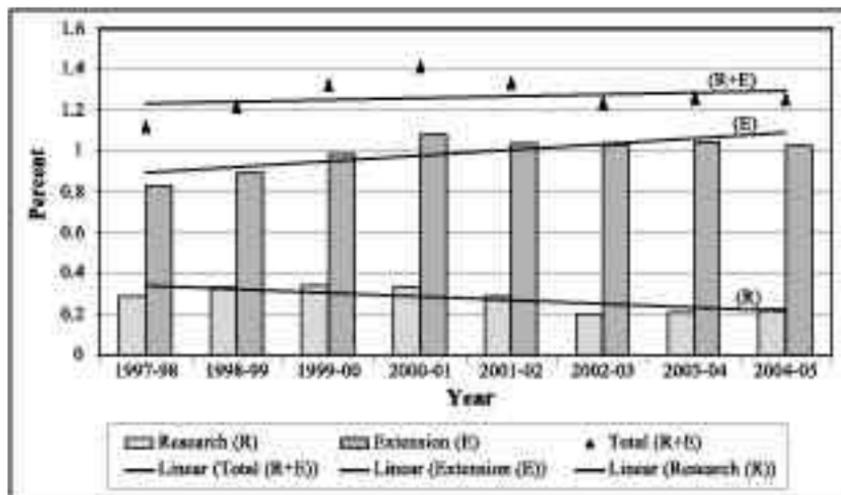
Source: Ahmed Raisuddin and Zahurul Karim, 2006, "Agricultural R&D Policy in Bangladesh", a chapter in Pardey, et.el. (eds.), 2006.

Table 5.9 Expenditure on Agricultural Research and Extension as Share of Agricultural GDP in Bangladesh

Year	Share (%)			Percent Share of Research in Total (R+E)	Percent Share of Project aid in development research
	Research (R)	Extension (E)	Total (R+E)		
1997/98	0.29	0.83	1.12	25.95	39.47
1998/99	0.33	0.89	1.22	27.03	48.35
1999/00	0.34	0.98	1.32	25.89	51.35
2000/01	0.33	1.08	1.41	23.34	49.72
2001/02	0.29	1.04	1.33	21.79	43.41
2002/03	0.20	1.03	1.23	16.43	31.56
2003/04	0.21	1.05	1.26	16.39	15.29
2004/05	0.22	1.03	1.25	17.52	14.29

Source: World Bank (2005d), *Revitalising the Agricultural Technology System in Bangladesh Report*.

has fallen sharply. In terms of research expenditures as a percent of agricultural GDP, there clearly is a declining trend. The ratio of research expenditure to agricultural GDP has declined from an average of 0.35 percent in later 1970s to an average of 0.22 percent in early 2000s.



Source: World Bank (2005d), *Revitalising the Agricultural Technology System in Bangladesh Report*.

Figure 5.1 Expenditure on Agricultural Research and Extension as Share of Agricultural GDP in Bangladesh

Distribution of research expenditures among various sub-sectors of agriculture does not show any congruence to the changes in contributions of sub-sectors to agricultural production. Crop sub-sector, in spite of a declining share of its contribution to agricultural GDP, has not relatively lost, or fisheries sub-sector, in spite of its increasing contribution to agricultural GDP, has not relatively gained in its share of research budget. Even within the crop sub-sector, rice research has dominated the scene. In view of the emerging role of high value horticultural production in crop sub-sector, more resources need to be allocated to research on vegetables and fruits than was done in the past. Similarly, research for fisheries and poultry should get higher priorities than accorded in the past. The low level and the declining trend of public expenditure on agricultural research is a serious concern. Research gets only about 15 to 20 percent of the total expenditure on agricultural extension and research. In the context of an important role of agriculture in poverty reduction, this casual treatment of agricultural research in budgetary allocations must be corrected immediately.

5.4.3 Human Resources for Agricultural Research

Research managers, senior scientists and junior research scientists constitute the principal group of research staff in the national agricultural research system. A 2001 snap-shot of the scientific staff strength in various agricultural research institutes was given in Table 5.7. It was shown that 2,185 research managers and scientists were employed in the main agricultural research institutes of Bangladesh: 12 percent held Ph.D. degrees, 75 percent M.Sc. degrees and 13 percent B.Sc. degrees. Generally, scientists with the highest level of seniority are engaged in research management. It appears that about 9 percent of the scientists are involved in the management of agricultural research.

Agricultural research institutes in Bangladesh have a typical pattern of staff positions. A director or director-general heads an institute. Under the head, there are chief scientific officers (CSO), principal scientific officers (PSO), senior scientific officers (SSO), and scientific officers (SO). Besides these scientists, there are technicians to support the scientists in specific scientific operations. The head and CSOs jointly constitute the group of research managers. PSOs, SSOs, and SOs constitute the group of research scientists who conduct research. The PSO is the leader, the SSOs carry out the research, and the SOs provide support to the senior investigators. Based on international practices and local realities, a report on human resource development in agricultural research recommended

that a ratio of 1:2:4 among positions of PSO: SSO: SO is optimal for the agricultural research system in Bangladesh (Hasanuzzaman, 2000).

However, because of a large-scale migration of scientists to jobs abroad, primarily during the years from 1994 to 2000, not only the absolute levels, but the optimal mix of senior and junior scientists has also been adversely affected. The extent of the exodus of scientists from various institutes for the period 1994 -2000 is shown in Table 5.7. The loss of scientists from BARI, BRRI, BARC and BFRI has been serious; about a quarter to half of the scientists working in these institutes have left their jobs, mostly to seize employment opportunities abroad. Generally, the better qualified and skilled scientists are more likely to get jobs abroad than the ones with lesser qualifications. This implies not only a loss in number but also in quality. There is a feeling among research managers that the set-back caused by the migration of scientists has created a vacuum of crisis-proportions in agricultural research and it will warrant commensurate national effort for capacity enhancement to minimise the adverse impact of this brain drain on agricultural research. Unfortunately, it is difficult to deal with the issue of brain drain, especially in an era of global integration. To minimise the adverse impact, the programme of capacity development needs to be expanded and incentives will have to be enhanced so that at least some scientists find it reasonable to stay home.

Knowledge, skill and experience are necessary but not sufficient to guarantee a productive outcome from research. Dedication and motivation of scientists, when complemented with knowledge and skill, generate productive outcomes. Incentives to stimulate motivation and induce dedication are necessary. Yet, it is virtually impossible to offer an incentives structure to a particular branch of the government (for example, agricultural research) that is fundamentally different from the incentives received by other branches of government. Nevertheless, some improvements are possible and a combination of some of these may be sufficient to better motivate agricultural scientists (Ahmed and Karim, 2006).

5.4.4 Impact of Agricultural Research

Measurement of research benefits and the communication of research results to policy makers have always been challenging. Empirical studies on returns from investment in agricultural research are numerous. Estimated rates of return vary widely but are generally high (Alston et al, 2000). It is the measurement of benefits that is the source of most confusion. The concept of total factor productivity (TFP) is useful for measuring aggregate research benefits (see Solow, 1957; Griliches, 1963).

In measuring TFP, the real costs of complementary inputs are netted out from gross revenue. In this context, measurement of TFP as the residual makes it a suitable measure of technology's contribution, particularly when the effect of any plausible economies of scale is accounted for. Nevertheless, the approach is not free of controversies (Fagerberg, 1994; Falipe, 1999).

In the context of agricultural research in Bangladesh, the contribution of research in rice production has been measured by estimating TFP (Ahmed, 2001). Rice production represents half of agriculture and rice research has received the highest priority in Bangladesh. About 45 modern rice varieties have been released that cover 70 percent of the country's rice area. Rice yield doubled, resulting in the doubling of rice production during the past two decades (Shahabuddin, 2005). The measurement of TFP has demonstrated that the total factor productivity in rice production has grown at slightly higher than one percent annually during the period from 1976 to 1998 (Ahmed, 2001).

Rice research has indeed resulted in large benefits in Bangladesh. The annual increase of 1 percent in total factor productivity in rice production implies an annual contribution of about 170,000 metric tons of rice that is valued at about \$42.5 million (equivalent to about TK 1,913 million at the exchange rate prevailing in 1998). Annual public expenditure on rice development, using total expenditures of BRRI and 50 percent of the total expenditures on agricultural extension services, averaged about Tk.118.9 million during 1990 through 1997. Based on these figures, a crude estimate of the benefit-cost ratio of rice research is 16:1, an extremely high rate of return to investment in rice research.

5.4.5 Agricultural Research Challenges

Total factor productivity in rice, a major crop in Bangladesh, has grown at around one percent annually during 1975-76 to 1997-98. This has enabled rice production to double, even though the real price of rice has fallen sharply and the area under rice has declined slightly. Despite this spectacular performance, however, agricultural research has reached the cross-roads of adjustment warranted by the exigencies of globalisation. The forces of globalisation have brought upon agricultural research a number of new challenges.

The *first* challenge is the continuous ability of agricultural research to contribute to the low cost supply of agricultural products in world markets under conditions of intense competition. Unfettered competition in world markets will basically mean a comparative advantage to a country or countries which have superior research skills and institutions

to support their agricultural sectors, not least because non-agricultural sectors can rely on imported technology with greater ease than agriculture. For example, imported biotechnologies often require some adaptation, and at least local testing and screening, before these can be released to farmers.

The *second* challenge facing agricultural research in Bangladesh is adjusting the system to meet the needs of agricultural diversification. Mobilising the resources required for research on livestock, fisheries, forestry, and high value crops, particularly focusing on quality improvement, must occur faster. The proportion of scientists with advanced degrees in non-crop branches of agricultural research is very low and so developing the research personnel to address these areas of research must become a high priority.

The *third* challenge relates to opportunities presented by scientific developments in biotechnology. As the human health and environmental concerns over biotechnology are adequately addressed, this relatively new branch of agricultural research is destined to make a significant change in agricultural markets around the globe. Bangladesh has taken some initial steps to develop research capabilities in biotechnology but more needs to be done to build necessary scientific facilities and capacity.

The *fourth* challenge deals with lack of stable and sustainable funding for agricultural research. The systemic problem of inadequate and unstable allocation of public resources for agricultural research has been a common thread of national research evaluation studies. Policy makers seldom identify resource availability as a problem but resource utilisation is considered the critical constraint. Scientists on the other hand, complain about meager and uncertain resource flows as well as the late disbursement of funds to be real constraints. The basic problem is rooted in institutional deficiencies.

Fifth, institutional reform in agricultural research, including the extent and mechanism of resource allocation and management, constitutes to be the greatest challenge to agricultural policy makers. The recent World Bank study (World Bank, 2005) and its recommendations for reform deserve serious consideration by the government. In order for the readers to appreciate these recommendations in the light of brief discussions of problems in the foregoing paragraphs, we thought that the recommendations should be summarised that are essential to improve the efficiency of one of the critical public good functions of the government to promote rural prosperity.

5.4.6 Recommendations for Agricultural Research

The key recommendations of the World Bank study (World Bank, 2005d) for revitalising the agricultural technology system in Bangladesh are summarised below:

- (i) In view of its high impact on agricultural growth and poverty reduction vis-à-vis other public investments GOB should increase public funding for agricultural research from its current level of around 0.2 percent of AGDP to about 2 percent in phases. The immediate increase should be to 0.6 percent of AGDP, which is the average for all developing countries.
- (ii) To ensure sustainable and stable funding for NARS, GOB should (a) provide funding through an amalgamated development and revenue budget, and (b) establish an imprested (advance) account for each agricultural research institute (ARI) by providing a permanent advance equivalent to 12 month's estimated operational expenses of research programmes (excluding salaries).
- (iii) GOB should: (a) establish an independent foundation to manage the competitive grants programme (CGP) to finance time-bound peer reviewed research proposals on priority topics invited from eligible research institutions, including public and private agencies, universities, NGOs, and other stakeholders and (b) establish a dedicated Endowment Fund with sufficient potential earnings to ensure sustainable funding for the CGP. GOB has already established both the *Krishi Gobeshona Foundation* (KGF) and the *Krishi Gobeshona Endowment Fund* for agricultural research and they are fully operational.
- (iv) The national Agricultural research system (NARS) should examine opportunities for augmenting research funding from the private sector to address specific problems through (a) need-based public-private partnership; and (b) time bound contract research for the private sector.
- (v) BARC, jointly with ARIs, should: (a) update and re-evaluate existing plans to prioritise research programmes using a common methodology by taking into account government policies and PRSP; and (b) update the research strategy and prepare an action plan for allocation of resources in the context of revised priorities.
- (vi) BARC and ARIs should review options, including strategic partnerships with other institutions with expertise in social

sciences, and develop an action plan to strengthen capacity in economic and sector work, including policy analysis and socio-economic research in NARS.

- (vii) An inter-institutional team of experts should be established by BARC to develop an institutional framework and operational modalities for commencing eco-regional on-farm research as an integral part of the planning, budgeting and approval process of research to be financed under the CGP.
- (viii) BARC to constitute a committee of eminent scientists to develop an action plan to enhance access to and capacity to utilise biotechnology and other new sciences, including bioinformatics and information and communication technology in agricultural research.
- (ix) GOB should: (a) restructure governance of NARS, including membership of the Governing Body (GB) and redefine the mandate of BARC as a coordinating and funding agency; (b) empower the Governing Body to (i) establish uniform service and business rules of the NARS, and (ii) harmonise governance of the NARS under one Act to facilitate research coordination, allocation of resources, and implementation of the uniform service rules and business rules; and (c) enable MOA (Ministry of Agriculture), MOFL (Ministry of Fisheries and Livestock), MOEF (Ministry of Environment and Forests), on recommendation of the Governing Body of the apex body, to channel the NARS research budget (excluding salaries) to ARIs to finance peer reviewed research programmes on agreed priorities on strategic public goods research. GOB is in the process of amending the 1996 BARC Act to incorporate some of these reforms.
- (x) GOB should: (a) appoint CEO of BARC and Director Generals of ARIs, based on a short list prepared by independent and qualified search committee; and (b) establish an independent Agricultural Services Recruitment Board for appointment of scientists upto the level of Directors in the NARS through merit based open competitions.
- (xi) BARC should appoint an independent multidisciplinary panel to: (a) review current mandates of ARIs and make recommendations to meet emerging needs and to correct overlaps and duplications; (b) assess human resource and skill-mix of different ARIs in the context of their revised mandates; and (c)

review the current status and usefulness of the network of stations and sub-stations to develop and implement an action plan for rationalisation through consolidation and or closure of redundant facilities.

- (xii) BARC and each ARI should prepare a human resource management plan for recruitment, improvement and retention of qualified staff and allocate increased resources for its implementation.

5.5 Rural Development and Local Governance

Rural development and local governance have been pointed out in numerous studies in the past as critical, interdependent facets of the process of poverty reduction in Bangladesh. The creation of a government department dedicated to rural infrastructure development, LGED, and its achievements so far, is a testimony of what institutional innovation can do to advance rural prosperity. LGED has constructed elaborate networks of rural roads connecting villages with one another and with markets, growth centers and higher echelon of public offices and business hubs. It is not that all these networks are functioning well, but they are foundations for future prosperity. Other rural development agents, including NGOs, are attempting to help farmers, rural households and landless labourers to organise into cooperatives; distribute social security benefits; dispense health advice; family planning; and new technology for crops; poultry; fisheries; and horticulture. All these development activities at village and household levels are mostly being done by extended arms of the central government and NGOs.

The role of local centers of public power (i.e. local governments) is currently either very feeble or ineffective because local governments are functioning as extended listening posts of central government or vote-gathering mechanism of party-in-power. In the sense of power associated with the task of governance, there is little such power with local governments to call them as governments. In the absence of an effective local government to coordinate, oversee, mobilise people and participate in formulation of local projects, there is no guarantee that what the development agents are claiming to have achieved, do in fact reflect real-achievement, who can guarantee that thousands of kilometre of roads, including dirt roads connecting one village with another, do in fact exist or even usable? The government evaluation reports have found most rural roads in poor shape; some are sources of negative impact where they were supposed to create robust positive results. Without

effective local governments, the target of reducing poverty levels to half of its present level by 2015 will remain a dream (the millennium development goal – MDG).

The institution of local government in Bangladesh has a long history (see Siddiqui, 1992; Chowdhury and Sen, 1998). The Bengal Village *Chowkidari* Act of 1870 was the first British attempt to establish Panchayet System. It authorised the District Magistrates to appoint Panchayets at the village level, consisting of five members. The sole purpose behind the creation of this body was to maintain the law and order and serve the British interests and, therefore, no real welfare functions were assigned to it.

The Bengal Local Self-Government Act of 1885 was passed to extend the system of local self-government in Bengal. Under the Act of 1885, three tiers of local bodies came into operation, namely (a) the District Board in the District, (b) the Local Board in a Sub-division, and (c) the Union Committee for a group of villages. The District Board was the focal point of the whole local-self government framework and had such responsibilities as communication, health and sanitation, water supply, education, census, relief and vaccination. The main sources of its income were cess, fees and government grants.

The Bengal Village Self-Government Act of 1919 brought important changes in the structure of the local bodies. The three-tier system was replaced by a two-tier system comprising of the Union Boards and the District Boards. Under the Act, existing *Chowkidari* Panchayets and Union Committees were replaced by Union Boards. A Union Board usually consisted of 6 to 9 members of whom two-thirds were elected and one-third nominated. The system of nomination was abolished in 1946. The functions of the Board included: maintenance of law and order through appointment of *dafadars* and *chowkidars*; upkeep of schools, roads and ponds; and the provision of elementary sanitary and medical services. In addition to receiving grants from the higher bodies, the Union Board was authorised to levy a yearly Union tax. The tax was to be imposed on owners and occupiers of buildings. In all matters, the Union Boards were to work under the supervision of the Circle Officers who acted as representatives of the District Magistrates. The Act did not replace the District Board, but modified the old system. A voter for electing the members had to be a resident of the district and at least 21 years old. He was required to pay a certain amount of either *chowkidari* tax or cess and women did not have voting rights.

From 1885 to 1920, the District Magistrate acted as the Chairman of the Board. Since 1921, the Board was given the privilege of electing its own Chairman from among its members, subject to the approval of the

provincial government. The Chairman was the executive head of the Board. Gradually concessions were made for selecting local government representatives through election in place of nominations. By the time the British left India in 1947, both the tiers of local government (Union and District Boards) had become fully elective.

During the Pakistan period (1947-1971), there were some reversals in the process of democratisation of the local institutions achieved so far. The martial law regime (1958-69) introduced a system in the country called the Basic Democracies Order, 1959 and the Municipal Administration Order, 1960 and established a four-tier system of local government in Pakistan (including Bangladesh). The legal responsibility for the local government was vested in the provincial governments. It had the authority not only to create a local council and to determine its limits but also to terminate its existence. The controlling authority (the Commissioner of a Division for the Divisional Council and the Deputy Commissioners for lower level councils) was empowered to: (a) review any decision of a local council and substitute his decision for the council's decision, (b) remove from office an elected member or an officer of a local council, (c) supervise a council if, in his opinion, its performance was unsatisfactory, (d) approve the estimates of revenue, expenditure and other financial transactions, and (e) exercise any or all the powers of a local council, if it appeared expedient to do so. The control of provincial government over the local councils was rigid and no safeguards were provided in the case of arbitrary actions by the provincial governments and/or the controlling authority. The Basic Democracy system was given a long list of regulatory and development functions. They could not achieve much because they did not have adequate power to mobilise resources at the local level.

After independence in 1971, the first action of the Bangladesh government was to remove the rural local bodies. The name of the Union Council was changed to Union Panchayet, the Thana Council to Thana Development Council and the District Council to Zila Board. The local bodies were dissolved and official administrators were appointed to each one of them. The District Councils and the Thana Councils were put under the control of the Deputy Commissioners and the Sub Divisional Officers, respectively. The Union Councils were placed under the charge of the Circle Officers. The Constitution of the country lays down the fundamental principles on which the local government institutions were to be developed.

Article 59 of the Bangladeshi Constitution states:

- (a) Local government in every administrative unit of the Republic be entrusted to local body composed of persons elected in accordance with the law;
- (b) Every body referred to in Clause (i) shall, subject to this Constitution and in other law, perform within the appropriate administrative unit such functions as shall be prescribed by the Act of the Parliament, which may include functions relating to:
 - administration and work of public officers;
 - maintenance of public order; and
 - the preparation and implementation of plans relating to public services and economic development.

Thus the Constitution gives enough opportunity to develop viable self-government and local governing institutions in the country. Indeed, since independence, various governments have attempted to implement their concept of local self-government in place of that of the previous regimes. In the process, no institutional set-up has had the time to take root as these regimes did not last long enough to make a permanent impression on the community. During the first phase (1973-1975), the government could not achieve much beyond changing the names of the local government institutions as stated earlier. During the second phase (1976-1982), efforts were made to revive and expand further the historical role of local government (under Ordinance of 1976) renaming the local government institutions as Union Parishad, Thana Parishad and District Parishad, respectively. Subsequently in 1981, efforts were made to strengthen the system by setting up a village based organisation known as Gram Sarkar. But the change of the government in 1982 brought about new ideas which shifted the attention from the villages to the thanas that were upgraded as Upazilas to be headed by elected people's representatives. Similarly, sub-divisions were upgraded to districts (thus the number of districts increased from 21 to 64).

Under the decentralised programme of the government, Upazilas became the focal point of local level government. According to the Local Government (Upazila Parishad and Upazila Administration Reorganisation) Ordinance 1982, relating to Upazila, a Upazila Parishad consisted of (a) an elected Chairman, (b) representative members (all Chairmen of the Union Parishads under the jurisdiction of the Upazila), (c) three women members nominated by the government from amongst the women residing in the Upazila, (d) official members (the holders of

the offices in the Upazila as specified by the government as ex-officio members without voting right), (e) Chairman of the Upazila Central Cooperative Association, and (f) one nominated male member (eligible for election as Chairman of the Upazila Parishad). All representative members and the five nominated members were allowed to vote in the Upazila Parishad meetings. The Chairman of the Upazila Parishad was directly elected by the entire Upazila on the basis of adult franchise. Till the election of the Chairman of the Upazila Parishad, the Chief Executive Officer of the Parishad, deputed by the government, acted as the Chairman; the tenure of the Parishad was five years.

The Union Parishads became the focal points for local level development after the implementation of Local Government Amendment Act, 1993. It is stipulated that the "Village Development Committees" at the villages would be formed for helping village development and the Thana Development and Coordination Committees for coordinating development activities at the Thana level. The Union Parishads would elect their Chairmen and members directly, while the post of the Chairmen, Thana Development and Coordination Committees, would rotate among the elected Chairmen of the Union Parishads.

With the change in the government in 1996, a bill was passed to establish four tiers of local government institutions at the village, union, upazila and zila levels. These institutions will be known as Gram Parishad (GP), Union Parishad (UP), Upazila Parishad (UzP) and Zila Parishad (ZP). The GPs will be established in each of the 9 wards of every union of the country, while UPs, UzPs, and ZPs will be established in every Union, Upazila and district of the country, except that in the three districts of the Chittagong Hill Tracts, where existing ZPs will continue to function.

Each of the above local level institutions will have well-defined functions to carry out. The Gram Parishads will participate in the preparation of development programmes/projects to be undertaken for production; maintenance of rural infrastructure (e.g. feeder roads, bridges and culverts); development of local natural resource base; supervision of primary schools, and madrashas and motivation of guardians to send their wards to schools; creation of awareness about health and healthcare; implementation of drinking water supply projects, especially regarding the selection of sites for sinking tubewells; establishment of cooperatives/associations for carrying out socio-economic activities; collection and preservation of vital statistics like dates of births and deaths, marriages etc.; maintenance of law and order in the locality; undertaking socio-economic surveys of households in all villages; etc. The Gram Parishads

will keep the Union Parishads posted about their problems as well. The local government institutions in other three levels will be entrusted with similar functions at varying levels of responsibilities and authorities, including the authority to raise resources for financing local level development activities.

Standing Committees for activities such as (a) law and order, (b) health and family planning, (c) agriculture, irrigation and environment, (d) education, social welfare, development of women and children, (e) sports, culture, and youth development, (f) fisheries and livestock, and (g) other fields as felt necessary will be established to assist the local government institutions at all levels in conceiving, designing, formulating and implementing local level development programmes/projects.

Over the years, there has been frequent changes in the tiers and importance of various levels of local government institutions in the overall system. The functions and responsibilities of various levels of government institutions also changed substantially with the change of the government during the post-independence period. It is true that, since their inception, the local governments have never been able to finance themselves from locally raised revenues. In fact, local governments generate less than one per cent of the revenue collected by the government. It was assumed that the Union Parishads would be able to meet their expenses from their own earnings. The Union Parishads, however, had to depend on government grants even when they were empowered to collect revenue from 14 items, according to the Basic Democracy Act, 1959. One survey shows that Union Parishads could collect taxes from only 3 to 4 sources in 1976 even though they could raise taxes from 14 items (*National Journal on Local Government*, 1976). According to the survey, the Union Parishads could hardly meet 40-50 per cent of their expenditure needs. Another survey shows that the Union Parishads became financially so weak after restriction on their power to raise taxes from 28 to 6 (1976 Ordinance) sources in 1976 that they could not even meet the expenses of salaries for their employees. Local governments also do not possess requisite capacity for financial management.

Thus the evaluation of local level institutions, particularly since the independence of Bangladesh, indicates that changes in various aspects of these institutions followed changes in the government. These changes even included such fundamental aspects as the representative nature of the system. During different regimes, alternative levels of the government were identified as the focal points of the system. Accordingly, functions and responsibilities at these levels were increased, powers to raise revenues were expanded and grants from the center increased. All these

changes were brought about by enacting laws in a very arbitrary manner. Very little, if any, justifications were ever provided for making such sweeping changes. As a result, no system was tried long enough to really test their merit and to take root in the country. As a consequence, people are not familiar with an efficient and participatory public delivery system. Local governments continued to serve the central government, particularly the party in power, without being entrusted with the independent power and resources to function as a truly representative government of the local people for local development.

The evolution of local governments in Bangladesh does not bode well for the future. The conflict of interest between the members of parliament and local government leaders, problems in sharing of power between central and local governments, and the convenience of using local governments as a vote-gathering machine, have prevented establishment of true governments at local levels. But without the development of such institutions, reduction in poverty and diffusion of the fruits of development will remain a far cry.

5.6 Priorities in Agriculture and Rural Development

There is a need to rearrange priorities in agriculture and rural development with a sense of urgency, particularly in the context of a heightened concern for acceleration of growth rates in agriculture and to reduce poverty, as outlined in the PRSP. There are two aspects of re-aligning priorities at sub-sector based levels: (i) changing priorities among sub-sectors and (ii) focusing on change within a sub-sector among input-type of function categories.

On changing priorities among sub-sectors, in the affairs of public resource allocation as well as in economic policies of the government, crop sub-sector should lower its expectation and fisheries sub-sector should expect to get a greater public support. These changes would be consistent with the emerging strategic role of fisheries in agricultural growth. The rates of return from investment in various sub-sectors also support this conclusion (see [Table 5.10](#)). Fisheries and poultry enjoy a high rate of return from investment in these sectors. Within a sub-sector, even if it gets an overall low rating, these are areas of high priority. In the crop sub-sector, the horticultural crops (e.g. fruits, vegetable) command high rates of return and they should get greater priority than is now accorded to them.

There needs to be improved emphasis on resources allocated for research than historically shown. If Bangladesh's agriculture has to continue to supply food at reasonable price, there is a need to allocate

Table 5.10 Rates of Return from Investment in Agriculture and Rural Development

Item	Average Annual Rates of Return (%)	Remarks
<i>Crop research:</i>		
Boro Rice	10-15 ¹	Range reflects use of modern inputs
Potato (fresh)	15-25 ¹	Range reflects use of modern inputs
<i>Vegetable production:</i>		
Import substitution	25-30 ¹	-
Export promotion	45-50 ¹	-
<i>Fish research:</i>		
Captured fisheries	15-20 ²	Range reflects use of various degree of capital
Cultured fisheries	40-60 ²	Range reflects use of various degree of capital
<i>Poultry production:</i>		
Layers	17-27 ³	Range Reflects household and commercial production
Broilers	215-240 ³	Range Reflects household and commercial production
<i>Research in general</i>	50-200 ⁴	Most studies show very high rate of return
<i>Infrastructures (rural)</i>	20-25 ⁵	-

Note: ¹Crop sub-sector rates of return are calculated from data used in Mahmud, W, S.H. Rahman, and S. Zohir. 1994. Agricultural Growth through Crop Diversification in Bangladesh.

²James Muir (edited). 2003. The Future for Fisheries: A Sector Study for Bangladesh.

³Quasem, M.A. and K.M. Nabiul Islam. 2004. "The Emerging Livestock Sector in Bangladesh". In Paul Dorosh, Carlo del Ninno, and Quazi Shahabuddin.

⁴Alston, J.M., C. Chen-Kang, M.C. Marra, and P.G. Pardey. 2000.

⁵World Bank. 1994. World Development Report: Infrastructure and Economic Development.

Source: Compiled from various sources.

more resources to agricultural research. This assessment is true, no matter whether the commodities are from crop, fish, livestock or forest sub-sectors. International competition of agricultural products, whether in export or import-substitution, will be a success or a failure depending on the strength of technology underlying production.

In the development of rural infrastructures, particularly roads, a time has come when the government should seriously consider postponing construction of new rural roads for 2-3 years. During this period, government should devote all resources available for rural roads, to making these roads operable by constructing bridges and culverts where these are missing, and strengthening the surface of roads by metallic pavements. Very closely associated with these actions, the local government institutions at the Upazilla and Union levels should be invigorated with entrustment of effective power.

Suggestions are advanced on the basis of evidence presented in this and the previous chapters. These suggestions should not be implemented through a stroke of budgetary allocation or favourable policy change from the top. Every proposition should be examined by technical ministries, not to accept or reject the suggestion, but to examine various options that could achieve the same objective or objectives of the suggestion. Moreover, the implementation mechanisms, along with likely snags associated with a mechanism should also be thoroughly re-examined by field experts before making policies on various suggestions.

Appendix Table 5.1: Public Expenditure on Agriculture and Rural Development (ADP) by Sub-sectors (Output Type) in Bangladesh

<i>(in crore Taka)</i>						
Sub-sector	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
1. Crops (including water resources and food market) ¹	1097	1327	1215	1002	897	903
2. Fisheries	71	70	109	88	89	123
3. Livestock	117	101	111	92	56	81
4. Forests	90	158	158	100	111	135
5. Total Agril. (1+2+3+4)	1375	1656	1593	1282	1158	1242
6. Rural Dev. (RD ₁)	1263	1887	1981	1550	1557	2054
7. Rural Dev. (RD ₂)	508	806	635	593	867	1084
8. Agriculture and Rural Dev. (AGR _{D1} = 5 + 6)	2638	3543	3524	2832	2710	3296
9. Agriculture and Rural Dev. (AGR _{D2} = 7 + 8)	3143	4349	4209	3425	3577	4380

Note: ¹Crop sector includes 87 percent of water resources expenditure meant for irrigation, drainage, flood control etc. These costs (in crore Taka) were as follows:

1989-99	1999-00	2000-01	2001-02	2002-03	2003-04
762	928	862	662	576	557

Crop sector also includes expenditures on foodgrain storage capacity but the total cost is small.

Source: Computed by authors.

Appendix Table 5.2 Public Expenditure on Agriculture and Rural Development (Revenue Budget) by Sub-sectors (Output Type) in Bangladesh*(in crore Taka)*

Sub-sector	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
1. Crops (including water resources and food market)	419	422	484	473	533	760
2. Fisheries	48	66	73	79	95	115
3. Livestock	73	66	74	77	89	112
4. Forest	47	52	57	59	72	102
5. Total Agril. (1+2+3+4)	587	606	688	688	789	1089
6. Rural Dev. (RD ₁)	74	81	83	83	86	227
7. Rural Dev. (RD ₂)	142	149	161	166	174	183
8. Agriculture and Rural Dev. (AGRD1 = 5 + 6)	661	687	771	771	875	1316
9. Agriculture and Rural Dev. (AGRD2 = 7 + 8)	803	836	932	937	1049	1499

Note: ¹Revenue budget (in crore Taka) for water resources was:

1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
146	138	177	165	202	34

²Revenue Budget for rural electricity is very small.

Source: Computed by authors.

Appendix Table 5.3 Public Expenditure on Agriculture and Rural Development Consolidated (ADP + Revenue) by Sub-sector (Output Type) in Bangladesh*(in crore Taka)*

Sub-sector	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
1. Crops (including water resources and food market)	1516	1749	1699	1475	1430	1663
2. Fisheries	119	136	182	167	184	238
3. Livestock	190	167	185	169	145	193
4. Forest	137	210	215	159	183	237
5. Total Agril. (1+2+3+4)	1962	2262	2281	1970	1942	2331
6. Rural Dev. (RD ₁)	1337	1968	2064	1633	1643	2281
7. Rural Dev. (RD ₂)	650	955	796	759	1041	1267
8. Agriculture and Rural Dev. (AGRD1 = 5 + 6)	3299	4230	4345	3603	3585	4612
9. Agriculture and Rural Dev. (AGRD2 = 7 + 8)	3949	5185	5141	4362	4626	5879

Source: Computed from Appendix Table 5.1 and Appendix Table 5.2.

Chapter 6

Efficiency and Impact of Public Expenditure on Rural Growth and Poverty

The impact of public expenditures on development, economic growth and poverty reduction is a genuine public concern. The measurement of the development impact is also a complicated task. This measurement involves three interrelated aspects of analysis: (a) an examination of the goals and objectives of expenditures and the strategy followed to achieve those goals; (b) an analysis of public resource leakages because of corruption, in order to measure the amount of resources actually used, as opposed to formally claimed to have been allocated or used; (c) a measurement of the impact on economic growth based on certain coefficients of input-output relations; and (d) an assessment of the impact on poverty reduction based on tracing of distributional effects between poor and non-poor beneficiaries of public investments. A diagrammatic view of these analytical sequences is shown in **Figure 6.1**. The presentation in this chapter follows these sequences, essentially covering the analytical steps of: (a) goals and strategy; (b) measurement of the extent of leakages of resources (i.e. corruption); (c) impact on economic growth; and (d) impact on poverty reduction.

6.1 Goal Setting and the Strategy: The Case of PRSP

The PRSP (poverty reduction strategy paper) is a detailed document which includes a medium-term plan without the foundations of formal input-output models. It reflects a serious concern for reduction of poverty in Bangladesh. Our selection of PRSP's central emphasis on agriculture, as an example of how a strategic focus matters in public efforts, is in no way a negative reflection on the document. It however, makes the point that a strategy should always sharply focus on priorities that would make profound impact on goals. Before we reflect on the strategy, let us make a brief analysis of poverty in Bangladesh, i.e. what is poverty, where do the poor live, and what does a poor do for a living?

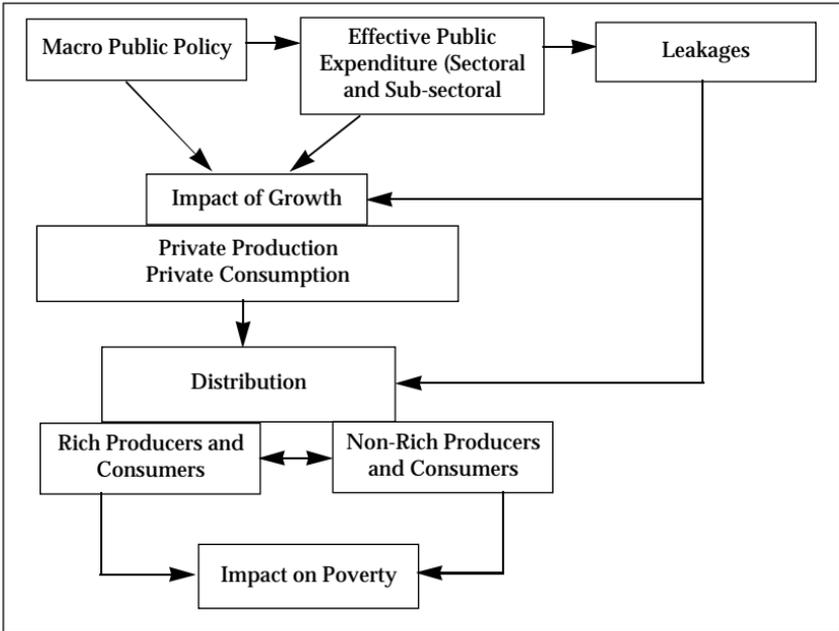


Figure 6.1 *Impact of Public Expenditure on Poverty: A Conceptual Flow Framework*

6.1.1 The Incidence of Poverty

We pick PRSP as a test case to demonstrate the concordance (or lack of it) between goals of public policies and strategies that are designed to achieve that goal. Selection of PRSP is purposeful because the poverty reduction programme has been taken seriously both by the government and the donors. Though the resource allocation for PRSP has started only with the 2005/06 budget, its effect will start coming under review in the next 4-5 years, and the test of concordance between goals and strategies still bears considerable significance.

The principal goal of PRSP, as its name signifies, is to reduce poverty by half i.e. to around 25 percent (as head count ratio) by 2015. The principal strategy is to enhance growth of agriculture and rural development. Growth in agriculture is assumed to be mutually inclusive with the goal of poverty reduction. There are other sub-strategies, but agriculture is picked up as the central element of the strategy for achievement of the goals of PRSP. The second PRSP, which was approved in October 2008, also gives high priority to agriculture to reduce poverty in Bangladesh.

Although the difference between the poor and the rich is a matter of continuum, a line between the two has to be drawn in order to facilitate social dialogue and undertake strategies for the poor. In Bangladesh, the poor are defined to include those who cannot afford to consume an intake of food yielding 2,122 kilo cal. per capita per day, this is the line of absolute poverty. Another line is drawn to differentiate the extreme poor from the mass of absolute poor; this line separates those who consume less than 1,805 kilo cal. per capita per day. Measurement of poverty, following this definition, is done by “direct consumption income” (DCI) estimation method. Another definition of poverty and method of measurement has been introduced a few years ago, which considers basic human needs, including the specified levels of calorie consumption as well as other minimum non-food basic needs. A level of income that provides this bundle of basic needs is the dividing line between the poor and the rich under this method of measurement. This is referred to as the Cost of Basic Needs (CBN) method of measurement.

The poverty structure of Bangladesh households, following the CBN method, estimated through the household income and expenditure survey of 2000, is presented here to make our case on PRSP. The structure of poverty in rural and urban areas, as well as in the nation as a whole, is depicted in **Figure 6.2**. As shown in the figure, population of Bangladesh in 2000 is classified into four groups, in each urban and rural area:

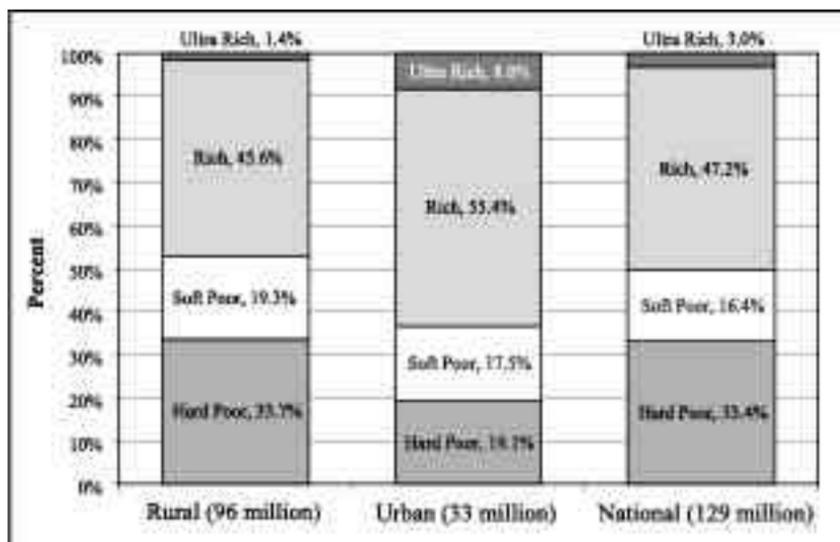


Figure 6.2 Poverty in Bangladesh, 2000

(a) very rich or ultra rich, (b) rich, (c) soft poor, and (d) extreme poor. In rural areas, 1.4 percent of population were members of ultra-rich households, 45.6 percent in rich households, 19.3 percent in soft-poor households, and 33.7 percent were in hard core poor households. In urban areas, the ultra-rich constituted 8 percent of total urban population, the rich 55.4 percent, the soft poor 17.5 percent, and the extreme poor 19.1 percent of total urban population. Fifty three percent of the rural population was poor and 36.6 percent of urban population was poor, and the overall national rate of poverty was 49.8 percent in 2000. Overall, in 2000, 75 percent of the population in Bangladesh was rural and 25 percent was urban.

What types of activities or occupations do the rich and the poor perform to earn means for a living? An attempt is made in [Table 6.1](#) to portray the linkages of the four categories of rich and poor defined earlier, with their corresponding occupational affiliations. These occupational affiliations are typical and should not be construed to be always absolutely true. For example, it is typical to find households with large land holding (say larger than 7.5 acres) to be rich, although a household with such a large land holding sometimes (less frequently) turn out to be poor. Similarly, a household owning less than 0.05 acre of land (functionally landless) has sometimes been found to be very rich, even though functionally landless households are typically poor. The table is developed partly with information from the 2000 Household Income and Expenditure Survey conducted by BBS and partly with scattered information in various sample surveys conducted on rural farm and non-farm income.

As would be seen in the table, farm households operating less than 2.5 acres of land, even after supplementing farm income with income from rural non-farm sources (e.g. in seasonal trade in agricultural commodity markets, wage income and self-employing income etc.) are still in the category of poor i.e. soft-poor. Farm households operating more than 2.5 acres of land and supplementing farm income with income from rural non-farm sources, qualify as moderately rich farmers. Very rich farmers, without non-farm income, are rare in rural Bangladesh. A vast majority of small farmers and landless labourers are poor. They earn most income from rural non-farm sources. Without creation of non-farm income in rural areas, these households would have slid down to the bottom as extreme poor and the exodus to urban areas in search of employment and income and would have accelerated. Urban poverty is, thus, an extension of rural poverty. Poverty reduction strategy will have to be reviewed in the light of the foregoing structure of poverty, particularly rural poverty.¹

¹ Additional details on poverty in Bangladesh in the historical context are available in Rahman H.Z and Hossain (1995) and World Bank (2002).

6.1.2 The Dynamics of Poverty

The static structure of poverty, as depicted in **Figure 6.2** and **Table 6.1**, is far from static in the real world. Households are frequently moving from

Table 6.1 Degree of Poverty or Affluence and their Typical Identifying Attributes in Bangladesh, 2000

Poverty/ Affluence Class	Household Income per Month (Tk)	Identifying Attributes/ Occupational Types
<i>Rural:</i>		
Highly Rich	Greater than 20,000	Owns trucks, busses, small/medium industries, business, large (larger than 7.5 acres) land owned farming (1.4 percent of rural population)
Rich/Non poor	Less than 20,000 but greater than 4,500	Farming with larger than 2.50 acres of land, combined business with farming, some family members working abroad or towns, more than one earners in family, artisans (45.6 percent of rural population)
Soft Poor	Less than 4,500 but greater than 2,500	Farming less than 2.50 acres, take in land on tenancy, operate seasonal trade in agricultural products, more than one earners in family, some work as laborers, self employing in petty trades, artisans, seasonal migration to urban areas (19.3 percent of rural population)
Hard Poor	Less than 2,500	Casual laborers, farm/transport workers, house maids, servants, mostly one earning member in family, widow headed, sick earning members, beggars (33.7 percent of rural population)
<i>Urban:</i>		
Highly Rich	Greater than 25,000	Industrialists, own large business, real estate for renting, successful professionals, politicians in government, big business houses, senior government officers with scope of extra income (8.0 percent of urban population)
Rich/Non poor	Less than 25,000 but greater than 5,500	Government employees with scope of extra income, businessmen, small industrialists, shop owners, professionals, spare real estate to rent out, artisans, upper and mid middle income households (55.4 percent of urban population)
Soft Poor	Less than 5,500 but greater than 3,500	Lower class government employees, teachers/low level professionals, street traders, employees of business houses, workers with artisans, factory workers. (17.5 percent of urban population)
Hard Poor	Less than 3,500	Maids, servants, casual laborers, workers in factories, new arrivals from rural areas, handicapped workers, beggars etc. (19.1 percent of urban population)

Source: Developed by using information in BBS (2000b) report of the *Household Income and Expenditure Survey* and other miscellaneous sources.

one group to another, sometime sliding down and sometime gliding up. Both random and systemic forces generally cause these movements. Loss of an earning member due to death or loss of the source of earning due to sickness of earner and/or natural calamities can push a family down under the poverty line or to the group of extreme poor. The insecurity of property rights has been emerging as a dreaded force to poor households. Rich landlords and some invading developers are often reported to usurp property rights of poor widows and helpless small holders who do not have means to seek legal protection against these land robbers. Besides these random forces, a type of systemic force is working without serious recognition, pauperising the rural farming households. This is the splitting families apart, given a very tight land supply situation, into smaller and smaller farm households. So long as this process continues, under a pace of technological progress less than the rate of growth in population, every household would tend to turn from poor to poorer, unless the non-farm sources of income become sufficient to compensate for the diminution of farm income. This process of pauperisation is somewhat unique in Bangladesh because of its extreme land scarcity relative to population.

The process of disintegration of farm households into smaller units and the rapid decline in farm land is captured when comparing the 1984 and 1996 agricultural censuses of Bangladesh, presented in [Table 6.2](#). The trends are quite clear; small farm numbers (farms less than 2.5 acres) have been increasing. The proportion of small farms climbed from 70 percent in 1983/84 to 80 percent in 1996, consequently proportions of large (greater than 7.5 acres) and medium farms have declined. The process results in exit of very small farm holdings from farming to non-farm households. Thus, the proportion of rural non-farm households has increased from 27 percent in 1983/84 to about 34 percent in 1996. During the 11 years from 1983/84 through 1996, net cultivated land decreased by about 12 percent (by 2.39 million acres) due to loss of such land from cultivation to building of homestead, roads, schools, market places and urbanisation. Cultivable waste land no longer exists. This extraordinary tight situation, in the scope of expansion of agricultural land, has made agriculture to remain as a vast reservoir of poverty, in spite of quite a commendable success in agricultural technology development and diffusion. Accelerated efforts for further technological progress would be required to sustain the level of poverty near the present state. Such efforts would yield very little improvement in the reduction of poverty. For significant gains in reducing poverty, in addition to modernising agriculture, the strategy should focus on rural non-farm sources of income based on industrial and services sector development, particularly locating such industrial development in north and western Bangladesh.

Table 6.2 Changes in Rural Households, Population and Farms Between 1983/84 and 1996 Censuses in Bangladesh

Selected Indicators	1983/84	1996	Change (%)
1. Number of total rural holdings (millions)	13.82	17.83	+ 29.02 %
a) Non-farm holding (%)	27.30	33.82	+ 6.52 points
b) Farm holding (%)	72.70	66.18	- 6.52 points
2. Distribution of number of farm holdings (%)			
a) Small farms (0.05 to 2.49 acres)	70.34	79.87	+ 9.53 points
b) Medium farms (2.50 to 7.49 acres)	24.72	17.61	- 7.11 points
c) Large farms (7.50 acres and above)	4.94	2.52	- 2.43 points
3. Proportion of absolutely landless households ¹ (%)	8.67	10.18	+ 1.51 points
4. Total net cultivated area (million acres)	20.16	17.77	- 11.86 %
5. Cultivated area per farm (acres) ²	2.0	1.5	- 25.00 %
6. Cultivated area per capita (acres) ³	0.25	0.14	- 44.00 %

Note: ¹Absolutely landless household means households having no homestead as well as no farm land.

²Cultivated area divided by total farm holdings.

³Cultivated area divided by rural population.

Source: Bangladesh Bureau of Statistics (1997): *The 1996 Agricultural Census in Bangladesh*.

Lest there is any misunderstanding in interpretation of the priority to agriculture explained above, we would like to repeat the point again. We are not suggesting any de-emphasis on agricultural priority. Currently accorded high priority to agriculture will have to continue in order to prevent rural poverty from increasing further. Even such high priority to agriculture will have to be modified to make internal shift from products of low-income elasticity (e.g. cereals) to products of high-income elasticity (e.g. fish, poultry, dairy, fruits and vegetables). The burden of urban food security (policies of cheaper foods, including grains) should not be imposed on farmers. For rapid reduction in the level of poverty (e.g. reduction of poverty rate from 50 to 25 percent during the next 10 years), which is a declared goal of PRSP, increase in non-agricultural sources of income, particularly in the north and north-western Bangladesh, would have to be targeted with the highest priority. The current momentum of agricultural development in the north and western parts of Bangladesh would have to be sustained. In addition, industrialisation and specific non-farm rural activities like agri-business, processing of agricultural products and capacity for long storage of agricultural products need to be promoted in order to reduce poverty in these regions of the country.

Why is so much emphasis placed on rural non-farm and non-agriculture activities, and why is north and north-western Bangladesh particularly pointed out for targeting? The progress in agricultural production, particularly in rice production, has been quite respectable. And rice still accounts for about 50 percent of agricultural GDP in Bangladesh. We demonstrate here that rice production has grown fastest in north and north-western regions of Bangladesh and still these regions have remained terribly ridden with poverty, compared with other regions of Bangladesh. The growth rates in rice production by districts are shown in **Table 6.3**. This table demonstrates that growth rates in rice production during the 20 years period from 1975/76 through 1996/97 have been quite high, perhaps highest, in the old Rajshahi Division (particularly Rajshahi, Bogra, Dinajpur and Rangpur districts). But the division stands at the lowest plank in terms of incidence of poverty in Bangladesh. These incidences of poverty in the five divisions of Bangladesh, based on the Household Income and Expenditure survey of 2000, are depicted in **Figure 6.3**. The extent of poverty (measured by head count ratio and income level that accommodates 2122 kcal/cap/day) in Rajshahi Division is the highest, 61 percent, followed by Khulna: 51.4 percent, Chittagong: 47.7 percent, Dhaka: 44.8 percent, and Barisal: 39.8 percent.² If the poverty in Rajshahi and Khulna Divisions can be reduced

Table 6.3 Distribution of Districts by Rates of Growth in Rice Production in Bangladesh, 1975/76 - 1996/97

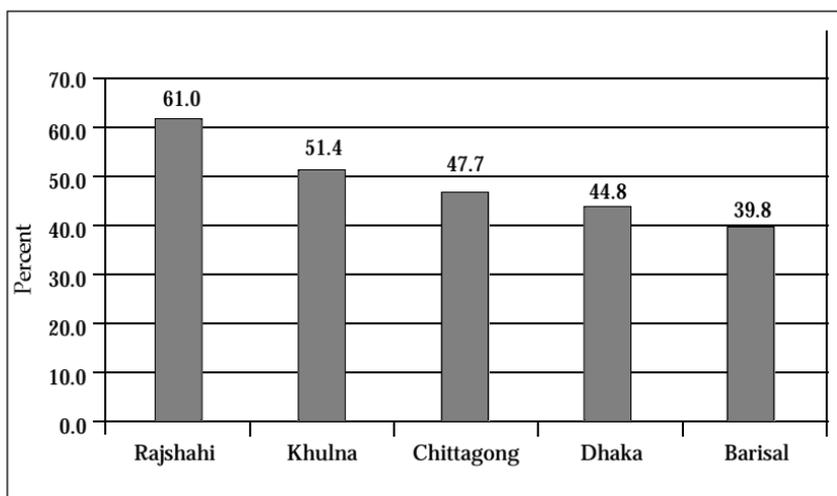
Fast growth (3 % to 7 %)	Moderate growth (2 % to 3 %)	Slow Growth (less than 2%)	
		C*	D**
A	B		
Rajshahi	Khulna	Chittagong	Mymensingh
Dinajpur	Rangpur	Dhaka	Chittagong Hill Tracts
Bogra	Faridpur	Kishoreganj	Noakhali
Kustia		Tangail	Sylhet
Jessore		Pabna	Barisal
Comilla			Patuakhali

Notes: *Slow growth but technologically very progressives, slow growth due to contraction in land area.

**Slow growth due to technological stagnation.

Source: Ahmed, Raisuddin. 2001.

² The poverty level of Sylhet Division is not separately presented in the Household Income and Expenditure Survey of 2000. The data of Sylhet are included in the data for Chittagong Division because Sylhet was a part of Chittagong Division at the time the 2000 HIES was designed and conducted.



Note: Sylhet Division is included in Chittagong Division.

Figure 6.3 Incidence of Poverty in Geographic Divisions of Bangladesh, 2000

to the level of Barisal or Dhaka, an overwhelming portion of the goal set by the PRSP would be achieved.

It becomes an extremely pertinent question why areas, enjoying highest growth in crop agriculture are so far behind in terms of incidence of poverty and the areas where growth in rice production was slow have a lower incidence of poverty? We read in text books that agricultural growth, through its direct impact on farm income and indirect linkage impact on employment, contributes to reduction in poverty. We do not dispute this theoretical proposition in general; what we want to point out that, in the context of somewhat unique situation of Bangladesh described earlier, the direct and indirect effects of agricultural growth are not adequate to pull up the poor from below the poverty line. Before, making further conclusions from the limited evidence on the impacts of agricultural growth on poverty reduction, it would be advisable to look at the behaviour of real agricultural wage rates in various districts of Bangladesh. The extreme poor in the rural areas do have to depend on wage income.

An analysis of the daily wage rate of agricultural labourers, for years from 2000 through 2004, is summarised in **Table 6.4**. Ten districts are selected for this analysis: six from Rajshahi division, including districts where “monga phenomenon” (meaning a famine like situation during peak price season between September-December) prevails; one district

Table 6.4 Regional Gaps in Real Wages of Agricultural Labor in Bangladesh, 2000-04

Districts	(Wage rate in kg. of rice per day)											
	2000		2001		2002		2003		2004		Average	
	Jan	Sept	Jan	Sept	Jan	Sept	Jan	Sept	Jan	Sept	Jan	Sept
Chittagong	8.31	8.59	8.15	9.08	8.52	8.03	7.69	7.25	8.28	7.12	8.19	8.01
Dhaka	6.20	7.33	7.02	7.02	6.30	6.63	6.59	6.11	6.06	6.07	6.43	6.70
Barisal	6.03	7.10	6.07	6.65	6.01	6.06	6.19	6.00	6.62	6.01	6.18	6.36
Khulna	5.60	5.77	5.71	5.93	5.59	5.91	5.92	5.74	5.83	5.21	5.73	5.71
Bogra	4.74	5.02	5.35	4.68	4.89	4.67	4.59	4.90	4.60	4.43	4.83	4.74
Rajshahi	4.33	5.17	5.00	5.09	4.29	4.68	4.54	4.45	4.38	4.38	4.51	4.75
Dineajpur	4.07	4.61	4.43	4.86	4.27	4.07	4.11	4.25	4.03	3.86	4.18	4.17
Rangpur	4.22	4.63	4.37	4.20	4.28	3.78	4.03	4.26	4.00	3.74	4.18	4.12
Kurigram	4.22	4.24	4.36	4.17	3.81	3.77	3.93	4.00	4.09	3.56	4.08	3.95
Lalmonirhat	4.14	4.23	4.32	4.22	3.80	3.51	3.73	3.63	4.10	3.58	4.02	3.83

Source: Computed from data in Appendix Tables 6.1 through 6.5.

from Chittagong; one from Dhaka; one from Barisal; and one from Khulna divisions, are chosen.³ The wage rate in real terms (i.e. number of kgs. of rice that one day's wage can buy) for months of January (the harvest season) and September (the peak price or slack season) are shown in the table.

The striking point that the information in the table reveals is the difference in real wage rate in September between districts in Rajshahi Division (monga areas) and Dhaka, Chittagong or Barisal. The real wage rate in Lalmonirhat during September is less than half (47.8 percent to be precise) of the real wage rate in Chittagong. In general, the real wage rates in the districts located at or near hubs of industrial and commercial centers (e.g. Chittagong, Dhaka, Barisal, Khulna) are significantly higher than real wage rates in the districts of Rajshahi Division where agricultural performance was found to be superior to districts in Dhaka and Chittagong Divisions. Obviously, indirect effect of agricultural growth on creation of demand for labour did not reflect the impact of growth at industrial and services sector on labour demand. It is not because agriculture is less labour intensive than industries or services, but because scope of expansion of agriculture is not sufficient enough to create labour demand that can create perceptible increase in real wage rate. Moreover, agriculture being a seasonal activity, slack in labour demand in certain months is bound to happen.

It seems pretty clear that, for achieving a rapid reduction in overall poverty in Bangladesh and addressing the "monga problem" of north and north western Bangladesh, in addition to sustaining agricultural growth, the development of industrial and service sectors would be crucial in these areas. The policy imperatives required to induce industrial and commercial development in specific regions is a moot question. Proposals similar to the proposed investment of Indian Tata Company in northern Bangladesh for development of industries, using new-found coal in the region, would create an industrial hub in the region, if implemented. Similarly other propositions could be developed to induce industrialisation in the region that would complement agricultural development for rapid reduction of poverty. The PRSP document has included non-agricultural development as a strategy for poverty reduction but the priority should have been more focused on regional

³ During the seventies and eighties, the seasonal pattern of rice prices was such that the prices in the months of October (and in some places in the month of September) used to record highest levels. With technological progress, particularly in *Boro* season, the seasonal pattern has changed considerably in places where *Boro* has become the dominant crop. It can be noted from tables, where rice prices are presented, those prices in September–October months are no different from prices in other months.

emphasis and specific to poverty problems of the Rajshahi Division. This critique of the PRSP is meant for serving as an example of the importance of right strategy in achievement of public objectives. Making a right strategy is equivalent to winning half of the battle.

6.2 Leakage of Public Resources: Corruption, Transparently Speaking

Misguided strategy may result in wasting public resources, as corruption may indeed cause damaging consequences to the achievement of public goals. Corruption has become a subject of extensive social complaints and acrimonious debate in Bangladesh. Transparency International (TI) has ranked Bangladesh as one of the most corrupt countries in the World for five years (2001-2005) consecutively. According to TI, 2005 was the fifth year in a row that Bangladesh topped the Corruption Perception Index (CPI) which, since then, has slightly improved. Once, even the Finance Minister of the country remarked, "if I try to eradicate corruption, I would have to remove everybody from the Revenue Board making it empty." Of course, in the same breath, he remarked that corruption exists in every country, and its prevalence in Bangladesh is nothing unique (*Daily Prothom Alo*, July, 2005). Before we proceed further on the subject, it is necessary to define corruption and identify the limiting line beyond which prevalence of corruption could be a serious hurdle to economic prosperity and poverty reduction in both the rural and the urban areas.

Let us now reflect on the point of "limits of corruption." The Finance Minister was right when he said that corruption existed in every society. Corruption had existed, still exists, and will continue to exist and as long as corruption persists as a trickle, it causes no worries in the society. Perhaps, such trickles of corruption are considered as the "prime-movers" in some areas of government machinery which are inherently slow movers. When trickles of corruption become a stream, eye-brows start rising and some degree of uneasiness creeps in society. In a society where leadership is, by and large, honest, this uneasiness at society's psyche induces corrective actions so that stream again is reduced to trickle. When corruption spreads to all layers of a government, the stream soon turns into a river that engulfs the whole nation. At this state, any nation is in danger and popular outcry among public against seats of power assumes an order of regular outburst. If a collective leadership is looking for a limiting line in corruption, the point should be somewhere before the stream can turn into a ravaging river. It is obvious in this allegorical description that when corruption starts taking hold in fundamental

institutions of a society, measures are necessary to correct the situation. Thus, the process of formation of pressure groups for bringing change in Bangladesh is primarily being led by donors, civil societies and the press. But the prospective end result is not quite clear. There seems to exist some degree of complacency that corruption after all is not quite that damaging and would be ultimately brought to the level of toleration. Index of corruption, or for that matter the "point of toleration," is unfortunately more a matter of perception than quantification. In such a quagmire of perceptive index, the ground becomes fertile for growing political hatreds and evil rumours as it becomes a cover for harvesting riches from the field of corruption.

The definition of corruption has to be made as precise as possible so that debate on such a vital issue is not obfuscated by confused logic. Corruption is a crime and there are many other types of crimes. Keeping consistence with the literature on corruption and recognising that corruption is the most critical element behind dysfunctional governance in a society, corruption is defined here as the exchange of vested public power for personal and parochial gains. In the sense of an exchange, corruption can be viewed as a trade in which the "seller" is represented by public agents who hold certain power/authority to deliver public good and services for the welfare of nation's citizens. The "buyer" is represented by anybody who attempt to divert, distort or deform the public purpose by paying resources to public agent so that such agent/agents receive personal benefits sacrificing public interest he/she is supposed to protect. The unethical nature of corruption rests on this premise that agents holding public authority for delivering public goods are making clandestine trade, exchanging vested power for personal gains.

The definition of corruption bears the ethical connotation that corruption is bad, socially unacceptable and personally immoral. At personal level, the ethical values may not prevent an individual from accepting corruption. To some individuals, however, the ethical value may matter more than the material gain. If a society strongly abhors corruption, an individual willing to indulge in corruption, may find the fear of being caught in the act, as a potent force of inhibition. This ethical aspect of corruption, though quite important a factor in the search for antidotes against corruption, is not our main focus in this book. We intend to delve deeper into the economic consequences of corruption. Before we begin to examine the economic issues, let us develop further the structure of power trading for pursuing personal gains, a concept introduced earlier.

6.2.1 Structure of Public Power

The structure of power points in government and the potential flows of corruption money in exchange of power services are depicted in **Figure 6.4**. It is intended to make a visual presentation of the whole edifice of power distribution and sources of corruption. The cabinet, headed by the Prime Minister, cannot run the government and State without a bureaucracy. The cabinet and bureaucracy together constitute the steel-frame to hold power and exercise the same in running a government.

The President is elected by Parliament and enjoys ceremonial powers and guided by norms and conventions. Theoretically, the Cabinet is held to account by Parliament with checks and balances on the Prime Minister's authority. Absence of democratic tradition, large absolute majority in parliament and undemocratic practices in the internal workings of political parties, can render the parliament to become ineffective in countering the forces that make a government holder of absolute power and misuse public power for personal and parochial gains. Another constitutional mechanism, which acts as a check on the misuse of power, is an independent judiciary armed with constitutional provisions to hold Parliament to account.

The rectangular boxes in a row in the Figure 6.4 represent: (a) public property (b) budget policies (c) public (State-owned) enterprises (d) financial system, (e) corporate world, and (f) external flows of resources. These are functional conduits involving flow of resources and public decisions in respect to these flows. They serve as houses for public goods where legal functions are conducted along with illegal transactions we call corruption. Among these, budget policies: "expenditure and revenue" is the largest where activities of all government departments are organised. Government expenditures and revenue collection entail exercise of power that provide opportunities for making personal gains by those who can gather courage to abuse power. Corporate world is a private domain but those corporate bodies, which raise capital from market, do exercise legal power to handle private property (shares). The CEOs of such corporate bodies can misuse their power to make personal gains, therefore, corruption is possible also in such private world.

The foundation of Figure 6.4 is "The People: Private Sector and the Households." The same people, who elect a government to power, are at the buying end of the power trade for personal benefit. It is ironic but true and for this to be possible in reality, one has to look at various mechanisms that create segments among citizens. To be sure, democratic practices that nourish political parties, is one such a mechanism. Some segments of the population have easy access to the seat of power and

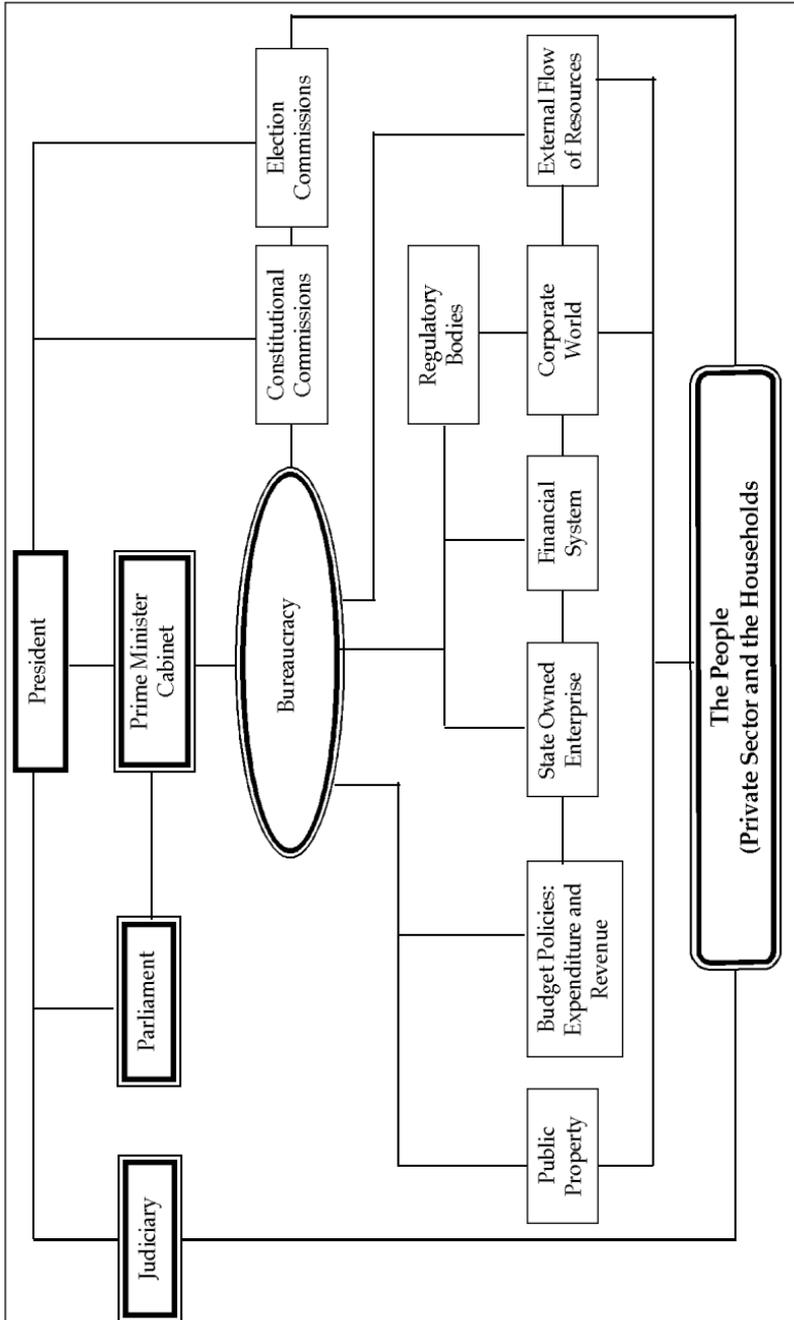


Figure 6.4 Market Structure for Trade in Public Power: Flow of Corruption

some segments are at the receiving end of the evils created by misuse of power.

6.2.2 Corruption Flows from Absolute Power

Throughout human history, kings and rulers have held power, including power to make or unmake laws. Power used to cascade down to king's men through delegation. Modern society has invented democracy to replace the king with government elected by the people. Functions of the government are guided by a constitution, overseen by parliament/congress, and steered in the right direction by significant institutional mechanisms like the judiciary and constitutional commissions for specific purposes (e.g. Anti-corruption Commission, Comptroller and Auditor General, Public Service Commission, Election Commission etc.). Unlike kings, democratic governments are for a definite time period (4-5 years). But the democratic process and mechanisms, if not properly developed, may make a government dysfunctional and, in effect, may approach to behaving like a holder of absolute power, even if for a short period. Possession of absolute power, implying no accountability to anyone, may induce enormous greed to make personal or parochial gains by abusing public power.

When corruption starts from high levels in the government, it erodes the supervisory strength of various layers of a government. The 'watchdog' roles of supervisors become very soon a network of collusions for corruption. Everybody draws the lesson that "you can get away with anything so long as you have money and play by the rules of the network". The process creates numerous "brokers, *dalals*, touts and intermediaries" in the market for power trade. Very soon corruption, meaning trade of public power for personal gain, induces expansion of numerous crimes like extortion, frauds, abduction, robbery, usurpation of public property etc, which do not fall in the category of corruption, strictly speaking. Thus corruption may lead to deterioration in governance. Instead of corruption being a result of failed governance, it may become the cause of failure in governance.

How and why does corruption affect the political leadership in government? After all, the leaders are expected by public to be patriotic and honest, dedicated to serve the nation. Political leadership needs money to buy influence, standing with voters and party workers. Electioneering is expensive and the politicians, including aspirants of public office, consider it legitimate to raise funds by making use of their authority to make decisions after winning election and forming a government.

6.2.3 How large is the Flow of Corruption?

An attempt is made here to form an idea about the extent of corruption that starts from election cost of political parties. A true measure of corruption warrants an investigative approach in contrast to structured survey approach usually employed by social scientists to measure socio-economic effects. But an unorthodox method may produce moderating effects on wild speculations. In private discussions with a few lawmakers, who are somewhat professionally-oriented, we developed an estimate of election cost in the parliamentary elections. This is presented below:

Political parties	Numbers of candidates	Average cost per candidate (Tk crore)	Total cost (Tk crore)
1. Party/alliance in power			
immediately prior to election	300	5.0	1,500
2. Opposition party/alliance	300	4.0	1,200
3. Independent/small parties	280	1.0	280
National	880		2,980

Note: Average cost includes direct election cost as well as cost for organising and mobilising people in the constituencies during 5 years prior to election.

Let us assume that the opposition party/alliance won the election and formed the government. From the very beginning, it is believed that, it sets a target for party funds to be raised during the 5-year period of its rule. In addition to the target party fund, there is cost for associated retentions money that (a) ministers (b) lawmakers, and (c) bureaucrats will extract from corruption trade over and above the party funds. These retention amounts are meant for personal enrichment and meeting the cost margins allowed to intermediaries, workers, brokers, musclemen etc. We assume that, if one taka is collected in the name of party fund, another ten takas are collected for such "retention" purposes. Therefore, the magnitude of total money (i.e. sum of party fund and the retention amount) is estimated as follows:

$$TC = TPF + RM ;$$

$$TPF = (AC) ; \text{ and}$$

$$RM = (TC) \cdot R$$

where TC is total cost of corruption; TPF is the targeted party fund; RM is the retention money; AC is the opposition party/alliance cost during the last election; R is the escalation coefficient; and R is the retention coefficient. R has been assumed to be 2.0 for scenario 1 and 2.5 for

scenario 2. has been assumed to be 10 for both scenarios. Given this, for both the scenarios, TC has been estimated as follows:

$$TC (1) = (AC * 2.0) + 10 (TPF)$$

$$TC (2) = (AC * 2.5) + 10 (TPF)$$

As per the cost estimates during last election, AC was 1,200 crore taka. The total cost (TC), for both the scenarios, is summarised below:

Scenario	Target Party Fund (crore taka)	Retention Amount (crore taka)	Total (crore taka)	
			For Five Years	For One Year
(1)	2,400	24,000	26,400	5280
(2)	3,000	30,000	33,000	6600

This 26,400 crore or 33,000 crore taka are the magnitude of corruption money that the political power structure and bureaucracy will raise in 5 years. Therefore, the annual estimate of corruption is (264/5=) Tk 52.8 billion) under estimate one and Tk 66 billion under estimate two. The annual average GDP at market price during the 5 years is Tk2,900 billion. Thus the annual corruption flow, estimated as percent of GDP, is 1.8 percent under estimate one, and 2.3 percent under estimate two. Perhaps the true figure might fall between 1.5 to 2.5 percent of GDP. This approach of assessment of volume of corruption money can be improved by conducting research on the assumptions described above.

This 1.5 to 2.5 percent of GDP, speculated as the size of corruption trade, does not mean that GDP would be 1.5-2.5 percent higher in the absence of corruption. The short-run effect of corruption on growth of GDP depends on how the money is spent. Under one circumstance, if the money is diverted to the affluent class that will consume within Bangladesh, then it is possible to expect a higher growth rate in GDP with corruption than without corruption. However, if the money is remitted abroad, the short-run growth rate would be negatively impacted. One thing is quite clear: corruption affects poverty seriously, corruption increases poverty. The impact of corruption on short-run growth rate of GDP would tend to be small but adverse impact of corruption on poverty, both in the short and long-terms would be substantial.

The long-run impact of corruption on growth rate of GDP would tend to be negative and substantial. It would be negative because of the adverse impact of corruption on (a) inflow of foreign investment, (b) higher transaction costs in trade, thus depressing competitive strength of Bangladesh products, and (c) slow rate of development of infrastructures with higher cost, causing bottlenecks in production and trade. A general equilibrium model could yield interesting results showing the effects of

corruption on economic growth rate and poverty. Bardhan (1997) provides a comprehensive treatment of corruption on economic development.

6.2.4 Empirical Evidence on Corruption

The literature on corruption is not quite rich as is usually the case with numerous other branches of social problems. Nevertheless, quite a number of case studies are available to indicate the extent of corruption in various public sectors. Because of methodological complexities of measuring corruption, quite a bit of variability in research quality and potential political misuse of studies on corruption, it is prudent to use and interpret these results with caution. Nevertheless, these studies give some rough order of magnitude of corruption and its proximate causality in discrete pieces of corruption cases.

The Transparency International of Bangladesh (TIB), a local affiliate of the Germany-based Transparency International (TI), has been doing some work in monitoring and measuring the extent of corruption in Government. The TIB has recently created some heightened debates and concerns in Bangladesh about pervasive corruption (see *The Daily Star*, October 29, 2005 for a brief summary). TIB conducted a household survey in 55 districts of Bangladesh in 2004 and estimated the amount of bribes that the households had paid in that year. From this survey, the TIB estimated that the households paid, to 25 public service institutions, a total amount of bribes of Tk.6,796 crores in 2004. This amount is equivalent to 2.34 percent of GDP in 2004. It would be reasonable to assume that a large portion of corruption flow in any year does not involve households. For example, public procurement deals, power generation contracts, and many other corruptive transactions do not involve households. Therefore, if it were possible to add up all types of corruptions in public dealings, the extent of corruption would come out much more than 2.3 percent of GDP. The TIB estimate is obviously an untenable proposition. However, the failure of households to distinguish between money paid for corruption and lost through fraud may have caused overestimation.

IFPRI conducted a number of studies in mid-1980s, in 1990s and early 2000s on effectiveness of public food intervention and targeted food distribution in Bangladesh. These studies generated information on leakage of resources from the programmes which is equivalent to estimates of corruption. An evaluation of the Food-for-Works programme in 1984 produced an estimate of leakage of 32-35 percent (see IFPRI-BIDS, 1985). Evaluation of the Vulnerable Group Development (VGD)

programme in 1994 found the extent of leakage to be 14 percent. However, evaluations of the Rural Rationing System in 1993 and Statutory Rationing System in 1994 found the rate of leakage to be 71 percent in the former and 89 percent in the latter system (Haggblade, Rahman and Rashid, 1993). In effect, these programmes lost their focus and outran their objectives. Both the programmes were abolished by the government, subsequent to these evaluations.

Another piece of IFPRI's study found the leakage in public procurement of rice in 1991 to be 31 percent (Ahmed 2000; Chowdhury & Haggblade 2000). A number of evaluations of the Food for Education (FFE) programmes in Bangladesh produced evidence to the effect that the leakage in the programme was around 14 percent and the programme made significant contribution to increase rural education (increased school enrollment), particularly education of girls (Ahmed and Arends-Kuenning, 2003).⁴ Beside these IFPRI Studies, a few other organisations have investigated the propensity of corruption in public programmes. A recent survey conducted by Power and Participation Research Centre (PPRC) produced estimates of leakage in public programmes (e.g. VGD, VGF, Relief) in the "monga areas" (PPRC, 2004). The survey result showed that 35 percent of resources meant for the affected people did not actually reach them. This finding is much higher than the IFPRI's finding of 14 percent leakage in VGD reported earlier. IFPRI's estimate pertains to the mid-1990s compared to PPRC estimate based on survey in 2005. It is plausible that the trend of corruption has been increasing thus giving a higher rate of leakage now than a decade ago.

IFPRI's studies, however, demonstrate that corruption level could be kept low by designing mechanism of implementation that incorporates multi-agency involvement to enhance check and balance, structured supervision, strong requirement for participants' awareness of their rights and transparency. Most of the studies cited above relate to targeted public interventions for helping the poor. The extent of corruption in this type of programmes could be expected to differ from the extent of leakage in development projects designed for promoting growth of production and employment. Unfortunately, research studies on leakage in development projects are fewer in number than research on use of resources in food intervention projects. Nevertheless, evidence indicates similar or even higher propensity of corrupt behaviour in implementation of development projects.

⁴ A number of economists in Bangladesh has pointed out that the results of the study (i.e. the rate of leakage of only 14 percent) was not credible and might have arisen, partly, from truncated "terms of reference" for the study, that were prepared by the World Food Program in Bangladesh.

Garment industry has become a hallmark of success in the industrialisation of Bangladesh. The extent of corruptive extortion by bureaucracy from this sector was studied by a couple of research groups. The first one, done by researchers in the World Bank (1992), provides evidence of the extent of bribe that must be paid to conduct garment business in Bangladesh. It is clear from the study that every agency in the bureaucracy that is involved in this business—customs, central bank, export promotion bureau—becomes a hurdle that has to be overcome by entrepreneurs by paying bribes, often the amount being higher than the legitimate fee itself. An average factory owner in the garment industry had to pay bribes five times the cost of licenses and necessary approvals for setting up the business in the first year (Table 6.5). The bribe to initial set-up cost ratio for licenses and approvals exceeds hundred percent. Similarly, after set-up and during operation, the bribes that have to be paid each year to various layers of bureaucracy equal to an amount thirty times the required cost of renewal of licenses that is paid to state exchequer. These figures, even when appropriately discounted for non-scientific data collection methodology, reveal the startling magnitude of corruption in the industry in the country.

Another study conducted in 1994, by the Southern Indiana University in the United States, concluded along the lines of the World Bank (1992) study reported above. This study was more “probing” in nature because of the researcher’s approach to data collection and certain advantages of access to bureaucracy and businessmen. This study reveals that the industry paid about Tk.2,000 million every year in the 1990s as bribes to bureaucracy (Quddus, 2001). It is estimated that an average garment factory made a profit of Tk.3.5 million in 1994 and there were 20,000 factories doing business in that year. On this basis, an average firm paid Tk.100,000 as bribe. Thus the average bribe to profit ratio $((0.1 \div 3.5)100)$ for garment industries was 2.9 percent in 1994. The profit rate was very high in garment industry in 1994 (about 50 percent). Such a high profit rate was a driving force in readily agreeing to the extracting demands of corrupt bureaucrats. The myriad rules and regulations that govern import and export trade have created a haven for corrupt officials to illegally extract large rent from private agents. Quddus (2001) compared corruption in the jute export sector with that in the garment industry. “Jute exporting does not suffer from nearly the same level of bureaucratic corruption that has become the hallmark of garment export”. This comparison provides the basis for a strong hypothesis that the bureaucracy adopts different strategy for different business for extracting rent. The strategy is that the rate of bribe is higher in business that earns

Table 6.5 The Cost of Bureaucracy and Corruption for a Garment Exporter, 1992*(Taka Per year)*

Licenses and Approvals	Initial Cost		Yearly Renewal Cost	
	Official	Bribes	Official	Bribes
Licenses:				
Trade License	1500	2500	1500	500
Sign Board	12	Nil	12	Nil
Import Trade Control	2000	2000	2000	500
Export Trade Control	1000	2000	1000	500
EPB Registration	500	1000	500	200
Textiles Registration	500	10000	Nil	Nil
Bond License: Custom	300	20000	300	45000
Factory License	70	1500	70	200
Fire License	4750	1000	4750	500
BGMEA Membership	5000	Nil	5000	Nil
Joint Stock Registration	3800	4000	Nil	Nil
Joint Collaboration	50000	50000	Nil	Nil
Government Approvals:				
Utilization Permission	Nil	Nil	Nil	250,000
Inter-bond Sub-contract	Nil	Nil	Nil	60000
Inspection: Customs	Nil	Nil	Nil	60000
Export Benefit:				
Bangladesh Bank	Nil	Nil	Nil	20000
Visa: EPB	Nil	Nil	Nil	12000
Total	69,432	94,000	15,132	449,400

Note: Approximate exchange rate in 1992: 35 Tk = 1 US\$.

Source: World Bank. 1992. *The Manufacturing Sector of Bangladesh: Selected Issues*, Vol. II, 1992, page 41.

higher rate of profit than the business with lower rate of profit. To complement this strategy, the bureaucrats work through the system to frame more complex rules and regulations for high-profit industry than low-profit industry, so that the strategy of extraction could be effective.

The extent of corrupt practices and leakages in development projects, financed through the Annual Development Programme (ADP), has not been researched as extensively as is the case with targeted interventions for the poor and in trade and manufacturing. Our framework of analysis of corruption, outlined at the beginning of this section, suggests the story

could not be different in ADP projects from those presented so far. They all operate in the same political environment of party politics and bureaucracy. Reports from the project Implementation Monitoring and Evaluation Division of the Ministry of Planning and the Planning Division of the Ministry of Finance, some presented in the previous chapters, complain about failures to complete projects in time (time over-runs) and serious cost over-runs (Bangladesh Planning Commission, 2005c). Apparently this tendency may be interpreted as inefficiency rather than corruption, but in reality, this could be indirect consequences of corruption. We conducted a search of news paper reports in a few Dhaka dailies, for the period from March, 2005 through August, 2005. This is the period that covers pre-and post-budget debates on development projects. Newspapers (*The Daily Star*, *Prothom Alo*, *Ittefaq* and *Inqilab*) had reported 219 cases of corruption, mis-management, irregularities detected through audit, misuse of project fund, misuse of project vehicles and various other sorts of illegal practices in implementation of projects during the six months of 2005. No doubt, such reports are often based on anecdotes. But they definitely are indicative of widespread misuse and mis-management of public resources for development.

We attempted to estimate the extent of leakage due to corruption in development projects dealing with agriculture and rural development sector. Our estimates indicate the leakage due to corruption to be about 31 percent of the project cost (see the estimates below). This is not likely to be much different for development projects in other sectors; the leakage may even be higher in infrastructure projects involving significant amount of civil works. The following procedure was followed to estimate the corruption leakage:

- (a) Selected from ADP project documents for years from 1999-2000 through 2000-03 a list of projects which were revised and completed during those years.
- (b) Noted the original cost at project start and revised cost at project completion.
- (c) Noted the original cost and revised costs for all such projects, and estimated the increased cost due to revision as proportion of the original cost. This was 65 percent.
- (d) Estimated time over-run, i.e. number of years required for completion minus the number of years originally proposed for completion. Average time over-run was 2.8 years which was rounded to 3 years. Time over-run occurs because money is not released by the full extent of project requirement. Revision of

project allows replacement of funds not released in time. The real reasons then, for the increased cost of project completion, are the following; (i) expanded scope of the revised project, implying increased costs; (ii) increase in prices of project inputs during the 3 years when the revised project is completed; and (iii) corruption by public officials involved in implementation.

Based on these assumptions, corruption leakage was estimated as follows:

- (a) Estimated the cost increase attributed to increase in the scope of projects from evaluation of 5 randomly selected projects. The increase in cost due to enlarging the scope of completed projects was estimated to be 15 percent of the original project cost.
- (b) Estimated the cost increase due to increase in prices of project inputs by using the price index of manufactured goods and assuming that the increased cost in the revised project document was incurred 30 percent in the first year, 30 percent in the second year and 40 percent in the final year of the 3 year time over-run. This estimated cost increase due to prices was then measured as a proportion of original project cost. This was 19 percent.
- (c) The estimate of corruption leakage was made by deducting (a) and (b) from 65 percent i.e. $(65-15-19) = 31$ percent.

The outlay for development projects (ADP) has grown, in real terms, at 3.8 percent annual rate between 1989/90 and 2003/04. During the same period, the number of projects in ADP has increased by about 5 percent annually. This means that the number of small projects have proliferated with low average real cost per project. This implies a thinning of resources over a large number of projects. It is generally believed to be true that small projects do suffer from a higher rate of leakage (30-40 percent) than large ones with a lower (15-20 percent) leakage rate.⁵ Procurement of equipment and appointment of contractors under development projects is known to be the largest item of project expenditure. The mechanism of procurement becomes the main focus of project managers and political leaders who might want to make personal and parochial gains at the cost of public objectives the project is designed to achieve. Procurement under large projects is overseen by ministries and top bureaucrats while procurement under small projects is managed by lower level bureaucrats. Journalists bring out streams of stories

⁵ Small projects are generally scattered in remote areas where transparency is limited or almost absent. This condition facilitates a higher rate of misuse of resources in small projects as compared to large projects with a high degree of transparency.

depicting gross irregularities in selection of bidders in both the channels. It is not uncommon to see violence, including hijacking of tender documents, at levels of implementation of small projects. The trend of increasing number of small projects, increased frequency and volume of unapproved projects and block allocations, increasing incidences of cost over-run and time over-run of projects, are likely to be the consequences of corrupt motivation and fraudulent practices or inefficiency, indiscipline and insufficient trained manpower to manage ADP. It is essential to pinpoint the causal factors appropriately in order to formulate devices for correcting the rots that have spread throughout the body-governance of public investment. The irony is that many in the Planning Commission, and other agencies involved in planning, do know the real causes and roots of the problem but the system appears to be hostile to agents of change.

The Transparency International (TI) has been monitoring corruption in various countries for about a decade. The 2004 as well as 2005 reports rank Bangladesh as one of the two most corrupt countries in the World. This ranking was based on "Corruption Perception Index (CPI)" constructed for 146 countries in 2004. The CPI aggregates the perceptions of well informed people with regard to the extent of corruption, defined as the misuse of public power for private benefit. The extent of corruption reflects the frequency of corrupt payments and the resulting obstacles imposed on business. The 2004 CPI was based on data collected between 2002 and 2004 from 12 different institutions: (i) the World Economic Forum; (ii) the Institute of Management Development (in Lausanne); (iii) the Economic Intelligence Unit; (iv) Information International from Beirut (Lebanon); (v) the World Markets Research Center (in London); (vi) Gallup International, on behalf of Transparency International; (vii) Freedom House's Nations in Transit; (viii) the Merchant International Group Limited (in London); (ix) The Political and Economic Risk Consultancy (in Hong Kong); (x) Columbia University; (xi) a multilateral development bank; and (xii) the Business Environment and Enterprise Performance Survey of the EBRD and the World Bank.

For each country, at least three sources should complete scoring for the country to be qualified for inclusion in the list. Each source is asked to provide a ranking of all countries. The average score for each country measures its extent of corruption. The CPI for Bangladesh in 2004 was based on 8 survey sources. The average score was 1.5 with a standard deviation of 0.8. Therefore, the perceptions of corruption in Bangladesh, as ranked by 8 sources, were all reasonably close. The score for all countries in the World in 2004 varied from 1.5, for both Bangladesh and

Haiti, to 9.7 for Finland. A high score means a low level of corruption and a low score implies a high level of corruption.

The 2004 CPIs for a selected set of countries are presented in **Table 6.6** (lower the CPI score, higher the level of corruption). Countries from 3 sets; (a) South Asia, (b) East Asia, and (c) Europe and North America, are selected. It is obvious that Bangladesh, being at the top in the world, in terms of the perception about the level of corruption, would also top the selected list. In South Asia, the CPI in Bangladesh is almost 50 percent that of India as well as Nepal, 70 percent that of Pakistan, and almost 40 percent that of Sri Lanka. In East Asia, the CPI is twice that of in South Asia. Indonesia seems to fit closely to South Asian pattern than East Asia, in terms of corruption. In general, it appears that high income countries discern a lower degree of corruption than low income countries.

6.3 Impact of Public Expenditure

Any attempt to focus on the impact of public expenditure on economic growth and poverty reduction, invariably gets jolted by a number of profound contradictions. The first contradiction has been pointed out by

Table 6.6 Corruption Perception Index for Selected Countries from a Total of 146 Countries, 2004

Country	Country Rank	Surveys used	CPI Score	Standard Deviation
<i>South Asia:</i>				
Bangladesh	145	8	1.5	0.8
India	90	15	2.8	0.5
Pakistan	129	7	2.1	0.8
Sri Lanka	67	8	3.5	0.8
Nepal	90	3	2.8	1.0
<i>East Asia:</i>				
Japan	24	15	6.9	1.4
South Korea	47	14	4.5	1.0
Malaysia	39	15	5.0	1.3
Indonesia	133	14	2.0	0.6
<i>Europe and North America:</i>				
USA	17	14	7.5	1.1
UK	11	12	8.6	0.5
France	22	12	7.1	1.1
Canada	12	12	8.5	0.9

Source: Transparency International, *Global Corruption Reports*, 2004 and 2005.

many through the question: how come the economy has been growing at 4 to 6 percent annually while we read continuously of dysfunctional governance? As presented in Chapter 1, transformation of the economy of Bangladesh during the last two decades has been spectacular and highly praised by the international development community. But this chapter provides vivid accounts of corruption and mismanagement of development projects. Are not these evidences contradictory? To resolve these apparent contradictions, it is necessary to examine the impact within a conceptual framework that combines leakage, production function of sector based policies (note that public expenditure is an instrument of sector based policy) and efficiency of public managers. We attempt, at least to begin with the concept, to develop and use such a framework in this chapter.

The conceptual framework is displayed in a flow-diagram in Figure 6.1. The diagram has 5 components: (a) macro policy, (b) sector based policies as reflected in sector based or sub-sector based public expenditures on infrastructure, technology, institutions and transfers, including incentives, (c) leakages, (d) the technical relation between public expenditure and private production and consumption (the so called production function of sector based policies), and (e) the distribution of production and consumption between the poor and the non-poor. Because of our focus on agriculture and rural development, we assume that macro-economic policies do not change during the period of estimation of impact on agriculture and rural development. We have already discussed leakage; therefore we will not elaborate further on leakage except where it becomes necessary. The main focus in this section would be limited to the link between public policy and private response (the production function) and the consequent impact on growth of agriculture, distribution of production and the consequent change in poverty.

Production of most goods and services is undertaken at the levels of private producers. For public expenditure to exert impact on production and employment, its sector based expenditure programmes are generally designed to create conducive environment for private producers so that their ability and incentives to produce more are enhanced. This congenial environment is created through development of infrastructure, productive technology, efficient institutions, and attractive incentives. In the previous chapter, we have provided information on how many public resources are spent in various sub-sectors of agriculture and rural development to create the facilitating environment. We have also presented some empirical estimates of rates of return from these public

investments. Here, we propose to use that information to estimate some indicative measures of the impact of public expenditure on growth and equity in agriculture.

6.3.1 Impact on Agricultural Growth

It is estimated that the annual growth rate in agricultural GDP would have been 1.25 to 1.45 percent points less during 1994-95 through 2003-04, had there been no public expenditure under the ADP in the agriculture and rural development sector defined as $AGR D_1$ (see Chapter 5 for definition of $AGR D_1$). It means that the actual agricultural growth rate during the decade, which was 3.3 percent per annum, would have been around 2.0 percent only, had there been no ADP expenditure for agriculture. The method of estimation and parameters used in the estimation are shown in Appendix 6.1.

The central point in the estimation of growth impact of public expenditure in the rural sector is the premise that the marginal increase in agricultural GDP annually, due to public expenditure, is equal to a fraction of public expenditure ($AGR D_1$). This fraction is the rate of return. This rate of return to public investment in agriculture is the weighted average rates of return from investment in infrastructure, technology, institutions and incentives/transfer. The rate of return is an average concept free from influences of random forces like natural hazards. Therefore, to apply this parameter on $AGR D_1$ and AgGDP, the trend values of these two variables were obtained for 2003-04 and growth impact was measured within a historical perspective defined by 1994-95 through 2003-04.

The estimate of growth impact is basically a technical relation between input and output. How does the effect of leakage (i.e. corruption), discussed earlier, impact on the growth of production? When the amount of input is reduced by corruption, the input-output relation would forecast a reduced output. If a project remains incomplete because resources have been siphoned out through corruption, the objectives of the project would not be achieved till completion of the project. So the project is revised with implication of higher cost and longer time for completion compared to the situation without corruption. The cost over-run provides for the replenishment of resources lost through leakage and the time over-run implies that the benefit of the project is delayed for the years of time over-run. The analysis of project completion by the Planning Commission has estimated that the average time over-run of projects is 3 years and, on average, project completion takes about 10 years (Bangladesh Planning Commission, 2005). It implies that, the project benefit is

postponed for 3 years and about one-third of original project cost is leaked which is replenished by revision of project, thus completing it in 10 rather than in 7 years. The postponement of benefit by 3 years has some negative impact on growth rate, but its precise magnitude is a complex measurement challenge. If the economy is already underutilising the public goods (i.e. goods that public expenditures creates), impact of leakage would be negligible. But a shortage of public goods (e.g. energy shortage now) would have a significant impact on growth. Generally, the underutilisation of infrastructure, institutions, etc. is a short-run phenomenon. In a developing economy like Bangladesh, there would always be a significant shortage in supply of these public goods. Thus, leakage in public expenditure will have significant negative impact on long-run growth although short-run impact could be zero or small during a particular time.

The most important effect of leakage on growth depends on how the leaked resources are utilised in the economy i.e., how the corrupt bureaucrats and politicians use their ill-gotten money? The diversion of resources from public to private sector is clearly a consequence of corruption. It is no longer a question of growth in agriculture; it becomes an inclusive growth of the whole economy, measured by the GDP. If the economic rate of return in public sector is lower than that in the private sector, and if the difference is large enough to compensate for the loss of growth because of public sector corruption, the overall growth rate might even be larger with corruption than without. This could partly be an explanation of the puzzle that Bangladesh has been having a moderately high growth rate in GDP despite rampant corruption and poor governance. However, as pointed out earlier, this high growth with corrupt governance will be short-lived because private sector will not invest in public goods like infrastructure to any significant extent and this constraint will ultimately decelerate private sector driven growth in the economy. The other conclusion is that without the egregious corruption, the growth rate in GDP could have been higher, say 7 to 8 percent, if the public and private sector could work corruption-free, in the environment of economic liberalisation and in a complementary fashion. Such an expectation is likely to be unrealistic, only with a corruption—free public expenditure.

The expenditure pattern of the rich in Bangladesh, as reflected in the growth of high cost private education systems, import of luxury cars, frenzy in construction of luxury real estate buildings in urban areas, ostentatious social ceremonies, sharp increase in the price of land and real estates, overseas travel for medical treatment etc., is indicative of rapidly rising inequity in income distribution. The inequity would have been,

even larger, but for the remittances by Bangladeshi workers working abroad and active presence of institutions like the Grameen Bank, BRAC, ASA, and numerous other NGOs. These organisations have produced effects which have masked a substantial part of the negative impact of corruption. In Chapter 1, in the course of discussion of transformation of the economy of Bangladesh, we noted that, in all areas of economic transformation, Bangladesh has demonstrated a superior performance in comparison with most other South Asian countries, except in one area. This is the area of poverty reduction. In respect of poverty, Bangladesh ranks at the top not only in the extent of poverty, but also in its reduction at the slowest speed. Let us now make an attempt to examine the impact of public expenditure on poverty reduction.

6.3.2 Impact on Poverty Reduction

A discussion on poverty, and how the public policies and resource allocations impact on poverty in Bangladesh, will remain incomplete without placing such discussions within the broader context of PRSP. The PRSP document, prepared by the government, has been by and large praised by donors and professionals. PRSP is indeed a very comprehensive document and has elevated the expectation of the government and donors to use the document as a replacement of a medium-term plan that generally guides public policies, and investments. As is usually true, a comprehensive approach is generally assured at the cost of focus on specific issues. Therefore, we hope not to be misunderstood if our discussion occasionally conflicts with PRSP positions.

The PRSP adopts a general strategy of growth as the foundation for poverty reduction. It finds a strategic clue in the higher growth with rising inequality in income distribution during the 1990s when poverty declined by one percent a year, than the constant inequality and slower growth in overall income during the earlier decade, when there was little improvement in poverty level. There are number of problems with this clue serving as the basis of poverty reduction strategy. If the impact of inequity on poverty is dismissed because of a 5 percent growth rate of income, one can immediately put forward a counter argument that has grievous consequences. If poverty had fallen during the 1990s due to high growth rate, rising corruption and dysfunctional governance, as compared to stagnant pace of poverty reduction, improved governance and lesser degree of corruption during 1980s, should one conclude that level of corruption and governance does not matter in poverty reduction? The problem arises from inadequate analysis of links among poverty on

the one hand and growth rate, governance, corruption and inequity in income distribution, on the other.

The conclusion, that poverty rate had declined at about one percent annually during the 1990s, was based on poverty information presented in **Table 6.7**. The table contains two sets of estimates of poverty (i.e., the head count ratios) based on two different methods but using the same Household Income and Expenditure Surveys (HIES) of 1991-92 and 2000. Note that the reduction of national poverty rate does not change significantly between the two methods; the reduction is by 9 percent points (i.e., 58.8–49.8) in the first method and by 9.5 percent points (i.e., 49.7–40.2) in the second method. However, the difference in the levels of poverty due to different methods of estimation is large; the level of poverty in 1991/92, as per the first method is 58.8 percent compared 49.7 as per the second method. The same is the case for 2000.⁶ Here, we are concerned with the rate of change in the poverty rates and both the methods show about the same extent of change (i.e., 9 to 9.5 percent points). This is equivalent to a rate of change roughly, one percent per year. But this rate of change is not the trend rate between two points.

Table 6.7: Poverty and Inequality in Bangladesh: 1991/92 and 2000

Indicator	Estimate 1: BBS/World Bank Using 1991s HIES Unit Record Data		Estimate 2: Sen/Mujeri using HIES long-term Grouped Distribution Data	
	1991/92	2000	1991/92	2000
<i>Head Count Ratio (%)</i>				
National	58.8	49.8	49.7	40.2
Rural	61.2	53.0	52.9	43.6
Urban	44.9	36.6	33.6	26.4
<i>Gini Index of Inequality</i>				
National	0.259	0.306	–	–
Rural	0.243	0.271	0.255	0.297
Urban	0.307	0.368	0.319	0.379

Source: Bangladesh Planning Commission. 2005b. *Unlocking the Potential: National Strategy for Accelerated Poverty Reduction*, General Economics Division, Dhaka.

⁶ Unit of data in HIES is households. Earlier HIES reports measured poverty rate as a proportion of poor households in the total member of households. In order to determine the proportion of poor population in the whole population, it is required to multiply the family size of poor households with the number of poor households in order to get the poor population. Poverty rate, based on household distribution rather than population distribution, is generally an over-estimation compared to the estimate based on population distribution. This is so because poor households have smaller family size. This correction often makes confusion in data.

It is well known that poverty level peaked in early 1990s when agricultural growth was stagnant due to repeated draughts (see Ravallion & Sen 1994). Comparison between two dissimilar years (i.e. a worse crop year in 1991/92 and bumper crop year in 2000) has produced the results of one percent a year reduction in the poverty levels. This is a reflection of fluctuation in poverty rather the trend of poverty. Future targets for poverty reduction cannot be based on fluctuations it must rely on trend. On the other hand, limited data prevent calculation of a reliable trend line of poverty. Nevertheless, best judgment does always have a role under unavoidable circumstances. If we interject the poverty information from 1996 HIES into the picture painted by 1991/92 and 2000 data, we can come closer to trend estimates of poverty. The poverty level, according to 1996 HIES, was 51.8 percent. Interjection of this information in the 1991/92 and 2000 comparison, adds a new implication. It means that the levels of poverty declined by 7 percent points between 1991/92 and 1996, but it declined only by 2 percent points between 1996 and 2000. The years of the first part of 1990s were the years of stagnation in agricultural growth with high prices of food, and years of the second part of the 1990s were the years when agricultural growth exceeded population growth by slightly more than two percent and food prices were low. The trend rate of reduction in poverty, probably, will come closest to the rate between 1996 and 2000, rather than the one between 1991/92 and 2000.

However, the authors of PRSP also had some lack of confidence on income poverty measures. But they accepted the speed in poverty reduction because other dimensions of poverty, particularly human development dimension, supported the case of rapid poverty reduction during the 1990s. Here also, we feel confused by not having a clear link between income—poverty measures and human development indexes. For example, the dramatic gender equality achieved among school students during 1990s, as compared to wide gender gap in the 1980s, is cited in support of fast poverty reduction in the 1990s. There exists little substantive evidence to support this claim. Gender equality in education would be significantly enhanced if the non-poor had sent eligible female members of the household to school, which was not the norm prior to the 1990s. This achievement does not require that the poor send their daughters to school. This human development index does provide adequate evidence that income poverty has indeed declined. Perhaps, the debate about pace of reduction in poverty will not lead us anywhere. It seems acceptable that poverty rate has declined during the 1990s but not at a rate of one percent point a year but possibly at a modest rate of half a percent point a year. This means that the goal of poverty reduction at one

percent annually during the period from 2000 through 2015, would require efforts and achievements of a larger scale in the coming years than the scale in the past. The PRSP assumes a particularly daunting challenge in this context. An increasing inequality in income distribution and an increasing trend of corruption might have neutralised some of the effects of respectable GDP growth on poverty in the past. It is essential that Bangladesh is successful in arresting the trend of corruption and inequality in income distribution, if the country takes the UN Millennium Development Goals seriously.

Even if modest, what factors and activities had caused the reduction in poverty during the 1990s? Anecdotal but sensible reasons widely circulated in seminars, professional writings, and popular debates on poverty in Bangladesh argue that agricultural growth through rice, fish, and poultry production had contributed to prevent acceleration in poverty rate in Bangladesh. This has been highlighted earlier. Because of scarcity of land and limited scope of technology to enhance productivity rapidly, agricultural growth has only stemmed the deepening of poverty to a significant extent. Poverty reduction generally assumes higher speed when, other economic forces complement agriculture to bring prosperity to rural households. A number of such forces have been causing changes in the rural scene for the last 10- 15 years.

The *first* among these forces is centered on entrepreneurship of educated and semi-educated rural youths who have been going abroad, sending remittances and returning home with new attitude of making money and ideas picked up from abroad and trying to experiment with them. These young men are mostly from soft rich category (i.e., rural middle class); therefore rural poor do not directly benefit in large scale from these remittances. But the young entrepreneurs, when set up new ventures in rural towns, growth centers, market places and special types of farm yards, numerous job opportunities are created for the soft poor and hardcore poor in the rural areas. Their success stories in new ventures e.g. fish farming, poultry farming, fruits and vegetable business, flower cultivation, nurseries, manufacturing of sanitary equipment, modern pottery, various types of shops, repair and manufacture of agricultural equipment, feed manufacturing, transport business, processing of rice and a wide range of other activities, are often reported by journalists in local news papers. We have witnessed many while travelling in the rural areas for personal observations and data collection. A high proportion of the remittances by migrant workers have been focused in rural areas. The official figure for 2005 was US\$3-4 billion and probably another one and half billion had come through unofficial

sources (remittances in 2007 were estimated to be over US\$6 billion). Measurement of the impact of these remittances on growth and poverty is a challenging research proposition. Anecdotal evidence suggests that a vast majority of the migrant workers originate from the eastern divisions of Bangladesh (i.e., east of the Jamuna River) hence the proportion of remittances to Rajshahi division is believed to be small.

The *second* force, to compliment agriculture in rural prosperity, is micro-credit programmes and NGO operations. These activities are promoting entrepreneurship amongst the rural poor. Remittances and micro credit programmes have combined to strengthen rural investment pace and pattern that is believed to have strong contribution to poverty reduction. Grameen Bank's network of mobile phones in rural areas has linked rural Bangladesh with global cities. Not only the emerging rural entrepreneurs find this network to be very helpful, with cost reducing effect to their business, the workers employed abroad can easily and frequently communicate with their relatives and partners at home. Access to mobile telephones and information technology is making a significant contribution to the development of productive agricultural and rural non-farm business in rural Bangladesh.

The *third* force is largely urban based but has strong ramification for the rural poverty. This is the garment industry of Bangladesh which has become a hallmark of industrialisation in Bangladesh. This industry employs over 2 million workers (BBS, 2004a), mostly women and rural poor. The established norm of women saving and spending for family prosperity is contributing towards alleviation of rural poverty.

The *fourth* and final factor is the reduction in fertility rate and the consequent deceleration of population growth rate. Population growth rate was near 3 percent in the early 1980s which has come down to about 1.4 percent per annum during the early 2003. The obvious impact on poverty, of this deceleration of population growth, often gets lost in public discourse.

Coming to the theme of public expenditure and its impact on poverty, the foregoing discussions on selected causal factors naturally drives thinking towards a search for links between public expenditures and those causal factors. We have shown earlier the effect of public expenditure on agricultural growth through development of technology, infrastructure, institution and provision of incentives for agriculture. Agricultural technology has bought years for poor farmers before they slip down under the poverty line in a land scarce agriculture. Rural infrastructure (particularly rural roads and electricity) has provided the enabling environment for the growth of entrepreneurship, using

resources coming in as remittances and made available through micro credit. Public expenditures contribution to poverty reduction through development of technology, infrastructure and institutions could have been more robust, had there been more productive investment in agriculture and rural development, less corruption in implementation of development projects, and more involvement of local governments than has been the case so far.

We had argued earlier that corruption does not adversely affect growth rate in the economy in the short and medium-run in a significant extent. But corruption does adversely affect poverty in a significant way in both the short and long-run and also significantly lowers the growth opportunity in the long-run. Public expenditures finance infrastructure, institutions and technology. The growth enhancing facilities become a laggard phenomenon as the gap between the increasing demand for such services and laggard supply accumulates over time due to leakage of public resources. There are other cogent reasons for corruption to adversely affect poverty, even though not so much to growth.

Corruption diverts resources from public to private sector. The resources meant for public goods are diverted to private sector. This private sector expenditure of corrupt money generates income and employment disproportionately for the rich than the poor. Corruption diverts resources from rural to urban sectors. Most bureaucrats, political leaders and corruption intermediaries live in the urban areas. Their expenditures create urban jobs than rural employment. Their expenditures create more demand for luxury goods and goods that have strong urban preference. This induced demand makes urban investment more profitable than rural investment. Thus, rural development falls behind urban development, keeping rural poverty in the 'chokehold' of deficit demand.

Corruption rate is generally higher in rural areas due to poor knowledge of government projects along with low social capital to challenge leakages and inefficiencies. Supervision of rural projects is generally poor, with frequent stories of expenditure on projects without implementation. The rate of corruption in rural areas frequently makes rural projects non-operational and with significant over-runs. An effective local government in Bangladesh may have positive implications for project implementation. Furthermore, rural projects are generally small and generally not well designed and beneficiaries not well integrated. This facilitates a higher rate of corruption in rural development

projects which hurt more the cause of the poor than the rich. The impact of corruption on growth and poverty can now be summarised below:

Time Period	Direction of the Impact of Corruption		Remarks
	Impact on Growth	Impact on poverty	
Short/medium-term	0 to positive	Negative	Impact on growth is positive when capital flight is small and surplus capacity of infrastructure exists
Long-term	Negative	Highly negative	Always

6.4 Targeted Public Programmes for the Poor

6.4.1 National Targeted Programmes

Bangladesh has a number of targeted public programmes designed to provide aid to the poor at times of hardships and natural calamities. The PRSP recognises this type of programme keep the poor active but do not serve as permanent solution to poverty reduction. Distribution of food and provision of employment through programmes like Vulnerable Group Development (VGD), Vulnerable Group Feeding (VGF), Food-For-Work (FFW) and other similar programmes (e.g. food for education, rural maintenance programmes, old-age pensions), comprise the elements of targeted programmes for the poor. It is estimated that these programmes, at peak years of operations, cost the government about 4-6 percent of public expenditure. But such costs fall dramatically during normal years or years free of severe natural disasters; the cost comes down to about one percent of total public expenditures during normal times.

Effectiveness of these types of targeted programmes have been widely studied, as reported previously under the section "Empirical Evidences on Corruption". When properly designed, these programmes have been found to be reasonably effective and government has acted wisely to shut down very ineffective ones (e.g. rationing programmes) and initiate new programmes (e.g. food for education) in order to provide assistance to the poor in times of calamities and hardships. Some people have argued that the leakage from the targeted programmes are quite high in reality, and instead of wasting resources on targeted programmes for relief, government should take up targeted programmes of production, involving these poor and based on farm and non-farm activities in rural areas. This line of argument had moved the government to initiate a number of special projects under ADP for increasing production through poor producers without abandoning the targeted food distribution and

employment creation programmes (see [Table 6.8](#)). It is clear from the table that such projects are sponsored and implemented primarily by the rural development ministry. The effectiveness of these projects in poverty alleviation is questionable. We have seen that targeted food distribution and employment creation programmes, on average, have a probable leakage rate of 30-40 percent. We suspect that the targeted ADP projects for the poor may even have a larger leakage rate and lower effectiveness in alleviation of poverty.

Table 6.8 Specific Projects Targeting Poverty Alleviation in Bangladesh, 2000/01

No. in ADP Document	Project Title ¹	Annual Average Allocation (million Tk)	Agency
158	Livestock Program for Poverty Alleviation	5.0	DLS
133	Coordinated Fish Production for Poverty Alleviation	40.0	DOF
49	Poverty Alleviation through Regional Development	1.0	DAE
1	Local Participation in Poverty Alleviation	10.7	BRDB
2	Social Empowerment for Poverty Alleviation	12.3	BRDB
3	Agenda for Alleviation of Rural Poverty	442.3	BRDB
4	Self-employment Provision for Poor Rural Women	26.0	BRDB
5	Rural Livelihood Project	300.0	BRDB
6	Local Participation for Strengthening Projects for Poverty Alleviation	25.4	BRDB
7	Development of Small Farmers and Share Croppers	1.0	BRDB
10	Rural Development 5: Productive Employment	68.2	BRDB
11	Bangu Bandhu Poverty Alleviation Training Complex	57.0	BRDB
12	RD-9: Productive Employment	10.2	BRDB
14	Social Empowerment through Participation at Grass Root Level for Poverty Alleviation	45.6	RD Academy
16	Small Farmer Landless Laborer Project	19.2	RD Academy
17	Evaluation of Poverty Alleviation Programs	3.0	RD Academy
66	Shelter for Landless: Housing and Employment for Poor	1120.0	Prime Minister's Office
67	Strengthening Village Organizations for Poverty Alleviation through Investment Funds in Kishoreganj Sadar Thana.	138.7	Cabinet Division

Note: ¹Projects in the Agriculture and Rural Development sectors only. Specific targeted programs in other sectors are generally very few and small.

Source: Compiled from ADP documents.

When we had argued earlier that operation of effective local government is a necessary condition for reduction of poverty, it is the effectiveness of the targeted programmes described here that we had partly in mind. This type of specific programmes and projects are not effective in alleviation of poverty unless they are designed and implemented by local governments. Central government can extend technical know-how and resources to local governments but the execution authority should be vested with the local governments. It is also frequently argued by the central bureaucracy that transfer of executing authority to local governments will increase leakage. As we have shown earlier, use of “leaked resources” in rural economy will be more favourable to the poor than the use of leaked resources from centrally managed projects going mainly to the urban areas.

6.4.2 Proposal for a Regional Targeted Programme

The chapter began with emphasis on strategy for poverty reduction. A smart strategy, even in the midst of a weak implementation capacity, can achieve more commendable results than that with a faulty strategy but strong implementation environment. We hinted that a strategy for poverty reduction in the Rajshahi Division, centered on development of industrial and commercial hubs could constitute a strategic path for achievement of PRSP goals. Here, we would like to pinpoint specific public interventions for realisation of the idea; obviously the outline will remain very brief and indicative. The idea can be appropriately titled as “Development of Industrial and Commercial Growth Corridor in the North and Western part of Bangladesh”. Such a slogan is indicative of the raw idea even though it lacks necessary specificity. The broad elements are, however, encapsulated in the following areas of public initiatives:

- (i) Develop an **industrial hub** based on new-found mineral resources (e.g. coal) in northern Bangladesh. A proposal like that by the Tata Company for development of such a hub could serve as a starting point.
- (ii) Revitalise industrial development in Khulna which was thriving industrial zone only a few years ago. Particularly, develop the **Mongla Port** to make it a world class shipping port. Mongla port has been allowed to gradually become non-functional in recent years. The trend should be reversed.
- (iii) Develop a **transportation corridor** linking northern industrial hub and southern Mongla port.
- (iv) Develop **wider transport links** with adjoining areas of India, Nepal and Bhutan by river, rail and road.

In addition, promote development of subsidiary hubs along this corridor, based on known potentials of industrial centers, such as processing of horticulture products by private industries, turning the sugar mills, which are unviable, into small and medium scale manufacturing centers and establishing export processing zones. Such subsidiary hubs of industries and commerce would be necessary to make the corridor economically viable. Work at political levels with India, Nepal and Bhutan to develop physical links with these countries for trade and industrial development with mutual benefits. This will enable the Mongla port to serve not only the corridor but also northern part of west Bengal, Nepal and Bhutan. If the broad idea captures the imagination of policy makers, a follow up action should begin with a carefully organised feasibility study by the government.

Appendix Table 6.1: Harvest and Peak Season Rice Price and Wage Rate in Selected Districts in Bangladesh, 2000

Districts	Nominal Wage Rate ¹ (Tk/day)		Nominal Rice Price ² (Tk/kg)		Real Wage Rate (Kg of rice/day)	
	January ³	September	January	September	January	September
Chittagong	84.00	88.00	10.11	10.25	8.31	8.59
Dhaka	71.00	77.00	11.45	10.50	6.20	7.33
Barisal	69.00	71.00	11.44	10.00	6.03	7.10
Khulna	61.00	62.00	10.90	10.75	5.60	5.77
Bogra	54.00	56.00	11.40	11.16	4.74	5.02
Rajshahi	52.00	53.00	12.00	10.25	4.33	5.17
Dinajpur	47.00	47.00	11.49	10.19	4.09	4.61
Rangpur	46.00	46.00	10.89	9.93	4.22	4.63
Kurigram	45.00	42.00	10.65	9.91	4.22	4.24
Lalmonirhat	45.00	42.00	10.87	9.92	4.14	4.23

Note: ¹Nominal wage rate relates to that of unskilled agricultural labour (casual labour), without food.

²Nominal rice price relates to coarse quality rice.

³January is considered to be the harvest time and September the peak rice price season. The pattern of seasonal price of rice has changed due to technological progress.

Source: Developed from data available with the Bangladesh Bureau of Statistics (wage data) and the Department of Agricultural Marketing of the Ministry of Agriculture (rice price data).

Appendix Table 6.2: Harvest and Peak Season Rice Price and Wage Rate in Selected District in Bangladesh, 2001

Districts	Nominal Wage Rate ¹ (Tk/day)		Nominal Rice Price ² (Tk/kg)		Real Wage Rate (Kg of rice/day)	
	January ³	September	January	September	January	September
Chittagong	90.00	97.00	11.04	10.68	8.15	9.08
Dhaka	76.00	76.00	10.83	10.82	7.02	7.02
Barisal	70.00	74.00	11.53	11.13	6.07	6.65
Khulna	63.00	63.00	11.04	10.63	5.71	5.93
Bogra	56.00	50.00	10.47	10.68	5.35	4.68
Rajshahi	54.00	55.00	10.79	10.81	5.00	5.09
Dinajpur	48.00	50.00	10.84	10.29	4.43	4.86
Rangpur	46.00	43.00	10.52	10.25	4.37	4.20
Kurigram	45.00	42.00	10.33	10.08	4.36	4.17
Lalmonirhat	46.00	42.00	10.65	9.95	4.32	4.22

Note: ¹Nominal wage rate relates to that of unskilled agricultural labour (casual labour), without food.

²Nominal rice price relates to coarse quality rice.

³January is considered to be the harvest time and September the peak rice price season.

Source: Developed from data available with the Bangladesh Bureau of Statistics (wage data) and the Department of Agricultural Marketing of the Ministry of Agriculture (rice price data).

Appendix Table 6.3: Harvest and Peak Season Rice Price and Wage Rate in Selected District in Bangladesh, 2002

Districts	Nominal Wage Rate ¹ (Tk/day)		Nominal Rice Price ² (Tk/kg)		Real Wage Rate (Kg of rice/day)	
	January ³	September	January	September	January	September
Chittagong	101.00	105.00	11.85	13.08	8.52	8.03
Dhaka	76.00	80.00	12.06	12.56	6.30	6.63
Barisal	76.00	80.00	12.64	13.20	6.01	6.06
Khulna	64.00	75.00	11.44	12.68	5.59	5.91
Bogra	58.00	60.00	11.85	12.85	4.89	4.67
Rajshahi	54.00	60.00	12.60	12.81	4.29	4.68
Dinajpur	50.00	50.00	11.70	12.28	4.27	4.07
Rangpur	46.00	47.00	10.74	12.44	4.28	3.78
Kurigram	44.00	45.00	11.56	11.93	3.81	3.77
Lalmonirhat	43.00	43.00	11.33	12.25	3.80	3.51

Note: ¹Nominal wage rate relates to that of unskilled agricultural labour (casual labour), without food.

²Nominal rice price relates to coarse quality rice.

³January is considered to be the harvest time and September the peak rice price Season.

Source: Developed from data available with the Bangladesh Bureau of Statistics (wage data) and the Department of Agricultural Marketing of the Ministry of Agriculture (rice price data).

Appendix Table 6.4: Harvest and Peak Season Rice Price and Wage Rate in Selected District in Bangladesh, 2003

Districts	Nominal Wage Rate ¹ (Tk/day)		Nominal Rice Price ² (Tk/kg)		Real Wage Rate (Kg of rice/day)	
	January ³	September	January	September	January	September
Chittagong	106.00	107.00	13.79	14.71	7.69	7.25
Dhaka	85.00	85.00	12.93	13.91	6.57	6.11
Barisal	81.00	82.00	13.09	13.67	6.19	6.00
Khulna	76.00	75.00	12.83	13.06	5.92	5.74
Bogra	62.00	65.00	13.51	13.25	4.59	4.90
Rajshahi	62.00	64.00	13.66	14.38	4.54	4.45
Dinajpur	53.00	55.00	12.90	12.94	4.11	4.25
Rangpur	50.00	53.00	12.40	12.43	4.03	4.26
Kurigram	48.00	50.00	12.20	12.50	3.93	4.00
Lalmonirhat	48.00	48.00	12.88	13.21	3.73	3.63

Note: ¹Nominal wage rate relates to that of unskilled agricultural labour (casual labour), without food.

²Nominal rice price relates to coarse quality rice.

³January is considered to be the harvest time and September the peak rice price Season.

Source: Developed from data available with the Bangladesh Bureau of Statistics (wage data) and the Department of Agricultural Marketing of the Ministry of Agriculture (rice price data).

Appendix Table 6.5: Harvest and Peak Season Rice Price and Wage Rate in Selected District in Bangladesh, 2004

Districts	Nominal Wage Rate ¹ (Tk/day)		Nominal Rice Price ² (Tk/kg)		Real Wage Rate (Kg of rice/day)	
	January ³	September	January	September	January	September
Chittagong	108.00	110.00	13.05	14.05	8.28	7.12
Dhaka	80.00	83.00	13.20	13.66	6.06	6.07
Barisal	85.00	83.00	12.84	13.81	6.62	6.01
Khulna	71.00	70.00	12.17	13.44	5.83	5.21
Bogra	60.00	60.00	13.04	13.55	4.60	4.43
Rajshahi	60.00	60.00	12.83	13.69	4.38	4.38
Dinajpur	50.00	48.00	12.41	12.43	4.03	3.86
Rangpur	48.00	46.00	12.01	12.30	4.00	3.74
Kurigram	46.00	45.00	11.24	12.65	4.09	3.56
Lalmonirhat	46.00	45.00	11.20	12.56	4.10	3.58

Note: ¹Nominal wage rate relates to that of unskilled agricultural labour (casual labour), without food.

²Nominal rice price relates to coarse quality rice.

³January is considered to be the harvest time and September the peak rice price Season.

Source: Developed from data available with the Bangladesh Bureau of Statistics (wage data) and the Department of Agricultural Marketing of the Ministry of Agriculture (rice price data).

Appendix 6.1

**Method of Estimation of Annual Contribution of Public Expenditure
in Agriculture and Rural Development (AGRD₁) to
Growth Rate of Agricultural GDP**

1. \overline{RR} = Weighted average rate of return of development expenditure in agriculture and rural development and incentives through revenue budget

$$\overline{RR} = \sum_i^n (RR_i * a_i)$$

Where: RR_i is the rate of return of i th category of expenditure and a_i is the share of the category of expenditure in the $AGRD_1$

i	=	varies from 1 to 4
1	=	Infrastructure
2	=	Technology
3	=	Institutions
4	=	Incentives/Transfers

2. Contribution of $AGRD_1$ to Agricultural GDP = G (measured in crore takas)
 $AGRD_1$ also measured in crore takas
 Trend Value of $AGRD_1$ (2003/04) = 3300 crore taka
 Trend Value of AgGDP (2003/04) = 65957 crore taka

$$G = (\overline{RR} * AGRD_1)$$

3. Incremental growth rate due to $AGRD_1$ = q

$$q = \left(\frac{G}{AgGDP} \right) 100$$

4. The values of \overline{RR} and RR_i & a_i , assumed for estimating two alternatives of RR_i , are considered as follows:

Expenditure Categories	RR_i	RR_i	a_i (weights)
	Alternative ₁	Alternative ₂	
Infrastructure	25%	20%	66%
Technology	50%	50%	20%
Institution	20%	15%	8%
Incentive/Transfer	15%	10%	6%

5. q (alternative 1) = 1.45 percent/year
 q (alternative 2) = 1.25 percent/year
6. The trend annual growth rate in agricultural GDP during 1994/95 – 2003/04 was 3.3 percent.

Chapter 7

Institutions, Rural Credit and Input Subsidies

In the previous chapters, we have examined public investments for development and the impact of such investments on growth and poverty. We have focused particularly on public investments for rural prosperity. It has been pointed out that such public investments are made to create an enabling environment and infrastructures for the private agents of production and consumption so that they come to make best uses of their resources. This interface between public and private investments produces maximum outcome when public investments are complemented with responsive developmental institutions. Some of these required institutional complements already exist, some warrant modifications and some need to be created in order to provide the optimal conditions for increasing output and ensuring welfare of the rural people. Solutions of agricultural and rural problems of Bangladesh are generally sought in institutional reforms, particularly institutions dealing with rural credit and input subsidies. Effectiveness of institutions depends on how well their operations are coordinated. Institutional policies relevant for rural prosperity and the mechanism for coordination across institutions constitute the subject matter of this chapter. The area is vast and we have exercised our judgment in selecting a few that, in our view, warrant priority consideration.

7.1 What is an Institution?

While we presume that institutions matter, such a statement is meaningful only with a common understanding of institutions. What are institutions? Can they be identified with statutory laws, informal norms, established organisations, contracts, people's mindsets or a combination of these? Different theorists use quite different definitions, with emphasis on different aspects. According to the theory of institutions (see Gabre-Madhin, 2003), some of the key differences among the various definitions include: (i) the degree to which rules and organisations coincide; (ii) their

degree of formality; (iii) their creation at a specific time and place versus their evolution from diffused sources; and (iv) their universality. Using the analogy of the economic process as a game, Aoki (2001) distinguishes four distinct, though related, meanings: institutions as either the players in the game, the rules of the game or the equilibrium strategies of the players in the game, and institutions as self-enforcing systems of shared beliefs of players in the game.

7.1.1 Institutions as Players of the Game

In this view, in layman's term as well as for some economists, institutions refer to specific "players" or organisations such as industry associations, technical societies, courts, and government agencies (Nelson, 1994).

7.1.2 Institutions as the Rules of the Game

In this view, North (1990), argues that institutions should be the (exogenously given) rules of the game, distinct from the players. Thus, institutions are "the rules of the game in a society, or more formally, the humanly devised constraints that shape human interaction" (North 1990). These constraints can be informal (taboos, sanctions, customs, traditions, and codes of conduct or formal (constitutions, laws, property rights, etc.). Over history, institutions have been devised to create order and reduce uncertainty in market exchange (North, 1981). These constraints are necessary because there are costs of transacting that are associated with the lack of information, or a great number of unknown market actors, making non-cooperation a possibility. In game theoretic terms, effective economic and political institutions raise the benefits of cooperation and increase the costs of defection.

North makes a critical distinction between institutions and organisations. He distinguishes the rules from the players, noting that while the purpose of rules is to define the way the game is played, the purpose of the players is to win the game. He defines organisations as either political bodies (i.e., political parties, city council, regulatory agencies); economic bodies (firms, trade unions, cooperatives); social bodies (church, clubs, sport association); educational bodies (schools, universities), all as groups of individuals bound by some common purpose. Thus, in his view, the analysis of the strategies of individual players must be separated from the analysis of the underlying rules of the game. North's conceptualisation of institutions is concerned with both failures and successes in evolving the necessary political and economic institutions to enforce the rules of the game and to induce productivity

growth. North's historical analysis of institutional evolution of long distance trade in Europe highlights how the increasingly complex organisation of markets was due to specific institutional innovations that reduced transaction costs. These innovations evolved from the interplay of two major economic forces: the economies of scale associated with growing trade volumes and the development of improved mechanisms to enforce contracts at lower costs. The State played a major role in this process.

7.1.3 Institutions as Equilibrium Strategies of Players

In contrast to North, whose definition of the rules of the game can be considered as exogenously driven (both in the sense of origin as well as change through conscious third party design), a third view, defined as the "equilibrium of the game" notion of institutions (endogenously determined rules), has been forwarded earlier by Schotter (1981), Sugden (1986) and more recently by Aoki (2001), among others. This view builds on game theory and evolutionary biology to develop an evolutionary game approach, in which a convention of behaviour establishes itself without third party enforcement or conscious design. That the 'endogeneity' of institutional evolution fails to explain many institutional changes, particularly in the context of developing societies, has remained to be a potent factor against the acceptability of this view.

7.1.4 Institutions as Self-sustaining Systems of Shared Beliefs

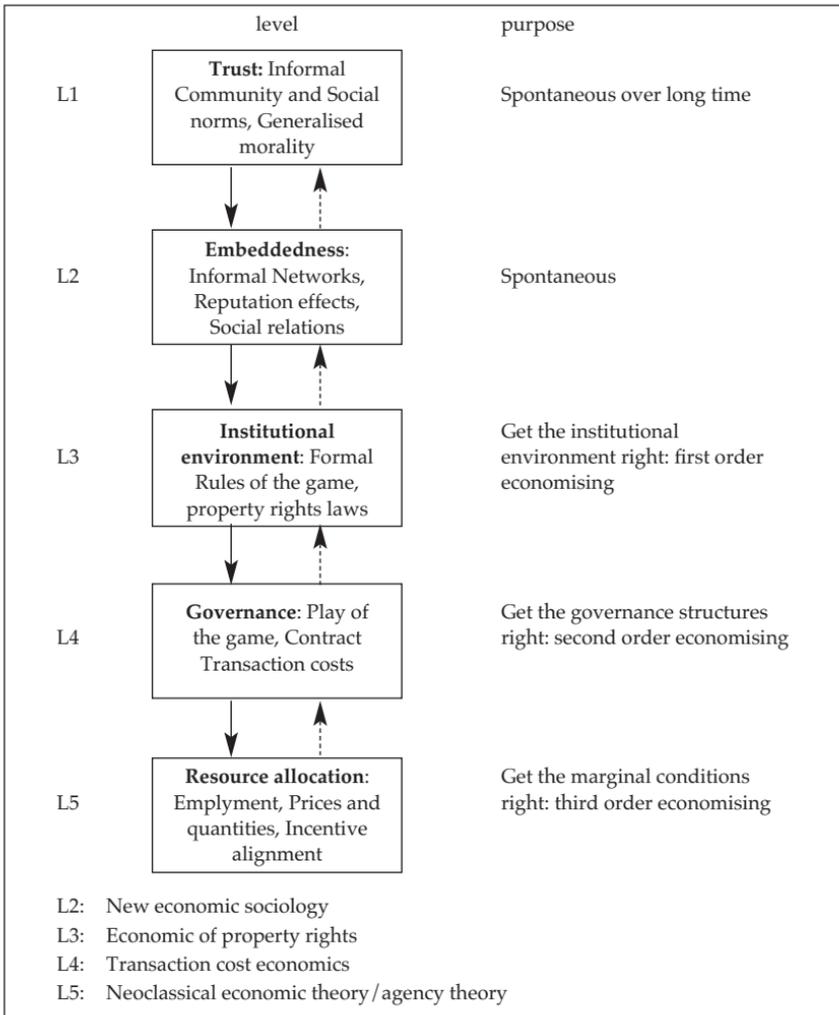
To overcome a number of adverse criticism against the endogenously-determined view of institution, Aoki (2001) develops an alternative definition that enables a better understanding of the diversity of institutions and the process of institutional change. This approach views an institution as a "self-sustaining system of shared beliefs." This approach views the rules of the game as determined endogenously through the strategic interaction of agents, held in the minds of agents and thus self-sustaining. Accordingly, an institution is the product of long-term experiences of a society of bounded rational and retrospective agents.

7.1.5 New Institutional Economics

The divergent views on the definition of an institution are often the results of disciplinary differences in explaining a problem or concept. Neoclassical economists, because of the Smithian faith in "invisible hands" that ultimately solve most problems, have ignored the

institutional sides of market operations. A group of economists like Coase (1960), Arrow (1962), Stiglitz (1985), Williamson (1985), North (1990) and many others have made attempts to develop a common approach to include treatments of institutions within the neoclassical framework. This is generally known as the New Institutional Economics (NIE). Having emerged out of neoclassical economics, NIE both challenges and extends neoclassical theory but the boundaries of NIE are by no means clear cut. Several authors use terms to describe their work, such as “transaction cost economics” (Stiglitz, 1985). While essentially microeconomic in perspective, the NIE contains different strands, each with its own perspectives and approaches to analysing institutions. Bardhan (1989) classifies five strands of the literature: transaction cost economics, collective action, economics of imperfect information, economics of property rights, and the evolution of cooperation and norms. Other disciplines like political science, sociology, and anthropology have developed their own approaches to understanding and analysis of institutions. The NIE have attempted to integrate all the different approaches to studies on institutions. A summary of these attempts is depicted in [Figure 7.1](#). It is clear from this figure that institutions have attributes which are different at different levels and their analyses, accordingly, have to embrace disciplinary knowledge relevant for particular level or levels.

The brief review of the literature on institutions may appear to some readers as not so useful in the sense that the academic definitions often do not take into consideration the factors that are essential in the context of policy applications. In the context of policies, the separation of rule from organisation is not conceivable. A rule without a mechanism to enforce it and to coordinate with other rules, may simply be a toothless institution. The fact that there is a sharp divergence among academics about the definition of institution, simply as a rule versus a rule-cum-organisation entity is meaningful. In policy formulation on institutional development or change, focus must be placed on rule as much as the organisation that will enforce the rule. Similarly the focus on transaction costs and imperfect information tells the policy makers to understand the basic purpose of an institution. Would it reduce cost of transaction or correct the situation that generate imperfect information? At what levels an institution pertains to, should be understood before we begin evaluating a change or reform in institutions. With this positive note on the definitional aspects of institution, we would present some selected topics of institutional policies of Bangladesh. Selection is based on the



Source: Adapted from Williamson (2000).

Figure 7.1 Economics of Institutions

perceived priorities of these institutional policies in the context of public policies, public expenditure and rural prosperity in the country.

Some crucial institutional issues were addressed previously in Chapter 6. Because investments and institutional problems, pertaining to public investments in these areas, were so closely intermingled that their analytical treatments had to be conducted simultaneously. Thus, the

institutions of agricultural research, water resource development, local government and non-governmental organisations in rural areas were included in discussions on public investments in these areas. We include the remaining crucial issues of institutional development in this chapter. Coordination across various institutions is also highlighted in the chapter.

7.2 Development of Rural Credit Institutions

Importance of rural credit for mitigating production and consumption constraints in rural households has been recognised historically and continues to be so in contemporary rural economic scenes. After giving a brief historical account of the evolution of rural credit institutions, we would examine current structure of rural credit market, identify main issues of credit market development and indicate the needed directions of change or reforms in order for the rural credit market to play its desired role in enhancing rural prosperity.

7.2.1 Brief Account of the Past Development

A system of “taccavi” loan or distress loan used to be disbursed during the British rule in Bengal for helping poor people in times of their distress brought by natural calamities. Distribution of “taccavi” loan, at small interest rate, used to be handled by district level administration drawing from government treasury. The size of taccavi loan used to be small, serving mostly for symbolic purposes. Recognition of agricultural credit, as an agent of agricultural modernisation, came through the recommendation of Agricultural Commission of Pakistan in 1960. This commission was particularly organised to examine and report to the government the necessary actions that should be taken in order to increase agricultural production rapidly. For supply of agricultural credits to farmers, the commission recommended the establishment of an Agricultural Development Bank.

After independence of Bangladesh from Pakistan in 1971, the Agricultural Development Bank became the Bangladesh Krishi Bank (BKB). Later on, in mid-1980s, the government organised another specialised bank called Rajshahi Krishi Unnayan Bank (RAKUB), to provide agricultural credit to farmers of the Barind areas (Rajshahi Division). In addition to these two specialised banks, there was a network of cooperative banks to provide credits to cooperative members in rural areas. Thus, historically, the BKB, RAKUB and cooperative banks constituted the main institutions that were created and supported by the

government for supplying rural credit. These institutions together comprised the formal part of rural credit.

The largest part of the demand for credit in the rural areas was, however, met by informal credit system. Friends and relatives, traders and professional money lenders of various types had supplied most of the credit needs in rural areas. A credit survey (rural credit survey, 1987) found that only about 30 percent of total demand for credit by rural households was supplied by formal institutional sources and the remaining 70 percent of the demand was met by credit from informal sources, consisting of friends, relatives, traders and village money lenders. The bulk of the informal credit, about 78 percent, was supplied by friends and relatives at zero interest rate. Recently, the successful innovation of micro-credit, which started operations through the Grameen Bank in 1983, marked the beginning of a new era of rural credit in Bangladesh. The Grameen Bank model of extending credit to the poor, who were previously considered to be "unbankable", has been adopted by numerous NGOs in Bangladesh. Micro-credit model has also found acceptability in many countries across the world.

7.2.2 Present Structure of the Rural Credit Market

Technically, the present rural financial market (RFM) in Bangladesh can be classified as (a) formal, (b) semi-formal, and (c) informal. The formal sector includes regulated financial institutions. The semi-formal sector includes micro-credit institutions mostly organised by the NGOs. The informal sector includes private transactions falling outside the regulated banking framework. Informal sources consist of money lenders, traders; dealers in agricultural markets, shopkeepers, landlords, friends and relatives.

The formal sector consists of public sector banks, specifically the two agricultural banks (BKB and RAKUB); rural branches of nationalised commercial banks (NCBs); the largely member-owned Grameen Bank (GB); two cooperative networks (coops) and, to a very limited extent, a few private commercial banks. The GB is administratively autonomous and uses the group-lending model which is also used by most NGOs in Bangladesh. It was formally established as a bank with a special charter in 1983. Thus, operationally, GB resembles the semi-formal sector, but technically and legally it is a bank.

Another way of classification of rural credit institutions is to arrange them as: (a) publicly supported institutions, including NCBs, BKB, RAKUB, BRDB (Bangladesh Rural Development Board), Cooperatives, of the Comilla model and Cooperative Banks Ltd.; (b) member-based

micro-credit institutions, including GB, NGOs and PKSF (Palli Karma Shahayak Foundation); and (c) informal credit institutions like money lenders, traders, etc.

The extent and nature of operations of the informal institutions in rural credit market is largely unknown. Whether the informal credit market has contracted because of competition from micro-credit institutions is not known and yet to be discovered. A limited survey conducted in connection with a credit report in 1995/96 (World Bank, 1996), it was found that the borrowers obtained 56 percent of their credit from informal sources. The report cautions that the survey was extremely restricted to provide reliable information on the extent of informal credits in rural Bangladesh. Our analysis of the rural credit market is, therefore, based on formal and semi-formal segments of the market.

With the above clarification, the structure of rural credit market in 2004 is shown in **Table 7.1**. The public sector credit institutions share about 58 percent of the formal and semi-formal segments of the market; Grameen Bank and NGOs, including PKSF, that comprise the micro-credit sector of the market, share the remaining 42 percent. The share of NCBs is 13 percent, the share of BKB and RAKUB is 38 percent, and the share of cooperatives is 7 percent in the total 58 percent of the public

Table 7.1 Market Shares of various Formal and Semi-Formal Rural Credit Institutions in Bangladesh, 2004

Credit Institutions	Annual Disbursement of Credit		Annual Disbursement as % of Agriculture GDP
	(million Tk)	Share (%)	
1. Nationalised Commercial Banks (NCBs)	9051	12.9	
2. BKB and RAKUB	26409	37.8	
3. Cooperatives	5025	7.2	
Sub-total (1+2+3)	40485	57.9	6.1
4. Grameen Bank	18605	26.6	
5. NGOs	9721	13.9	
6. PKSF	1116	1.6	
Sub-total (4+5+6)	68811	42.1	4.4
7. Total	6141	100.0	10.5

Source: Computed from data:

1. Formal public institutions data provided by the Bangladesh Bank.
2. Micro-credit data provided by Credit Development Forum, an NGO, Dhaka.

supported institutions. Among member-based micro-credit institutions, Grameen Bank's share is about 26 percent, NGOs' 14 percent, and PKSF's share is about 2 percent in the total of 42 percent share of micro-credit sector.

7.2.3 Issues of Concern in the Development of the Rural Credit Market

Rural Credit Market is extremely segmented; different institutions have been created for servicing designated segments. There is little competition among these institutions in the rural credit market. As a result, the prospect of the evolution of a competitive credit market in rural areas is far-fetched. The World Bank (1996) credit report attempted to estimate an order of magnitude that the public supported credit institutions (PSI) covered in the outreach of their credit programmes. It came to a rough estimate that 0.6 million farm households or about 5 percent of the total farm households (12 million) have been served by PSI in 1995. Farm households, mostly large farmers and rural entrepreneurs (i.e. rice millers, storage owners, agro processing units etc.) generally receive credit from PSIs. Micro-credit programmes covered 19.3 million members, but only about 14.3 million active borrowers in 2004 (see [Table 7.2](#)). Micro-credit

Table 7.2 The Scale of Non-Government Microfinance Activity in Bangladesh

Micro-credit Institutions	Number of Members (millions)	Number of Borrowers (millions)	Outstanding Loan Portfolio (US\$ millions)	Member Savings (US\$ million)
Big Four				
Grameen Bank	3.6	3.95	803.63	212.87
BRAC	4.5	4.03	237.62	118.87
ASA	2.7	2.77	196.37	46.2
Proshika	2.8	1.54	11.55	24.75
Sub-total	13.7	12.29	1249.18	402.64
PKSF's other partners				
Other NGO MFIs	1.7	1.25	46.36	39.24
Sub-total	3.9	0.8	54.64	22.19
Sub-total	5.6	2.05	100.99	61.42
Total	19.3	14.34	1350.17	466.66
Big four as % of total	71	86	93	87

Notes: 1. Loan outstanding and member savings are cumulative figures.

2. Figures for the Big Four are from December 2004 and figures for other NGOs are from June 2004.

Source: World Bank, 2006a.

programmes extend credit services to poor households, mostly women, who are generally “unbankable” to most formal credit institutions. They often miss out on the extreme poor and provide much of the credit to the moderate poor. Extreme poor fall outside the purview of both formal (State) and non-formal (non-state) institutions and their poverty is further perpetuated by informal actors e.g. mohajons who supply credit at extortionate rates, further deepening their state of poverty.

Therefore, it is quite evident that farmers belonging to the medium group, i.e. operating 1.5 to 5.5 acres of land, and small rural entrepreneurs, (including mid-size entrepreneurs) are missed by both the formal and semi-formal credit institutions. It is most likely that the informal credit institutions (i.e. traders, money lenders, friends and relatives, etc.) are still very active in the credit market to serve this group. A new credit survey would be very desirable to assess the emerging direction of rural credit market.¹

Government’s desire to extend agricultural credit to rural households and credit to entrepreneurs involved in agriculture related activities has a long history. This is a history of frustrations and wasteful endeavours. The extent of default in credit repayment and the low rate of recovery has been the norm in the PSIs (see [Table 7.3](#)) During the last 12 years, the recovery rate against the outstanding loan averaged only about 22.6 percent. The annual rate of increase in disbursement averaged 17.7 percent and the annual rate of increase in the amount of repayment was 12.4 percent. This gap in the rates of increase in disbursement and repayment resulted in accumulation of outstanding loan. As will be shown soon, this gap has been the responsibility of the government to fill through a mechanism of refinancing from the Bangladesh Bank. The difference, between disbursement of credit and repayment of credit every year, represents (at least on paper) the amount of net flow of credit into rural areas. In this regard, it is seen that net lending is only a small fraction of total disbursement. In 2003/04, for example, the net lending

¹ The World Bank (2008a) has completed a study entitled *Increasing Access to Rural Finance in Bangladesh: The Forgotten “Missing Middle”*. Main findings of the study are as follows: (1) “since the mid—1990s, Bangladesh’s banking sector has grown considerably. Despite the boom and government’s efforts to increase access in rural areas, rural financial markets have shrunk in relative terms. As a result, access to finance by micro, small and medium enterprises and marginal, small and medium farmers—the “missing middle”—remains limited which is significant because the groups are the engine of growth in rural Bangladesh in term of employment, contribution of GDP and prospects for future growth”. (2) “Government efforts to increase access have had mixed results. The importance of banks and cooperatives in rural lending has declined and the importance of MFIs has increased. Bank intermediation in rural areas remains limited, with banks transferring 0.5 taka to urban areas for each taka in deposits collected in rural areas. The largest providers of rural loans, BKB and RAKUB, are deeply insolvent”.

Table 7.3 Credit Operation of Public Supported Institutions¹ in Rural Credit Markets in Bangladesh, 1992/93 - 2004/05

Year	Total Disbursement (crore Tk)	Total Recovery (crore Tk)	Net Lending ² (crore Tk)	Total Outstanding (crore Tk)	Percent of Recovery against Outstanding (%)
1992/93	838.07	865.16	-27.09	5668.97	15.26
1993/94	1100.79	977.53	123.26	6200.04	15.77
1994/95	1490.38	1124.11	366.27	7045.22	15.96
1995/96	1481.63	1273.08	208.55	7769.07	16.39
1996/97	1517.30	1594.27	-76.97	8256.21	19.31
1997/98	1642.84	1699.07	-56.23	8515.04	19.95
1998/99	3005.92	1916.53	1089.39	9702.51	19.75
1999/00	2851.30	2996.29	-144.99	10648.90	28.14
2000/01	3019.67	2877.87	141.80	11137.26	25.84
2001/02	2954.91	3259.66	-304.75	11498.13	28.35
2002/03	3278.37	3516.31	-237.94	11913.35	29.52
2003/04	4048.41	3135.32	913.09	12705.96	24.68
2004/05	4956.78	3171.15	1785.63	14039.84	22.59
Annual average growth rate (%)	17.7	12.4	5.3	-	22.59

Note: ¹Public supported Institutions include nationalised commercial banks, BKB, RAKUB, and Coops (both BRDB coops and Samabay Bank).

²Net Lending = Disbursement - Recovery.

Source: Computed from data provided by Agricultural Credit and Special Programs Department of the Bangladesh Bank.

amounted to only about 22 percent of total disbursement. In reality, however, all the credit designated for rural areas does not go to the rural areas. There is a substantial amount of leakage to the urban and semi-urban areas.

Deposit mobilisation in rural areas has proceeded at a rapid rate. The deposit in the branches of commercial banks and special development banks increased by 60.3 percent between 1997/98 and 2002/03. However, only about 54 percent of this deposit in 2002/03 was used to advance as credit to the rural areas (Table 7.4). Furthermore, the share of deposits used as advance in the rural areas has declined from 68 percent in 1997/98 to 54 percent in 2002/03. This is no doubt a case of rural surplus being siphoned off for industrialisation. Such a route to development is

Table 7.4 Advances and Deposits in the Rural Areas of Bangladesh

(Million Taka)

Year	Advances	Deposit	Net	Advance as % of Deposits
1997/98	81268.0	119001.8	-37734	68.3
1998/99	93495.1	134361.3	-40866	69.6
1999/00	100132.1	160585.2	-60453	62.4
2000/01	97178.4	160193.4	-63015	60.7
2001/02	99953.3	199567.4	-77614	56.3
2002/03	102542.1	190787.1	-88145	54.0

Source: Computed from data obtained from BBS, *Statistical Yearbook*, 2004a.

not unusual. However, it is necessary to ensure that the “goose that lays the golden egg is not killed.”

PSI's unsustainable financial position is reflected in their continued advance of credit without concomitant recovery of outstanding credit. The PSIs have been distributing credit for poverty alleviation in addition to advancing credit for crops, irrigation, farm equipment, livestock and fisheries (see [Table 7.5](#)). A crop loan given to a farmer may also alleviate poverty, if the farmer is poor. A special category of credit for poverty alleviation by PSIs raises numerous questions. Are these consumption credits or credit to marginal farmers or non-farm poor households? Are the PSIs being used for distribution of doles? There is a widespread belief (as we experienced in discussions with assorted class of people associated with PSIs) that these institutions are being used for distribution of funds on political considerations. The cooperatives advanced 83.8 percent of their total disbursement in 2003/04 for poverty alleviations. It immediately conveys the message that these PSIs are in fact agencies for distribution of relief. If this is the purpose of the government, then that should be transparently declared so. Ambiguity of purpose often serves no purpose at all. The purpose for which a credit is advanced are the recorded purposes only. Banks keep this record on the basis of what borrowers promised they would use the credit for. Actual use is a matter of monitoring and field surveys that is seldom conducted.

A closer look into the operation of BKB, a major PSI in rural credit supply, is expected to shed further light on the sustainability of PSIs. [Table 7.6](#) and [Table 7.7](#) provide data on income and expenditure positions of Bangladesh Krishi Bank for the recent years. The extent of non-performing credits in the portfolio of Bangladesh Krishi Bank is also

Table 7.5 Credit Disbursement by Public Supported Institutions for various Purposes in Bangladesh, 2003/04

Bank/ Institutions	Total Target	Disbursement										Total Outstanding	Percentage of Recovery against Outstanding
		Crop	Irrigation	Agricultural Machinery	Livestock	Fisheries	Grain Storage	Poverty Alleviation	Others	Disbursement Total	Total Recovery		
Sonali	625.00	186.32	0.00	0.00	25.08	17.42	1.07	54.73	7.60	292.22	299.78	2028.90	14.78
Janata	400.00	109.64	0.00	0.03	5.86	4.96	0.31	96.36	128.01	345.17	206.97	809.04	25.58
Agrani	400.00	74.09	0.00	0.06	22.71	8.92	0.41	147.32	4.35	257.86	289.54	885.30	32.71
Rupali	20.00	0.00	0.00	0.00	1.90	2.17	0.56	5.18	0.00	9.81	8.10	31.43	25.77
Sub-total	1445.00	370.05	0.00	0.09	55.55	33.47	2.35	303.59	139.96	905.06	804.39	3754.67	21.42
BKB	1705.00	1024.27	4.01	9.87	152.41	70.00	413.59	68.16	221.83	1964.14	1304.59	5583.78	23.36
RAKUB	700.00	374.28	0.26	5.47	40.44	3.67	0.00	227.39	25.22	676.73	626.02	1737.50	36.03
Sub-total	2405.00	1398.55	4.27	15.34	192.85	73.67	413.59	295.55	247.05	2640.87	1930.61	7321.28	26.37
BRDB	518.94	76.06	0.00	0.00	0.00	3.54	0.00	420.97	0.00	500.57	395.19	1350.72	29.26
BSBL	10.00	0.44	0.00	0.00	0.00	0.00	0.00	0.00	1.47	1.91	5.13	279.28	1.84
Sub-total	528.94	76.50	0.00	0.00	0.00	3.54	0.00	420.97	1.47	502.48	400.32	1630.00	24.56
Total	4378.94	1845.10	4.27	15.43	248.40	110.68	415.94	1020.11	388.48	4048.41	3135.32	12705.95	24.68

Source: Agricultural Credit and Special Programs Department, Bangladesh Bank.

Table 7.6 Total Outstanding and Loan Recovery Position for Bangladesh Krishi Bank, 2000/01 - 2004/05*(Taka in million)*

Financial Year	Total Outstanding Loan	Classified Loan (non performing)		Recovery of Classified Loan (non performing)	
		Amount	Percent of Outstanding	Amount	Percent of Classified
2000/01	51380.3	28428.5	55	3911.1	14
2001/02	52107.2	27021.9	52	4214.0	16
2002/03	53266.8	24000.0	45	4686.0	20
2003/04	55980.0	24399.8	44	4945.0	20
2004/05	61251.3	24750.0	40	3216.1*	13

Note: *Decline in recovery is due to crop failure.

Source: Bangladesh Krishi Bank, Dhaka.

shown. The extent of non-performing credit in total portfolio varies from 40 to 55 percent. Non-performing credit means that such borrowers are no longer involved in activities for which credit was given and, in most cases they did not intend to repay the outstanding balance. It is generally believed that the politically engineered credit involves borrowers who seriously believe that the credit does not have to be repaid. This practice and the staggering default rate, combined with mismanagement by bank officials has turned Bangladesh Krishi Bank as a loss making institution (see Table 7.7). The financial condition of RAKUB (the second agricultural bank) is not much different.

In contrast to PSIs, micro-credit is provided to small investors and poor households who are mostly women. The rate of repayment of micro-credit ranges from 90 to 99 percents, even though the interest rate in micro-credit is about 12 to 18 percent as compared to only 8 to 12 percent in PSIs. The use of micro credit is highly business oriented. However, the investment in poultry, cattle fattening, dairy and high value crops are only moderate (see Table 7.8).

7.2.4 Future Direction for the Development of Rural Credit Institutions

The approach to development of rural financial market generally emphasises the creation of sustainable financial institutions that can provide a range of financial services based on client demand. The approach offers the opportunity to make a lasting contribution to the reduction of rural poverty, because people need access to financial market on a permanent basis. Government assumes that rural credit

Table 7.7 Income and Expenditure of Bangladesh Krishi Bank Over Time

(Tk million)

Financial Year	Income		Expenditure				Profit or Loss (-)	
	Interest Income	Others Income	Total Income	Interest Paid to Depositors	Expenditure on Liabilities of Bangladesh Bank	Other Expenditures		Total Expenditure
2000/01	3019.8	1119.8	4139.6	2765.6	959.3	2055.6	5780.5	-1640.9
2001/02	3363.2	424.5	3787.7	2943.7	1116.4	1648.3	5708.4	-1920.7
2000/03	3653.2	637.3	4290.5	2625.7	1222.4	1775.2	5623.3	-1332.8
2003/04	3685.6	512.9	4198.5	2622.7	1153.6	1829.8	5606.1	-1407.6
2004/05	3304.8	610.9	3915.7	2455.2	1187.9	2036.7	5679.8	-1764.1

Source: Bangladesh Krishi Bank, Dhaka.

Table 7.8 Sub-sector Loan Disbursement by Microfinance NGOs in Bangladesh

(Percent)

Sub-sector	December 1997	December 1998	December 1999	Average
1. Small Business	45.71	42.6	42.05	43.45
2. Agriculture high value crops	13.57	12.46	12.75	12.93
3. Food Processing	12.23	9.31	7.71	9.75
4. Livestock	11.66	18.41	20.01	16.69
5. Fisheries	4.27	4.6	4.83	4.57
6. Transport	3.83	3.31	3.28	3.47
7. Others	3.06	4.53	4.53	4.04
8. Cottage industries	2.82	2.66	2.97	2.82
9. Housing	1.87	1.49	1.34	1.57
10. Health	0.56	0.59	0.52	0.56
11. Education	0.05	0.04	0.01	0.03
Total	100	100	100	100

Source: Credit Development Forum (CDF), Dhaka.

market fails to function competitively on a sustainable manner. The unwillingness of commercial banks to open branches in rural areas is considered to be a sign of this market failure and hence the government takes upon itself the responsibility of directly providing services to rural people through specialised public banks. It is true that the rate of return from investment on banking is higher in the urban than in the rural areas. But as competition in urban banking increases and development of both physical and financial infrastructure expands, the rural market would become attractive to banks. Government intervention should be of the nature that paves the way for the development of the banking sector in the rural area.

The development of a well-functioning rural finance system rests on three pillars: (i) good policies, including an enabling legal, regulatory and supervisory framework; (b) financial and real sector infrastructure; and (c) strong institutions. That imaginative institutional development can rectify serious hurdles underlying market failures is evident from the Grameen Bank's experience, which has made the previously un-bankable population to be bankable on a sustainable basis. Institutional development is thus the only answer to credit market failures in Bangladesh. The government has a particular role, through appropriate approaches, to supply credit to rural areas in a manner that is consistent

with the long-run goal of creating sustainable rural banking institutions. The present practice of pumping funds without concern for institutional development is wasteful. However, there are signs that PKSF and the Grameen bank are fully aware of the long-run goals of creation of rural banks. PKSF, with the support of IFAD, ADB, and the World Bank, is experimenting with models for creating rural banking institutions.

PKSF has recognised the critical role of medium farms and rural enterprises for rural economic prosperity. It became strongly convinced, through its experience in rural operations, that the whole range of farm households owning 2 -7.5 acres of land and large number of small and medium size rural enterprises (estimate runs from 1-4 millions in number), constitute a group which does not have comparable access to formal financial institutions like those for small farms and enterprises through micro-credit NGO programmes and large farms and rural enterprises through commercial banks and publicly supported specialised financial institutions. This "the so-called missing middle" and their limited access to financial institution in rural areas have been known to the policy makers and practitioners for a long time and PKSF became convinced of their difficulties as it gathered experience in rural areas. These rural small and medium enterprises, many having links with farming business, represent the emerging pool of entrepreneurs in rural areas who are making and have extra-ordinary potential to make contributions to rural prosperity in Bangladesh.

The PKSF vision is to develop sustainable rural financial institutions in rural areas on business principles with efficiency that makes banks sustainable institutions. These rural banks would serve small, medium and large rural economic units with varied financial services. The large numbers of NGOs that are working in Bangladesh are not all sustainable in the long-run. Grameen Bank and ASA are particularly alert to the question of sustainability and have been pursuing strategies that would make them sustainable in the long-run. PKSF places emphasis on making the Micro Finance Institutions (MFI) to be self-sustained and viable in the long-run. For ensuring high level of efficiency in MFIs, these institutions are being organised, separating the functions of development from the functions of financial services, instilling the practice of transparent accounting and monitoring financial indicators. PKSF also foresees a scope of collaboration with commercial banks in its efforts towards creation of rural banking institutions in Bangladesh.

At present, PKSF has developed a network of about 200 Partner Organisations (POs). It is channelling financial resources through these non-profit partner organisations. It is estimated that NGOs, as well as

PKSF and the Grameen Bank, provide credit services to about 14 million clients in Bangladesh. The World Bank, ADB, and the International Fund for Agricultural Development (IFAD), have been providing financial support to PKSF for development of its programme. PKSF is conscious that the institution must become self-sustained as it uses help from international donors for initial development. The POs of PKSF finance micro enterprises up to Tk. 200,000 per borrower at interest rate of 12.5 percent per annum. It is planning and expects a large expansion of credit to crop and fish farms from this year. It has successfully completed a number of projects on credit to livestock sector for fattening of cattle and dairying. PKSF is also becoming active in providing credit in the “monga” areas as well as in areas affected by natural disasters.

PKSF foresees an increase of financial products that can be offered in rural areas. The sole business of advancing credit to borrowers can be diversified by accepting deposits for the purpose of financing credit to rural people. Restrictions on the diversion of deposit to urban areas would be a condition for diversification. Similarly, introduction of new products like insurance and money transfer facilities domestically, appear to have attractive potential. For progress along this line, establishment of rural banks would remain to be a cherished objective of PKSF. It would continue to strive for development of rural financial markets that would serve diverse demand for credit of rural producers, businessmen and consumers.

7.3 Competitiveness of Agriculture and the Role of Input Subsidy

During the early years of the twenty-first century, the appearance of Indian agricultural products like rice, wheat, fruits, vegetables, spices (onion and ginger), cattle, poultry and fish in the markets of Bangladesh had become quite visible and a subject of frequent discussion. The Minister of Agriculture of Bangladesh, in a meeting with FAO, UNDP and other international agencies in Bangkok, urged finding “ways to make agriculture competitive through policies” and emphasised that “further productivity growth in agriculture is constrained by higher cost of production in Bangladesh relative to the neighbouring countries” (FAO, Dhaka, March 24, 2004). The same year, the FAO, Dhaka, organised a mission for a review of the agriculture sector and the mission recommended steep increase in subsidy on fertilizers, diesel fuel for irrigation, as well as electricity for irrigation. At around 1991/92, fertilizer subsidy was eliminated but it was re-introduced in 1996 when a new

government came in power. At that time the fertilizer subsidy amounted to only Tk.100 crores. After the Bangladesh Ministry of Agriculture and FAO report of 2004, the amount of budgetary subsidy to fertilizer was increased to Tk.1, 300 crores in 2005/06 and is expected to remain at the same level in 2006/07 financial year (Presidents' address to Parliament, 2006). Retail fertilizer prices were increased in 2008, following substantial increase in international prices for fertilizer. Fertilizer subsidies in FY 09 are reported in **Table 7.9**, as well as subsidies for other selected products.

At this point, it is necessary to clarify that we are speaking here of budgetary subsidy, not economic subsidy. Economic subsidy would require estimation of subsidy by comparing with world prices of fertilizer, including world prices for natural gas that is used for production of urea in publicly-owned fertilizer factories. Bangladesh produces most of its requirement of urea fertilizer but has to import all the requirements of phosphatic and potassic fertilizers. In 2003/04, the country used a total quantity of 3.21 million tons of fertilizers.²

Table 7.9 Estimated Subsidies for Selected Products in FY 09 in Bangladesh.

Product Billion Taka	Estimated Subsidies		Subsidies on Budget	
	Billion Taka	Million US\$	Billion Taka	Million US\$
Power Total	5.6	81.4	4.0	58.0
Power Agriculture	0.1	1.3	NA	NA
Gas Total	7.7	112.2	4.3	63.4
Petroleum Total	16.9	246.2	61.1	891.4
Fertilizer Total	57.5	839.0	32.0	467.2
Urea Alone	51.4	749.8	NA	NA
Total Energy and Fertilizer	87.6	1278.8	101.4	1480.3
Other Subsidies*	30.2	440.9	30.2	437.7

Note: Since oil prices declined substantially in the latter part of 2008, the actual subsidies in FY 09 are likely to be lower than indicated in the table.

*Consists of food consumption, exports and others such as rural electricity, sugarcane and miscellaneous,

Source: World Bank staff estimates based on data from the Bangladesh Petroleum Corporation (BPC), Bangladesh Power Development Board (BPDB), Bangladesh Oil Gas and Mineral Corporation (BDGMC), also known as Petro Bangla, and the Ministry of Finance.

² Of a total quantity of fertilizers of 3.21 million metric tons distributed in 2003/04, urea constituted 72.0 percent, TSP 11.4 percent, single super phosphate 4.6 percent, DAP 2.8 percent, muriate of potash 7.5 percent, and minor fertilizers 1.7 percent.

Bangladesh is the second most densely populated country in Asia (see World Bank, 2004). It is generally true that countries with scarce land resources, relative to population, have to depend on food imports financed through exports of non-agricultural goods and services. However, in the early stage of development, even of a densely populated country, when it is moving towards industrialisation, agriculture generally plays a critical role in economic transformation. Bangladesh's agriculture is presently destined to play such a role and the concern of the Minister of Agriculture in respect of "how to make agriculture more productive and competitive" is well placed.

7.3.1 International Price Comparisons

Two inter-related concepts, comparative and competitive advantage, are frequently used in the evaluation of production and trade policies. The concept of comparative advantage measures the relative contribution of various agricultural products to value-added and farm income in agriculture. This measure indicates which areas of domestic production should be prioritised. It provides a criterion for choice in internal competition. The concept of competitive advantage provides an indicator as how a product is likely to fare in worldwide competitive market. It provides a criterion for choice in external competition, i.e. competition in export and import trade. It is this competitive strength in external market, particularly with respect to trade with neighbouring countries of Bangladesh that is the focus of this section.

The basic rule in the competition in the external trade is that a lower price wins in the trade game over competitors holding commodity with higher prices. However, this condition warrants a market free of ancillary supports or bans and trading on identical products (no quality differences). Generally, trade occur in a common currency (e.g. US\$) or involving an exchange rate between two different currencies that are acceptable to traders. The competitive position of Bangladesh rice relative to India and Thailand is shown in [Table 7.10](#). The quality of rice of Bangladesh is known as medium quality, which is considered similar to 15 percent broken rice of Thailand and parimal rice of India. Official exchange rates are used in converting country currency prices to a common currency of U.S. dollar. Trade with India is assumed to occur through land routes, whereas trade with Thailand can take place only through the ocean route. It has been shown that import from India through the land route is about 12-15 percent cheaper than import through ships (Ahmed, 2001).

Table 7.10 Comparison of Rice Price in Bangladesh with Neighbouring Countries

Year	Bangladesh wholesale	Thailand CIF Chittagong (15% broken)	India CIF Darshana*	(<i>US \$/ton</i>)	
				Ratio Bangladesh/ Thailand	Ratio Bangladesh/ India
1990/91	298	282	208	1.06	1.43
1991/92	286	284	253	1.01	1.13
1992/93	233	248	174	0.94	1.34
1993/94	240	266	240	0.90	1.00
1994/95	302	284	209	1.06	1.45
1995/96	293	361	240	0.81	1.22
1996/97	231	331	243	0.70	0.95
1997/98	269	297	258	0.91	1.04
1998/99	265	291	245	0.91	1.08
1999/00	227	214	215	1.06	1.06
2000/01	205	199	201	1.03	1.02
2001/02	210	201	200	1.04	1.05
2002/03	233	215	217	1.08	1.07

Note: *The incidental cost for transporting rice from Darshana border to Dhaka and other clearing cost was 6% of CIF value in 1998.

Source: Compiled from information in Dorosh et al. 2004.

What does the statistics in Table 7.10 reveal? The prices of rice were 15-40 percent higher in Bangladesh than in India during the years before 1994. Ban on private import prevailed in Bangladesh during that time. Rice trade was liberalised in Bangladesh in 1994, allowing private traders to import. Gradually, Bangladesh prices began to decline (in real terms) and have come closer to the world prices, including Indian rice prices. These adjustments in rice price are a result of not only trade liberalisation but also increased production. Rice in Bangladesh has indeed acquired a competitive strength protecting against large scale import from India in normal years; in calamitous production years, imports from India have provided a healthy stabilising influence. Bangladesh rice price has most often remained slightly lower than Thai prices, thus limiting the scope of import from Thailand on a commercial basis.

The fact that exchange rates between currencies can exert significant influence on trade and price level is vindicated strongly in the case of trade between India and Bangladesh. The exchange rate between Taka and Rupee in 1990 was one Rupee for two Takas. Due primarily to

aggressive depreciation of Rupee, the exchange rate has come down to one Rupee for Tk1.315 in 2003 (Ahmed, 2001). This change in exchange rate has made import from India more attractive than what would have been the case otherwise. Bangladesh can enhance its competitiveness by adjustment in the exchange rate, which is a subject of economy wide policies, not just a policy for rice or other agricultural products. A comparison of prices of other selected agricultural products between India and Bangladesh for a couple of years had demonstrated that prices in India were 25-50 percent cheaper than in Bangladesh, in terms of U.S. dollar. (Ahmed, 2005). This difference in price levels between the two countries is quite consistent with another indicator that measures the purchasing power of U.S. dollar among various countries. In establishing the basis for international comparison, the Purchasing Power Parity (PPP) dollar was formulated to compare incomes among countries. The World Bank had, through survey of price levels found that a dollar equivalent of Rupees could purchase about 27 percent more goods and services in 2001 than a Dollar equivalent of Takas.

7.3.2 Is Cost of Production helpful for Decisions on Subsidy?

After a brief examination of competitiveness of a product on the basis of comparison of output prices among competing countries, let us return to the question of fertilizer subsidy raised at the beginning. The Ministry of Agriculture urged for input subsidy on the grounds that cost of production of rice in Bangladesh was higher than the cost in neighbouring countries. Therefore, a subsidy on inputs was required to reduce cost of production and enhance competitiveness of agriculture of Bangladesh.

An analysis of the cost of production may not provide conclusive evidence on why some countries can offer a lower price than others, but it can provide enormous insight into the strength of countries in market competition. The cost of production of paddy in selected countries is shown in **Table 7.11**. From this table, a number of key cost statistics are developed and presented in **Table 7.12**. The costs of production statistics in five country locations demonstrate a wide variation and convey significant messages. Among these five country locations, the state of Punjab in India produces paddy at a cost of US\$47 per ton, followed by Thailand at US\$58 per ton and Vietnam at US\$63 per ton. Bangladesh and West Bengal of India produce paddy at costs of US\$89 and US\$92 per ton, respectively. The costs in various locations can be seen as reflections of varying conditions of production and relative resource endowment is one of such significant condition. Thailand, with abundant land relative to

Table 7.11 Cost of Production of Rice in Bangladesh and other Countries, 2000-2001

Item	India		Bangladesh		Thailand		Vietnam	
	Punjab (\$/ha)	W.Bengal (\$/ha)	(\$/ha)	(\$/ha)	wet (\$/ha)	dry (\$/ha)	wet (\$/ha)	dry (\$/ha)
Seed	12.04	16.64	9.93	18.46	25.79	20.03	21.35	21.35
Fertilizer and manure	50.11	39.72	77.20	25.71	57.06	56.91	59.08	59.08
Hired labor	80.61	192.14	167.98	30.44	27.33	102.02	104.42	104.42
Animal labor	0.25	9.93	14.64	-	-	-	-	-
Machine services	55.30	32.04	7.38	65.71	67.15	42.36	44.40	44.40
Insecticide	20.95	4.75	12.94	5.34	24.28	26.52	27.22	27.22
Irrigation charges	31.04	18.81	52.95	1.45	17.94	6.98	17.98	17.98
Interest on working capital	6.91	6.64	5.80	-	-	-	-	-
Other costs	-	-	-	3.23	4.10	-	-	-
Total variable cost (\$)	259.23	320.68	348.82	150.34	223.65	254.82	274.45	274.45
Yield/ paddy (ton/ ha)	5.46	3.48	3.92	2.29	4.17	3.68	4.71	4.71
Average cost (\$/ton)	47.48	92.15	88.92	65.74	53.62	69.28	58.22	58.22
Farmgate price of paddy (\$/ton)	117.11	113.36	136.42	100.23	91.52	103.42	100.95	100.95
Wage rate (\$/day)	1.48	0.91	1.23	5.21	1.64	1.64	1.64	1.64

(contd.)

(Table 7.11 contd.)

Item	India		Bangladesh		Thailand		Vietnam	
	Punjab (\$/ha)	W.Bengal (\$/ha)	(\$/ha)	(\$/ha)	wet (\$/ha)	dry (\$/ha)	wet (\$/ha)	dry (\$/ha)
Fertilizer price at farmgate (\$/ton)						165.00		170.00
Urea	106.00	106.00	116.00					
TSP	-	-	223.00					
DAP	203.00	203.00	267.00					
MP	98.00	98.0	214.00					
Electricity (\$/kwh)	0.023	0.013	0.053					
Diesel (\$/liter)	0.454	0.454	0.357					

Note: Surplus of rice supply in Punjab provides the trade competition with Bangladesh. The rice in Bangladesh represents the average of T.Aman (HYV) and *boro* (HYV). In the case of Thailand and Vietnam, labor cost includes imputed value of family labor and interest on working capital was not calculated.

Sources: (i) The costs of production in India is from Report of the Cost of Cultivation Studies, Agriculture Prices Commission, Government of India.

(ii) The Bangladesh costs of production data are based on 1997/98 field survey conducted by International Food Policy Research Institute (IFPRI), Washington, DC. The 1997/98 data on cost of production updated to 2000/01 by applying the input prices of 2000/01, and revising the yield figure slightly to reflect better production condition in 2000/01 relative to 1997/98.

(iii) Indian input prices are taken from Ashok Gulati, 2002. Indian wage data is taken from S. Bhalla, 2003.

(iv) Thailand and Vietnam data is adapted from Pingali, Hossain, and Gerpacio, 2001.

Table 7.12 Costs of Production for Paddy in Selected Countries in Asia, 2000/01

Item	India		Bangladesh	Thailand	Vietnam
	Punjab	West Bengal			
Average cost (\$/ha)	259.20	320.70	348.80	187.00	264.60
Average yield (ton/ha)	5.46	3.48	3.92	3.23	4.20
Average cost (\$/ton)	47.47	92.16	88.98	57.89	63.00
Share of hired labour in total cost (%)	31.1	59.9	48.2	15.4	39.0
Share of machine service (%)	21.3	10.0	2.1	35.5	16.4
Share of fertilizer (%)	19.3	12.4	22.1	22.1	21.9
Share of pesticides (%)	8.1	1.5	3.7	7.9	10.1
Share of irrigation (%)	12.0	5.9	15.2	5.2	4.7
Share of seeds (%)	4.6	5.1	2.9	11.8	7.8
Other cost (%)	3.6	5.2	5.8	2.1	0.1

Note: Average cost and yields relate to the average of wet and dry seasons.

Source: Computed from Table 7.11.

labour and significant progress in mechanisation of agriculture, has been able to produce rice at low cost even with a modest application of seed-fertilizer technology. The yield per hectare of paddy is the lowest in Thailand among the five locations. Thailand is able to produce at relatively low cost even if seed fertilizer technology is not so intensive, because of low labour cost made possible by mechanisation and low irrigation intensity. Punjab has moved well in all respects with highest yield among the countries, and Vietnam has compensated its shortfall in land-man ratios by technological inputs.

The yield per unit of land is clearly a dominant determinant of the cost of production, particularly in land-scarce situations. The higher yield leads to lower cost of producing a unit of output. It is the contribution of technology or the specific type of technology that enables total return to increase faster than total cost. Mechanisation in specific tasks, e.g. in harvest, land preparation, and transplantation, reduces average cost of production. Labour market imperfection including immobility of labour input, make wage cost rise faster than product prices. Thus mechanisation, in periods of peak labour requirement, causes sharp decline in overall cost of production.

Public subsidy policy does not seem to have as profound impact as public investment and structural factors on cost of production. This is demonstrated by the fact that, under the same subsidy environment, West Bengal has almost double the average cost of producing paddy as

Punjab. If prices of fertilizers in Bangladesh are reduced by subsidy to the levels prevailing in India, it is estimated to result in a reduction in average cost of production by roughly 3 percent.

One difference between Bangladesh, on the one hand, and India on the other, is the mode of irrigation. In Bangladesh, farmers provide more than 90 percent of irrigation privately through tube wells. This tube well irrigation is concentrated in the production of *Rabi* rice crop, locally known as *Boro* crop. In other countries, even in West Bengal, Kharif rice crop, grown mostly with irrigation from surface sources, is the dominant crop. Because need for supplemental irrigation is lower in Kharif than in *Rabi* season, the cost of irrigation is also higher for *Boro* rice in Bangladesh than in other countries. Why Bangladesh has not been able to use supplemental irrigation more widely? Why surface water use in Bangladesh is almost flat as compared to underground water? Answer to these questions bears immense implications for irrigation costs in Bangladesh. Irrigation in Bangladesh is mostly provided privately by farmers, but then why has about 10 percent of public development budget been annually spent on irrigation and water control and with what consequences? We subsidise public sector irrigation and water control 100 percent in Bangladesh as compared to about 55 percent in India.

Prices of inputs do make a difference in cost of production. The difference in average prices of certain inputs between Bangladesh and India are shown in [Table 7.13](#). Prices of urea fertilizer are slightly higher (8.6 percent) in Bangladesh than in India. Prices of phosphatic and potassic fertilizers are substantially higher in Bangladesh than in India (24-54 percent). Electricity for agriculture is also higher in Bangladesh. However, wage rate and diesel prices are significantly higher in India than in Bangladesh.

Table 7.13 Average Prices of Inputs in Bangladesh and India, 2001/02

Input	Bangladesh	India	Difference (%)*
Urea (\$/ ton)	116	106	8.6
TSP (\$/ ton)	223	–	–
DAP (\$/ ton)	267	203	24.0
MP (\$/ ton)	214	98	54.0
Electricity (\$/ Kwh)	0.053	0.023	56.0
Diesel (\$/ liter)	0.357	0.454	-27.0
Wage rate (\$/ day)	1.23	1.48	-20.0

Note: *(Bangladesh minus India)/ Bangladesh) X 100.

Source: Computed from Table 7.11.

7.3.3 *Some Issues on Fertilizer Subsidy*

Why is subsidy on fertilizer necessary? Interaction with policy makers indicates at least three reasons: (a) to enhance competitiveness of agriculture, (b) to induce farmers to use more fertilizers and thereby increase crop production, and (c) to enhance income of farmers who are mostly poor people. As discussed so far, subsidy on fertilizer does not seem to be an effective route to enhance competitiveness. Increased production through increased use of fertilizer depends on increases in supply of fertilizer and use by farmers due to inducement caused by subsidy. Increase in production may lead to increase in income. But increase in income may be achieved by other means which includes direct income transfer to farmers. Therefore, it is necessary to examine the transfer mechanism to ensure that subsidy transfer is at least as cost effective as that for income transfer.

Subsidy may not increase fertilizer supply, reduce prices, and increase use by farmers for a number of reasons. As mentioned earlier, urea fertilizer is produced by State-owned factories. The capacity of these factories is not dependent on subsidy as it does not increase supply. In fact government has not increased capacity of urea production for many years as several urea plants are old and have serious operational problems. Furthermore, natural gas supply is reduced or cut on ad-hoc basis, thereby, reducing urea production. In case of shortfall, government imports urea from the world market. This decision to import is not dictated by subsidy but short run emergency. The supply of phosphatic and potassic fertilizers are dependent on incentives to private importers because phosphatic and potassic fertilizer market has been completely liberalised. The import market for these fertilizers has an oligopolistic structure and the Association of Importers can extract a subsidy as a windfall gain from the government on their normal import level, without any increase in import. During the 2006 *Boro* season, the Association of Importers held back supply to market till the government disbursed subsidy on their existing imports. The government was ultimately obliged to release subsidy to importer. A mechanism to grant subsidy only on increased portion of fertilizer import had not been devised before adoption of the new policy for increased subsidy.

The distribution network of fertilizers is composed of appointed dealers who are expected to observe restrictions, including selling in designated areas and an indicated sale price to farmers. There is no capacity of the government to ensure that these rules are followed. A district level committee, headed by the DC is supposed to ensure strict

discipline in the distribution network. In reality, this has become the source of instability and rent seeking (see Appendix 7.1 on the subject, as reported in a national news paper). A closer look at the distribution structure of the fertilizer market is essential. With the present structure, it would be a folly to expect that farm level prices of fertilizer would fall if subsidy is increased but supply remains unchanged. A number of field visits in 2005 (see Shaukat Ali, *New Age*, 2005) have concluded that fertilizer subsidy did not percolate down to farmers in 2005.

In 1995, there was a crisis with supply and distribution of fertilizer in Bangladesh that caused a number of deaths of protesting farmers. Even in 2006 *Boro* season, scattered demonstration of farmers alleging unavailability of fertilizers in markets were reported in daily newspapers. The 1995 crisis showed that the crisis was related to supply of urea fertilizers and less to supply of phosphatic and potassic fertilizer. Does it mean that the government management of urea and private management of other fertilizers make a difference in the creation of crisis? It is true that farmers feel more agitated from short supply of urea than a short supply of other fertilizers because urea's effect on crop growth is more immediate and sharp than the effect of other fertilizers on crop growth. This behaviour of farmers is illusory because yield effect from marginal increases of fertilizer use is higher for other fertilizers than the yield effect from urea. This is a matter for the extension service of the government to correct.

This illusory attraction of urea to farmers has been partly responsible for a pricing policy of fertilizers that has created a shocking imbalance in the N:P:K ratio in fertilizer use. This imbalance is causing deterioration in the nutrient status of soil. Urea fertilizer has been receiving a 27 percent subsidy (2004) as compared to no subsidy in phosphatic and potassic fertilizers, all priced at world parity prices. The N:P:K ratio in the fertilizer use in Bangladesh was 1:0.37:0.11 in 1988-89 which had come down 1:0.17:0.10 in 1996/97 (Ahmed, 2001). When a comparison in N:P:K ratio is made between actual and recommended levels, the situation is equally disturbing; the actual N:P:K ratio in case of *Boro* rice crop in 1996/97 was 1:0.24:0.25, as compared to the recommended levels of 1:0.5:0.58. The excessive use of urea fertilizers, relative to phosphatic and potassic fertilizer, has been common and this distortion in N:P:K balance is partly the result of discriminatory pricing policy favouring urea over other fertilizers. If there is a valid case for subsidy (to improve natural resource management and soil fertility), it is for phosphatic and potassic fertilizers, not for nitrogenous fertilizers.

The complaint from farmers that they are often cheated by some dishonest and greedy traders by selling adulterated fertilizers is frequent. There is no mechanism to punish this type of crime, except, again, the dependence on Deputy Commissioners and his magistrates, who are always involved in hundreds of other things. These magistrates have weak legal bases to counter the crime. The fact remains that the practice of adulteration has not abated a bit.

Granting fertilizer subsidy is an issue that falls within the domain of fertilizer pricing policy. Fertilizer prices in Bangladesh cannot be maintained at levels far different from prices in neighbouring countries. Fertilizer trade in Bangladesh is being operated within an imperfect market structure, but dominated by private traders. Under this framework, whenever domestic prices are lower than the prices in neighbouring countries, smuggling of fertilizer have become rampant. The urea fertilizer is priced in Myanmar at about 85 percent higher than the price in Bangladesh. Although Indian average price of urea is roughly equivalent to that of Bangladesh, prices in Indian provinces adjoining Bangladesh are about 10 to 15 percent higher. This price incentive to smuggling is a forceful influence than the force Bangladesh border police can exert to prevent smuggling. It is a folly to increase fertilizer subsidy in order to lower farm level prices within an imperfect market structure.

Bangladesh spends Tk 1,300 crores from its annual budget on fertilizer subsidy amounting to Tk 1,083 per farm household (assuming 12 million farm households). A farm household, particularly those under 2.5 acres, would consider this amount to be a significant proportion of their farm income. If an amount of Tk.1,000 could be transferred to each farm household in cash annually, it would create a much stronger impact on agricultural production and farm income than subsidy, which in anyway, does not reach farmers. It is possible to effectively transfer this amount to small and marginal farmers (and other deserving farmers) through the equivalent of VGF cards in the rural areas of Bangladesh.

Agricultural input markets represent a set of institutions which are vital for agricultural growth, farm income and rural well-being. Government withdrawal, from fertilizer market, even if partial, does not imply that government can afford to remain oblivious to malfunctions in these markets. Government should develop a mechanism to monitor agricultural input markets so that timely actions are possible by government whenever unscrupulous events are emerging or likely to occur in not so distant a future. A special unit, relatively autonomous, lean but smart, should be established for such monitoring. Such a unit should be expected (a) to design fertilizer pricing policy, (b) monitor

price, supply, and demand situations in the market, (c) keep information on market behaviour at import levels and on distribution network, (d) design measures that can promote market competition, (e) inspect markets for detection of adulteration of fertilizers, (f) monitor practices of delivery of fertilizers at factory gates (for urea), and (g) world prices, supply etc on fertilizers. A unit of this type is considered to have the potential of bringing stability in agricultural input market, with returns far exceeding its cost.

7.4 Coordination across Institutions

In the literature on economic institutions, the role of coordination among organisations and economic agents has occupied a prominent place in reducing transaction costs and maximising the effects of institutions. It is often said that Ronald Coase started a quiet revolution in economics when he asked one of the most celebrated questions in modern economics: why does the firm emerge in the market economy? Coase's answer was that there are costs of using the price mechanism, which may be reduced or eliminated by entrepreneurial coordination (Aoki, 2001). This role of coordination is important indeed in market exchanges; it is equally important in maximising efficiency in public interventions for the purpose of accelerating economic development. Poor coordination is a direct reflection of weak governance.

In Chapter 2, we have shown that there are 45 ministries and heads of equivalent organisations within Government, each with over a dozen departments and agencies. They function in designated areas of public domain. Many of the functions of specific public offices require cooperation from one another in order to achieve their targets and outcomes for which they exist. Coordination is thus a critical element for success of public institutions or organisations. The truth is that the government recognises this critical role of coordination. Thus, the government formally designs various mechanisms for coordination. These mechanisms are instituted at various levels for mitigating level-specific needs for coordination.

At the highest level, the Cabinet, headed by the Prime Minister, coordinates activities of various ministries in the process of decision-making on major national issues. For advising the Cabinet, cabinet committees on specific economic and social issues (e.g. agriculture and rural development committee, finance and economic related committee, transport and communication policy committee, etc.) have been established as special committees that coordinate decision-making in special economic and social development arena. The Ministry of Finance

coordinates budgetary allocations, economic policies and resource mobilisation, including donor relations. Planning commission is particularly responsible for inter-ministerial coordination in processing of development projects. The Bangladesh Bank oversees and coordinates affairs related to financial institutions, including public and private banks and management of foreign exchange reserves.

Field level coordination is generally managed by the Deputy Commissioner at the district and by the Upazilla Nirbahi Officers (UNO) at the sub-district/Upazila levels. These formal arrangements of coordination are traditional mechanisms based on administrative hierarchy of government. Beside these traditional mechanisms there are many micro coordination problems that can make or break the achievement of crucial development effort. For example, the contract farming institution which is considered very innovative and vital for involving small farmers in export-grade agricultural production, require an elaborate mechanism of coordination. Coordination with exporters or processors, on the one hand, small farmers, NGOs, and credit organisations on the other, is a complicated task. The quality of coordination generally determines whether such innovative institutional arrangement would be successful or not.

7.4.1 Weaknesses in the Coordination System

The coordination mechanisms of government lack the effectiveness required for the tasks and demands of the State. A number of factors contribute to the weaknesses of coordination.

First, lack of inter-ministerial coordination often results in turf protection and securing resources.

Second, the ad-hoc committee mechanism fails to coordinate government efforts to effectively utilise public resources. Committee members are often occupied with their own functions and seldom undertake the rigor required to resolve issues. It is not uncommon to remain silent in order to avoid reforms or reconstitutions of their respective departments. There is a saying that if you want something to remain unchanged, form a committee and give the issue to that committee.

Third, personality carries a greater weight than merit. The Secretary or the Minister maybe able to change the course of discussion, allocation of resources or role of their respective Ministry within the composition of government due to their track record and the weight of their personality.

Fourth, the tradition of 'turf protection' and ill-conceived segmentation of departments/divisions/ministries, generally results in

lack of competition among agencies for achievement of excellence. Inducement of public administration to mutual competition for superior performance is a difficult task. Organisational arrangements of ministries and divisions can be specially designed to inculcate a spirit of competition. We shall return to this point when we discuss coordination problems in agriculture and rural development.

7.4.2 Coordination Issues in Agriculture and Rural Development

Agriculture and Rural Development functions of the government are scattered in a number of ministries. We present the case of agriculture which appears to bear significant adverse impact on potential growth arising from failing coordination among sub-sectors of agriculture. The Ministry of Agriculture is responsible only for the crop sub-sector and the Fisheries and Livestock sub-sectors are headed by an independent Ministry. Similarly, forest and environment sub-sector of agriculture is headed by an independent Ministry. These ministries are seldom amenable to effective coordination as has been experienced in the coordination of research under BARC. Coordinated efforts are judged to bear a higher growth potential than scattered efforts by sub-sectors. In BARC, the cooperation of fisheries, livestock and forestry and environment sub-sectors has remained less effective which has resulted in BARC remaining a coordination mechanism for research on crops. If the Ministry of Agriculture were headed by a senior minister and the sub-sectors of crops, fisheries, livestock and forestry were each headed by state or deputy minister then all the sub-sectors of agriculture would have developed a sense of belonging to agriculture, thereby facilitating mitigation of most of the problems of coordination.

During the 1980s, the markets for modern agricultural inputs were liberalised. Input subsidy was eliminated and imports of fertilizers were opened up to the private sector. Similarly, agricultural equipment could be imported by private traders without any restriction and private tube-well development spread very fast. This was the prime mover of technologically led growth of agricultural production in the country (Ahmed, 2000). However, a crisis in the supply and distribution of fertilizers in 1995 and the government favourably inclined towards granting of subsidy to farmers brought back some control on fertilizer market. Since then problems with fertilizer market have evolved into a festering permanent episode. Importers are accused of being oligarchs and farmers complain of shortage and high prices. Impure and adulterated fertilizers have caused damage to crops, the inappropriate NPK balance in the soil has seriously deteriorated soil fertility, and

similar unhappy incidences have become the order of the fertilizer market.

There are no effective mechanisms of coordination among urea factories, importers, dealers, extension staff and operators of intermediate fertilizer storage points. The task of coordination rests with no single body. On the other hand, use of other modern inputs like electricity, diesel and modern seeds has expanded among farmers. Smuggling of these modern inputs to Myanmar and India is reported to have accelerated with increased subsidy. The whole supply sector of modern agricultural inputs has become a destabilising force for agricultural production. There seems to be an institutional vacuum in the field of agricultural inputs for coordination and monitoring of input markets. The void left by the departure of the IFDC (International Fertilizer Development Center) has not been filled by any new organisation. Establishment of such an organisation for monitoring and coordinating input market behaviour in agriculture would exert a stabilising influence on use of modern inputs and growth of agricultural production.

Another area where a coordination mechanism could play a productive role for rural prosperity is the area of an institutional provision for ensuring planned use of land resources, which is a scarce resource in Bangladesh. Agricultural land is being used for roads and urban development in an unplanned manner. The agency for road development is planning its road network without economising on land use. Industrial use of land is expanding without consideration for alternate potential use of land. Rivers are being gradually turned into fields for construction of buildings. The need for water transport is being ignored. Brick kilns are turning agricultural land into barren tracts. A coordination among agencies involved in road development, housing, water transport development, industrial zones and environmental protection should be ensured so that alternatives are considered in their respective approaches of development in order to save agricultural land. Only such a mechanism of coordination would force consideration for alternatives.

The foregoing case of establishing a coordinating institution for land use planning is an example where an institution does not currently exist. Therefore, this is a case of potential coordinating mechanism that can add values to the economy through institutional innovation. The potential of creating values in the water sector through innovative institutions that link farmers (or farm organisations) with project structure of Bangladesh Water Development Board (BWDB) in its irrigation projects is similarly high. We have discussed earlier the shortcomings of BWDB's irrigation

projects. There, recommendations have been made to involve local government, Local Government Engineering Department (LGED), and farm organisations in the development of local Flood Control, Drainage and Irrigation (FCDI) schemes. Again, we confront the challenge of coordination among these organisations. If this coordination is not constructive and strong, the results could be no better than what we have been observing with the projects of BWDB. The coordination mechanism must be thoughtfully prepared whenever more than one institution or organisation are involved in a project, programme or policy.

*Appendix 7.1***Dealer Politics is the Main Culprit of Fertilizer Crisis (in Bangladesh)****By Kurratul Ain Tahmina and Golam Kibria***Prothom Alo, March 9, 2006*

"Fertilizer was given to my union. Four people took away 45 sacks of fertilizer ... and each of the sack at a cost of Taka 400. One of them is the BNP president."

"Fertilizer is being distributed on political basis."

"It is being seen that two vehicles of fertilizer came overnight. It is being said in the morning that one vehicle of fertilizer had come. Eventually it is being said that distribution of fertilizer is impossible because of so many people."

"The fertilizer dealers are selling out fertilizer secretly overnight at a higher price in open market ... I have bought few kilograms at a price of Taka 10 to 12."

Amidst deep crisis of urea during the current *boro* season, the desperate farmers of Keshabpur Upazila of Jessore described their experience in the above manner. The *Prothom Alo* reporters' investigations found the political involvement of dealers and anomalies in distribution as a major reason of the fertilizer crisis in different areas. Besides, selling of fertilizer in open market instead of bringing them to places earmarked, holding of more than one dealer license by one person in different names, appointment of retailers, lose vigilance in the distribution process were also found to have fuelled the crisis.

Deputy Minister for Industries, Abdus Salam Pintu, has denied the allegation that dealers were appointed on political considerations. But he, however, said allegations were received that the dealers did not perform their responsibilities properly in some places. Actions were taken against some dealers in southern region after such allegations.

Change of dealers with the change of government: Majority of the fertilizer dealers are leaders and workers of the partners of the ruling alliance and the main opposition party. The then BNP government had introduced the fertilizer distribution system through dealers in 1995. Several sources said state-run Bangladesh Chemical Industries Corporation (BCIC), entrusted with the charge of production and import of urea, had licensed 4,000 dealers at the fag end of the BNP rule. With the change of the government in 1996, nearly half of the dealers returned their dealer licenses.

The vacuum was filled up during the Awami League rule. Deputy minister for Industries claimed that only 100 dealers were appointed during the incumbent alliance government. Currently the total number of dealers is 4,750.

Farmers and residents of different areas have alleged that during the subsequent regimes, the ruling party activists were appointed as dealers but many of them were not professional businessmen. They take the advantage of their political identity but don't perform their specific responsibilities.

According to the local Agriculture Extension Department, the total number of dealers in northern Kurigram is 94. Of them 25 are district level political leaders of BNP, 14 are Awami League leaders, five are Jatiya Party (Ershad) leaders and three are Jamaat leaders.

In Meherpur, 24 of the 30 dealerships went to ruling BNP or front organisation leaders or their relatives.

One man, having different names, resides in town and becomes dealer in village: In many places more than one persons belonging to the same family or business organisation got the license using different names. There are several instances that a man who runs his business in the district headquarter, became the dealer of the Upazila, persons belonging to same business organisation became dealers of different Upazilas. On the basis of monthly demand, urea is allocated against every Upazila and given to dealers for distribution among farmers specifying the Unions.

Preferring anonymity an old dealer in Bogra said, few of the 147 BCIC dealers in the district were real businessmen. Majority of them reside in the district town. But they were licensed for their address in Upazila headquarters or villages. Many of them even do not have a stockroom or shop in their respective workplaces. Many of them sell out the government allocation letter ... and in such manner certain volume of fertilizer allocated for one Upazila is going to other Upazilas.

Probbhat Vhandra Saha is the dealer of Rajarhat and Phulbari Upazilas of Kurigram. He does not have any fertilizer at his shop at his work area. But his warehouse at Mollapara area of Kurigram town contains a huge quantity of fertilizer. Complains are there that 10 dealers were appointed for Rajarhat on political considerations. Only one of them is from local area and the rests are residents of Kurigram town. Similar situation is seen in Phulbari Upazila. These dealers do not move the fertilizer to the earmarked places. Kurigram District Fertilizer Association president Shamsul Islam Mondol said, "Those who are given the dealership are responsible for the situation".

It has been learnt that Meherpur district BNP vice president and district Fertilizer Traders' Association president Hafizur Rahman and his family members possess four dealerships. Rahman, however, said they possess three licenses.

In Feni, the total number of dealers are 57 and 14 of the dealerships belong to three families. Zahiruddin Babor of Babor and Brothers of Sindurpur Upazila got five and Abul Kashem family of sadar Upazila of Feni got six and Ashraf family of Fulgazi possess three dealership licenses.

Recently Bogra sadar Upazila has been split into two Upazilas. An agriculture official has complained that previously there were 21 dealers for the greater Upazila while 10 new dealers were appointed for the newly formed Shahjahanpur Upazila. But none of the 21 dealers were engaged in Upazilas despite the division of the sadar Upazila.

Retailer and sale of fertilizer in the open market: Beyond the scheduled 11 fertilizer dealers, the fertilizer and seed monitoring committee under the Upazila administration has appointed 94 sub-dealers or retail traders. Our correspondent

has informed that most of them were leaders and activists of ruling BNP, some of them belong to Jamaat and Jatiya Party and few were from Awami League too. Similar situation was reported from other districts.

None, including Deputy Minister for Industries Abdus Salam Pintu, BCIC Chairman Imamuzzaman and fertilizer traders forum Bangladesh Fertilizer Association, have admitted the allegation of appointment of sub-dealers. Under the existing rules, the BCIC enlisted dealers themselves are supposed to take fertilizer directly to farmers at 460 Upazilas of the country. But our correspondents have observed that the dealers do not bring the fertilizer to the remote areas. They sell the fertilizer to retailers at a higher price in the open market.

Local agriculture officials and marginal farmers have alleged that the dealers did not want to sell small quantity of fertilizer. Fertilizer dealer of Keshabpur sadar Uday Singh told the Prothom Alo “we can’t work as retailer. It is not possible to do so when the crowd is so huge.”

The retailers take advantage. The administration in many places took a tougher stand against these traders in view of the allegations of charging higher prices. But this eventually aggravated the sufferings of the farmers. The farmers said despite the higher price, they need the fertilizer as the cultivation season is running out.

Allegations are also found that the dealers even smuggle out fertilizer beyond the frontier. Noapara Bazar of Avoinagar Upazila of Jessore is the depository of fertilizer for the southwestern region. Many of the dealers sell the fertilizer in black market there. Officials preferring anonymity said the fertilizer crisis was intensified in February as the dealers sold out the allocation soon after they got the allocation in November-December. Dealer M Quamruzzaman, however, denied the allegation.

What about the monitoring?: Many have complained that the committee under the Upazila administration, entrusted with the responsibility to keep a vigil against the anomalies with fertilizer distribution, neglect their duties. Moreover, allegations have been raised that the ruling party leaders and activists dominated the committee as members during the current fertilizers. The administration, however, denied the allegation.

Our Keshobpur correspondent said, the Upazila administration has formed three teams to constantly oversee the supply and sale of fertilizer at Union levels. But five of the nine member committees were members of the ruling party.

Note: Translated from original Bengali version.

Chapter 8

Free Market and Public Intervention for Food Security

Food grain distribution to consumers is organised under two interacting systems: (a) free-market, and (b) public distribution through various channels to targeted consumers. These two systems have evolved over time in response to increasing production and expanding commercialisation of the economy. What have been the structure, conduct and performance of these systems, in normal times and in times of unanticipated natural disasters, are discussed in this chapter. Focus is placed on rice market because it is the most strategic commodity in the food basket of the people and because it mirrors the development of other food markets in Bangladesh (Chowdhury and Haggblade, 2000).

8.1 Rice Markets

8.1.1 Growing Scale

Since the 1960s, rice marketing has grown much faster than production. Driven by high-yielding varieties (HYVs), irrigation equipment, and fertilizer, rice production has almost trebled. But over the same period, farmers market share of production has jumped from about 12 percent to nearly 60 percent in the mid-2005 (Table 8.1). Market share has increased for a variety of reasons. On the supply-side, growing crop intensity and overall yield rates have substantially increased the number of farmers with rice surplus, even though the proportion of small farms in the total number of farms has increased. For example, 20 years ago a farmer growing only a local variety *aman* crop required 0.49 hectare to feed a family of six. Today, however, with HYV *boro* and the HYV transplanted *aman*, a similar family can satisfy its food grain needs with only 0.16 hectare of land. Given widespread HYV adoption by farms of all sizes, a large proportion of even marginal farmers (those owning up to 0.2 hectare of land) have now become net sellers of paddy in good harvest years (Chowdhury, 1993). Even deficit farmers now market some rice, particularly in the *boro* season, when keeping qualities of HYV make

Table 8.1 Broad Changes in Bangladesh Rice Markets

Variable	1960s	1970s	1980s	1990s	Mid 2000s ¹
<i>Production</i>					
Total (million tons)	10	12	15	18	26
Boro Share (%)	7	18	26	38	51
HYV Share (%)	1	23	36	63	69
<i>Marketings</i>					
As Share of Production (%)	12	27	34	49	60
Total Marketed (m. tons)	1	3	5	9	15
<i>Distribution</i>					
Public Share of rice marketed (%)	30	15	11	7	3
Share sold on the farm to itinerant traders (%)	28	n.a.	n.a.	66	69
Number of Marketing agents	n.a.	n.a.	n.a.	48,000	56,000
Itinerant Traders	4000	n.a.	n.a.	48,000	56,000
<i>Millers</i>					
Automatic	0	3	66	88	92
Major	106	152	251	480	550
Small Huller	6049	11,437	43,374	50,300	57,500
Total	6155	11,592	43,691	50,868	58,242
<i>Private rice stocks</i>					
Number of months consumption requirements	1	n.a.	n.a.	3	4
Average storage time for trader stocks (month)	4	n.a.	n.a.	1	1

Note: n.a. means not available;

¹The estimates for mid-2000s are based on extrapolation and current information on certain items.

Source: Chowdhury and Haggblade, 2000.

them difficult to store. Moreover, rice has become largely a cash crop in Bangladesh.

In fact, the poorer keeping quality of HYV paddy accentuates the inclination of all farmers to sell at least some of their output. Because most HYV paddy retains more moisture than do local varieties at harvest time, it stores poorly in comparison. The advent of a large *boro* season harvest compounds the storage problem because farmers harvest *boro* rice in May and June, just at the onset of monsoon season, when humidity is high and open air drying difficult. Although *aman* paddy, harvested at the beginning of dry season, will last several years in on-farm storage, farmers must dispose of their *boro* paddy over the course of a single four-

month marketing season. For this reason, they market only one-third of their *aman* crop but fully two-third of their *boro* (Chowdhury, 1992).

The rise of a major *boro* rice crop has also radically altered patterns of price seasonality. During the 1960s, a single deep price trough following the principal *aman* harvest gave way to a gradual seven month price rise and sustained high peak before the subsequent *aus* and *aman* harvests. But by the 1990s, the emergence of a large dry-season *boro* crop had shifted the timing of price peaks, introduced a second peak, dampened the price trough, and shortened the trough-to-peak time spread to about four months.

The demand side of the rice market has like-wise contributed to a higher market share of total consumption. Structural changes in the Bangladesh economy, in particular, growing non-farm income and rapidly advancing urbanisation contribute to a growing share of non-producers who necessarily become net purchasers of rice and other foods. The ability of private markets to supply the growing urban and non-farm demand has been facilitated by three decades of public investment in rural infrastructures (see Chapter 3). The expansion of infrastructures has made it possible to process and transport growing volumes of rice quickly and at lower cost. As a result, public investments in rural infrastructure have facilitated the emergence of a rice market of national scope and enhanced rice's attractiveness as a cash crop.

8.1.2 Changing Market Structure

To handle increasing volumes, rice and paddy markets have attracted a growing body of traders and millers (Table 8.1). The first link in the marketing chain, the number of itinerant traders (*beparis* and *farias*) has swelled by a factor of 16 since 1960s. This increased competition enables farmers to sell more than two-thirds of their marketing at farm gate rather than in nearby markets. In contrast, 30 years ago they sold only 28 percent from their farms (Chowdhury and Haggblade, 2000). Currently, most farmers of various size holdings prefer selling from homestead, where they receive similar prices regardless of their size.¹ Overtime, expanded marketing options accompany the widespread adoption of HYVs. As a result, access to itinerant paddy traders proves more prevalent in progressive districts, where 68 percent of small and marginal farms sell from the farm gate as compared with only 46 percent in non-progressive areas.

¹ Because of economy of scale, itinerant traders can transfer rice from farm to market at a lower cost than individual farmers carrying their products directly to market.

Milling of paddy into rice is performed by a growing number of rice mills. Parboiling of rice, which accounts for more than 90 percent of total production, takes place in a growing array of small and large mills. About 57,000 small mills (each with a capacity of 0.6 ton per hour) conduct parboiling and de-husking of the bulk of marketed paddy. These small mills are not very sophisticated and incapable of milling for export quality rice. A typical small mill employs about 10-15 workers. At the other end of the rice mill spectrum, there are about 90 large scale automatic mills representing the pinnacle of modern technology in the rice market. Each of these large mills has a capacity of 2 tons per hour. In between the small and large mills, there are about 550 major mills, each with a capacity of 1 ton per hour. Overall, the newer and smaller units and the small full-service rice mills dominate Bangladesh's mechanised paddy milling.

*Rice wholesaling is also well developed with large rice wholesalers and aratdars (large stock holders) have likewise grown in number, widely reviled during famines (e.g. famines of 1973 and 1974) for alleged market manipulation and hoarding. The *Badamtali* rice market in Dhaka, the largest in Bangladesh, opened with only 4 wholesalers in 1968, it now houses more than 300. Meanwhile, rival markets have sprung up at Mohammadpur, Savar and other surrounding areas around Dhaka. The dominance of these terminal market wholesalers has likewise eroded with the shifting pattern of regional flows. During 1950s and 1960s, long distance paddy shipment, mostly from Dinajpur, Barisal and *haor* areas of Kishoregonj and Sylhet to Dhaka and Narayanganj, dominated inter district flows. But during the 1980s and 1990s, an evolving patchwork of HYV adoption across Bangladesh led to a shifting sequence of surplus zones and a welter of cross district movement. Once, the major urban centers such as Dhaka, Chittagong and Khulna that accounted for about 40 percent of the market in the 1970s; now they account for only 20 percent (Chowdhury, 1992). As a result, the bulk of the rice trade has become geographically decentralised.*

Because Bangladesh grows more than 500 varieties of paddy, rice grading, varietal classification, and quality control demand considerable attention from traders. Yet no generally agreed-on quality standards exist in rice and paddy trade other than the Director General of Food's (Government agency) single, long standing grade, Fair Average Quality (FAQ), the single standard applied in government procurement. In the absence of a broader system of clearly accepted grades and standards, 90 percent of all sales take place by visual inspection in both paddy and rice

markets. This inspection warrants labour input and travel from retail to wholesale or assembly centers. Costs involved in this process could be reduced by the introduction of objective standards and grades to replace the prevailing subjective procedure of grading in reference to FAQ.

Rice stocks are held by both public and private agents in markets. Public stock holding of rice have dwindled over time; public stock of rice peaked to slightly more than 800,000 tons in 1990 but, by 1998, the year-end public rice stock came down to about 400,000 tons. The reduction in public stocks, coupled with gradually rising private holdings, has led to a growing reliance on privately held rice and paddy stock. Since the famine of 1943, government anti-hoarding laws had restricted private stock holding of food grains. As back in the past as December 1989, these laws made it illegal for traders or other private citizens to hold more than 750 kilograms of rice. But in early 1990s, a succession of good harvests and an obviously growing private trade led to relaxed law enforcements, although not outright repeal (Ahmed, Haggblade, and Chowdhury, 2000). As production and trader confidence in non-confiscation have grown, so have private food grain stocks. Perhaps, most striking is the dominance of on-farm stocks, which throughout the year account for more than three-fourths of all private stocks. Although they have varied considerably overtime, public rice stocks averaged 10 percent of mid-year, economy wide rice stocks during early 1990s (Table 8.2).

8.1.3 Conduct

Since World War II, governments in Bangladesh have regarded rice traders with distrust. Long memories and stiff regulations on food grain movement and stockholding have only slowly and gradually softened. Given its historic penchant for limiting and regulating private sector food grain trade as well as its periodic large-scale forays into rice and paddy markets, the government stock levels and conduct remain closely watched determinants of other participants' behaviour. Partly because of the fluctuating presence of government in the market and partly because of the more even flow of paddy onto the market throughout the year, private traders no longer hold long-term, year-to-year carryover stocks. Instead, they now engage primarily in spatial rather than temporal arbitrage. Unlike the 1960s, when traders kept stocks four months on average (Farruk, 1972), they now retain stocks only one month on average (Chowdhury, 1992).

Table 8.2 Key Holders of Foodgrain Stocks, 1993-95

Foodgrain	Private Stocks (%)			Public Stock	Total Foodgrain Stock	
	Farm	Trade	Total	Percent	Percent	million tons
Rice						
Lean Season	59	20	79	21	100	2.67
Post-aman harvest	68	25	93	7	100	7.79
Post-Boro harvest	64	26	90	10	100	6.09
Wheat						
Lean Season	13	7	20	80	100	0.75
Post-aman harvest	0	15	16	84	100	0.69
Post-Boro harvest	16	7	34	66	100	0.75
Total Foodgrains						
Lean Season	49	17	66	34	100	3.42
Post-Aman harvest	63	24	87	13	100	8.42
Post-Boro harvest	60	24	84	16	100	6.84

Source: Ahmed, Haggblade and Chowdhury, 2000.

8.1.4 Collusion

Do rice traders collude? Certainly popular wisdom suggests that they do—or at least they once did. In the 1960s and 1970s, when a handful of *aratdars* dominated key urban markets, which in turn served as the final destinations for most marketed surplus, this may have been possible. Indeed, evidence suggests that in early 1990s in remote or inaccessible areas, small number of traders colluded to extract low prices from vulnerable marginal farmers (Crow and Murshid, 1990). Overall, however, collusion seems much less likely today because of rapid growth in overall infrastructure, greatly increased number of traders at all levels, and a clear de-concentration of marketing flows. It is widely acknowledged that rice traders compete rather than collude (Islam et al., 1985; Choudhury, 1993). Traders certainly organise, however, and collectively lobby to protect their interests.

8.1.5 Performance

The marketing margins, one common indicator of competitiveness and economic efficiency, were estimated to be 21 percent of the retail price of coarse rice in 1989/90 (Chowdhury, 1992). Farruk (1972) found the margin to be 26 percent in 1969/70. For 1983/84 Islam et al. (1985) report a

margin ranging from 23 to 26 percent. These historical findings have to be compared carefully before one can draw conclusions about the trend of marketing margin. Comparison of margins must be based on comparable marketing channels in terms of distance and nature of routes to be used as an indicator of changes in competitiveness. Farruk (1972) estimate is basically a regional estimate (Barisal and Mymensingh) where average distance involved was roughly 50 kilometres. Islam et al (1985) base their estimate on country-wide marketing activities with an average distance marketed of 90 kilometres. Chowdhury (1992) estimates represent a country-wide sample with a focus on recently emerging markets. This marketing margin estimate is based on an average distance of 140 kilometres. Making these historical estimates precisely comparable is a daunting task. Nevertheless, approximate standardisation for distance marketed provides a sense that marketing margin may have fallen over the past two decades.

Most studies of rice and paddy markets find profit margins per unit of capital high, undoubtedly one reason for rapid entry into the trade. Chowdhury's recent assessment concludes that on average, profit margins are "high but not excessive" (Chowdhury, 1992). The spatial integration of markets has attracted much attention to studies on rice, perhaps because the availability of secondary price data makes such price analysis relatively inexpensive to carry out. All such studies agree that some price transmission does occur between Dhaka and other rice markets, that is, they conclude that markets are not totally segmented. Yet most find only partial integration, particularly in the rainy season. Early studies conclude that only about 20 percent of major markets are well integrated with Dhaka (Ravallion, 1987; and Ahmed and Bernard, 1989). A most recent examination (Goletti, 1993) suggests that figure may have risen to between 35- 50 percent. He also notes that improved infrastructures, particularly roads, improve integration.

How efficiently do traders process available market information? In an early landmark study; Ravallion (1987) concluded that incorrect trader expectations of future prices led to excessive stockholding (popularly known as hoarding) during the 1974 famine. He also found that such informational inefficiency continued through 1983/84. More recent evidence, however, suggests improvement. Using an extended data set, Goletti (1993) concurs that markets processed information inefficiently during the 1974 famine but finds that since 1975 they have improved information-efficiency.

8.2 Public Food grain Distribution

Historically, Bangladesh inherited a large programme of public food grain distribution that expanded further during the post-independence turmoil and the 1974 famine. The public food grain distribution and most associated regulations were, however, gradually reduced during decades following early 1980s (see Ahmed, Haggblade and Chowdhury, 2000 for detailed accounts of this process of liberalisation).

The objectives of the Public Food grain Distribution Systems (PFDS) are: (a) supply of subsidised/ free food grains to vulnerable groups of the population, particularly during the times of economic stress and calamitous condition, and (b) maintain stability in market prices. Government maintains a stock of food grains through imports from abroad and occasional procurement from domestic market. A Food Planning and Monitoring Unit (FPMU) has been organised in the Ministry of Food and Disaster Management to provide analytical input in the decisions on public pricing, stocks, procurement, and various other aspects of PFDS operations. In the context of Bangladesh, where poverty level is very high and natural calamities like floods, cyclones, tidal bores, and droughts occur rather frequently, public food distribution continues to assume a significant role in maintaining social stability. Numerous attempts have been made to instill institutional changes in order to improve the management of the PFDS. Yet it remains, till today, an organisation working at below the level of expectation.

The size of the public food distribution programme is shown in the **Table 8.3**. The first conclusion from the table is that the size of the public distribution of food grain has been declining overtime in absolute terms. The size was above 2 million tons in early 1990s and it is currently around one million tons. The second conclusion is that wheat constituted about 60 percent of public food grain distribution in the early 1990s; the share of wheat has declined to around 20 percent in recent years. This declining share of wheat reflects the declining food aid to Bangladesh which comes mostly in the form of wheat.

As shown in **Table 8.4**, the public food grain distribution is supplied through priced (or sales) channel and non-priced (non-sale) channels. Among price channels, open market operation and subsidised supply to police and defense forces account for the largest share. Among non-priced channels, supply for food-for-work and vulnerable group development constitute the largest components. About 55 to 60 percent of public food grains is distributed through non-priced channel and apparently serves the cause of the poor. The remaining 40 to 45 percent of

Table 8.3 Public Foodgrain Distribution by Commodity*(000 metric tons)*

Year	Rice	Wheat	Total	Share of Total (%)	
				Rice	Wheat
1990/91	971	1400	2371	40.9	59.1
1991/92	759	1586	2345	32.4	67.6
1992/93	475	598	1074	44.3	55.7
1993/94	350	1026	1376	25.5	74.5
1994/95	329	1244	1573	20.9	79.1
1995/96	592	1202	1794	33.0	67.0
1996/97	739	653	1392	53.1	46.9
1997/98	529	1092	1621	32.6	67.4
1998/99	530	1604	2134	24.9	75.1
1999/00	876	1025	1900	46.1	53.9
2000/01*	984	790	1774	55.5	44.5
2001/02*	648	816	1464	44.3	55.7
2002/03*	761	674	1435	53.0	47.0
2003/04*	628	359	987	64.4	35.6
2004/05*	1,102	265	1,367	80.6	19.4
2005/06*	1,008	237	1,245	81.0	19.0
2006/07	1,272	191	1,463	86.9	13.1
2007/08	1070.4	240.4	1311	81.6	18.3

Note: * including direct distribution of wheat by World Vision International.

Source: Ministry of Food and Disaster Management and Directorate General of Food (DGF).

the public food grains goes to questionable purposes. The effectiveness of open-market operation in price stabilisation is doubtful and the subsidised distribution to police and defense forces may be justified but are clearly not a poverty reducing programme.

For public distribution of food grains, holding of a stock level is necessary. During the early 1990s, government had a declared policy of holding two-million tons of stock. International Food Policy Research Institute (IFPRI) organised a food policy research programme in Bangladesh which was instrumental in causing a series of reforms in the PFDS. The rationing system was abolished and many restrictions on food grain market were removed. One outcome of this research was the determination of the size of public stock. The research results and dialogues with the government resulted in an agreed public stock level of

Table 8.4 Functional Channels of Public Foodgrain Distribution in Recent Years*(000 metric tons)*

Channels	2004/05			2006/07			2007/08		
	Rice	Wheat	Total	Rice	Wheat	Total	Rice	Wheat	Total
Sales ¹	388.6	116.0	504.6	378.5	127.5	706.0	417.7	91.2	508.9
Non-sales ²	713.3	149.2	862.5	693.9	62.3	756.2	652.7	149.2	801.9
Total	1101.9	265.2	1367.1	1272.4	189.8	1462.2	1070.4	240.4	1310.8
Share of Sales (%)	35.0	44	37	45.4	67.0	48.0	39.0	37.9	38.8
Share of non-sales (%)	65.0	56	63	54.6	33.0	52.0	61.0	62.1	61.2

Notes: ¹Sales channels include foodgrain supplied to police and defence forces and open market sales for bringing down market price.

²Non-sale category includes distribution for food-for-work (FFW), Test Relief (TR), Vulnerable Group Development (VGD), Vulnerable Group Feeding (VGF), gratuity relief and others.

Source: Computed with data from the Food Planning and Monitoring Unit (FPMU).

one million tons, consisting of about 65 percent rice and 35 percent wheat. Subsequently stable world rice market, rapid growth of domestic production and private trade (private trade was allowed to import food grain first time in 1993) all combined to exert influence on the PFDS to reduce its size, so that public stock level has settled at much below one million tons (see [Table 8.5](#)) in recent years. Rice stock was close to zero for all practical purposes in 2004/05.

Public food grain programme is not free of cost. The estimated food grain subsidy in the 2007/08 budget is about 10 billion taka which is equivalent to about 1.5 percent of the total budget. A smaller stock implies a smaller cost but also implies a larger risk. In times of shocks arising from natural calamities and international market instability, a smaller stock may turn out to be insufficient for the government to pacify market instability and a government may appear to be incapable of correcting market instability which may cause political instability.

8.3 Market Liberalisation and Price Management

Many significant reforms in the food grain sector of Bangladesh were brought about during the first half of 1990s. Abolition of the rationing system, deregulation of numerous restrictions on domestic trade, induction of a larger role of private sector in the agricultural input markets, and most importantly, the opening-up the

Table 8.5 Month-wise Public Closing Stock of Foodgrains¹

Month	(000 metric tons)											
	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08		
July	713.10	1236.48	1157.22	1088.54	1145.62	857.99	122.25	831.00	936.32	785.88		
August	663.40	1329.00	1243.82	1054.21	1164.51	904.06	137.26	882.00	975.17	785.30		
September	588.26	1376.58	1179.64	1100.83	1185.35	915.70	200.86	892.00	897.10	795.96		
October	652.71	1412.42	1158.84	1132.46	1135.60	861.28	339.49	746.00	730.50	808.92		
November	786.90	1480.22	1045.03	1153.95	839.28	763.85	332.17	751.00	686.45	789.43		
December	1070.46	1531.37	930.17	1180.12	612.00	835.70	157.96	746.00	712.29	696.57		
January	1161.86	1531.06	1085.29	1081.63	578.00	778.31	182.95	668.00	710.19	673.42		
February	1286.11	1451.27	985.09	906.89	472.00	717.53	230.20	637.00	707.37	591.83		
March	1197.54	1304.32	979.88	782.26	365.00	628.39	347.32	590.00	602.41	539.57		
April	1199.19	1186.76	1003.65	873.24	309.00	573.22	220.68	586.00	303.22	407.71		
May	1310.09	1149.11	955.69	865.45	450.00	667.82	137.44	627.00	405.01	748.63		
June	1198.07	1090.54	866.92	944.01	671.00	838.98	325.83	735.00	604.37	999.05		
Average	985.64	1339.93	1049.27	1013.63	743.95	778.57	227.87	715.91	689.20	718.52		
Rice in Total (%)	43	49	61	47	59	76	50	74	82	71		

Note: ¹Inclusive of stock in-transit

Source: FPMU, Ministry of Food and Disaster Management.

external trade in food grains to private traders, have resulted in fundamental changes in the operation of the food grain market. The onus of stabilisation of food grain supply and prices has shifted to the market forces and traders. Till the onset of the current situation of high food grain prices and consequent uproar in news media and general public against high prices, food situation in Bangladesh has remained extremely stable. Even the devastating flood of 1998, when most people anticipated an ensuing upsurge in food prices, could not disturb the continuing stability in food prices. Private trade imported huge volumes of rice from India in 1998/99 to sustain the tranquillity in food grain market (see **Table 8.6** for import statistics; and Dorosh et al (2004) for a detailed analysis of how private imports stabilised a potential unstable situation following the 1998 flood). The expected high price of rice, relative to the then prevailing low price in India, provided sufficient incentives to private trade for imports. The figures in the table demonstrate the dominant role of private trade relative to the government. A historically highest record of import of rice was established by the private traders in 1998/99.

We observe a completely different picture in 2007/08 when a serious flood in September 2007 and a devastating cyclone in November 2007 caused enormous damage to *aman* rice crops (**Table 8.7**). The resulting shortfall in domestic production and a simultaneous shortage of supply and high world prices of rice combined to produce a sharply rising rice price situation in Bangladesh. Government first responded by conducting an anti-hoarding drive which in reality contributed to the rising trend of prices, instead of reducing them. But the government promptly realised the mistake and abandoned the anti-hoarding drive to bring back confidence of rice importers. Private traders began to scout markets in Burma and India to find rice that could be imported with prospect for sale in Bangladesh market. In spite of high prices in world market and a penchant for a politically tolerable price level in Bangladesh, about 1.2 million tons of rice were imported by private trade in first eight months of 2007/08. By the beginning of 2008, world market became very thin and segmented. India, the main source of import by traders of Bangladesh, banned export of rice. A government-to-government negotiation with India culminated in an agreement that would allow an export to Bangladesh of 500,000 tons of rice but at a price of 494 dollars per ton. If Bangladesh wants to maintain a tolerable price level by importing from Vietnam, Thailand and India by offering astoundingly high prices, it will have to be able to provide huge budgetary subsidy beyond its capacity.

Table 8.6 Private and Public Import of Foodgrains (Rice and Wheat) Over Time, 1991/92 - 2007/08

Year	Private Imports			Public Imports			Total Imports			Proportion of private imports (%)
	Rice	Wheat	Total	Rice	Wheat	Total	Private	Public	Total	
	1991/92	0	0	0	37994	1525144	1563138	0	1563138	
1992/93	0	355365	355365	19887	808686	828273	355365	828273	1183638	30
1993/94	73979	238021	312000	0	654100	654100	312000	654100	966100	32
1994/95	584266	429734	1014000	208757	1324688	1533445	1014000	1533445	2547445	40
1995/96	649998	200000	849998	473934	1087341	1561275	849998	1561275	2411273	35
1996/97	14883	222041	236924	18676	709434	728110	236924	728110	965034	25
1997/98	993000	142000	1135000	92207	705644	797851	1135000	797851	1932851	59
1998/99	2659513	820225	3479738	404085	1602405	2006490	3479738	2006490	5486228	63
1999/00	427767	805959	1233726	4521	864952	869473	1233726	869473	2103199	59
2000/01	528855	533795	1062650	31964	447270	479234	1062650	479234	1541884	69
2001/02	117843	1171319	1289162	7796	492569	500365	1289162	500365	1789527	72
2002/03	1552686	1413770	2966456	3920	238273	242193	2966456	242193	3208649	92
2003/04	796628	1683679	2480307	4439	301303	305742	2480307	305742	2786049	89
2004/05	1196333	1786386	2982719	98092	291731	389823	2982719	389823	3372542	88
2005/06	498076	1766876	2264952	33900	263072	296972	2264952	296972	2561924	88
2006/07	695224	1513691	2208915	25280	186294	211574	2208915	211574	2420489	91
2007/08	1681334	1234907	2916241	373786	176503	550289	2916241	550289	3466530	84

Source: DGF and FPMU

Table 8.7 Comparison of Damage and Losses Resulting from the 1988, 1998, 2004 and 2007 Floods in Bangladesh

Damage and Loss	1988	1998	2004	2007
Number of livestock killed	172,000	26,564	8,318	40,700
Crops damaged (mill. ha)	2.12	1.74	1.30	2.10
Human deaths	2,300	1,100	747	1,110
Rice production Losses (mill. MT)	1.65	2.06	1.00	1.20
Number of people affected (mill.)	45	31	36	14
Road damaged (km)	13,000	15,927	27,970	31,533
Percent of land inundated (%)	60	68	38	42
Number of homes damaged (mill.)	7.20	0.98	4.00	1.10
Total damage and loss (billion US\$)	1.4	2.0	2.3	1.1
(Taka billion)	(83)	(118)	(134)	(78)

Source: World Bank, 2005g; and World Bank, 2007b.

Remember that this approach to subsidy as a means to maintain a tolerable price in Bangladesh is constrained by the weak revenue in public budget, and not by foreign exchange, which it has plenty in its reserve (currently, it has a foreign exchange reserve of US\$6 billion).

Figures 8.1 and 8.2 provide a backdrop of the evolution of the emergence of the 2008 rapidly rising price scenario for rice and wheat. The nominal price of rice began to rise fast from July 2007. It rose from about Tk.19 per kg in July, 2007 to about Tk.32 kg in February 2008, an increase of about 69 percent over a period of 7 months. This was a break from all historical seasonal pattern of rice price and trend of rice price during the last decade. Wheat price increase was even faster causing the level of wheat price to rise above the level of rice price. The surprising point to note is that the start of the rising phase of price coincided with the harvesting period of the major *boro* rice and continued to rise even during the harvest season of the main *aman* rice. The first phase of this rising path of price coincided with the timing of anti-hoarding drive. The result was that the importers panicked at a time when they would be vigorously scouting imports from Myanmar and India. The second surprising point to note is that FPMU in the Ministry of Food and Disaster Management, which was designated to monitor food situation, laggard in alerting high-level policy makers about the market abnormalities and their implications. However, the concern is now focused on the likely price scenario in the coming months prior to *boro* harvest which are normally the peak price months in Bangladesh. If

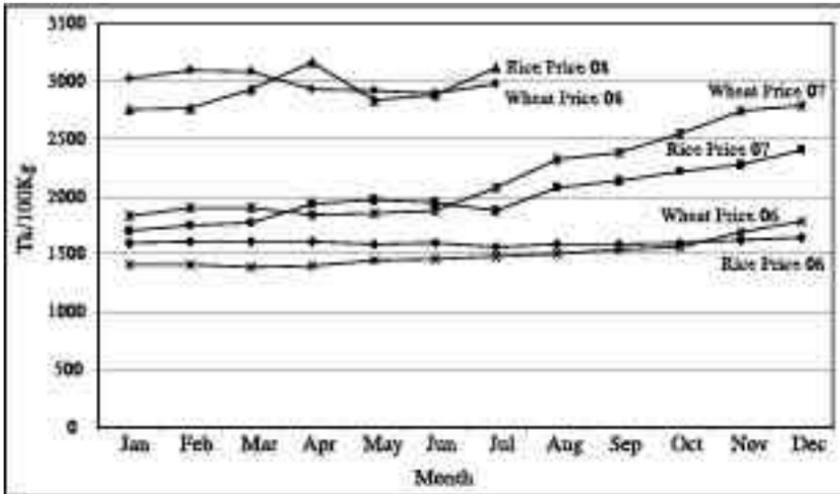
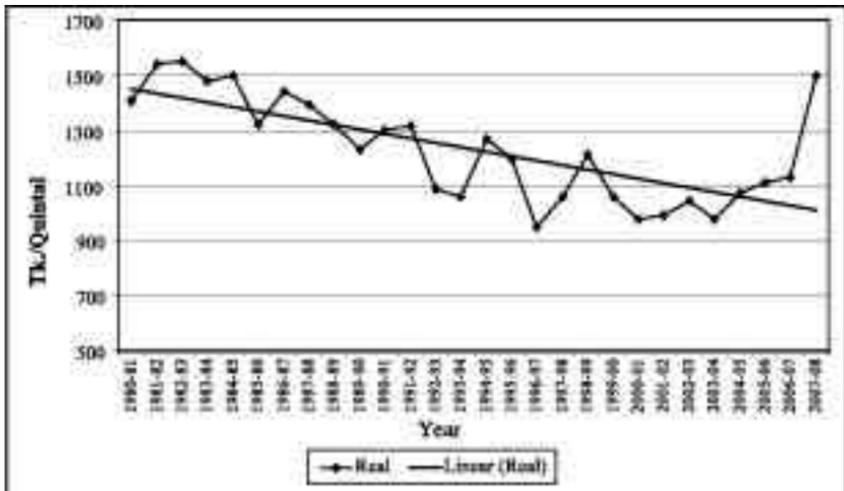


Figure 8.1 Nominal Rice and Wheat Prices during 2006 – 2008

import of 500,000 tons of rice from India falters and given the fact that existing levels of rice stock in both public and private sectors are quite low, an ugly market situation may arise. Nevertheless, it is unlikely that the price situation will, in any way, cause famine. It may cause some



Source: Department of Agricultural Marketing (DAM).

Figure 8.2 Trends in Real Price of Aman Coarse Rice (Base: 1995/96=100)

heightened hardship for a segment of the population but the specter of a famine is far-fetched. Our travels in rural Bangladesh during the month of February, 2008, have given us the feeling that wage rates of unskilled labour in rural areas are also adjusting upwards to cushion the pain of higher rice prices.

Analysis of food grain prices during the preceding years of the crisis in 2008 has some more lessons to learn from. For this purpose a comparison of Bangladesh coarse rice price with Thai 5 percent broken parboil rice is shown in **Table 8.8**. The calculation is made on import parity basis for years 2000/01 and 2006/07. The results show that:

- a. Bangladesh prices are generally lower than Thai prices;
- b. Domestic price in Bangladesh has increased by 38 percent between 2000/01 and 2006/07;
- c. FOB price has increased by 70 percent;
- d. Import parity price has increased by 91 percent; and
- e. Contribution of exchange rate depreciation to increase in import parity price is 16 percent.

The conclusion that “Bangladesh prices are generally lower than Thai prices” is supportive of the fact that private traders seldom import from Thai export market even though that market is traditionally considered as a proxy of the World market. Bangladesh’s source of import is India, Myanmar and, occasionally, Vietnam. India and Myanmar allow import of rice of comparable quality and on-land import is 10-15 percent cheaper than ocean shipping.

Domestic prices of rice have increased at much slower rate between 2001 and 2007 than FOB price and import parity price because of slower rates of increase of prices in markets which are main source of import by Bangladesh. Moreover, rice prices in Bangladesh generally stay within the bounds of import parity and export parity prices, thus making trade infeasible. Depreciation of Bangladesh currency vis-a-vis exchange rate appreciation in India has made import costlier. If value of Bangladesh currency was maintained constant between the two points in times, rice prices could have been retained at 16 percent lower level than was the case in the absence of depreciated Taka value.

Theoretically, private traders would be expected, given no restriction on trade, to import rice when domestic prices are higher than import-parity international prices and to export when domestic prices are lower than export-parity international prices. According to this logic and

Table 8.8 International Price of Rice and Wheat (FOB)

Year	(US\$/ metric ton)					
	Thai Rice*			US Wheat (US Gulf Port)		Argentina Wheat
	100% White	5% Parboiled	15% White	Hard Red	Soft Red	Soft Red
1991/1992	289	266	259	150	147	114
1992/1993	251	231	223	143	142	124
1993/1994	294	244	243	142	132	136
1994/1995	290	266	270	156	156	136
1995/1996	362	344	335	216	198	218
1996/1997	338	323	303	181	158	157
1997/1998	302	292	275	142	129	137
1998/1999	284	276	261	120	100	118
1999/2000	231	242	209	112	97	104
2000/2001	184	187	167	128	101	124
2001/2002	201	198	176	127	113	119
2002/2003	200	194	186	161	138	145
2003/2004	220	200	207	161	149	154
2004/2005	275	275	261	154	138	123
2005/2006	301	293	284	175	138	138
2006/2007	320	317	302	212	176	188
2007/2008	450	400	335	422	362	354

Note: *indicative traded price, f.o.b. Bangkok.

Source: USDA for rice and FAO for wheat.

constructing export parity price from information from [Table 8.9](#) and [Table 8.10](#), Bangladesh should be exporting rice to Bangkok market or to countries that imported rice from Bangkok in 2006/07, because the export-parity price was lower than the Bangkok FOB price by 18.3 percent. But in reality this was not the case, ostensibly, because of poor quality and absence of any internationally accepted grading system of Bangladesh rice. Obviously, rice is not a homogenous commodity, a basic assumption of theoretical logic to apply in international price comparison. The domestic price of Bangladesh rice in 2000/2001 was in between the export parity and import parity prices, making trade between Bangladesh and relevant countries infeasible.

Bangladesh imports bulk of its total rice import from India and Myanmar. Dorosh (2008) estimated import-parity prices for import of rice

Table 8.9 Average Wholesale Price of Coarse Rice*(Taka/Quintal)*

Month	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08
July	1243	1103	1107	1228	1210	1277	1557	1561	1880
August	1243	1051	1186	1234	1290	1350	1549	1584	2079
September	1239	1104	1129	1300	1345	1360	1544	1587	2135
October	1280	1240	1169	1343	1308	1470	1547	1602	2222
November	1195	1129	1143	1348	1302	1449	1579	1626	2271
December	1188	1185	1208	1340	1299	1523	1590	1645	2404
January	1157	1130	1252	1395	1334	1585	1594	1703	2756
February	1207	1166	1271	1391	1356	1628	1611	1755	2766
March	1227	1178	1275	1400	1361	1588	1605	1765	2927
April	1236	1213	1269	1393	1308	1561	1607	1886	3164
May	1286	1173	1210	1260	1307	1423	1582	1867	2836
June	1179	1103	1209	1273	1262	1469	1593	1831	2881
Average	1223	1148	1202	1325	1307	1474	1580	1701	2527

Source: Department of Agricultural Marketing (DAM), Ministry of Agriculture and FPMU, Ministry of Food and Disaster Management.

to Bangladesh. He constructed two series—one ex-New Delhi import-parity and the other ex-Benapole land port (BLP) import parity—for various months of 2007 and 2008. This analysis shows that the Bangladesh domestic price was below the ex-New Delhi import-parity but higher than BLP import parity. Consistent with these parity prices, Bangladesh had imported about 350 thousand metric tons of rice through Benapole border land port before the Government of India banned export of rice by private traders in April 2008. India feared a shortage for its consumers that resulted in the ban. Bangladesh of course continued import (at the rate of about 2000 tons/day) from Myanmar through the Teknaf land port till that country was hit by the hurricane Nargis. These analyses indicate that the world rice market is not only thin (only about 10 percent of production is internationally traded) but also segmented. Segmented markets do not provide a general price guide for individual countries and increase instability in prices, particularly during global crises. Bangladesh should regularly monitor prices in adjoining countries of India and Myanmar for the purpose of using tariff policies (positive, neutral, negative taxes) to stabilise its domestic rice prices.

Table 8.10 Comparison of Thai 5% Parboil Rice with Domestic Coarse Rice at Wholesale Border of Import Parity Price (Per Ton)

	Import Parity at Current Exchange Rate ⁵		Import Parity at Constant 2000/01 Exchange Rate		Domestic Wholesale Price	
	2006/07	2000/01	2006/07	2000/01	2006/07	2000/01
FOB Price \$	317	187	317	187		
Insurance \$ ¹	6	4	6	4		
Shipping \$	45	32	45	32		
Total CIF \$	368	223	368	223		
Total CIF (Tk.)	25392	12042	19872	12042		
Internal ² Transport (Tk.)	381	181	298	181		
Interest ³ (Tk.)	859	407	672	407		
Profit ⁴ (Tk.)	1331	632	1042	632		
Total (Tk.)	25280	13262	21884	13762	17010	11480

Note: ¹Insurance at 2% of FOB price

²Internal Transport 1.5% of CIF Cost

³Interest 10% annual for 4 months

⁴Profit 15% annual for 4 months

⁵Exchange Rate 2006/07, \$1 = Tk.. 69

Exchange Rate 2000/01, \$1 = Tk.. 54

Source: Computed by Authors

8.4 Managing a Sudden Food Crisis

The term 'a sudden food crisis' warrants some definitional clarification. Otherwise the terms "hidden hunger", "silent famine" and "constant food famine" maybe used to cloud our understanding. A sudden food crisis refers to the crisis faced by Bangladesh during 1974/75 and 2007/08 in terms of food availability, prices and consumption by the poorer segment of the population. The price of food grains had risen very fast in both crisis years. The index of nominal rice price shot up from 100 in November-December of 1973 to 336 in March-April of 1975, an increase of 236 points over a period of 16 months. The rice price started to fall thereafter settling to pre-crisis levels of prices. The 2008 crisis started with a rice price index of 100 (about Tk. 19/Kg) in July 2007. This index shot up to 168 in February 2008 (about Tk. 32/Kg) an increase of 68 points over a period of 7 months. The price rise has stabilised at the high level and yet to discern a downward slide. These are two period in Bangladeshi history where the price of rice has increased at a rapid rate.

Unusual rise in oil prices caused sudden disruption of commodity prices in world markets. As a consequence, not only food prices but global commodity prices rapidly increased resulting in food crisis in most developing countries. When a country is thrown suddenly in the vortex of such a crisis, its ability to manage such a crisis successfully depends on a number of both long-run and short-run factors. However, one can expect only to minimise the adverse impact of a worldwide crisis; a complete insulation of the domestic economy from a worldwide crisis is virtually impossible.

8.4.1 Production

An onset of food crisis, like the ones in 1974 and 2008, generates a flood of debate arguing for the virtue of self-sufficiency in food production, particularly food grain production. New initiatives for production can hardly contribute to the management of a raging crisis. In fact, there is little evidence that domestic self-sufficiency can protect a country from the onslaught of sharply rising world commodity prices. India is a surplus producer of rice and exports a large quantity every year. But we have seen that the pace of rice price increase in India during the 2008 food crisis was faster than the pace in Bangladesh which is normally a deficit country. The world markets are so integrated that no country can insulate its market from the worldwide pressure. Moreover, when all prices at international level increases, one price of a domestic product, even with an abundant supply, cannot remain isolated from the increasing inflationary pressure. Prices generally tend to move in a cohort. Nevertheless, domestic vibrant agriculture can render an economy to absorb a worldwide shock in greater extent than an economy with a weak agricultural production. Thus, the emphasis on a robust agricultural growth has a merit. But such an emphasis should be laid out through a long-term programme of agricultural development and not through hurriedly drawn out palliatives usually taken in the midst of a crisis, and then forgotten as soon as the crisis is over. In Chapters 3, 5 and 7 we have discussed the leading elements of a strategy for long-term agriculture and rural development. Here we would re-emphasise a number of pertinent considerations, particularly for food grain production.

The *first* consideration pertains to the long-run perspective of a declining scope of land resources relative to population and its direct implication for agricultural growth. In the 1961 agricultural census, it was estimated that the country had a cultivable land of 24.5 million acres. The

agricultural census of 1984/85 estimated that the cultivable land declined to 22 million acres. It further declined to about 17 million acres in 1996, according to the latest census. This decline of cultivable land is a direct consequence of loss of such land for infrastructural development, urbanisation, homesteads, and industrial use of land. The population is still growing although the growth rate has slowed down. By 2030, the agriculture of the country will contract to represent pockets of agriculture in the vast sprawl of urban mass. We are rapidly approaching towards the situation of Japan and Singapore. Bangladesh is the second most densely populated country in Asia. Adoption of improved modern technology is our principal source of agricultural growth. But technology has a limit; it comes in an uncertain fashion with sudden burst and long stagnation. Nevertheless, sustained efforts for increasing production through technological applications have to be retained. In the short and medium run, the country can even achieve a status of the so-called self-sufficiency that will reduce the pain of a sudden food crisis.

The *second* consideration is the recognition of farmers' incentives and constraints for increasing production. It is after all the decision of individual farmers that determines the production outcome, not the arbitrary targets that the government fixes. Why a farmer will allocate more resources to rice production, if he can increase his income by growing other crops? Farmers' decision is also influenced by the risk factor conditioned by flood, draught, and inadequacy of operational resources for purchase of inputs, including labour. In Chapters 3, 5 and 7, we have shown that there is a wide gap between aggregate policies for mitigation of constraints pertaining to these factors and farm level realities. We observe almost constant complaints about fertilizer crisis, scarcity of good seeds, credit not being available to farmers, and subsidy not reaching to farm levels. This gap between policy promises and actual effects at farm level warrants serious investigation through farm level surveys and thoughtful analysis. We would pinpoint two crucial incentives and risk factors on the basis of our analysis of the bumper *boro* harvest in 2008. Governments tend to claim policy success when weather factors are favourable and blaming the bad weather when harvest is poor. The unusually bumper harvest of *boro* rice in 2008 that prevented the worsening price situation from further deterioration, was an outcome of mainly two factors:² (a) adequate soil moisture resulting from flood

² Although the Department of Agricultural Extension claimed that the Tk.. 6.7 billion fuel subsidy was responsible for the bumper *boro* harvest in 2008, the fact that the subsidy was announced after most of the *boro* planting goes against that claim.

induced underground and surface water, and (b) prevailing high rice prices. The price incentives and the soil moisture factors stand out as the basic explanatory factors for maximisation of the impact of all other factors of production. Yet, we have seen in Chapters 3, 5, and 7 that the public efforts dealing with water resources had frustratingly failed to reduce risk and high price of rice seldom comes up as an ingredient for food grain self-sufficiency.

There are cogent reasons against the use of price incentives for increasing production. It is argued that most farmers are net purchasers of rice and non-farm poor both in urban and rural areas get adversely affected by high rice prices. Our analytical work on structure of farms in Bangladesh shows that farms in Bangladesh can be grouped into 3 categories: (a) net deficit farms, (b) self-sufficient farms, which sell some time but buy equivalent quantity later, and (c) surplus farms that always produce a net surplus in normal years. Forty-five percent of the farms are net deficit but they produce only 18 percent of total production of rice. Thirty five percent of the farms are self-sufficient and produce 23 percent of total rice production. Twenty percent of farms are surplus producers producing 59 percent of total rice production. An increase in rice price affects deficit groups negatively, is neutral in income effect to self-sufficient group, and generates a high income effect on surplus producers. For the purpose of increasing rice production, the self-sufficient and the surplus groups can be treated as farmers and the deficit group as nonfarm households. The increasing commercialisation in the economy and the expanding options of producing multiple products, the farmers have become profit oriented and therefore sensitive to prices. Price is therefore a key factor in inducing farmers to increase production. But it is equally true that high prices hurt nonfarm households. A strategy of positive price incentives, therefore, warrants a compensatory income support programme for the nonfarm poor, including deficit farms. This income support issue will be discussed soon.

8.4.2 Public Stock

Public stock policy becomes a hot and controversial issue, particularly during a crisis year like the one in 2008. Popular views on public stock generally demonstrate a lack of clear understanding of the logics underlying the operation of public food grain stock. It is therefore appropriate to present a brief outline of such logics in a simple and visual fashion. This visual picture is depicted in **Figure 8.3** where the tub represents storage facilities or *go-downs*. Non-priced distribution consists

of channels for relief, food for work, Vulnerable Group Feeding (VGF), Vulnerable Group Development (VGD) and various other charities. Priced distribution consists of channels for open-market sales (OMS) and ration distribution to defense forces, including police and para-military. Import includes small amounts of food aid.

Public stock is measured at a point in time that results from the accumulation of excess of inflow over outflow. This distinction between flow and stock is essential to comprehend accurately stock policies. Traditionally, Bangladesh measures its public stock monthly as the monthly closing stock accumulated in government *go-downs* and reports regularly these figures (see Table 8.5). To cause a change in stock, one has obviously to look at how and when to cause necessary changes in the inflows and outflows. Such changes involve time lags; import takes about 2 to 3 months and domestic procurement is possible only at harvest times of *boro* and *aman* which occur at an interval of about 5-6 months. There are numerous uncertainties in the volumes that can be procured domestically and imports from various foreign markets. Because of these time lags and uncertainties, regular monitoring of markets, harvests,

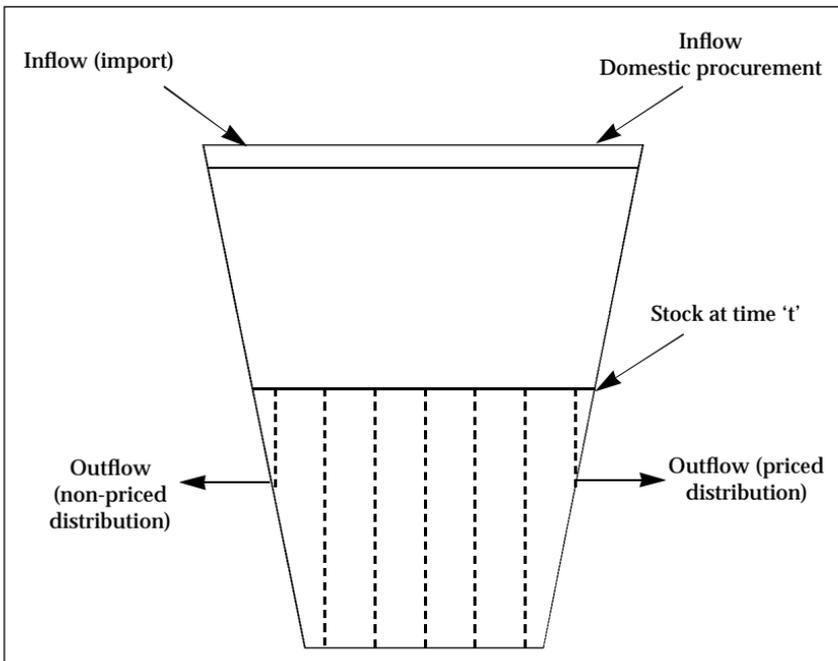


Figure 8.3 Visual Picture of Public Foodgrain Stock

prices, and actual public distribution and needs and careful analysis of these data to make short-run forecasts, are necessary ingredients of stock and food policy management. Food Planning and Monitoring Unit (FPMU) in the Ministry of Food and Disaster Management is responsible for these tasks.

Forces underlying the inflow and outflow variables generally act in opposite direction between normal and crisis years. Normal year means year inclusive of domestic natural variations but exclusive of global turbulence as occurred in 1974 and 2008. A crisis as defined here occurs once in about two decades. There was an absolute calm in the rice markets of Bangladesh for more than a decade before 2007/08. Demands for non-price public food grain distribution declined due to low rice prices, rising wage income, and monetisation of food for work channels and test relief. The low market prices also created a sense of no-need for OMS. Domestic procurement could serve a useful purpose in such situation if price support to increase production were pursued with priority. But that was not the case because low rice price is welcomed by urban and rural non-farm population. These tendencies result in decline of public stock. This is evident from the stock level falling to about half of what government professes its target of public stock prior to the on-set of 2008 crisis.

The crisis increased the demands for both non-price and priced-distribution of food grains. Stock was low and world was gradually becoming closed with rapid rise of prices. Government was pinning its hope on up-coming *boro* crop and a negotiated import deal with India. The contraction of inflow and expansion of demand for outflow created an unusually sharp crisis. Question was raised why the government did not develop a strategy of building and maintaining a large stock (some suggested 3 to 5 million tons) by gradual accumulation during normal years? Beside financial cost, one technical problem in such an approach is that you need to regularly rotate stock by selling to open market or export in order to avoid spoilage in storage. Rice, particularly the HYV varieties, spoils quickly within 6 to 7 months, and becomes inedible. Larger the size of stock, greater is the quantity to be rotated. If you dump large quantities in market during normal years, the negative impact on price incentives will ultimately cause increase of deficit rather than self-sufficiency. On the other hand, to become once-a-while exporter for a country like Bangladesh, flanked by the two surplus producers (India and Myanmar), is quite impossible without a huge subsidy.

It is necessary it seems, to maintain a three dimensional approach for handling a sudden crisis: (a) maintain a modest stock with necessary

modification in outflows, (b) keep the FPMU efficient and alert so that the on-set of a crisis is detected early and import schedules are floated in time, and (c) accord high priority, in normal years, for increase in the income of the poor and develop institutions as a permanent feature for delivery of income transfer to the poor. A stock of food grain of around a million tons was estimated to be optimal by an earlier study by Goletti (see Ahmed et.al. 2000); but that was done in 1994. In the light of reforms since then, new study on optimal stock seems necessary. The FPMU has been working for quite a long time. But its professional strength has to be strengthened, particularly by placing the unit under a professionally qualified head. The income support programmes for the poor get emphasis mostly at the time of a crisis. These programmes are necessary to be institutionalised on a sustained basis, so that institutional inadequacy does not become a hurdle when volume of grants has to be expanded during a crisis.

8.4.3 Income Support Programmes for the Poor

Amartya Sen has rightly pinpointed that the loss of ability to acquire food during a famine is the single most important factor for starvation death. High prices erode real income during a food crisis. During the 7 months from June 2007 to January 2008, the price of rice increased by 68 percent and prices of other non-rice goods and services increased by 43 percent. This increase in price implies that a household earning Tk.. 7,000 per month (i.e. Tk. 49,000 during the 7 month period) will require a total of Tk.. 26,038 more for maintaining a consumption level of rice and non-rice goods and services the household would have consumed if the prices were not increasing.³ This additional income of Tk.. 26,038 required to sustain initial consumption level is equivalent to 53 percent of household income; out of this 53 percent loss of real income about 27 percent is accountable to increase in rice and 26 percent to increase in prices of non-rice goods and services. The point made through this analysis is that macro-economic policies to control inflation are as important as control of food grain prices in a crisis year. Ironically, inflationary macro-economic policies to transfer income to the poor, so critical in a crisis year like 2008 and 1974, become self-defeating in the sense that the process gives by one hand and takes away by another. Striking a balance between targeted

³ These estimates are based on distribution of expenditures in various consumption goods by various income classes reported in 2005 Household Income and Expenditure Surveys (BBS, 2007: HIES 2005). A household with Tk.. 7000 income per month falls below poverty line (upper one).

public income support and macro-economic policies to control inflation is a complex task that warrants some sophistication in policy formulation during a serious crisis.

The report on Household Income and Expenditure Survey of 2005 includes some information on targeted income and consumption support programmes in Bangladesh. This report shows that a number of safety net programmes are in existence; Vulnerable Group Development (VGD) Vulnerable Group Feeding (VGF), food-for-work (now-cash-for-work), food-for-education (now-cash-for-education), gratuity relief and test relief, old-age allowance, freedom fighter allowance and a few other minor categories constitute the general safety-net programme. Only very poor households derive benefits, particularly during natural calamities. These safety-net programmes covered only 13 percent of households nation-wide (15 percent in rural areas and 5 percent in urban areas) in 2005. The average amount of benefit per benefited household was Tk..781 which was approximately 2 percent of the income of such households. Obviously, the amount of help needed in crisis years warrants to be expanded by a multiple of the magnitude distributed in 2005.

During the 2008 food crisis, the allocations to VGD/VGF and gratuity relief programmes were doubled and a new programme called guaranteed employment programme was introduced. Local governments, mainly Union councils, played crucial parts in implementation of this programme. It is necessary to examine how the institutional mechanisms adjust to make the expanded programmes during crisis years really effective. In addition to the existing safety-net framework, we have earlier argued for cash grants to rural labourers and deficit farmers so that agricultural prices do not have to be kept depressed on grounds of adverse impact on rural poor. Urban industrial workers have also to be protected during high inflation. Industrial houses should be induced by government to take up special measures to help the workers. Industrial wage policies should be carefully watched for this purpose. The entire welfare needs to protect the poor during inflationary crisis have to be carefully examined and a comprehensive strategy developed in order to pursue a strategy of providing incentive prices to agriculture, shifting the welfare burden from farmers to the whole society. It would then be possible to avoid ineffective input subsidy and use those resources as cash grants to farmers. The diesel fuel subsidy in 2008 was partly a move towards that direction.

8.4.4 Competitive Food Market

Our discussion so far on management of food crisis has been limited to public actions. It is necessary to recognise that effectiveness of public actions is dependent on working of harmonious free market in overcoming the pangs of a crisis in a market economy. In a socialistic system, this dependence is not required, by definition. But Bangladesh is not a socialist economy. In the beginning of this chapter we have presented attributes of our food market which evolved over time into a competitive one in normal years. But food market may go wrong in crisis years where profit-motivated traders may exploit the scarcity situations for maximising their gains. In a rising price environment, traders' expectation changes fast and they may hold stock, postponing current sale, for selling in a future higher price situation. This is what we call hoarding. Ravallion (1987) observed this traders' behaviour during the 1974 famine in Bangladesh. However, the correct response to such a behaviour is not a police action against traders, that creates panic and accentuates the problem further, but to orchestrate multifaceted drives to mould public psychology and traders' expectation. Open market sales of food grains, co-opting business forums in building confidence and soothing market, avoiding domestic procurement, and announcing ambitious import programmes are some of the measures that a government could take to change damaging expectation. The announcement of an agreement with India to import 500,000 tons of rice, even though the rice did not reach Bangladesh market in time, was a clever move to curb market expectation of a forthcoming blaze in rice market. In 2008 food crisis, except some initial lapses (e.g. anti-hoarding police drive, indecision in timely public import, etc.), the government did a good job in managing food crisis in Bangladesh.

Chapter 9

Monitoring and Evaluation of Public Interventions

Good governance has become prerequisite to good government throughout the world today. It has assumed a particularly important place in the matrix of factors that are identified to be the determinants of future prosperity in Bangladesh. There are tremendous pressures and demands, both internal and external, for improvements and reforms in public management. These demands come from a variety of sources, including multilateral development institutions, donor governments, private sector, NGOs, citizen's groups, civil society and media. Whether it is a call for greater accountability, transparency, enhanced effectiveness of development programmes, or real results of political promises made, governments must be increasingly responsive to internal and external stakeholders to demonstrate tangible results.

9.1 Governance, Transparency and Accountability

But what is governance? Existing literature defines governance in ways that seem to cover both processes and outcomes. There are wide ranges of views on the meaning of governance. Some have underscored political regimes relating to political contestability and processes, political and civil liberties and the legitimacy of the government. Some have emphasised economic management. The focus is on the soundness with which the government exercises its authority in the management of a country's social and economic resources. Some have emphasised the quality and content of economic policy. This focuses on the capacity of the government to design, formulate and implement appropriate public policies. Finally, some have focused on formal and informal institutions, particularly the legal and judicial frameworks, which define, regulate and mediate the interactions between the government and citizens, including the private sector and civil society. In short, governance remains a broad, multi-dimensional concept that lacks operational precision. It has been used as an umbrella concept to federate an assortment of different, albeit related,

ideas. However, International Financial Institutions (IFIs) have adopted approaches that suit their respective operations, but closely similar in nature. World Bank sees governance in a manner in which power is exercised in the management of a country's economic and social resources for development. IMF's concern with governance relates primarily to macro-economic stability, external viability and orderly economic growth in member countries. Asian Development Bank focuses on characteristics of the process such as accountability, participation, predictability and transparency.

While conceptual diversity in the definition of governance is academically respectable, at empirical and operational level, development practitioners have sought to identify feasible characteristics that can provide a handle to resolve complicated elements of good governance. Corruption is one such single characteristic which has causal links to issues such as (a) legal and judicial institutions, (b) misuse of public resources, (c) poor economic management, (d) political indiscipline, and (e) property right violations. The popularity and effectiveness of the Corruption Perception Index (CPI), produced by Transparency International (TI), has raised awareness of the negative impact of corruption on economic growth and poverty reduction.

Transparency and accountability in public resource management and economic policies are fundamental to minimisation of corruption. Transparency implies letting people know what and how pieces of government actions are being conducted? The procurement of materials and services under government programmes can be carried by competitive bidding or through mutual negotiation between an authorised public agent and a supplier. In the former case, wide circulation of tender notice makes the process more transparent and competitive than in the latter case. The scope of illegal deals is more likely in the latter than in the former case. Hanging a notice board on a project site and displaying the major expenditures and targets in constructing a rural road, is more likely to create barrier to misappropriation of the road fund by unscrupulous contractors and public officers, than the case when local people are kept unaware about the project. In almost all cases of public actions conscious transparency measures always act as barriers to corruption. Similarly, efforts to make sure that such and such persons or agencies are responsible and accountable for such and such actions, can make misuse of resources difficult. Corruption thrives most rapaciously when accountability is not clearly defined, supervisory structure is demoralised and unauthorised interventions become the order rather than exception in public management. Widely sharing of information in public management is

thus a primary instrument for ensuring an honest and efficient mode of governance. Monitoring and evaluation (M&E) institutions in public organs are fundamental to good and efficient operations of a government.

It is argued that the commitment of political leaders to establishment of effective monitoring and evaluation frameworks in government is not likely to be strong. Those in the political system, who have evil objectives of abusing power for personal gains, would not write their own death certificates by installing mechanisms that would stand on their way of making personal gains. This line of argument against an effective monitoring and evaluation system is only partly true. In every political party there are honest as well as dishonest people. Honest and dedicated politicians, even if smaller in number, would find strength in the functions of monitoring and evaluation system. Civil society, donors, NGOs and ordinary citizens would find information, generated by the monitoring and evaluation process, as effective weapons to combat greedy elements of political system. The challenge is how well a potentially effective monitoring and evaluation system can be designed and tactfully installed in the public management system.

9.2 Effective Monitoring and Evaluation System

9.2.1 What is Monitoring and Evaluation?

We have placed much emphasis on M&E with respect to its potential influence on governance. It is necessary to be explicit about the meaning of M&E and the core content of the term. Use of M&E practices is stronger in OECD countries than in the developing countries. The OECD (2002) defines M&E as follows.

Monitoring is a continuous function that uses the systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing development intervention with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds.

Evaluation is the systematic and objective assessment of an ongoing or completed project, programme and policy, including its design, implementation and results. The aim is to determine the relevance and fulfillment to objectives, development efficiency, effectiveness, impact and sustainability. An evaluation should provide information that is credible and useful, enabling the incorporation of lessons learned into the decision making process of both the recipients and the donors.

It is evident from these definitions that monitoring and evaluation, even though are distinct processes, are complementary to each other. Monitoring gives information on where a project, programme or policy is

at any given time or over a given time period relative to respective targets, outputs. This output is defined in terms of the immediate objectives of the use of inputs. This output is in fact a completed input towards a higher order output or impact or outcome that is the ultimate objective of the projects, programmes or policy. Evaluation gives evidence why targets or outputs are being achieved. If achieved and completed, what is the impact of this achievement in terms of the higher order output or impact. This impact is the ultimate result of lower order output or input. The evaluation addresses the issues of causality i.e. how inputs have caused the results in ultimate objectives. For example, the programme of rural road construction by LGED involves (a) planning; (b) securing tenure of land; (c) inviting tender; (d) appointing contractor; and (e) procurement of goods and materials by contractor and undertake actual construction. Monitoring would imply a process of keeping track of these various steps of road construction and the output would be a constructed road.

This output is an input to creating rural jobs, diversification of agriculture, creation of rural non-farm income, and reduction of rural poverty. The task of evaluation would be an assessment of (a) the efficiency of implementation of the programme of rural road construction, and (b) the ultimate impact in terms of rural income, employment and reduction of poverty arising from the rural road programme. Thus the process of evaluation involves an analysis of causality between a road construction and generation of income, and employment and also the distribution of this income and employment between rich and poor households. Thus the monitoring information provides lesson for implementing agency. The information is crucial for mid-course corrections in the implementation and, therefore, essential for decision-makers in the implementation agency. The evaluation information is essential, not only for implementing agency, but for high level policy makers and donors to decide whether existing priority to rural road should be changed or whether ancillary institutional measures need to be implemented to enhance its impact.

Monitoring is relevant to projects because implementation of a project involves sequences of steps which are easily amenable to monitoring. However, evaluation of projects can also be relevant when final results or impact of a project on higher-order outcome, is amenable to probing or causal analysis. The example is the evaluation of the Teesta irrigation project we have cited earlier. Evaluation is, however, more relevant to programmes or policies. Evaluation of programmes requires that

programme components (which could be a complex of a number of discrete projects) are clearly defined and specified.

9.2.2 *Designing an Ideal Monitoring and Evaluation System*

World Bank has developed a model of ideal M&E system for use in public management of resources (Kusek and Rist, 2004). Establishment of this model in Government involves 10 steps (Figure 9.1).

Although experts differ on the specific sequence of steps in building a results-based M&E system, all agree on the overall intent. For example, experts propose four or seven step models. Regardless of the number of steps, the essential actions involved in building an M&E system are to:

- Formulate outcome and goals;
- Select outcome indicator to monitor;
- Gather base line information on the current conditions;
- Set specific targets to reach and dates for reaching them;
- Regularly collect data to assess whether the targets are being met;
- Analyse and report the results.

The place or places in the government that this task would be established should be clearly designated. There would be a need for a central organisation or a cell to coordinate these tasks and analyse the results. Obviously, appropriate manpower to conduct the whole exercise would play the crucial role in success of the system. The M&E model, evolved by the World Bank, has been adopted in a few countries of Asia. Malaysia and South Korea have installed this model in their public management system with good results. Most OECD countries follow some form of M&E system. With these primary observations of the World Bank M&E model, we will now examine each of the ten steps of the model described above.

Conducting a Readiness Assessment. This step plays a critical role in successful operation and sustainability of M&E system. If a country is in no mood to install such a system, it would serve no useful purpose. This step provides a framework to assess whether a given country's organisational capacity and political willingness to monitor and evaluate its goals exist. Whether the country is willing to manage its public activities within a performance-based framework for reward and punishment, is a consideration for assessment of readiness to adopt the model. The authors of the World Bank's result-based M&E system conducted a survey among countries to determine which country is ready to adopt the model; Bangladesh was amongst those countries

surveyed. The interesting result is that their assessment did not find Bangladesh yet ready for such a system (see **Box 9.1**). We shall return to this readiness question when we examine Bangladesh's current status on monitoring and evaluation.

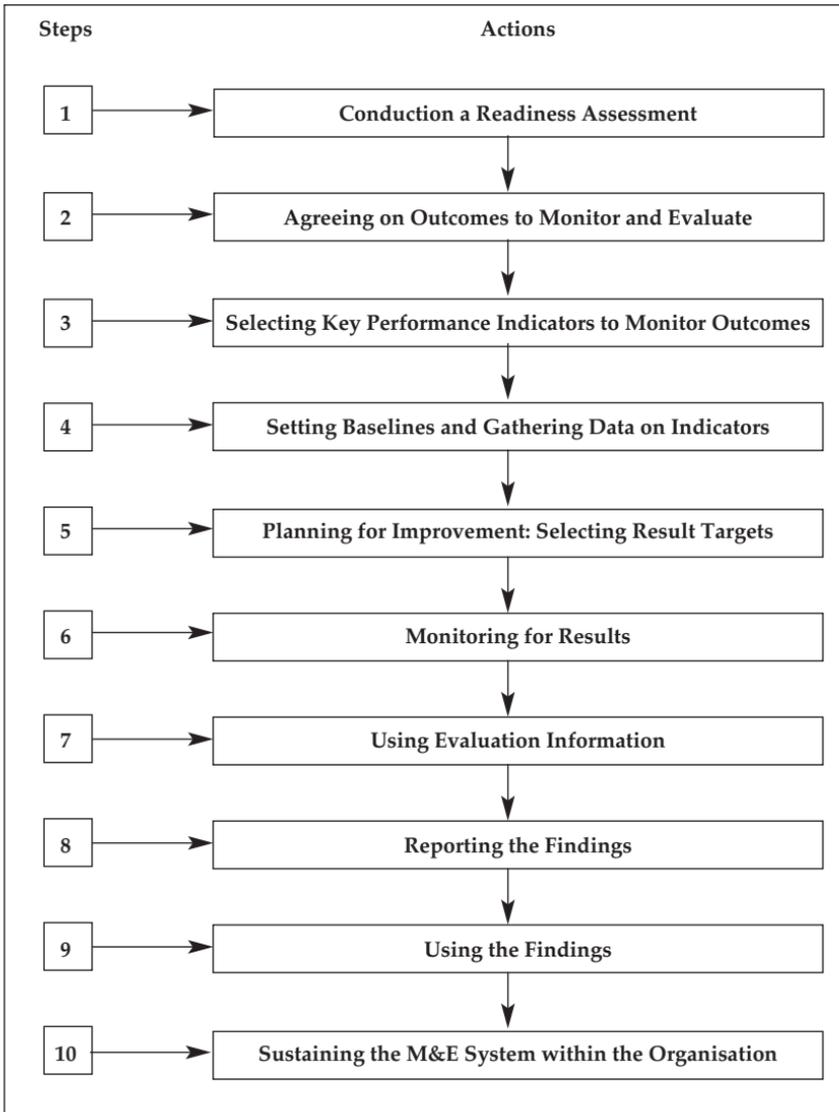


Figure 9.1 Steps in Designing an Ideal M & E System.

Box 9.1 M & E System: Readiness Assessment for Bangladesh

In the course of implementing the readiness assessment, Bangladesh posed a considerable challenge with respect to its readiness to design and build a results-based M&E system. In 2001, Bangladesh was ranked the most corrupt country of the 91 countries monitored by Transparency International, with the most corrupt public sector listed as the law enforcement agencies, followed by education, local government and health. In 2002, Bangladesh was again listed as the most corrupt of the 102 countries monitored. Corrupt systems keep information out of the public domain and this is a major obstacle to M&E.

The readiness assessment found no champion for M&E anywhere in the national government, including central and sector ministries. No reform initiatives could be identified that could create incentives for linking these reforms to the creation of an M&E system. Furthermore, there were no legal or regulatory requirements for the use of M&E that could be identified.

There were some monitoring systems in rural parts of the country for education, electrification and food subsidies. There was also some evidence that NGOs and the donor community were actively monitoring the results of development projects, but this had not influenced the government to do the same. The Bangladesh Bureau of Statistics was found to be a strong State agency. If and when the government moves toward developing a results-based M&E system, the bureau could play a central role in the collection and analysis of data.

In terms of technical capability, the readiness assessment found weak capacity for M&E and minimal technical training capacity in universities and research centers. The assessment also indicated minimal organisational experience in the national government with respect to managing credible information systems.

As a result of the readiness assessment, we found that it was not realistic and feasible to introduce a results-based M&E system into the national government at that time. Strong political support and sustained institutional capacity building will be needed before such an initiative can be undertaken.

There is hope on the horizon for Bangladesh. Subsequent to the readiness assessment, the government developed a National Poverty Reduction Strategy (PRSP) that includes M&E components. The readiness assessment recommended five strategies to donors and NGOs working in Bangladesh to strengthen some of their capacity and work in small, targeted ways.

Source: Kusek and Rist, 2004.

Agreeing on Outcomes to Monitor and Evaluate. At the outset, it is important to distinguish between goals and outcomes. For example, the goal may be to achieve parity between men and women in education. Goal maybe to reduce poverty by 50 percent within 15 years. The outcome variables would be enrollment of girls in schools and colleges in

achieving the goal of gender parity in education. The input variables would be various projects and programmes selected for implementation to achieve the outcomes. The outcomes are specified as targets for achievement within a definite time period. Monitoring and evaluation would focus on outcome in order to evaluate how the outcome variables would or would not lead to reach the goal.

It may appear simple but defining outcomes is very important. All parties (i.e. political leaders, bureaucrats, civil society, professionals and other stakeholders) must participate in the process of selection of outcome variables before they become the subjects of monitoring and evaluation. One cannot set indicators before determining outcomes because it is the outcomes, not the indicators that will ultimately produce the benefits. Outcomes will demonstrate whether success has been achieved. In selection of outcome variables for monitoring and evaluation, considerations of strategic priorities, participation of stakeholders and determination of input-output-outcome relationships are essential.

Selecting Key Performance Indicators to Monitor Outcomes. After examining the step of setting achievable and well-defined outcomes, we turn next to the selection of performance indicators. These are quantitative or qualitative variables that provide a simple and reliable means to measure achievement and to reflect the changes connected to an intervention against the stated outcome. Indicators should be developed for all levels of the M&E system, meaning that indicators are needed to monitor progress with respect to inputs, activities, outputs, outcomes and goals. Progress needs to be monitored at all levels of the system to provide feedback on areas of success and areas in which improvement may be needed.

For deriving an indicator for monitoring outcome, the outcome should be translated into indicators. For example, in the case of an outcome "to improve student learning", an outcome indicator regarding students might be the change in student scores on school achievement tests. If the students are continually improving scores on achievement tests, it is assumed that their overall learning outcomes have also improved. Economic cost of setting indicators should be considered in the choice of an indicator. This means that indicators should be set with an understanding of the likely expenses of collecting and analysing the data. Indicators ought to be adequate. They should not be indirect, proxy or abstract in order to ensure that measuring performance remains straightforward. On the other hand, sometimes it is difficult to measure the outcome indicator directly, so proxy indicators are needed. Indirect or

proxy indicator, should be used only when data for direct indicators are not available, when data collection is too costly or it is not feasible to collect data at regular intervals. Developing indicators requires time and competent technical, substantive, and policy experts participate in the process of selecting and constructing performance indicators.

Setting Baselines and Gathering Data on Indicators. After the selection of performance indicators the next step is the establishment of baseline information, i.e. establishing where we are at present relative to the outcome we are trying to achieve. The baseline is the first measurement of an indicator. There are 8 key questions that should be asked in building baseline information for every indicator:

- (a) what are the sources of data?
- (b) what are the data collection method?
- (c) who will collect data?
- (d) how often will the data be collected?
- (e) what is the cost and difficulty to collect the data?
- (f) who will analyse the data?
- (g) who will report the data?
- (h) who will use the data?

These questions may appear occasionally superfluous but going through the process of asking and finding solutions to the question will result in decision whether the data would be collected through designated government agency, research institutes, universities or private vendors. It is also important to “pilot” an indicator development before going full-scale in the field for data collection. This requires systematic planning and piloting before full implementation.

Planning for Improvement—Selecting Results Targets. After gathering baseline data on indicators, the next step is to establish result targets—what can be achieved in a specific time toward reaching the outcome. The target should be as realistic and possible; otherwise assessment of performance could be misleading. A target is defined as a specified objective that indicates the number, timing and location of what is to be realised (World Bank, 2004). One method to establish targets is to start with the baseline indicator level and include the desired level of improvement (taking into consideration available resources over a specific time period, for example a year or so) to arrive at the performance target. In doing so, the starting point will be known as will be the available resources to make progress toward that target over a particular

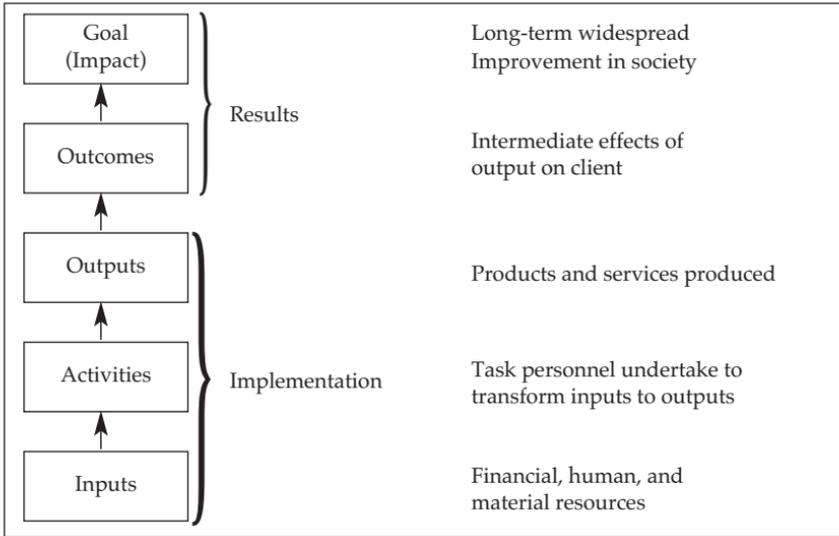
period of time. This will give the target performance. In other words, the target performance can be expressed as follows:

$$\boxed{\begin{array}{c} \text{Baseline Indicator} \\ \text{Level} \end{array}} + \boxed{\begin{array}{c} \text{Desired level of} \\ \text{Improvement} \end{array}} = \boxed{\begin{array}{c} \text{Target Performance} \end{array}}$$

There are a number of important factors to consider when selecting performance indicator target. First, the importance of taking baseline seriously; there must be a clear understanding of the baseline starting point. For example, an average of the last 3 years performance, last year's performance, trend value of the base year and so forth. In other words, previous performance should be considered in projecting new performance target. Second, consideration should be given to expected funding and resource levels (existing capacity, budget, personnel etc.) throughout the target period. Third, most targets are set annually but some could be set quarterly. Others could be set for longer periods. However, setting targets more than three to four years forward is not advisable. There are too many unknowns and risks with respect to resources and inputs to try to project target performance beyond three to four years. Setting realistic targets involves the recognition that most desired outcomes are longer-terms, complex and not quickly achieved. Thus, there is a need to establish targets as short-term objectives on the path to longer-term outcomes.

Monitoring for Results. Monitoring for results begins with the recognition that there are two types of monitoring i.e. implementation monitoring and results monitoring. Both are important in tracking results. The process of result-based monitoring is summarised in [Figure 9.2](#). A few principles in building a result-based monitoring should be remembered. These principles are (a) results information needs at the project, programme and policy level; (b) results information must move horizontally (across different organisations) and vertically (across different tiers of the same organisation); (c) demand for result information at each level needs to be identified; and (d) responsibility at each level needs to be clear.

Using Evaluation Information. We have already stressed that monitoring data do not give the basis for attribution and causality for change. The monitoring data also do not provide evidence that changes are taking place. Likewise, monitoring data, in and of themselves, can not address the strengths and weaknesses in the design of the project, programme or policy. Consequently, to address these and other important questions regarding the generation of results, evaluation information is necessary.



Source: Kusek and Rist (2004); originally from Binnendijk (2000).

Figure 9.2 Results-based Monitoring System.

Evaluation is an assessment of planned, ongoing, or completed intervention to determine its relevance, efficiency, effectiveness, impact and sustainability. The intent is to incorporate lessons learned into decision-making process. We want to stress the complementarity of evaluation and monitoring. Each supports the other even as each asks different questions and will likely make different uses of information and analyses. The immediate implication is that moving to results-based M&E system requires building an information and analysis system with two components: monitoring and evaluation. Either alone, in the end, is not sufficient.

There are several complementarities of monitoring and evaluation. First, sequential complementarity, in which monitoring information can generate questions to be subsequently answered by evaluation, or the reverse, with evaluation information giving rise to new areas or domain of monitoring to be initiated. Second, information complementarity, in which both monitoring and evaluation can use the same data, but pose different questions and frame different analyses. Third, interactional complementarity, in which managers use monitoring and evaluation in tandem to help direct their initiative (Kusek and Rist, 2004).

It is important to emphasise here that the evaluation function in the M&E System significantly expands and moves beyond what is

traditionally understood as the after-the-fact approach to evaluation. Evaluation is not restricted to assessing causes and changes after an intervention or initiative is over. Types of evaluation include: (a) performance logic chain assessment, (b) pre-implementation assessment, (c) process implementation evaluation, (d) rapid appraisal, (e) case study, (f) impact evaluation, and (g) meta-evaluation.

Reporting the Findings. Analysing and reporting performance findings are a critical step because it determines what is reported when it is reported, and to whom it is reported. Reporting plays a crucial function of enhancing transparency in governance. This step also has to address the current technical capacity of the organisation because it focuses on the methodological dimensions of accumulating, assessing and preparing analyses and report. Reporting findings should address the following issues: (a) knowing the audiences and targeting the appropriate information to these audiences; (b) presentation of performance data in clear and understandable form; and (c) what happens if performance news is bad.

Using the Findings. The main point of the M&E system is not simply to generate continuous results-based information but to get that information to appropriate users in a timely fashion so that the performance feedback can be used to better manage organisations and government. Findings can be used in a variety of ways, as shown below:

- (a) Respond to elected official and the public's demands for accountability.
- (b) Help formulate and justify budget requests.
- (c) Help make operational resource allocation decisions.
- (d) Target in-depth examinations of decisions what performance problems exist and what corrections are needed.
- (e) Help motivate personnel to continue making programme improvement.
- (f) Formulate and monitor the performance of contractors and guarantees.
- (g) Provide data for in-depth programme evaluations.
- (h) Support strategic and other long-term planning efforts by providing baseline information and later tracking progress.
- (i) Communicate better with public to build public trust.

Institutionalising learning is important in governments and organisations. Policy and programme evaluation should play a

systematic, instead of an ad hoc, role in the process of organisational learning. A political environment needs to be created that encourages continuous reporting as well as the use of results. This implies that a certain level of institutionalisation has to occur before findings can be used in the management of government institutions.

Sustaining the M&E System within the Organisation. The final step of the M&E model is the issue of sustainability of the M&E system. An M&E system should be regarded as a long-term effort, as opposed to an episodic effort for a short period or for the duration of a specific project, programme or policy. There are six critical components of sustaining results-based M&E system.

- (a) *Demand:* If demand is episodic or haphazard, results-based M&E systems are not going to be used and sustained structural requirements for reporting results, including legislation. Regulations and international development requirements can help lead to sustained demand for such systems.
- (b) *Clear roles and responsibilities:* Clear roles and responsibilities and formal organisational and political lines of authority must be established. The organisation and people who will be in charge of collecting, analysing and reporting performance information must be clearly defined. Internal political coordination is key. A system should be built that links the central planning and finance ministries to the line and sector ministries.
- (c) *Trustworthy and credible information:* The M&E System must be able to produce results information that reports both good and bad news. Performance information should be transparent and made available to all key stake holders. If debate of issues is not backed up by trustworthy and credible information, only personal opinions and presumptions are left.
- (d) *Accountability:* No part of the government should be exempt from accountability of stakeholders.
- (e) *Capacity:* Sound technical skills in data collection and analysis are necessary for the system's sustainability. Managerial skill in strategic goal setting and organisational development are also needed. Government will need to commit continuing financial resources to the system.
- (f) *Incentives:* Incentives need to be introduced to encourage uses of performance information. This means that success needs to be acknowledged and rewarded, problems need to be addressed, organisational learning is valued and budget savings are shared.

9.2.3 Observations on the Model

Concluding the ten-step model in the foregoing paragraphs, it seems appropriate to make a brief observation. The model is academically impressive but it lacks pragmatic considerations for applicability in developing economies and its conclusion on its inapplicability in Bangladesh is vindicated (see Box 9.1). The type of modifications that would make a results-based M&E model applicable in developing economies could have been extremely useful. The central message of the model is that implementation monitoring should be extended to encompass evaluation of ultimate results of public intervention. This central message would be a starting point for designing appropriate M&E system in an individual country. We shall examine such a possibility for Bangladesh after we have presented the existing M&E mechanisms in Bangladesh. Monitoring and evaluation of public projects, programmes and policies is essential, if accountability and transparency in public management have to be improved.

9.3 The State of Monitoring and Evaluation System in Bangladesh

Monitoring and evaluation system is basically an important component of the national information on past and present economic, social, and natural statistics. M&E system focuses on information on public interventions. However, operation of the M&E system cannot be perceived in isolation of the national systems for collection of economic, social, and natural facts. This is so because M&E system and national information systems are interdependent; one receives support from the other. The functions of an M&E system have, formally and informally, been discharged through a number of scattered institutions in Bangladesh. The list of these institutions, with a brief description of their functions, is provided below:

- (a) *The National Economic Council (NEC)* is a top level institution to approve or disapprove large development projects through its Executive Committee (EC/NEC). Although it is a decision making body, it occasionally calls for evaluation of certain project or projects when it finds that sufficient information do not exist to make a decision. For example, in a recent meeting of EC/NEC it called for a new evaluation as to why a certain project in the transportation sector had shown a large cost over-run. Such calls for evaluation are infrequent and EC/NEC is primarily a potential user of M&E information, rather than an M&E institution.

- (b) *Parliamentary Committees* at the national level are institutions attached to the national Parliament and there are several of them, one for each ministry. They examine selected projects, programmes or policies of the ministry for scrutiny. Generally they select those projects, programmes or policies which are found with certain faults or lapses evident in popular or documentary complaints. This institution is also a potential user rather than generator of M&E information.
- (c) *Implementation Monitoring and Evaluation Division (IMED)* of the Ministry of Planning is a formal institution for M&E functions. IMED's function is limited to development projects under the Annual Development Programme (ADP). As the name of IMED indicates, it is involved in implementation monitoring, rather than results evaluation. Once in a while, it conducts post-implementation evaluation of projects. Such evaluations are again for "project output" (e.g. miles of road, or area irrigated etc.) and not for impact of the project on higher order objectives (e.g. effect on poverty, growth of production etc.). In implementation monitoring, it focuses on (a) financial progress, and (b) physical progress of project targets, collecting such regular information from project directors. IMED compiles actual public development expenditures annually. Use of IMED information is limited to Ministry of Finance and other relevant ministries. The usefulness of its information in feedback and change of course in policies is feeble, if any.
- (d) *Ministries and Departments under Ministries* have some sort of progress tracking units. Every ministry has a planning cell which monitors projects and policies. Their main function is reporting progress to planning or finance ministries. However, nothing like an M&E system exists anywhere. The Ministry of Finance has a relatively effective monitoring cell for monitoring budget expenditures. Food ministry has a special unit called Food Policy Monitoring Unit which monitors food situation in the country. Ministries usually adopt various measures to monitor the progress of their programmes. Sometime they call conferences of all field officers. Sometime they form committees to generate solutions or find causes for specific issues. Reporting financial and physical progress to Ministry of Planning or Ministry of Finance is a routine task. It is obvious that M&E system that could improve transparency and accountability does not currently exist anywhere in Bangladesh.

- (e) *Donors, particularly multilateral development banks*, have developed their own mechanisms for monitoring and evaluation of projects and programmes they support financially. Moreover, these banks prepare sector or sub-sector reviews and conduct special studies which are of good quality e.g. relations between public input and impact on growth and poverty reduction.
- (f) *Bangladesh Bureau of Statistics (BBS)* is not a monitoring institution for projects, programme or policies. But it collects and publishes statistics on most aspects of the economy. Its information pertains to annual production of goods and services in agriculture, industry and various services sectors. It collects and publishes all price data, exports, imports and information on numerous other economic variables. In addition to annual data, it conducts population census, agricultural census, labour force survey, household income and expenditure surveys and special surveys like credit survey, entrepreneurship survey, etc. Annual yearbook of statistics and special survey reports are published for general use by researchers, government agents, donors and other public and private organisation. The national income accounts of the country are also compiled and published by BBS. This information are crucial for conducting analysis of causal relations between various phenomena, including some aspects of causal relations involved in evaluation (e.g. the relation between public expenditure and poverty, relation between inputs in agriculture and agricultural output). Statistics generated by BBS are relevant for functions of an M&E system but BBS is not an M&E institution.
- (g) *Bangladesh Institute of Development Studies (BIDS)* is a research organisation and not an M&E institution. It has conducted many evaluation and monitoring studies in the past under contract with the government and donors. It has been organising a poverty monitoring project. It has evaluated project and programmes like the evaluation of the Barind Development Board, the Chandpur Irrigation Project, the Food for Work project. But it is not a substitute for an M&E system that we have outlined earlier.
- (h) Beside the institutions we have listed above, the *media in Bangladesh* is very vibrant. Newspapers have developed investigative journalism skills and these journalists collect and publish information on emerging and ongoing crisis in areas of public interest. The void in public information, because of absence of an organised M&E system, is being imperfectly filled by

journalists. Some news stories are true, others are biased. The media is not a solution to an effective M&E system. However, an M&E system can feed media with reliable information on public management.

9.4 Need for an Effective Monitoring and Evaluation System in Bangladesh

The identification of indiscipline in project preparation, processing, and implementation, widespread corruption, irregularities in supply of agricultural inputs, decline of net inflow of credit to rural areas, distortion in input markets in agriculture, unwise fertilizer subsidy, erosion of research funding and various other problems described earlier will not be congenial to poverty reduction if remain uncorrected. The goal of PRSP will not be attained if an M&E system is not established. Improvement in transparency and accountability will not be possible without a serious attempt to establish an M&E system in the government. PRSP provides a *raison d'être* for an M&E System and provides interventions across many sectors of the economy, therefore, the M&E system should be comprehensive. The question is how to proceed if such a system is decided to be established. The remaining part of this section is devoted to discuss the issues surrounding the establishment of an effective M&E system in Bangladesh.

9.4.1 Location of the M&E System

The existing M&E system is located within the Ministry of Planning under IMED but such an institution does not address the needs of the PRSP. Therefore, this institution requires strengthening and transformed into an organisation that can conduct results-based monitoring and evaluation activities.

9.4.2 Form of the M&E System

There are four basic requirements for this transformation: (i) the new organisation should be a neutral institution, willing and able to speak out if there is anything wrong as well as publicise the good aspects of projects and programmes; (ii) the new organisation requires qualified and skilled personnel who are capable of quantifying cause and effect relations in the economy; (iii) the head of the organisation should have reputation of being objective and respectable to top echelon of government machinery; and (iv) it should have necessary financial resources for effective operation.

The requirements imply that the organisation should operate with mature advisers from a variety of expertise. It is suggested that an advice council should serve as a forum for debate of important issues, examine broad methodology and lend coordinating support necessary for access to information. Following members could conceivably constitute such a council:

- (a) Director General, BBS;
- (b) Senior representatives from the ministries of Finance, Agriculture, Rural Development, Planning Commission, Transportation, Commerce, Industry;
- (c) BIDS (DG);
- (d) Representatives from development partners;
- (e) Representative from NGOs; and
- (f) Distinguished economist.

9.4.3 Critical Aspects of the M&E System

The organisational structure of an M&E system will depend on the substantive elements that are designed to reduce poverty. The development of performance indicators for monitoring the progress will also depend on the substantive elements of PRSP. To provide a succinct account of these substantive elements, we have attempted to prepare a diagrammatic arrangement of elements that influence the levels of poverty (see [Figure 9.3](#)). The purpose is to summarise a list of important elements that would constitute the list of indicators for potential monitoring. Let us go through these elements in the figure to provide an idea of what type of personnel and what size of an organisation is necessary.

The goal of PRSP is to reduce poverty. Setting benchmark and monitoring of poverty will constitute a task of M&E. In setting benchmark of indicators as well as measuring poverty, it is cautioned that the estimates are free from any influence of random elements. In other words, a measurement of the meta relationship between poverty and its determinants should be based on a complex and comprehensive model. In the absence of a quantitative model based on regression, which would be difficult because of time series data problem, a synthetic simulation model could be used because of the amenability of such models to use judgment-based coefficients.

The other cautionary note relates to national versus regional indicators. This study clearly makes the point that regional aspects,

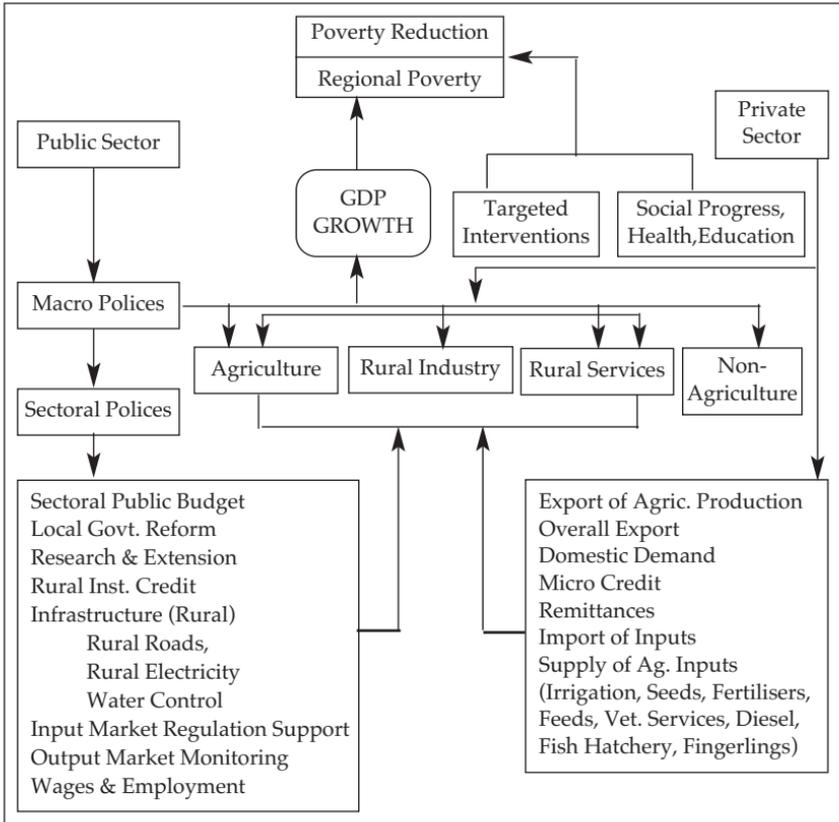


Figure 9.3 A Diagrammatic Arrangement of Major Elements influencing GDP and its Distribution for Poverty Reduction

particularly pertaining to Rajshahi Division, are of serious concern for achieving PRSP objectives. In other words, there is a need to monitor progress in poverty reduction in the areas of Bangladesh that are known as “poverty traps”, including the “Monga” areas.

The next element in the diagram is GDP. The PRSP’s broad strategy emphasises accelerating the growth rate. However, for poverty reduction it is necessary that the growth comes through rural income growth i.e. pro-poor growth. This means, agricultural growth, growth of rural industries and growth of rural services. Therefore, assessment of the relation between poverty, on the one hand, and growth rate of GDP and composition of growth, on the other is necessary. Rural income growth and their determinants are crucial in this growth process.

The other elements of the diagram are public policies and interventions and private sector responses on key sectors that influence growth in GDP. The elements pertaining to targeted interventions (like food for or cash for works programme, vulnerable group feeding etc.) and social programmes (like education, health) are important for minimising poverty but because of their little or no effect on short-run growth of GDP, are shown outside the loop for growth. It is expected that the diagram would be useful in organising an M&E structure in the government and in selection of key indicators for monitoring progress in poverty reduction, particularly under the national poverty reduction strategy programme.

Chapter 10

Summary of the Past and Vision for the Future for Greater Rural Prosperity

Since independence in 1971, Bangladesh has made a spectacular stride in socio-economic development. The transformation that has occurred may appear not to be so profound when viewed in the context of magnitudes of successes in some developing countries of Asia. But when the success of Bangladesh is viewed in the light of a dismal picture of the initial conditions, it clearly emerges as a profound “test case of success”, beating most pessimistic prognosis at its birth. In this concluding chapter we would recount the adverse initial conditions that confronted the country from the very beginning of its sojourn with economic and social development. Then we would recount the story of rural transformation in abstract form and re-enumerate the factors and policy instruments that brought about the transformation. Learning from the past and looking forward with a vision for the future of rural prosperity, we attempt to carve out a path to be followed and steered by the government in order to bring the vision into reality for promoting greater rural prosperity in Bangladesh.

10.1 Initial Conditions at Birth

In Chapter 1, we had discussed the emergence of Bangladesh from the war of independence in 1971. Two decades of stagnation and exploitative policies resulted in a disenfranchised Bengali populace united by their hatred of the authoritarian State of Pakistan leading to an independent State of Bangladesh with a population of about 75 million in 1971. A large portion of the population was extremely poor and the annual average per capita income was equivalent to only US\$85 (Khan and Hossain, 1989). Population was growing rapidly, at about 3 percent per year, except of course for a couple of years during the war of independence and the 1974 famine. The level of infrastructural development at the time of independence was extremely low. The country with a population of 75 million and a land area of 55 thousand square miles, had only 3,650 miles

of paved road, 56,200 telephones, 490 kilowatts of electricity (none for rural areas), an adult literacy rate of 26 percent and the life expectancy at birth of only 50 years. (Ahmed *et al.*, 2000). Agriculture was the main source of income; the share of agriculture in GDP was 59 percent and the share of industry was only 10 percent in 1973/74. The degree of subsistence orientation in agricultural production was very high.

The infrastructure was destroyed during the war of independence. Road networks in Bangladesh generally involve a high intensity of bridges and culverts because of its deltaic terrain. These bridges and culverts suffered massive destruction at the hands of freedom fighters who desperately sought to immobilise the Pakistan army. The terror and killing campaign of the Pakistani army, on the other hand, caused about 10 million people to migrate to India, about 30 million people migrated from urban to rural areas (Jahan, 2005). Most industries and business in Bangladesh were owned by West Pakistanis, who abandoned their enterprises simultaneously with the surrender of the Pakistani army. Therefore, major economic activities in the country shrank from the turmoil of civil war. When emergency reconstruction efforts were making a steady progress after December 1971, people were returning home from India and economic activities were being resumed in earnest, there came another blow in the garb of escalation in most prices, arising from worldwide oil crisis and shortage in global food grain market. These domestic and external changes in rapid succession resulted in a devastating famine in 1974. It was estimated that more than 300,000 persons died of starvation during this famine (Alamgir 1978).

Bangladesh inherited, from the East Pakistan era, a structure of bureaucracy which suffered temporary shocks but could be quickly re-assembled to perform routine public service delivery. The political system, however, could never fully evolve into a stable democratic institution until the beginning of 1990s. The military campaigns of Pakistan, however, created at least two long lasting impacts in the psyche of the Bangladeshi society. The *first* is the culture of violence in conflict resolution, both at individual and collective levels. The attack of Pakistan army, on the people of East Pakistan in 1971, has produced a permanent change in the attitude of people. Use of firearms and acceptance of violence to resolve conflicts and advance personal and parochial interests have become usual rather than unusual now-a-days. This has tremendous implications for governance and maintenance of law and order in the country.

The *second* permanent change in the attitude of people appears to be an unfathomable zeal to become rich overnight. The feelings of

deprivation and disparity were so powerful that the considerations of religious basis of united Pakistan were overwhelmed by these feelings. The intense attitude of people to make money, to invent new methods to make money, to go beyond legal limitations for making money and to assume enormous risk for making money, has become a noticeable attribute that was not present before independence of Bangladesh. The large migration of Bangladesh citizens going abroad for earnings, innumerable new entrepreneurs seen all around, emergence of numerous NGOs, and even the unwelcome spree in crimes of extortions, frauds, and similar heinous happenings could be attributed to the changed attitude for becoming rich as quickly as possible. Marginal utility of income has shifted up in a profound scale among the people of independent Bangladesh.

The initial conditions pertaining to policy direction and the state of rural economy deserve a particular exposition. Consistent with normal practices in policies of most countries in Asia at that time, Bangladesh declared that the country would strive to attain self-sufficiency in most products, particularly in food grains, as articulated in the Five-Year Plan, 1973-78. This was a reflection of inward-looking approach in policies. Government strongly believed in direct public actions in production and input supply for achievement of self-sufficiency; the use of incentive policies to indirectly encourage production was weakly recognised. Exchange rate of Bangladesh currency was fixed at par with India's and its availability to traders used to be strictly controlled. Government depended on indirect taxes equal to two-thirds of its collection of revenue and the domestic savings rate was only about 4 percent of GDP in 1973-74. Consequently, an investment of about 10-12 percent of GDP used to be maintained through generous foreign aid in the early years of independence. More than 50 percent of this investment used to take place under public sector, with priority to infrastructure and reconstruction. About 43 percent of public investment budget of the government in 1975/76 was financed through foreign aid. The overall price environment was characterised by instability, including an inflation rate of about 60 percent around 1973/74.

As mentioned earlier, the then prevailing economy of Bangladesh was dominated by agriculture production and services linked to marketing of agricultural products. Agriculture used to be perceived as a panacea for food security and food security used to be treated as equivalent to self-sufficiency in food grain production. Rice production was the target for food security and jute production and export was the main means of earning foreign exchange. Rural income originated mainly in agricultural

production. Though accurate statistics on sources of rural income were rare, the 1966 and 1968 master surveys of agriculture (Bureau of Statistics, 1969) provide evidences indicative of rural sources of income coming from agriculture (65 percent), services (29 percent) and rural industries (6 percent). Half of agricultural GDP used to be contributed by rice, produced mostly in *Aman* season under rain-fed conditions of production. Modernisation of agriculture, meaning the use of irrigation-seed-fertilizer technology, began much later in Bangladesh compared to India, because of interruptions caused by political unrest and war. Irrigation development, a pre-requisite for high-yielding varieties of rice technology, was extremely scattered, seasonal and covered only about 17 percent of rice area. Fifty percent of this irrigation was provided by unreliable indigenous method (Ahmed, 2001). As a result, the average rice yield per hectare of land was only 1.1 metric ton in 1973/74-1975/76, compared to about 2.31 tons in 2003/04.

Markets for agricultural products were very thin and fragmented in the early years of independence (Ravallion, 1987). Consequently, price fluctuations were quite high; the difference between harvest season (e.g. January-February) and lean season (September-October) rice price was about 30-35 percent in those years (Ahmed, 1979 and 1980). Agricultural input markets (particularly for seed, fertilizers, and irrigation equipment) were dominated by public sector initiatives organised under the management of Bangladesh Agricultural Development Corporation (Ahmed, 2000). Commercialisation in agricultural output and input sectors was rudimentary. Only about 10 percent of rice production by farmers entered market channel (Ahmed, 1980). Use of purchased inputs in production was also small, about 13 percent of production cost. The low level of commercialisation implied a very weak linkage between agriculture and the rest of the economy and limited scope of non-farm source of income in rural areas.

10.2 Rural Transformation since Independence

Transformation has a number of dimensions. We present here some selected dimensions that reflect adequately the prosperity and well-being of a nation. Even though it covers different aspects of socio-economic development since independence, the focus will be an agriculture and rural transformation.

10.2.1 Macroeconomic Transformation

Economic development is generally portrayed through changes in the structure of production, and a number of aggregate indicators pertaining

to national savings, investments, trade and exchange rates, public expenditures, income, income distribution and poverty. Production structure of the economy of Bangladesh has undergone a dramatic change over the years since independence. During this period, industrialisation has proceeded fast, raising the share of industries from 10 percent of GDP in 1973/74 to 28 percent in 2004/05. In national income accounting of Bangladesh, the industries sector is composed of (a) manufacturing, and (b) construction, mining and gas development. The share of manufacturing sub-sector has risen from 7 to 17 percent and the construction, mining, and gas sub-sector has gone up from 3 to 11 percent. The agriculture sector, on the other hand, had lost its share from 58 percent in 1973/74 to 20 percent in 2004/05. This loss is implicit in the lower growth rate in agriculture as compared to industries and service sectors. The services sector, like that of industries, gained its share from 31 percent in 1973/74 to 52 percent in 2004/05. These are the magnitudes of change in indicators of three-sector GDP shares of Bangladesh during the last three decades. These changes in sector based shares have resulted from dissimilar growth rates in sector based production.

The overall growth rate in gross domestic product (GDP) has been around five percent annually, during the three decades. Annual growth rate of GDP has increased from about 3.5 percent during 1975-1985, to about 4.5 percent during 1985-1995, and 5.5 percent during 1995-2005. Thus, there has been a modest acceleration in growth rates of GDP during the last three decades. Agricultural growth rate has been the slowest among the three broad sectors (agriculture, industry, and services) of GDP. Agricultural growth rate was slightly below the population growth rate till 1987/88; growth rate in agricultural GDP began to gradually overtake the population growth rate since then. A falling population growth rate and acceleration in the agricultural growth rate during 1995-2005, caused this result. Growth rates in industrial GDP and services GDP have varied from 7 to 8 percent per annum during the last 3 decades. These magnitudes of growth in GDP have been possible through commensurate changes in investment and savings rates in the economy during the years after independence. Domestic savings rate was very small which rose fast to 18 percent by the year 2004. Similarly the extent of gross investment, measured as a percent of GDP, increased to about 24 percent in 2004. Another feature of change in investment is the diminishing role of government in national investment. Now about 75 percent of investment takes place under private sector and 25 percent under public sector. At the initial years after independence, the opposite pattern was the rule.

10.2.2 Household Income and Poverty

The average per capita income in 2004/05, in terms of US dollar equivalent, has become 5 times the average level in 1973/75. And this magnitude of income increase is not a reflection of over-valuation of Bangladesh currency which has undergone drastic adjustment, particularly during the last decade, to reflect a sort of competitive value of Taka in the market. In Bangladesh, the gross national income has increased at a faster rate than the gross domestic product because of a substantially faster rate of increase of income of workers working abroad and their remittances to Bangladesh, particularly during the recent decade. However, the increase in average income has not occurred evenly among all income classes of the population of Bangladesh. Consequently income distribution has become quite skewed in favour of the rich.

Generally, inequality of income distribution is measured by an index called Gini Coefficient—higher the value of the Gini Coefficient, the greater is the inequality in distribution of income. Estimates of these Gini Coefficients and rates of poverty during 1990s were presented earlier in Table 6.7. The Gini Coefficients clearly indicate that inequality in income distribution had been increasing in Bangladesh throughout the 1990s. The pace of increase in inequality is, however, modest over the decade but increase in inequality does not necessarily imply a rise in poverty rates. It however implies that the rate of increase of income of the rich is faster than the rate of increase in income of the poor. The average levels of income per capita in survey years i.e. the Household Income and Expenditure Surveys (HIES), are shown in Table 10.1. Real per capita income has increased at a higher rate in urban areas than in the rural areas during 1990s. However, urban income declined slightly during the latter half of the 1990s. These income data appear to be consistent with the national accounts data.

For monitoring progress in poverty reductions over time, it is required that measurements of poverty are conducted at feasible intervals. The BBS conducts household surveys at 3-5 years interval for the purpose. For making an accurate assessment of progress (or lack of it), the time trend of poverty needs to be developed. Such a trend of poverty is a matter of complex measurement because inter-year comparisons must be free from (a) effects of random factors on poverty, and (b) effects of dissimilar methods or approaches involved in the measurement of poverty rates in different years. Taking out these two effects will provide a true trend of poverty caused by systematic forces of poverty reduction strategies. This is the statistic that policy makers,

Table 10.1 Trends in Nominal and Real Per Capita Expenditure (PCE) in Bangladesh

Sector	Mean PCE (Tk./Month)			Change (percent)		
	1991/92	1995/96	2000	1991/92 to 1995/96	1995/96 to 2000	1991/92 to 2000
Nominal PCE:						
National	550	764	876	39	15	59
Urban	829	1344	1390	62	3	68
Rural	503	649	747	29	15	49
Real PCE:						
National	550	657	677	20	3	23
Urban	829	1137	1049	37	-8	27
Rural	503	562	583	12	4	16

Source: Murgai and Zaidi, in S. Ahmed (edited), 2005.

donors, professionals, and interested public demand but often end up with inappropriate statistics as measures of change in poverty over time. The methodology, definitions, and data analysis approaches associated with poverty surveys have evolved overtime so that comparability of data for estimation of poverty trend has become questionable. However, the surveys of 1991/92, 1995/96, and 2000 are judged to be relatively free from comparability problems and, hence, frequently used to indicate the trend of change in poverty rates. But three points in time are completely inadequate for estimation of any time trend.

Beside the random factors (e.g. flood, drought, cyclone, pestilence, war etc.) causing fluctuation in poverty, measurement approaches may cause variations in the measures of poverty that ordinary people often do not understand. There are two broad methods for estimation of poverty rate: (i) The Cost of Basic Needs (CBN) method, and, (ii) the Direct Consumption Income (DCI) estimation method. The DCI method counts the population that fails to command the income needed to consume 2,122 Kcal per person per day (for upper poverty line). The CBN method, on the other hand, focuses on income necessary for consuming the DCI level of Kcal plus consumption of appropriate level of non-food consumer goods. The appropriate level refers to what is regarded as basic needs that the poor must consume as well. The CBN method involves alternative ways of computing poverty lines so that inter-year comparability is ensured. These are: (a) per capita expenditures versus per capita income-based calculation, (b) either fixed or variable

proportions of non-food consumption expenditures and (c) incomes of various years are harmonised either by using CPI or other price index. These differences in the method of measurement can make substantial differences in the estimated poverty rates. The sensitivity of the estimated poverty rates to these measurement approaches for 1991/92, 1995/96, and 2000 is sharp (Table 10.2). The researchers, who computed these

Table 10.2 Sensitivity of Poverty Estimates to Measurement Methods in Bangladesh

(Head Count Ratio in percent for Upper Poverty Line)

Approaches to Measurement	1991/92	1995/96	2000
1. CBN Method, expenditure-based			
National	58.8	53.1	59.7
Urban	44.9	35.0	47.1
Rural	61.2	56.7	62.9
2. CBN Methods, income-based			
National	56.8	49.3	44.2
Urban	56.5	28.3	31.2
Rural	56.9	53.5	47.5
3. CPI - Based Estimate			
National	58.8	56.6	63.0
Urban	44.9	32.8	44.9
Rural	61.2	61.3	67.5
4. HES TP-Based Estimate			
National	58.8	48.5	43.6
Urban	44.9	29.1	34.3
Rural	61.2	52.4	45.9
5. DCI - Based Estimates			
National	47.5	47.5	46.5
Urban	46.7	49.7	53.0
Rural	42.6	47.1	44.8

Note: CBN expenditure-based means cost of basic needs method with expenditures per capita in survey households.

CBN income-based means the same except per capita income than expenditure.

CPI-based means use of consumers' price index in inter-year adjustment of poverty line.

TP-based means use of Ternquist Index instead of CPI for inter-year adjustment.

DCI means Direct Consumption Income estimate based.

Source: Murgai and Zaidi, in S. Ahmed (edited), 2005.

estimates, summed up the findings as follows: “In sum, while the DCI poverty estimates provide mixed support for the CBN estimates, the CBN methodology, as well as CPI based estimates, show virtually no progress in poverty reduction in Bangladesh over the 1990s. Not only does this run counter to the expected drop in poverty suggested by National Accounts, which show a 3 percent rise in per capita income per year, but these alternative poverty estimates are also sharply at odds with other indications within the same data sets showing considerable improvements in living conditions in Bangladesh during the period” (Murgai and Zaidi, 2005).

The high rate of increase in average per capita income (as per national income accounts) and no progress in poverty reduction should not necessarily be at odd with one another. If increase in income has come mostly among the rich, poverty may in fact increase. The preconceived positive relation between average growth and poverty reduction should be taken with caution in the context of Bangladesh. However, the evidence that consumption of fish, poultry, milk, and meat has increased substantially, even in the bottom two quartiles of households in both urban and rural areas during the nineties is indirectly indicative of reduction of poverty. Evidence other than the poverty measures (i.e. head count ratios) indicate to some reduction of poverty. But the government, donors, and some professionals often require some statistics on poverty rates over time. This need has generated efforts from the government, the World Bank, and the Asian Development Bank to construct a time series of poverty rates with the best of the available data in the country. These time series estimates of poverty rate are shown in [Table 10.3](#). An attempt was made to estimate a linear trend of the poverty rates from 1984 through 2005. The statistical significance of the trend was weak and the annual reduction of poverty was about 0.6 percent, significantly below the one percent annual reduction of poverty assumed in the PRSP. The 2005 Household Income and Expenditure Survey results imply that the trend in poverty rate has started to decline in the beginning years of the 21st century.

The measure of relative poverty, i.e. the number of poor population as a percentage of total population, discussed so far, is a widely used indicator for the purpose of inter-temporal or inter-spatial comparison of poverty. However, extent of absolute number of the poor (absolute poverty) is often necessary for various public intervention purposes for the poor. As would be seen in [Table 10.4](#), the magnitude of absolute poverty in Bangladesh is indeed huge. During the decades of the eighties

Table 10.3 Progress with Poverty Reduction in Bangladesh, 1984-2000

(Head Count Rate for Upper Poverty Line)

Year	Rural (%)	Urban (%)	National (%)
1984	60	50	59
1986	53	43	52
1989	59	44	57
1992	61	45	59
1996	55	30	51
2000	53	37	50
2005	–	–	40

Note: Claimed to be based on best practice methodology, and derived from cost of basic needs (CBN) method and careful adjustment. For Poverty monitoring purposes, these estimates are compromised estimates by World Bank, ADB, and the Government of Bangladesh.

Sources: Ahmed, Sadiq (edited), 2005; and BBS, 2007, for HIES, 2005.

Table 10.4 Historical Trend and Likely Future Scenario of Absolute Poverty in Bangladesh

Year	Total Population (million)	Poverty Rate (percent)	Absolute Number of Poor Population (million)
National¹			
1984	89	59	53
1986	100	52	52
1989	104	57	59
1992	113	59	67
1996	121	51	62
2000	131	50	65
2005 ²	139	40	56
Future³			
2010	149	37	55
2015	158	25	40

Source: ¹Historical figures from Table 10.3.

²2005: Household Income and Expenditure Survey of 2005.

³Future estimates of poverty are based on the followings: 2010: It is an interpolation of figures between 2005 and 2015. 2015: The PRSP goal of Bangladesh i.e. the millennium development goal (MDG) for poverty reduction.

and the nineties, the number of poor population has discerned an increasing trend with the absolute figures varying from 55- 65 million. The results of the 2005 Household Income and Expenditure Survey would indicate the beginning of a new declining phase of the poverty trend in absolute terms. The millennium development goal (MDG) of reducing relative poverty to 25 percent by 2015, which is also a goal of the PRSP in Bangladesh, would imply that the level of absolute poverty would fall significantly by the year 2015, if the goals are fully achieved. But then, there is always a high degree of chance-element between achievement and expectation.

Generally, the average rates of poverty hide important regional distribution of poverty. We have earlier shown that poverty rate is the highest in the Rajshahi Division. This regional picture is shown again, but with an inter-temporal comparison, in [Table 10.5](#). A cautionary note is suggested in interpretation of divisional incidence of poverty in Bangladesh. Barisal Division was created out of the Dhaka Division; therefore, the data of Barisal are included in the Dhaka Division in 1991/92. Similarly, the Sylhet Division was created out of the Chittagong Division. However, the data of Sylhet Division were included in Chittagong Division in the survey of 2000. Because of these changes in divisional boundaries of Barisal, Dhaka and Chittagong, one should cautiously examine whether divisional and inter-temporal changes in these divisions are free from definitional errors. Such errors do not exist in the cases of Khulna and Rajshahi Division, because no changes in divisional organisation occurred in these two divisions.

Table 10.5 Regional Trends in Poverty in Bangladesh

Division	Upper Poverty Line			Change (Upper Poverty Line)			Lower Poverty Line		
	1991/92	1995/96	2000	1991/92 to 1995/96	1995/96 to 2000	1991/92 to 2000	1991/92	1995/96	2000
Barisal	- ¹	49.9	39.7	--	-10	-	- ¹	39.1	28.8
Chittagong ²	46.5	52.3	47.7	5.8	-4.6	1.2	24.6	28.6	25.0
Dhaka	58.7	40.1	44.8	-19	47	-13.9	42.3	27.8	32.0
Khulna	59.9	55.0	51.4	-4.9	-3.6	-8.5	47.2	36.4	35.4
Rajshahi	71.8	61.8	61.0	-10	-0.8	-10.8	59.7	46.9	46.7
Bangladesh	58.8	51.0	49.8	-7.8	-1.2	-9.0	42.7	34.4	33.7

Note: ¹Barisal is included in Dhaka Division.

²Sylhet Division was created out of Chittagong Division around 2000.

Source: Ahmed, Sadiq (ed.), 2005.

Interdivisional and inter-temporal comparisons for these two divisions would be free from organisational blemishes referred to above. Table 10.5 makes it abundantly clear that Rajshahi Division represents a severely poverty infested region, followed by the Khulna Division. The proportion of population below poverty line was about 72 percent in 1991/92 in Rajshahi region, this proportion came down to 62 percent in 1995/96, and further down to 61 percent in 2000. In 1991/92, a serious drought adversely affected the agriculture of Rajshahi and other areas of north Bengal (Ahmed, 2001); this might have caused a sharp rise in poverty in 1991/92. When normal production condition prevailed in 1995/96, the poverty level dropped to 62 percent. The production condition was also normal in 2000, but the poverty level was almost the same in 2000 as it was in 1995/96. These facts tend to suggest that a large part of variations in estimated poverty rates in Bangladesh can be attributed to random factors and only a modest part of these variations is due to systematic forces underlying increase in production and income. Therefore, in order to figure out the contribution of policy inputs (growth augmenting policies) it is necessary to separate out the effects of random factors. Failure to do so has caused most of the confusion in the estimates of poverty and their underlying causations. It can also be shown that fluctuation in poverty rates is a function of both random factors as well as level of poverty. For equal influence of random factors, fluctuation would be higher in areas with higher level of poverty than in areas with lower levels of poverty. Thus growth and distribution policies to improve levels of poverty will also reduce the vulnerability of people to random natural and economic disturbances.

10.2.3 Agriculture and Rural Development

A comparison of the Agriculture Census of 1983/84 and the Agriculture Census of 1995/96 indicates that the rural households numbered 13.82 million in 1983/84 and 17.83 million in 1995/96 in Bangladesh. Of this total member of households, proportion of farm households declined from about 73 percent in 1983/84 to 66 percent in 1995/96. Obviously, the proportion of non-farm households increased from 27 percent in 1983/84 to 34 percent in 1995/96. Rural areas are increasingly losing households with agriculture as a dominant source of income to the non-agricultural groups which receive their major part of income from non-agricultural occupations. The number of purely farm households has diminished and rural households are becoming more of the mixed types where a household receives income from both agricultural and non-agricultural sources. This is the integration of farm and non-farm sectors at their basic

levels. This has simultaneous implication for commercialisation and motivational change in agriculture.

There are two main sources of income for the rural households: agricultural production and non-farm production of goods and services. Because of lower income elasticities of farm products as compared to income elasticities of non-farm products, with an increase in income over time the share of agricultural production in GDP tends to decline. We have already shown how fast this share of agriculture in GDP has come down to about 21 percent in recent years. Consequently, the share of income of rural households from farm sources has declined. In 1973/74, 70 percent of rural household income used to come from agriculture and 30 percent from non-agricultural sources; now 52 percent of income originates in non-agriculture and 48 percent from agriculture sources. GDP and household income are not the same entity; GDP is measured at aggregate and household income at the minutest micro level. This makes the two concepts similar but not the same.

The GDP of Bangladesh, measured in constant prices, had increased at an annual trend rate of 4.41 percent during 1981 through 2004. This is equal to a per capita growth rate of 2.54 percent per annum during the same period. But agricultural GDP had grown at an annual rate of 2.77 percent during the same period, implying a per capita growth rate of only 0.9 percent. Agricultural growth in Bangladesh has not been that spectacular as is often perceived in the light of success stories involving food grain production and associated green revolution success in rice production. Production of fish (shrimp and pond fisheries), poultry and to a limited extent milk and horticultural products, have been truly laudable. Rice production doubled between 1983/84 and 2003/04 when cultivated land had declined by about 16 percent and rice area also declined at about 0.12 percent annually. The doubling of production of rice was possible due to the use of modern technology in seed, fertilizer and irrigation. The surge in fish production is equally commendable; fish constituted only about 12 percent of agricultural GDP in early 1980s but its share in agricultural GDP is 23 percent in 2003/04. Poultry sub-sector had also grown fast but due to its minute share, the overall livestock sector has had only a modest growth experience. Forestry sector in agriculture is basically a stagnant sector. The increase in agricultural production did not translate into equivalent increase in income due to a decline in agricultural prices, particularly the price of rice relative to other prices. (Dorosh, Ninno, and Shahabuddin, eds., 2000).

The growth of rural farm income has been slower than the growth of rural non-farm income. However, most of the rural non-farm income is

closely related to farm income. Trade and marketing of agricultural inputs and products (e.g. transportation, retailing, wholesaling, stocking, packaging etc.) is one of the largest sources of rural non-farm income. These agriculture related market services have expanded not only because of higher agricultural production but also from enhanced degree of commercialisation in agriculture. For example, the proportion of rice marketed in 1968 was only 10 percent of gross production of rice; this proportion went up to 65 percent in 1994 (Ahmed 1980; and Chowdhury and Haggblade 2000). The marketing proportion is believed to be around 70 percent in the years between 2000 and 2005. Similarly, rural manufacturing includes processing of rice and other agro-processing industries, in addition to artisan (mostly weaving). While agro-processing is dependent on agricultural raw materials, other rural industries (e.g. artisan) and rural construction depend partly on agricultural income. Thus, agricultural production and income have large indirect contribution to the increase in non-farm income in the rural areas.

On the basis of the Household Income and Expenditure Survey of 2000, it appears that average annual per capita income in rural areas in that year was equivalent to \$206 as compared to the national average per capita income of \$251 and the urban per capita of income \$428. Note that household level income, for quite valid reasons, to be different from the national accounts income (gross national income). The GNI per capita in 2000 was \$355 compared to \$251 in HIES. The HIES data of 1991/92 and 2000 demonstrate that rural per capita income increased at an annual rate of 1.84 percent compared to the urban increase at 3.56 percent. However, this dissimilar growth in income in urban and rural areas does not mean that urban poverty has declined faster than rural poverty; the evidences indicate that the rate of decline in poverty, if any, has been similar in both the urban and rural areas. Of course, poverty level is always higher in rural areas than urban areas. However, poverty gap analysis tends to prove that, during 1990s, rural areas experienced greater reductions than urban areas in the depth and severity of poverty (Murgai and Zaidi, 2005). As we will discuss soon, the difference between rural living conditions now and 30 years ago is not fully captured in the difference in income levels between now and then. The development of rural infrastructures such as roads, electricity, rural sanitations, health services, education, spread of modern information technology and housing—all have combined to provide new and materially improved conditions for rural living now than ever before. It is however true that traps of under development and scars of past sorrows are still visible in certain localities, particularly in remote areas and tribal population.

10.2.4 Social Development

Bangladesh's achievement in social development, concerning (a) population control, (b) provision of health services, (c) spread of education, and (d) reducing gender gap in education and child development, has been applauded worldwide. These social developments have been extended to the poor with special affirmative actions. Quality of life of the poor as well as of general population, that have been improved through social development programmes of NGOs and government, do not get reflected in the HIES based poverty measurements described earlier. This has resulted in the odd situation where we find only a modest progress in the reduction of poverty rate (based on headcount method) during the last 10-15 years but a substantial improvement in the living conditions of the poor, both in rural and urban areas.

Population growth rate has slowed down from about 2.7 percent in 1972-75 to 1.4 percent in 2002-2004. Reduction in the fertility rate (births per child bearing women) from 6 to 3 between 1975 and 2003 is a significant contributory factor. Prevalence of contraceptive use in Bangladesh is amongst the highest in the developing world (Ahmed, S., ed., 2005). Besides family planning measures involving use of contraceptive, rapid expansion of female education, reduction in child mortality rate, rising marriage age increased female participation in labour force and improvement in health measures contributed to the process of slowing down in population growth rate.

In the area of spread in education, progress is no less impressive. The overall adult literacy rate in the country has increased from 23 percent in 1972-75 to 65 percent in 2002-2004 (Table 1.6).¹ Fast expansion of primary and secondary education in rural and urban areas has contributed to the high literacy rate. Almost every village in rural areas and every "mahalla" in the urban areas have one or more primary schools. Net primary school enrollment has increased from about 47 percent of all children in the school going age group in 1972-75 to 88 percent in 2002-2004. The proportion of girls in primary schools is now at par with that of the boys (50-50). The proportion of girls in 1972-75 was only 27 percent. The proportion of girls in secondary schools is, however, about 32 percent in 2002-2004. This ratio was very small in earlier years of independence.

¹ A report released by UNESCO, Dhaka, in April, 2006 claimed that the adult literacy rate in 2005 was 41.5 percent in Bangladesh. While the government claimed the rate in 2000 to be 65 percent, there were some who claimed the rate to be around 45 to 55 percent. The definition of literacy and the formula to measure it (e.g. literates as percent of population above 12 years of age versus above 16 years of age etc.) can some time make a difference in determining the adult literacy rate.

Health services have also improved in both rural and urban areas. At some points in time (in 1960s and 1970s) people in rural areas dreaded the onslaught of cholera, diarrhoea, small pox, and malaria in certain times every year. Drinking impure water (ponds and river water), non-use of sanitary toilets, inadequate health facilities for vaccination and ignorance of health practices, all created unhealthy and difficult living conditions in rural area. Through systematic public efforts, more importantly, through the intensive health programmes of NGOs, rural health situation has really improved. Diarrhoea diseases are less prevalent now. Deaths from diarrhoea disease have dramatically diminished due to innovative availability of a cheap medicine called “Orsaline” (oral saline) at about 7 cents a packet. Supply of pure drinking water has expanded so that about 93 percent of households have access to pure drinking water now compared to about 65 percent in 1972-75. A special programme of spreading sanitary toilets in rural areas, again spearheaded by NGOs, has brought more than 75 percents of rural households under this programme by 2004. The use of sanitary toilets in rural areas was rare in early 1970s. Health education, including guides for lactating mothers, child birth, childcare, common preventable diseases etc., have become the principal areas of work for many NGOs. The social development ventures of the government and NGOs have contributed to significant improvement in the quality of life in Bangladesh, particularly in the rural areas, during the last 3 decades. However, estimation of poverty rates is not adequately designed to capture this qualitative improvement in the living conditions in Bangladesh.

10.3 Government and Rural Transformation

The development that has taken place in Bangladesh, as summarised in foregoing sections of this chapter, is often skeptically viewed to be of little sequel to government policies and actions. Short-run confusions in public management generally make people not fully appreciate the long-run achievements. It is also true that, with better public performances, the likelihood of a greater achievement would have been higher. It is therefore exceedingly important to highlight the links between public policies and strategies to the achievements in economic and social development of Bangladesh. In this section we intend to unravel the links between government and developments during the last three decades. We also propose to highlight weak points in public policies and programmes. Strengthening of the weak spots would indeed result in more robust achievements in the future.

10.3.1 Overall Approach to Development

When Bangladesh emerged as an independent state, its first government announced that socialism would be the mode of economic development of the country (Bangladesh Planning Commission, 1973: First Five Year Plan,) and socialism was made a pillar of country's development in the constitution (Constitution of the Peoples' Republic of Bangladesh, November, 1972, includes modifications upto March, 2000, printed in 2004). Consequently, most major industries were nationalised and government's First Five Year Plan included largest share of investment in the public sector.² With the changes of government in 1975/76 and during the subsequent rules of Ziaur Rahman and Hossain M. Ershad, market oriented development approach and private ownerships of industries and business was made a declared path of development in Bangladesh. Following this approach, numerous liberalisation and privatisation rules were introduced in trade, investments and business sectors during the years between early-1980s and mid-1990s. This drive is still ongoing, although the initial steps had appeared to be the pathbreaking reforms. Changes include measures such as:

- Elimination of quantitative restrictions in trade;
- Drastic reduction of tariffs;
- Liberalisation of strict licensing regime for entry into trade and business;
- Gradual shift from controlled, fixed exchange rate system to market based valuation of currency, involving partial floating;
- Introduction of private ownership of banks and gradual reduction of public sector in the banking system;
- Privatisation of publicly owned industries;
- An extremely liberal attitude towards emergence and operation of non-governmental organisations;
- Limiting government investment to areas where output is of public goods nature; and
- Gradual decontrol of prices and market regulations in both input and output markets.

² Major industries and business houses in the then East Pakistan were owned by West Pakistanis. When Bangladesh was born in 1971, all those owners of industries and business had abandoned their enterprises in East Pakistan. Therefore, with or without socialism, the government had to take over those enterprises. A nationalization enactment provided legal basis for the government to takeover those abandoned assets.

These changes imply numerous new and liberal rules and enactments. The above list is not an exhaustive inventory but is meant to be indicative of the depth and direction of shift towards a market oriented approach to economic development.

Macro-economic policies were identified to be of crucial importance to the market-oriented approach. Maintenance of macro-economic stability has been a basic goal of supporting market competition and private sector savings and investment. The focus of macro policies has been the exchange rate, interest rate, inflation control and budgetary balance. Because of close interrelations among these policy instruments, a judicious balance among these has been a constant target. Thus the inflation rate has been a critical target for retaining prices at levels so that real interest rates remain significantly positive. The inflation rate has been brought down within one-digit range and stabilisation at 4 to 8 percent limit has been a concomitant requirement for stabilising the real exchange rate which is so crucial in foreign trade. Monetary instruments have been synchronised with budgetary deficits so that these forces do not adversely affect inflation rate, real exchange rates and interest rates. These exercises of macro policies have become areas of considerable attention, both of the government and donors, like the World Bank and IMF.

10.3.2 Public Expenditure Strategies and Policies

We adopted the approach of looking into the heart of public activities through the windows of public expenditure in order to explore the role of government in promoting prosperity of its citizens. In this endeavour, we find that the size of the government effort, measured by the size of total public expenditure (PE) relative to the size of its GDP, has been rather small. The PE/GDP ratio of Bangladesh has been varying from 13 to 15 percent during 1994-2004 with a slightly increasing trend. This PE/GDP ratio of Bangladesh is smaller than the ratios in most developing countries, including South-Asian neighbours. It appears that the small size of the government is the result of its small collection of revenue; revenue/GDP ratio of Bangladesh has also been smaller than those of the South Asian countries. Revenue/GDP ratio of Bangladesh has remained quite stable during 1990s (about 9 percent) with modestly increasing trend during the years of 2000s. A modestly increasing trend of domestic revenue, a declining trend of foreign aid, and a restraining attitude towards the use of deficit financing as development instrument, have combined to influence the size of the government to expand only modestly. It is, however, not the size but the strategy of prioritising and

the effectiveness of implementation that largely determine the impact of government in achievement of prosperity.

Sector based priorities in public expenditures through annual allocations generally reflect government's strategy for growth in production, income and employment. This strategy as well as the government's investment plan is outlined in the Five Year Plans. Government followed the Five Year Plan structures till the end of 1980s when it turned to a three-year planning horizon with annual rolling adjustment. During the 1980s, the planning process virtually ceased to influence resource allocation and priorities. The Ministry of Finance, with input from donors, particularly the World Bank, the Asian Development Bank, and the International Monetary Fund, has been following annual budgetary processes within medium-term budgetary framework. The direction of priority among sectors, following this procedure, has been found to be flexible, quite sensible, and attuned to the basic requirements for fast growth. Let us highlight some major changes in resource allocation priorities that have contributed to the rural transformation discussed earlier:

- (a) The most significant change of direction in priorities of allocation of public resources has taken place in the education sector. From the beginning of 1990s, the government pinpointed the education sector as crucial for development of human resources. And human resource was identified as the strategic factor for long-term growth of the economy. With this understanding, allocation of public resources was gradually increased for education, so much so that the share of the education sector in the combined (development and operational) budget increased from about 10 percent in 1990/91 to 15 percent in 2003/04. The focus was on extension of primary and secondary education in rural areas, creation of new capacities for vocational education (e.g. Institutions of Technologies in Divisions, technical universities and colleges etc.) and special programmes for women education. This emphasis on education has a bearing on manpower exports, population control, increase in literacy rate, and improvement in gender equality in the country.
- (b) An equally noteworthy change in direction of public resource allocation is reflected in allocations for infrastructural development. The share of budget going for transport and communication has increased from about 7 percent in 1990/91 to about 13 percent in 2003/04. Allocation to power and gas

infrastructures has increased from 6 percent to 8 percent during the same period. As we hope to discuss later, government investment for power has fallen somewhat short of the rapidly expanding demand for energy. But this short-run deviation can not mask the long-run tendency of continual expansion of infrastructural capacity. As presented in an earlier chapter, road development has proceeded in a systematic manner in the country with construction of national highways, regional highways, feeder roads and local arteries of roads for connecting villages with towns and cities. Water transport facilities have also expanded with modern plying arrangements, although development in this area is considered much below the desirable level. In the area of tele-communication, the spread of telephones has been phenomenal, connecting villages to urban and global locations. Electricity has reached to about one-third of villages, compared to almost no electricity in rural areas only about 20 years ago.

- (c) Health and population control sector has enjoyed only a marginal increase in budget share between 1990/91 and 2004; this share increased from about 6.5 percent to 7.0 percent. This small increase seems to arise from the fact that this sector enjoyed a larger share of budget than education in the 1980s. Health sector, however, attached higher priority to extension of rural health services during the 1990s, as compared to earlier decade.
- (d) Public expenditures for internal security (police, paramilitary etc.) seem to have increased but not commensurate with the challenges of the time to maintain law and order. The budget share of this particular sector has increased from 3.5 percent in 1990/91 to about 4.5 percent in 2003/04.
- (e) Compared to the increases in budget shares of sectors mentioned above, the public resource allocation for agriculture and rural development remained virtually stagnant. The budget share of the sector declined from 11.25 percent in 1990/91 to 10.87 percent in 2003/04. The budget share for agriculture alone declined even more than the combined budget share for agriculture and rural development.
- (f) Defense and a few other minor sectors (including government administration, audits, accounts, retirement costs, social services, foreign affairs, subsidies) suffered loss in budget shares. Defense lost its share from 9.4 percent in 1990/91 to 8.3 percent in 2003/04. Loss in budget share does not necessarily imply a decline in

absolute financial resources to the losing sectors. With a rising size of overall public expenditure, absolute nominal budget amount to a sector could also rise, some time even in real terms, even if the sector loses in terms of declining budget share.

- (g) Beside the sector based priorities, the evolution of public resource allocation demonstrates a change in priority from public investment expenditures to public operations and maintenance expenditures. If we assume that the development budget roughly represents public investment expenditure and revenue budget as maintenance and operation expenditures, there has been a sharp shift of priority from investment to operations and maintenance. Research on public expenditures in developing countries has shown that the rate of return to public expenditure on operations and maintenance is substantially higher than the rate of return on public investment for accretion of capital (Devarajan, Swaroop and Zou, 1996). It is widely believed that this finding is also valid for Bangladesh. Given this assumption, the change of priority in favour of more resources for operation and maintenance has been beneficial to the economy. The index of revenue budget has increased from 100 in 1989/90 to 234 in 2003/04, as compared to the index of development budget increasing from 100 in 1989/90 to 161 in 2003/04.

10.3.3 A Look at Agriculture and Rural Development

Agriculture and rural development is a broad sector (AGRD₁) consisting of (a) production sub-sectors of crops, fisheries, livestock, and forestry, and (b) rural development sub-sectors consisting of rural roads, markets and rural institutional development. Expenditures for flood control, drainage and irrigation under the Bangladesh Water Development Board are included in the crops sub-sector. A closer look at the agriculture and rural development, than the one presented earlier, calls for a re-examination of sub-sector based priorities. Earlier, showing sector based distribution of public expenditure, it was stated that the share of agriculture and rural development in the total budget (ADP and revenue) was 11 percent, virtually constant at that level during 1990/91 through 2003/04 period. The sub-sector based analysis, however, covers only selected years from 1997/98 through 2003/04, (see Chapter 5 for details). In 2003/04, public expenditure on agriculture was equivalent to 3.5 percent of agricultural GDP and the combined public expenditure for agriculture and rural development was 7.0 percent. In view of the facts that more than two-third of the population lives in the rural areas and

one-fifth of GDP still originates in agriculture, these allocation proportions may seem small. But these are not adequate criteria for public resource allocation.

During the last 8 years, a major realignment in public expenditure policies is discernible in the budgetary allocation for agriculture and rural development. Though the overall resource allocation has increased in nominal terms by 40 percent for the broad sector, the share of agriculture has increased by 18 percent and the share of rural development, (particularly the allocation of LGED for rural roads, markets etc.) has increased by 71 percent. The increase of resource allocation for rural development is a sensible step, but the small increase in allocation for agriculture is fraught with adverse implications for agricultural production in the future. The increase in general price index between 1998 and 2003 was of the order of 18 percent points. Therefore, the 18 percent increase in nominal resources to agriculture is equivalent to “no increase at all in real terms”.

Within agriculture, sub-sector based resources were increased at uneven speed among different sub-sectors. In 1998/99, the total nominal amount of resources spent for the agricultural sector was Tk.1962 crores. Of this total, 77 percent was spent for crop production, 6 percent for fisheries, 10 percent for livestock, and 7 percent for forest sub-sector. In 2003/04, the total nominal amount of resources spent for agriculture was Tk. 2331 crores. Of this total, 71 percent was spent for crop production, 10 percent for fisheries, 8 percent for livestock, and 10 percent for forest sub-sectors. Obviously, there is only a modest adjustment among sub-sectors in agriculture. Crops sub-sector has lost only 6 points in its share, livestock sub-sector has lost 2 points, fisheries sub-sector has gained 4 points, and forest sub-sector has gained 3 percent points in expenditures for agriculture. In the light of emerging directions of diversification in agriculture these sub-sector realignments in resource allocation do not appear to be closely congruent to the challenges of diversification in agriculture in favour of high value products.

Public expenditure is meant for creating and sustaining conditions that foster growth in production, income and employment, as well as improve living conditions. Developing infrastructure, extending improved knowledge to producers and consumers, generating new knowledge through research, expanding institutional capacities to extend services to rural people, and providing relief and incentives to rural producers and consumers in times of difficulties are the inputs for fostering the objectives of agriculture and rural development. How does the government spend its resources in terms of providing these inputs for

rural prosperity? Analyses indicate that in 2002-2003, 66 percent of budgetary resources meant for agriculture and rural development were spent for creation of infrastructures, 17 percent for extension of information and knowledge, 3 percent for research, 7 percent for market and institutional services and 6 percent for input subsidies. The overall pattern of expenditures seems to be close to patterns generally advocated by development practitioners on the basis of practices in successful countries in Asia, except in the case of agriculture research (Rosegrant and Hazell, 2000).

The agriculture in Bangladesh has depended in the past, and will increasingly depend in the future, on an increase in factor productivity for growth. This is obvious from the rapid decline in agricultural land. Factor productivity can enhance only through technological innovations resulting from research. Unlike industrial technology, agricultural technology, at least for testing adaptability of innovation, has to rely largely on domestic research capability. And this capability has suffered from inadequate public resource allocation to agricultural research. This allocation to research is not only small by international standard but has been declining overtime. Economic rate of return from investment in agricultural research is extremely high and experts recommend that one to three percent of agricultural GDP be invested for agricultural research (Ahmed and Karim, 2006). Budgetary expenditures for agriculture research in Bangladesh in 2003/04, was equivalent to only 0.24 percent of agricultural GDP; the average expenditures for research in 1976-81 was about 0.34 percent of agricultural GDP.³ Therefore, the trend is a sharply declining one. It is hoped that a long-term programme that is being supported by the World Bank and IFAD, will help revitalise the agricultural technology system in Bangladesh and will restore some of the financial grounds lost by the agricultural research system in the recent past (World Bank, 2006d). It should, however, be recognised that the research system is besieged with complex institutional problems warranting fundamental change (see the World Bank, 2005d; Ahmed and

³ It may be argued that if research system is so starved of budgetary resources, how come the country succeeded so much in rice production and production of fish and poultry? Rice research did not suffer so seriously as the other sub-sectors of agriculture because of its association with the International Rice Research Institute (IRRI) and government's priority to foodgrain. Rice research capability was developed since the British time. Therefore, the rice research system did not become completely unproductive, even though resource availability eroded. Research funding for high value agriculture suffered most. The growth in fish and poultry production in recent years is attributed to new investment in these sub-sectors, particularly by the private sector, at the initial stage of their development. Future growth will, however, depend increasingly on technology.

Karim, 2006, in Pardey *et al.*, edited). A thorough reform of the agricultural research system and with increasing volume of financial resources from the government would be required to revitalise the agricultural research system that is capable of meeting the productivity challenge.

10.3.4 Public and Private Institutional Initiatives

It is not possible to recount all institutional measure, initiated by the Government of Bangladesh or autonomously created by private agents, to push the process of transformation forward. Therefore, we would briefly narrate a few strategic institutional initiatives in both public and private domain.

First, the success in certain areas of agriculture in Bangladesh can be traced to liberalisation of input and output markets. Because of liberalisation of markets for modern agricultural inputs (e.g. fertilizers, agricultural equipments, pesticides, seeds, feed, plant materials, fish seeds etc.), the use of modern inputs had increased almost simultaneously with liberalisation (see Ahmed, 2000, in Ahmed, Haggblade and Chowdhury, eds., 2000). These markets were previously under tight monopoly of the state. Similarly, withdrawal of restrictions on private sectors to trade in food grains import and export, and abolition of numerous restrictions on stock holding, movements, pricing, and use of agricultural products in domestic market (see Shamsur Rahman, 2000; and Chowdhury and Haggblade in Ahmed, et al, eds., 2000), market competitiveness has improved, price instability declined and incentives to producers, consumers and traders have risen. However, problems of illegal practices in certain markets, complains of oligopolistic behaviours in certain imports and adverse impact of credit market distortions on agricultural markets are frequently reported in newspapers. Government has withdrawn from markets without creation of appropriate and effective regulatory or public service provision (e.g. market information, present and future forecasts) to producers, traders and consumers.

Second, financial institutions for agriculture and rural business have witnessed mixed success in Bangladesh. While micro-credit programmes of the Grameen Bank, NGOs and Palli Karma Sahayak Foundation (PKSF) have been applauded for their outstanding success, both at home and abroad, the contribution of public banks (e.g. commercial banks, BKB, RAKUB and Cooperatives) in meeting credit needs of farmers and small business in rural area is found to be small and wasteful (see Chapter 7). Currently, about 58 percent of the formal credit market advances are made by the public sector institutions and 42 percent by micro credit programmes in rural areas. Formal credit market is believed

to cover about 56 percent of total credit demand and the rest 44 percent is met by informal market (friends, money lenders, traders etc). The public sector banks are so inefficient that without financial support from the government they will quickly collapse. Most of these public credit institutions are vehicles for distribution of political patronage. The households at the poorer end of income scale are benefiting from micro-credit and the households and enterprises at the upper end of the income scale have access to commercial banks and public specialised banks in rural areas. It is the mid-level farmers and entrepreneurs, the so called "missing middle", who are shut out of the formal credit market and left to depend on expensive informal credit market. Similarly, the hard core poor also do not have access to the formal credit market or micro-credit. Development of financial institutions in the rural areas (rural banks) bears out the most prospective institutions for rural prosperity in the future.

Third, NGO development in Bangladesh, inspite of reports of irregularities against some NGOs, has been one of the most significant institutional innovation that has created positive impact on social development. Bangladesh has enjoyed world-wide praise for a number of social developments like slowing of population growth, gender equality in primary education, spread of education among poor families, large scale increase in sources of drinking water, reduction of child mortality, reduction in the incidence of diseases like diarrhoea, small pox, malaria etc., substantial increase in adult literacy and life expectancy. These achievements would not have been as significant as they are now, without the tireless efforts of NGOs. Government has adopted a liberal attitude towards NGO operations, allowing "thousand lights to illuminate the erstwhile dark rural scene". The physical capital created through public expenditures, e.g. schools, colleges, health centers, hospitals, telephones, rural roads and modern input supply centers, have been able to deliver services to ordinary people through joint programmes of the government and NGOs. Of course, the development of NGO sector has come to a stage where some regulatory framework, not to constrain but to guide them in the right direction, is necessary.

Fourth, two innovative public institutions, the Rural Electricity Board (REB) and the Local Government Engineering Department (LGED), created effectively in the 1980s for the purpose of modernising rural environment through infrastructural development, made remarkable contribution to rural transformation. Although allegations of corrupt practices in these institutions have frequently surfaced in the media, the contributions made by these two institutions are visible all around rural

areas. Creation of rural roads, bridges and culverts, development of "Union Parishad" complexes in remote villages, construction of rural market places and small scale water control devices (e.g. rubber dams), have made contributions of LGED as hallmarks of success. Among numerous failures of government institutions, this one has emerged, at least uptill now, to be a success story. Similar is the case with the REB. Electricity availability to rural areas has infused dynamism in rural industries and processing and generation of rural non-farm income. Again, overall inadequate generation of electricity for the country as a whole has created scarcity situation in REB facilities. This has caused opportunities for corruption and immense disgruntlement among rural users, including farmers in recent years. But the developmental impact of these two successful institutions will not be masked by prevalence of corruption.

Fifth, is the question of ensuring participation of local people in their own governance and development. We are talking of development of local governments into really effective governments and no longer as extended arms of the central government. The government has made some positive steps, e.g. the newly introduced block budgetary allocations (block grants) to Union Parishads, construction of Union Parishad complexes, involvements of Union Parishads in distribution of grants, relief and works for the poor and vulnerable. But this is mostly symbolic and does not squarely address the needs for organisation of local governance tiers. Without institutions of effective local government, the maintenance and operation of rural infrastructures will seriously suffer; already rural roads have started to become inoperable due to mismanagement of maintenance, local development schemes for water control, fisheries, forestry, livestock, and management of safety-net schemes for the poor are subject to rampant misuse. Numerous studies have been conducted to demonstrate the good economic and social rationales for making the local government system effective, a system endowed with resources and power to act like a government. But it has not happened so far, mostly due to reluctance of the central government. It is one of many fundamental issues of change that probably will have to come through wider nationwide political movement.

10.4 Impact of Public Expenditure on Growth and Poverty

10.4.1 Leakages and Corruption

It is almost universally accepted that corruption is an endemic social disease, threatening the prospect of historical transformation to progress

leading to a middle income stature for the economy of Bangladesh. The measurement of the impact of public expenditures involves (a) estimation of actual net public investment by deducting the leakage from the officially reported public investment expenditure, (b) estimation of growth impact by using a production coefficient on net actual investment, and (c) tracing the incidence of benefits between the rich and the poor. (see Chapter 6). Quite a lengthy discussion on corruption is included in that chapter because of the poor state of empirical knowledge on the subject and the international disrepute that the country has earned through the works of the Transparency International.

Corruption has historically prevailed in every society. So long as the extent of corruption remains small, limited within the bounds of trickles, it is not so damaging to growth and equity within a nation. When corruption spreads throughout the political and bureaucratic fabric of a nation, it devours the fabric of good governance like a ravaging river. An attempt has been made to measure a rough magnitude of corruption, assuming that corruption, bulk of it, starts at high levels, warranted for winning election and remaining in power, and further assuming a scale by which the extent of corruption is spread to all the layers of bureaucracy. A crude estimate indicates that, possibly, the volume of corrupt leakages is equivalent to about 1.5 to 2.5 percent of GDP (see Chapter 6).

This 1.5-2.5 percent of GDP, speculated as the size of corruption in all public activities, including public expenditures, does not mean that GDP would have been 1.5 to 2.5 percent higher in the absence of corruption. The short to medium-term effect of corruption on growth of GDP depends on how the receivers of corrupt money spend the money. Under one special circumstance when those who receive the corruption money are richer than those for whom the money would have been spent had there been no corruption and this richer class spends the money within the country, then it is possible to expect a higher rate of growth in GDP with corruption than without. What an ironic conclusion! Such a conclusion is valid in the short and medium-term context. Corruption transfers resources from public to private sector, from people with lower propensity of investment expenditure to people with high propensity of investment expenditure and from rural to urban areas. Therefore, even if the short-run impact of corruption on growth is positive or small, the negative impact on poverty is not small. The long-run impact of corruption on growth and poverty would tend to be negative and substantial. It would be negative because of corruption's adverse impact on (a) inflow of foreign direct investment, (b) higher transaction costs in

trade, thus depressing competitive strength of Bangladesh's products, and (c) slow rate of development of infrastructure with higher cost, causing bottleneck in production and trade.

Empirical evidences on the extent of corruption are thin. Case studies in rural sector indicate that about 30 to 35 percent of average size project resources are leaked out by corruption. Extent of corruption, measured as the proportion of leakage in allocated resource, is generally higher in small and lower in large projects. Case studies in garment industry indicate that corruption payments are equivalent to about 3 percent of profit (see Chapter 6). We attempted to take a closer look at development projects of the agriculture and rural development division with help from those who are involved in the planning ministry. Our objective was to estimate the extent of corruptive leakages in projects under agriculture and rural development division. This estimate was 31 percent of the project cost (see Chapter 6).

10.4.2 Impact on Agricultural Growth

It is estimated that the annual growth rate in agricultural GDP would have been 1.25 to 1.45 percent points less during 1994/95 through 2003/04, had there been no public ADP expenditure in the agriculture and rural development sector (see Chapter 6). It means that the actual agricultural growth rate during the decade, which was 3.3 percent, would have been around 2.0 percent per annum.

The central point in the estimation of growth impact of public expenditure in the rural sector is the premise that the marginal increase in agricultural GDP annually is equal to a fraction of public expenditure on agriculture and rural development. This fraction is the rate of return on public investment. This rate of return to public agricultural investment is the weighted average rates of return from investments in infrastructures, technology (R&D), institutions, and incentives through subsidy grants etc. The rate of return is an average concept free from influences of random forces. Therefore, to apply the rate of return parameter on agricultural investment and agricultural GDP, the trend values of these two variable were obtained for 2003/04 and growth impact was measured within a historical perspective of 1994/95–2003/04.

10.4.3 Impact on Poverty

We have not obtained a precise objective measure capturing relations between government policies and poverty. Parallel to the economic and social transformation during the last three decades, poverty indexes do

not appear to have improved so glaringly. Modest improvement in poverty rate is, however, discernible. Agriculture and rural development is believed to reduce poverty and we have measured a positive influence of public expenditure on agriculture growth. However, public expenditure on agriculture, particularly research and institutions, has lost share to other sectors and stagnate in real terms and agricultural growth itself has been only modest. We have also shown that leakages of public expenditures through corruption are quite high and these leakages result in increased poverty, even though the impact of leakages on growth rate is negligible in short and medium-run.

Government has drawn a national programme known as PRSP for reduction of poverty. The strategy outlined in PRSP and its priorities are quite general and lack focus. Regional aspects of public policies for reduction of poverty, specifically for development of the Rajshahi and Khulna Divisions of Bangladesh and vulnerable pockets in these two divisions deserve a number one priority in the PRSP. Development of non-agricultural sectors with necessary infrastructural investment in the two divisions is clearly warranted under the PRSP initiatives of the government.

Agriculture is the house of poor people in Bangladesh. Declining land resource and continuous splitting of farms into smaller and smaller units, have caused the paramount need for a robust role of factor productivity, in order to prevent farms sliding down the poverty scale. It is necessary to enhance technological investment in crops, fisheries and livestock sub-sectors for augmenting total factor productivity. So long as the rate of factor productivity lags behind population growth, agriculture is not going to contribute to reduction in poverty; it will be difficult to prevent the present level of poverty from falling in farm sector. The public expenditures for water control measures represent a relatively large investment for agriculture but the contribution of this expenditure to agricultural growth and reduction of poverty is miniscule.

10.5 A 2030 Vision for Bangladesh and Rural Prosperity

A vision is a portrayal of an image consisting of certain attributes at some distant future point in time. A vision is not a bunch of wishful thoughts; ideas in a vision should have grounding on certain degrees of realism. And this realism should not be shrouded with confusions arising from short and medium-term problems. A vision serves as a beacon of light guiding a nation as well as individuals toward long-term goals and destination. How such a useful vision for a nation can be articulated for its journey towards future prosperity? As Soren Kierkegard, a

philosopher, once said “life is lived forward but understood backward”. We look at the 30 years of our historical transformation to develop a vision for our nation 25 years from now. It is necessary to look at global and regional dynamics to formulate a vision. It is wise to listen to contemporary thinkers on the subjects of vision statement.

10.5.1 Global Dynamics

After the Second World War, the colonial era began to dwindle and by the sixties colonialism was coming to an end. During the last two decades, particularly during 1990s, free market economy and liberal trade among nations have been emerging as a force for global economic integration. A new institution, the World Trade Organisation (WTO) has been steering the path towards globalisation, implying movement of goods, services and capital among nations with minimum restrictions. Some people have viewed the globalisation as a replacement of colonialism for exploiting the weaker nations by richer ones. While free trade has the potential to increase the wealth of all participating nations, the sharing of gains from trade will depend on which country can manage their production and trade with what degree of efficiency. Ability to deploy superior technology, infrastructure and management institutions would determine the competitive advantage of countries in global competition. Research, infrastructure development, including development of information technology, management skills, and intellectual infrastructures in government would constitute to be of high priority areas for preparing a nation for global competition by 2030. Countries with different degree of development in competitive strength will find themselves within a wider range of income disparities than now. Bangladesh should give utmost attention to enhancement of competitive strength in global markets without further loss of time. Technology and knowledge would be the “name of the game” in the emerging new world order.

As the forces for greater integration of trade, services and capital world-wide gather momentum, there is expected to emerge a new pressure for free movement of labour across countries. This demand for free labour movement will be conditioned by skill requirement, which again is dependent on education. Already, there is a considerable degree of labour services trade, through information and communication technology (ICT) that have created markets for outsourcing, electronic education and tutoring, electronic health services etc. These are essentially exports of skilled labour services. Bangladesh is endowed with vast labour resources appropriate education facilities will make this

resource to be sufficiently skilled. The present level of foreign exchange earnings, through the remittances of our workers abroad, can be multiplied by creating skilled manpower to go abroad or work from home for export of services to foreign sources by means of electronic media.

10.5.2 Regional Dynamics

Regional considerations are generally a subset of global considerations and do tend to bear political connotations more than economic connotations. But Bangladesh's location close to two big neighbours, India and China, enjoins on its strategy, a special place for exploitation of economic opportunities provided by the proximity. Both these countries are growing fast and there is a worldwide rush to befriend them for easier access to their huge markets. Theoretically, opportunities for gainful trade are more extensive with countries of dissimilar production functions and pattern than with countries with similar production functions and pattern. Generally, neighbouring countries are more likely to be similar than distant ones. This would indicate to the possibility of non-economic reasons influencing regional trade arrangements. However, in practice, there are considerations, besides production functions and patterns, that determine scope of trade among countries. This consideration relates to transportation and transaction costs that may render a greater comparative advantage in trade with neighbour than with geographically distant centers of production. This is particularly true because of low cost of overland movements of goods. For example, a study with data for 1995–1998 rice prices of Bangladesh and India compares the trade opportunities with ocean freight versus overland transportation costs. It finds that ocean freight makes import of Indian rice to Bangladesh to be a proposition involving 2 to 30 percent loss. The same import overland makes it a proposition of up to 45 percent profit (Ahmed, 2001). Obviously, overland trade with neighbours opens up a new horizon for trade expansion.

Bangladesh's location is yet another consideration that bears potential for expanded trade with neighbours. Bangladesh is located at the crossroads of landlocked regions of eastern India, Nepal, Bhutan, Myanmar and prosperous Southern China. Potential of development in these areas, with Bangladesh port at Chittagong (including a deep sea port proposed near Cox's Bazar) playing a central role, is considered enormous. Such a scheme will require road network connecting Bangladesh, eastern India, Nepal, Bhutan, Myanmar and China. Bangladesh will be a hub of trade and business spatially and economically integrating these regions; all countries in such cooperation will benefit from this integration. It is,

however, well known that the entire region is besieged with boiling unrest and complex socio-economic tangles. Poverty and economic stagnation are basic reasons for the instability. Once the touch of prosperity and a vision of the free world are opened up to the people, the instability will evaporate and all countries in the region will feel friendlier and close to each other. Professor M. Yunus, Nobel Laureate, the innovator of micro-credit and managing director of the Grameen Bank, has recently espoused this idea of regional integration of countries surrounding Bangladesh as an element of Bangladesh's strategy for long-term development. Development of trade and trust will have to work hand-in-hand in order to see success of the idea.

10.5.3 Domestic Dynamics

How the domestic systems respond to global, regional and internal forces, will ultimately determine "how we look collectively as a nation in the future." We would present our best judgment on selected aspects of Bangladesh society that we expect to prevail by the time we arrive at 2030.

Democracy and Governance. We are lucky that we have two strong parties to provide competition in political market. Such a competition is viewed as a basic requirement for healthy evolution of political institutions in a democracy. Unfortunately, the experience so far with the two parties has been quite mixed. Corruption in the management of state affairs has become pervasive. Politicians approach politics as mechanisms of amassing personal wealth by using or abusing public power. Therefore, they spend enormous amount of resources to get elected, only to indulge in corruption just after winning the election and gaining seats of power. While in power, they behave as if it is the last chance to make a kill for life. Opposition party/parties losing election, start new bursts of programmes of resistance in order to win power next time. So people are apprehensive. But we have entered into a democratic system only in the early 1990s. We have had 3 elections so far. We have made tremendous strides in economic and social progress. Most people are conscious of the risk involved, i.e. the risk of economic and social collapse, in case of failures of our democracy and the system of change in government. Therefore, we feel confident the democracy will prevail and the forces of corruption will become weaker and weaker as our economic and social development makes bolder and bolder steps forward.

Income and Poverty. On the basis of assumptions regarding growth rates of income (i.e. gross national income, GNI, including GDP and factor income from abroad) and population (see [Table 10.6](#)), it is

Table 10.6 Prospective Per Capita Income in Bangladesh, 2005 to 2030

Indicator	2005	2015	2025	2030
Growth Rate of GNI (%)	5.5	7.0	8.0	8.5
Growth Rate of Population (%)	1.4	1.25	1.15	1.05
Growth Rate GNI Per Capita (%)	4.1	5.15	6.85	7.45
GNI at 2003 Price (US \$ billion)	60.5	102.8	185.0	263.6
Population in Million	140	157.5	175.6	184.8
GNI Per Capita (in US \$)	432	653	1054	1426

Note: ¹Growth rate is average of intervening period i.e. the growth of 7.0 is the average of years from 2005 through 2015.

Source: Computed by authors.

estimated that the per capita annual average income of the people of Bangladesh would be US\$1426 in 2030. On income growth rate, it is assumed that GNI will increase at 7.0 percent annually between 2005 through 2015, 8 percent annually between 2015 and 2025 and 8.5 percent annually between 2025 and 2030. The latest growth rate (i.e. 2004/05) of GNI was about 6 percent and the growth rate in 2006-07 was about 7 percent. Such a pace in income increase is quite realistic, but it implies that the momentum of economic growth has to be sustained through stability in production environment, including the operational environment for supply of transport, energy, and communication infrastructures. An average annual per capita income of \$1426 (at 2003 constant price) would mean that the country might graduate to the category of upper middle income group of countries in the World.

This expected high income status of Bangladesh by 2030 does not necessarily imply that Bangladesh would be free from the malaise of extensive poverty. Poverty rate would be difficult to lower below 20 percent because of structural poverty (i.e. poverty arising from drug use, death of earning members, natural hazards etc.). Many developed countries, in-spite of huge social security expenditure, have not been able to lower poverty below 15 percent. Bangladesh may be able to reduce the extent of poverty to around 20 percent by 2030, if the special drive through PRSP continues as a regular feature of public policies.

Natural Resource Constraints. A complex set of factors has been contributing to a gradual emergence of situations that can assume crisis proportions and choke the pace of development in Bangladesh. These relate to: (a) declining land resources for agriculture due to housing demand, demand for road construction, urban development, industrial zones, and erosion; and (b) a rapidly approaching crisis due to shortage

of water, both surface and underground due to mining of underground water, reduction in river-flow contributed by withdrawal of water upstream, and silting-up of river beds (the so-called death of rivers phenomenon) exacerbated by encroaching of river beds by people for commercial use. This is reducing navigability of rivers and shifting transport from river to road. The congestion of traffic on road has already become so serious that the process of cost-effective movement in economic development is being constrained. The silting process is becoming a factor raising the intensity and extensiveness of flood.

Public response to these issues has remained so far limited to workshop, debates and master plans without commensurate development. We do not have a land use plan so that infrastructures, industries and housing have to follow guidelines for using land saving approach. We do not see water transport considerations a salient feature of overall transportation development. The inefficiency of public efforts for flood control and drainage are well documented but little buttressed by effective actions. Inland and coastal water transport development warrants public investment for maintaining navigation channel, creation of inland ports, providing protection from pirates, and ability to respond to crises on rivers. Priority of these developments is necessary in order to make water transport more productive in its contribution to growth.

International experts on water resources foresee an emerging crisis in global demand and supply of water. Some authors have commented that water scarcity may cause numerous regional wars among nations that may even lead to world war. Misuse of water should be prevented and innovating approaches to harvest and conserve water should be explored. We lose so much excess water during rainy season only to return to water crisis in the dry season. Is there any science-based way to harvest and conserve rain water? As we move on the journey to development for the 2030 target, we hope that these issues surrounding land and water resource management, would come up-front in public priority. It is our vision that road systems and water ways would be linked to maximise traffic benefit. Land-saving approach to road development (e.g. vertical extension as opposed to horizontal expansion of roads) would be pursued. River system would be made more navigable and so sustained. Housing and locating industries should be based on land-saving approach and this approach should be made legally binding.

A Perspective of Agriculture and Rural Development. Agriculture has already shrunk its weight to about one-fifth of the national economy. If the economy has to grow by about 7 to 9 percent annually during the

coming 25 years, agriculture with its declining weight must grow faster than its pace of growth in the past. Technological progress (i.e. increased total factor productivity) and changing product mix (i.e. growing more high value products) would be the primary routes for achieving faster growth, on the face of a dwindling land resource in agriculture. Public investment for research, infrastructures, institutions, and positive support for development of agricultural trade and processing would be warranted at a scale larger than in the past. Even with a faster agricultural growth rate it is likely that the share of agriculture in the total economy would shrink to around 12 to 15 percent by 2030.

If the share of agriculture becomes so small in the economy, what would be the nature of agriculture and the challenges to supply food to a huge population of about 185 million by 2030? There should be no doubt that, with half of the population being urban by then, agriculture would be more like an industrial process of production that is integrated closely with other sectors, and limited to pockets of production centers spread all around urban sprawls. Instead of half hearted efforts by small producers who currently juggle with both agricultural and non-agricultural occupations to earn adequate income, farms will gradually consolidate into larger units, with considerable entrepreneurship and specialisation. This will warrant a wholly different extension service for agriculture.

One over-riding concern in agricultural policies of Bangladesh has been the ability of agriculture to produce enough rice for its expanding population. We perceive a population of 185 million in 2030. Can our agriculture produce enough to feed this population? This question arises in spite of the reality that rice can be imported and should be imported if something else other than rice can be grown on the same land, with higher level of gain. Government policy favours such approach while at the same time tends to ensure that production of rice does not fall below a certain level on food security ground. It is therefore important to ascertain the likely level of rice production by 2030. A projection of rice supply and demand and the gap between the supply and the demand in 2025 is shown in [Table 10.7](#). This projection (see Dorosh, 2006 and World Bank, 2007a) contains alternative scenarios involving uncertain possibilities.

The main conclusion of interest to us is that the shortage or surplus in rice production will crucially depend on what happens to the yield of rice. With historical growth rates of yield, Bangladesh's rice production will keep pace with demand, with possibility of a slight surplus (50 thousand tons). With a slower growth than the historical rate of yield, the country may need an import of about 6 million tons. Similarly, with a

Table 10.7 Rice Supply and Demand Projections in Bangladesh upto 2025

Scenario	Net Production	Demand	Net Import
1. Base year (2004)	23.57 –	24.48 –	0.90 (3.7%)
2. Base run (2025)	32.34 (1.52%)	32.34 (1.34%)	0.0 (0.0%)
3. Base run with low yield growth	26.73 (0.6%)	32.34 (1.34%)	5.61 (17.3%)
4. High unbalanced growth with base yield growth	32.34 (1.52%)	32.40 (1.34%)	0.05 (0.2%)
5. High unbalanced growth with high aman yield	34.63 (1.85%)	32.40 (1.34%)	-2.23 (-6.9%)
6. High balanced growth with high aman yield	33.85 (1.74%)	33.80 (1.55%)	-0.05 (-0.1%)
7. High balanced growth with high aman, <i>Boro</i> yields	38.73 (2.39%)	33.80 (1.55%)	-4.93 (-14.6%)

- Note:
1. Production, demand, net import in million tons.
 2. Net production is gross production less 10 percent for seed, feed and wastage.
 3. Figures in parenthesis are annual growth rates (%) for net production and demand.
 4. Figure in parenthesis are net import as percent of demand.

Source: Dorosh (2006).

modest improvement in yield rate over the historical performance the country can turn itself into a status of net exporter of rice; maintaining a price not falling fast due to surplus production. Another important lesson from the projection is the consequence of loss of land to non-agricultural uses. As the country becomes more industrialised and urban with development, loss of agricultural land would be unavoidable and necessary. What is needed is a planned use of land with a tight application of the principle of productive use of land.

It appears that demand for rice has a declining tendency with increase in income and urbanisation. Population growth is the sole source of demand, and the effect of price is relatively small. Demand for other food products like fish, meat, dairy products, fruits and vegetables will increase sharply with the increase of income and population. The projection of fish demonstrates that with medium supply and demand growth, fish supply per capita would grow at about 1.45 percent annually (2.70 percent growth in production minus 1.25 percent in population) to meet a per capita demand growth of 1.3 (Dorosh, 2006) percent. Thus,

there would remain a small scope of export or fall in real price. These projections are at best informed guesses and at worst speculative inferences. The main message is that the future food supply-demand balances in Bangladesh depends squarely on measures to sustain the past and augment the future factor productivity in food production.

Total factor productivity in agriculture would determine the ability of the country to prevent import of food from abroad and increase export of certain agricultural products to foreign countries. Competition in agricultural markets, both domestic and external, would be intense and integrated. The magic factor would be technological edge in production and marketing. The concept of self-sufficiency in most goods would be replaced by the concept of production based on comparative and competitive advantage.

We are looking forward and setting our vision all the way at 2030. By then, after 5 more cycles of elections, our democratic tradition will mature and community involvement in governance will hopefully pervade throughout rural scene. Community involvement can only be maximised through development of governments at Upazilla and Union levels; local governments providing real mechanisms of governance, with full delegation of power from central government. Such devolution of power to local governments would be essential for a prosperous, healthy, and peaceful rural scene. This would be so because of a number of concurrent changes that would require coordination, oversight and timely solution of local problems, such as:

First, with progression of urbanisation and population growth, rural towns would be transforming into mini cities, and local markets and growth centers would be growing into rural towns. This process will result into a chaotic patterns of settlements with unplanned passage for traffic, waste of land and expensive mode of infrastructures for getting access to water supply, sewerage and electricity. Simply declaring a rural town to be a municipal area, the current practice, is not going to be a solution to emerging problems.

Second, maintenance of rural infrastructures is a serious problem. Already, a significant part of rural roads is unfit for traffic and the problem will simply grow from grave to graver. Maintenance is dependent on local monitoring and resource availability. Generation of resources from local people and users would be an important component of the solution.

Third, with growth of urban enclaves in rural areas, social tensions will mount. Terrorism and extortion will extend their tentacles among households in rural areas. Need for policing these untoward

developments will expand very fast and central police force will find it difficult to control the growth of crimes in rural areas.

Fourth, expansion of rural housing, particularly creation of a new homestead resulting from splitting of families, is proceeding in a haphazard manner, following horizontal extension rather than vertical extension. With increasing trends for building concrete houses, this process needs to be guided by thoughtful planning.

Fifth, the safety net programmes of the government can never be efficiently implemented by centrally managed apparatus.

For all these reasons, development of effective local governance system should begin now so that they become the pattern overtime in the arena of crowded rural settlements.

10.6 Challenging Tasks for the Government: An Agenda of Reform

Bangladesh's economic and social transformation during the last 30 years has been a fascinating case. To carry forward the tempo of transformation during the next 25 years would involve an array of challenging reforms. Identification of this list of reforms has to come from lessons learnt from experiences of the past and the vision of the future that we have portrayed in the preceding section. An agenda of reforms that we present here do not constitute to be an inventory of warranted changes. We focus only on strategic ones that we believe have wider linkages and deserve specific recognition in public policies. We present the agenda of reform under three broad groups: (a) governance, (b) strategy and public investment policies, and (c) key institutional developments.

10.6.1 Governance

Governance is a multi-dimensional concept (see Chapter 6). Conceptual diversity in the definition of governance is academically respectable, but devising instruments for improvement of governance at empirical and operational levels, warrants identification of common attributes of good governance. Corruption is one such single characteristic which has causal links to (i) dysfunctional legal and judicial institutions, (ii) misuse of public resources, (iii) poor economic management, (iv) political indiscipline, and (v) property rights violations.

Corruption. We have presented a detailed analysis and discussion on corruption in Chapter 6, concluding that corruption assumes a dangerously pervasive form when it flows from the political system and engulfs entire bureaucracy and grass root level operatives of various

shades. Politicians spend huge amounts (from both party funds and individual wealth) of money to come to power or remain in power. But a number of contradictions evolve to foil such a route to power. Not all politicians of the party in power can get access to sources of corrupt money. Internal conflicts in the party in power accentuate. Internal cohesion in the opposition parties increases for the reason that the prospect of coming to power and opportunities of making money are enhanced at the same time it weakens the party in power. Thus, a cycle of alternation in coming in and going out of power becomes a mode. One may ask what is wrong with this cycle. It is wrong because it does not allow the evolution of democracy to instill the tradition that if a political party does not do well when in power, it will be voted out. On the contrary, it may contribute to development of a stance that every term with power is a temporary rendezvous; therefore make as much as you can while in power. This cycle change in political parties in power is likely to build the tempo of corruption and adversely affect the speed of growth and reduction of poverty.

We have argued in Chapter 6 that corruption is not so deleterious to short-run growth but it seriously and adversely affects poverty both in the short and long-run, and growth in the long-run. Corruption increases cost of production and consumption. The increased cost is generally shifted to factors of production with weaker bargaining power, i.e. the labour. When labour market is tight and shifting is difficult, the producers tend to accommodate increased cost in profit. Initially, there may be above-normal profit in production and therefore some accommodation of increased cost in profit is possible without much slow down of growth. But ultimately increased cost arising from corruption will adversely affect growth, as well as poverty. We can argue along the similar lines that the effect of corruption on demand, both domestic and foreign, will adversely affect growth and poverty in the long-run. Bangladesh's labour supply situation and profitability in industries are such that corruption will accelerate pauperisation of labour with marginal impact on growth.

What can be done to reduce, if not eliminate, the extent of corruption? The model we have developed in Chapter 6 clearly indicates to the urgency of reform at the political level. The political reform needed involves redistribution of power from the executive branch to other two branches of the government i.e. the Judiciary and the Legislative branches. The induction of members of the parliament in the executive functions, instead of keeping them busy with legislation and activities within the parliamentary committees, is grossly undesirable. This

practice promotes corruption. There are quite a number of reforms required in the political system, including the high cost of election. Political reforms would be easier to initiate only when the disincentives for corruption are strong. Disincentives can be made stronger by making the cost of corruption higher. Therefore, in our judgment, a couple of reforms stand out to have strategic importance.

- (a) The *first* one is the effective operation of the judiciary independent from the executive. An independent judiciary is vital for preventing abuse of power. An independent judiciary is also central to the constitution of Bangladesh and the Government cannot avoid the implementation of the separation.
- (b) The *second* one is the sustenance of the current campaign of the Anti-corruption Commission into an effective institution by placing it under the judiciary administratively, and by making it autonomous functionally, as a commission ought to be. It is not that these requirements are unknown, but the question is “who will tie the bell around the neck of the cat”?

It is important for civil society and political activists to lead strong movements for these reforms necessary for controlling corruption. The media (news papers, televisions etc.) have been playing a useful rule in this respect. Though the media may have biases, as the government occasionally claims, continuous hammering from the media on the strategic reforms of independent judiciary and an effective Anti-Corruption Commission should be the call of the hour.

Internal Security: The Police Reform. In the course of analysis of public expenditure, it was noticeable that Bangladesh has been spending a small proportion of its total budget on internal security; the share was 3.5 percent in 1991 and was raised to about 4.5 percent by 2003/04. If we exclude the share of border security from this share the proportion spent for police force would be only about 2.3 percent of total public expenditure in 2003/04. On the other hand, task of maintaining internal law and order and protection of property rights has expanded manifold, creating an extreme sense of insecurity among the population. At present, we have about one police person per 1350 persons of population. By this number-centric index of our internal security, we should not feel as insecure as we currently do, compared to police-people ratio and feeling of security in neighbouring South Asian countries. But it is generally felt that the quality of enforcement of law in Bangladesh is inferior to neighbouring countries. Given that the general prevalence of corruption is higher in Bangladesh than the neighbouring countries and corruption

has a direct bearing on quality of law enforcement, it is not surprising that insecurity in Bangladesh is worse than the insecurity in neighbouring countries. Beside correction for corruption, Bangladesh needs reform in its police force.

Trade and technology spread across countries with globalisation and modernisation. Along with visible trade and technology, invisible criminal vices also spread across nations in the wake of globalisation and modernisation. Nations wanting to protect their peoples from the spread of criminal activity must appropriately remodel their police force for the purpose. Bangladesh has responded to the increased trend of criminal activities by changes in the police force under the spell of ground realities rather than anticipation of the full nature of the challenges in the future. Government has created a Rapid Action Battalion (RAB) and procured some additional security equipment. A recent proposal to expand the size of the police force by additional 26,000 persons (i.e. by 22 percent) along with a proposition of structural change (i.e. independent investigative and crime control functions), is likely to begin implementation from 2006/07 over a period of three years. Number and rank centric administrative reforms generally tend to protect the existing fiefdoms. This would be extremely unwelcome in police reform. Police reform in Bangladesh should recognise a few cardinal facts and challenges, indicated below:

- (a) The image of police as the master and ordinary people as subjects to be policed, that British established and still persisting to a certain extent, must be completely erased. A new image of police as service agents to people must be established. This will happen only when police service in large part is placed under local governments headed by elected leaders of the people.
- (b) Crime control warrants an effective and modern "intelligence system" in the police force. We have quite a number of intelligence agencies related to external and internal defence. The effectiveness of these agencies have been questioned. Their activities are not well coordinated and information sharing is minimal. A professional examination of the intelligence system in the police force is vital for crime control. Intelligence is the "eye and brain" of the crime control system.
- (c) Ways and means should be devised to minimise the use (misuse or abuse) of police force for partisan politics.

Coordination, Monitoring and Evaluation. The task of coordination among various actors working on policy formulation and implementation

was examined in Chapter 7. Only a particular point of coordination is highlighted again in this section. Government agencies are organised around various ministries, each managing particular divisions or departments of the government. Appointment of ministers, responsible for particular ministries, is made mostly on political consideration. If this political consideration does not match well with the functional needs of organisations, the task of coordination becomes complex and efficiency of governance gets diluted. An example will make the point clear and precise. The functional departments in agriculture are organised under three ministries, (a) Ministry of Agriculture for crops, (b) Ministry of Fisheries and Livestock, and (c) Ministry of Environment and Forests. These ministries always tend to be combative in protecting turfs. Coordination among them is crucial for advancement in generation of technology, dissemination of technology and efficient use of resources for agricultural development. This task of coordination would have been easier and more effective if all the sub-sectors of agriculture were placed under one ministry and each had an additional state minister to help the minister. In order to minimise the cost of coordination and enhance the efficiency in governance, a re-evaluation of the groupings of government departments and division under ministerial arrangements is emphasised.

The other point, with respect to enhancement of accountability, transparency and timeliness of government action, relates to monitoring and evaluation capacity in the government. This point has been developed in Chapter 9 and specific proposals have been advanced there. For monitoring implementation of development projects and for result-based evaluation of projects and programmes undertaken by the government, the current Implementation Monitoring and Evaluation Division (IMED) of the Ministry of Planning warrants a thorough overhaul. The nature of reform, including an indication of structural change, necessary in the IMED is elaborated in Chapter 9. Results-based evaluation of government projects and expenditure is not simple matter to be efficiently addressed by generalists and incumbents posted more on consideration of administrative convenience rather than necessary professional qualities.

The expenditures under the revenue budget are not covered in the jurisdiction of IMED in its mandate for monitoring and evaluation of public programmes. Transparency of expenditure under revenue budget is completely blurred and remains shrouded behind questionable veil. With amalgamation of development and revenue budgets (being implemented in phases since 2005/06), the whole gamut of public expenditures should be subject of IMED enquiry.

Development of Intellectual Infrastructure. Development of intellectual infrastructure in government is an urgent task because, with economic maturity, challenges become more complex and old-fashioned public institutions are more likely to fail in effectively addressing those challenges. The proposal of a large investment by Indian Tata Group presented a particular example of how the in-house capacity of the Government has been important to respond quickly to the propositions. It was noted in proceedings of special project evaluation committee of the planning commission that the in-house capacity in calculation of internal rate of return of project has been almost non-existent. This is the planning commission which was once a power house of intellectual discourse and skillful analysis of policies and projects. Various regional international groupings, World Trade Organisation, and similar entities, require a level of intellectual and professional ability within the government that at present does not exist. It is suggested that a reform involving (a) superior level of professional skills in the planning commission and the IMED, (b) addition of few reputed economists in the Bangladesh Bureau of Statistics, (c) a change of Bangladesh Institute of Development Studies (BIDS) to more research than consultancy oriented institution, and (d) integration of these organisations closer to one another through some organisational re-arrangement, becomes the basis for strengthening intellectual infrastructure in the government.

10.6.2 Strategy and Public Investment Policies

Several reforms are suggested under this category. The issues involved have been explained in Chapter 3 through Chapter 6; these are flagged again in order to highlight their priority.

Regional Focus in Poverty Reduction. It was pointed out earlier that, if the level of poverty in Rajshahi and Khulna Divisions could be brought down to the levels of poverty prevailing in Dhaka, Barisal, and Chittagong Divisions, the overall poverty level in Bangladesh would come close to 30 percent, very close to the millennium development goal. Development of rural non-farm production opportunities would be the strategic route for such developments. These developments would center around new opportunities of mining of coal and stones in the northern part of the country. Along with this major venture, encouragement for development of agricultural processing centers (high value products), development of export promotion zones and exploration for locating new industries in the north could be the basis for rural non-farm development. Government bears the major responsibility for initiating the process of development through:

- (a) develop infrastructures like roads, electricity and gas supply. An infrastructural corridor from Mongla port to northern Dinajpur should be a development target;
- (b) develop the Mongla port to make it a more efficient infrastructure connecting north-western Bangladesh to the World;
- (c) develop border trade ports for trade with India, Nepal and Bhutan;
- (d) establish export processing zones (EPZs); and
- (e) establish a number of technical institutes.

When recommendations are made that clearly relate to certain ministry or ministries, it is expected that the particular ministry will take initiatives in addressing the recommendations. When recommendations are made that relate to the whole government (e.g. the recommendation for regional priority or recommendation for poverty alleviation), it becomes no direct concern of any particular ministry. Therefore, initiation of actions does not start quickly or start at all. Ministry of Planning/ Planning Commission is logically the body that ought to think nationally and act accordingly. But this central institution has been rendered almost redundant under the euphoria of free market, private sector driven economic development in Bangladesh. As far as PRSP is concerned, government had to prepare the document through a Steering Committee headed by the Principal Secretary to the Prime Minister. The internal technical and analytical contribution of the Planning Commission was limited. The Planning Commission does not have the analytical capacity to do such jobs. For long-term planning, to serve as the national think-tank, to oversee implementation of nationally broad programme like PRSP, to coordinate actions of various ministries involved in critical national programmes, to raise flags when conflicts between short-run government measures and long-term goals become glaring, and on similar national occasions, the planning commission's role should be made clearly explicit and its capacity built up to efficiently handle such responsibilities.

Priorities in Infrastructural Development. Though our focus in this book is on rural transformation and rural prosperity, there are factors outside the traditional domain of rural sector that play far more important roles in enhancing rural prosperity than those directly employed for agriculture and rural development. The roles of these outside and indirect factors become stronger and stronger as agriculture and rural economies get greater and greater integrated with the rest of the world. Infrastructural developments create basic conditions for this process of integration. Thus, the development of ports, connection with

international highways of communication through sub-marine cables, and similar developments in areas remote from the rural scene could be of more crucial consequence for rural prosperity than traditional rural infrastructures. Another attribute of infrastructure, in its relation to development, is that the infrastructural services are non-tradable; it is not possible to meet any sudden gap in the supply of and demand for their services by import or export. You have, therefore, to be able to anticipate and act well in advance of the time of actual use. Demand generally follows the supply; if this sequence reverses because of inefficiency in governance, frustrating results ensue. In the light of past progress in infrastructural development described in previous chapters and keeping in view the two principles regarding infrastructure explained above, a few priority areas of infrastructural development in the years ahead, are described below.

Electricity: The year 2006 witnessed a few unprecedented scenes in Bangladesh that painfully demonstrated how brazenly the supply of electricity could slip behind the demand for electricity. This slippage caused enormous disruption in living conditions and production of electricity-dependent goods and services. In Bangladesh, the generation of electricity has been failing to keep pace with demand for quite some time. In the future, demand for electricity will rise faster than the current pace of growth in demand. Currently only about 27 percent of villages in rural areas are electrified, it will be necessary to cover the remaining villages by 2030. Urbanisation will increase to cover more than 50 percent of Bangladesh by 2030. Industrial production will require more electricity and agricultural production and marketing will be more intensive users of power than in the past. Electricity generation would warrant sustained high priority areas for public investment. Public investment alone will not be able to tackle the challenge in electricity generation; innovative ways must be devised in order to involve the private sector in the generation and management of electricity. The accelerated growth rates in GDP, envisioned during the coming decades, would remain empty dreams without fulfillment of the challenges in power generation.

Ports Development: Bangladesh's domestic market is pretty large. Even this large domestic market is not big enough to accommodate a 7 to 8 percent growth in GDP without exploitation of international demand. External trade is vital for a high-growth scenario and operation of cost-effective port facilities is vital for external trade. Chittagong port in Bangladesh is perhaps one of the most costly ports in the world. Congestion and time-cost involved in clearance of ships have influenced some shipping lines to avoid Chittagong. A much awaited container

terminal has yet to be made operationally efficient. On the other hand, the second port Mongla has declined in both volume and efficiency. We have indicated earlier that, for accelerated growth of the rural non-farm economy in the north and north-western Bangladesh, the role of the Mongla port and its linkage with Rajshahi–Dinajpur zones and neighbouring countries, would be crucial. Therefore, Mongla port is required to be revitalised. Bangladesh is also exploring the feasibility of a new deep-sea port facility near Cox's Bazar. While this is a step in the right direction and at the right time, the need for ancillary infrastructures for effective use of a deep-sea port should be examined as a component of the new port project.

Fiber-optic Networks: Bangladesh is connected with “the international communication highway” by virtue of its access to global marine cable lines. But this connection is a necessary but not sufficient condition for seizing the opportunity of global business based on information communication technology. India, because of its early start with necessary infrastructure and technologically trained man power, has amassed a vast share of the outsourcing market of the developed world. It is exporting services which were once a non-tradable class in economic jargon. For Bangladesh to be able to extract even a tiny fraction of the world's outsourcing market, large investment for fiber-optic connection of various centers of business and manpower within the country would be a necessity, so that all places within Bangladesh are connected with the marine cable outside. This is an immediate priority for public investment.

Strategic Road Networks for Overland Trade: It was noted in an earlier section that overland transportation provides a cheaper and faster mode of international trade. Fortunately, Bangladesh's location affords the country to conduct overland trade with India, Nepal, Bhutan, Myanmar and China. In order to convert this potential to reality, development of road networks among these countries should be pursued with zeal, carrying the idea from the level of table talks to the level of concrete projects. The deep-sea port that Bangladesh is proposing to develop may remain underutilised without the “economically convenient” regional trade opportunities being factored in the design of deep-sea port. It is recognised that “political understanding” among countries would be a necessary pre-condition for expansion of overland trade facilities. But political understanding develops gradually. Bit by bit, bilateral efforts may ultimately result in development of the whole. But a “picture of the whole” has to remain at the back of thinking during bilateral negotiations.

Consolidation and Expansion of Rural Infrastructure: We have shown in earlier chapters that Bangladesh has made a remarkable progress in building rural roads (measured in terms of miles of roads). However, a large part of this rural road network is in bad shape and inoperable due to numerous shortcomings related to regular maintenance and non-completion or non-provision of bridges and culverts. In a deltaic terrain, a road without crucial bridges or culverts is worse than no road at all. In a no-road situation, villagers design their mechanisms of transport to suit particular conditions. Thus bullock carts, horse-back and boats are used in carrying goods where road is not developed. On the other hand, when a road is constructed with incomplete bridges and culverts, with numerous breaches and clogged waterways, transportation problem becomes worse than the no-road situation. It becomes impossible to use bullock carts because of raised road crest with deep creeks. A travel in rural Bangladesh will undoubtedly demonstrate that some roads are serving the local population well, while so many others are in bad shape. A consolidation of rural road network, in terms of their operational effectiveness, is the need of the hour. This need is, however, intricately enmeshed with the operation of effective local government.

Changing Resource Allocations for Public Programmes in Agriculture and Rural Development: It has repeatedly been underlined that the future competitiveness of agriculture is going to determine whether the sector would be able to play its expected role in a globalised environment. At the same time, it has been pointed out that diversification towards more high value products would constitute to be one of the primary sources of agricultural growth. These two premises imply that total factor productivity of agricultural products in general and high value products in particular has to be raised through more public investment in research and extension. A higher priority to high value products in public budgets implies that more project funding is earmarked for (a) fisheries, (b) poultry and dairy and (c) high value crops, than has been the case in the past. Increasing allocation of resources, however, may prove to be counterproductive, without parallel articulation of how, on what and by whom the resources would be spent. In many instances, institutional underpinning for absorbing increased resources productively does not exist. The World Bank has conducted an in-depth analysis of the agricultural research and extension in Bangladesh and the gist of this report have been included in Chapter 5. This report outlines areas where additional resources should be provided, develops a framework of institutional reforms for using the resources, and recommends a blue print of steps to be followed in order to bring back the dynamism and

incentives for productive research and extension. An early initiative for implementation of the recommendations would auger well for competitive strength of agriculture in Bangladesh.

Water Resource Management. Bangladesh is a deltaic country and three mighty river systems—the Ganges, the Brahmaputra, and the Meghna—carry water down to the delta from the upper riparian countries at the foot of the Himalayas. There are two main sources of water in Bangladesh: (i) local rainfall amounting to 250 cubic kilometers, and (ii) trans-boundary inflows equal to 1000 cubic kilometers. Most of this rainfall occurs in four months, from July to October, and river inflows also peak during this period. Underground water is known to be available easily because of high rate of recharge during the monsoon season. It sounds surprising that a country with such rich water sources should worry about scarcity of fresh water supply. The inflow of huge quantity of trans-boundary water and torrential rainfall—all occurring mostly in four months—creates floods every year, thereby damaging crops, houses and infrastructures. On the other hand, river flows dwindle drastically during dry months causing scarcity of water for various uses.

Water is used for drinking, irrigation, water-transport, fisheries, industrial purposes and flushing of saline water intrusion from the sea. The high density of population and the increasing need for high economic growth put a tremendous pressure on the demand for water. As population increases and economic growth accelerates, the demand for water continues to rise and supply from upper riparian sources continues to decline. The demographic and economic factors combine to interact with hydrological factors to create serious environmental problems. Rivers are becoming polluted during dry season and siltation is aggravating navigability of rivers as well as creation of pollution. The problems of the country, arising from increasing scarcity and imbalances in the supply of and demand for quality water, are expected to assume crisis proportion within the next 30 years, if actions are not taken now (World Bank, 2005c). Studies on water and water related problems of Bangladesh, current and future, are so numerous that information is not a constraint to solution. However, success has been elusive and documentation on the wasteful approaches to water management in Bangladesh is huge (see Chapter 5 for further information).

Few critical priorities for water resources management, and increasing the role of the water sector to economic development in Bangladesh, are identified below:

First, the top priority reform in the management of water resources of Bangladesh should begin with the reorganisation of the public agency for

water sector development. The BWDB should be responsible for studies, planning, project formulation and implementation of large projects of national significance. Such programmes should be financed fully by the government for implementation by a central agency. The small scale projects of local nature should be the responsibility of local government (district, Upazilla, and Union Parishads). The size of such small scale projects will determine whether they will fall under the jurisdiction of district, Upazilla, or Union Parishads. Financing of such projects will be ensured through government grants and local resource mobilisation. BWDB and the LGED will provide technical support to local governments in planning and implementation of small scale projects.

Second, water transport development, through construction of modern inland ports, dredging and desiltation of river beds for improved navigability, should be given a higher priority than the one reflected in currently practiced budgetary allocations. There should be some form of an institutionalised coordination between surface water development for agriculture and water transportation.

Third, it is important to develop mechanisms for better use of water available during monsoon season. Policy should be designed to increase rice production in kharif season and follow strict discipline in water use for rice production in the winter season. In this regard, the practices in India and other countries should be studied for possible adoption in Bangladesh.

Fourth, technical feasibility of augmenting underground water through increase of recharge during rainy season should be a serious research topic. Bangladesh does not have land area to create large reservoir for holding water from rainfall. Therefore, underground reservoir is a logical option, if technical obstacles could be overcome through research.

Market Liberalisation: How far and What after? It is almost universally agreed that the socio-economic transformation, witnessed in Bangladesh during the last 25 years, has been the result of private sector initiatives. And this opening up of the vista of opportunities to private sector began in early 1980s after the short spell of socialism eroded fast. Liberalisation, the process of expanding opportunities to private sector, was gradual, gathering momentum during the 1990s. It has now reached a crucial stage. Initial liberalisation was relatively easy and produced big impact because the opportunities of profit were large. Now the profit opportunities are to be invented, developed and exploited under increasing risk environment. One ominous trend in the market, often reported in newspapers and expressed in popular resentments, is the

allegation of oligopolistic and monopolistic behaviour in some crucial sectors of the market. Such a trend has been very visible in fertilizer trade and imported goods for both consumption and industrial raw materials. Liberalisation of markets resulted from external and internal pressure arising from budgetary burden imposed by losses in public enterprises. Liberalisation, under these circumstances, often meant government washing its hand without recognition of the fact that government had a responsibility to monitor markets and take actions when imperfect market practices raised their head. Establishment of regulatory institutions was discouraged mainly because of the fear that such institutions will be manned by corrupt people who will collude with “syndicates” of oligarchs and monopolists. Again, corruption appears to be the primary villain baffling every good institutional solution.

But institutional solutions should not be stalled because of the fear of misuse. Such institutional antidotes to market imperfections have their own weight to curb market imperfections, may be in a weaker form. Therefore, an important agenda of reform in the coming years should include organising a number of regulatory bodies for monitoring the market behaviour. One such body for agricultural input market is immediately needed so that the almost regular complaints from farmers are addressed by such a body. Before such regulatory bodies are organised, it is, however, essential that careful analysis are completed about (a) the area of regulation, (b) whether liberalisation is complete in the area, (c) basic sources of the origin of the forces of oligopoly or monopoly, and (d) priority of the areas selected for regulation in the economy. Market imperfections, like corruption, affect income distribution more adversely than growth. In the context of Bangladesh, the income distribution question has assumed a greater importance than growth because of high incidence of poverty and relatively limited effect of growth on poverty reduction during the last two decades. The microeconomic foundation of the relation between growth and poverty appears to be rather hazy in Bangladesh. Perhaps, the imperfections in market, apparent in the past 10 years, are less harmful to growth than income distribution and poverty.

Managing a Sudden Food Crisis: Historically, Bangladesh has been subjected to frequent food crises, some of modest scale arising from natural calamity, but a few of massive scale caused by a combination of domestic factors and global turbulence like the ones in 1974 and 2008. The country has developed institutional capacity and resource base to tackle the former type of crisis quite effectively, but is thrown in chaotic instability when the later type of a crisis befalls the nation. For managing

the shock arising from both domestic and global turbulence, a set of measures are warranted that are generally embedded in long-term programmes for generation of income and employment for the poor, attainment of a high degree of self-sufficiency in staple grain production, and standing institutions for intervention through public stock and income transfer to vulnerable groups in the society. Hurriedly drawn measures are often too little, too late, and generally ineffective, although such actions create a perception among people that their government is doing everything possible to alleviate pangs of high prices. We have examined in Chapter 8 relevant issues pertaining to management of serious food crisis. There we have focused on problems related to (a) increasing food production, (b) public stock operation to combat food prices, (c) income support programmes for the poor and the vulnerable, and (d) market monitoring in order to remain ahead of a crisis. It is important that these issues are re-examined in the light of the experiences of 2008 food crisis. We generally talk of these issues with emotion at the crest of a crisis, but forget them as soon as the crisis is over, only to be taken aback by another occurrence.

10.6.3 Key Institutional Developments

We propose to present three key institutional development ideas for promoting rural prosperity during the period through 2030.

Local Government for Peoples' Participation in Development.

People are the ultimate producers and consumers in the economy. Therefore, they are involved in development. What we mean by enhancement of peoples' participation is the inclusion of people from all strata in the process of governance, particularly people from rural areas who have scant involvement in the selection, formulation and implementation of projects and programmes under public sector in order to enhance rural prosperity. A direct way to involve rural people in rural governance is the operation of local governments for local development, exactly in the manner and with power as the central government operates in national development. Enormous volumes of writings, studies, commission and committee reports have been produced, most of which strongly recommended steps for devolution of power and development of local governments (see discussions and references in Chapter 6). But the progress, with respect to transfer of real power has been little. The importance of local government under the emerging circumstances of remarkable economic growth without commensurate effect on poverty reduction, increasing demand for public services, including services from rural infrastructures, institutions and modern information systems, has

assumed a new urgency in development arena of Bangladesh. The pressure on the central government to share resources and power with local governments has been heightening. Donors are keen to support the local governments and at the same time strengthen their capacity (e.g., prioritisation, procurement and financial management). This would imply an increase in the capacity of local governments to manage such resources as effective institutions for governance. The process of transition of current structure of local government into effective structures of governance, however, involve some key considerations which should be resolved without any lacuna in order to ensure a successful devolution of power to local governments.

The debate about Thana Parishad (TP), Union Parishad (UP) or Gram Sarker (GS); which one should be the focal point? This debate should not attract as much attention as it has drawn so long. GS is primarily a local body suitable for village level institutions for mitigating village disputes, monitoring criminal activities, organising community facilities and similar community-wide initiatives. It is more an extended arm of UP than a governing institution with legal support infrastructure. The UP ought to be the lowest level governing unit with established office-infrastructures responsible for law and order maintenance, develop and maintain infrastructures, education and health institutions (including water supply and sewerage), distribute public payments to the poor (safety nets) and similar services to the people of the Union. The TP is the next upper level local government after UP. The difference between TP and UP levels is dictated by the question of scale and coordination. Projects (e.g. road or water development projects that may encompass more than one UP, would necessarily fall within the jurisdiction of TP. For coordination among UPs and for coordinating with the arms of central government, the TP is the logical coordinating agency. Without development of both the UP and TP as the units of local governments, the effectiveness of the system will remain weak. However, a strategy of gradual devolution and development may imply a priority to UP development first, followed by a somewhat laggard development of TP. This is the strategy that a World Bank financed project for local government development has adopted (The Daily Star, June 17, 2006, Dhaka).

Capacity Building at UP and TP levels is a prerequisite for functioning as local governments. Capacity creation, with respect to the following dimensions of a governing institution, is necessary:

- (a) Location of the office of a local government should not be a temporary place as was once the practice of changing location

with the change of the person as Chairman of the UP. A central location of a local government office will facilitate enhanced participation of people to local development.

- (b) The devolution of power in the formation of local governments should include list of activities that will constitute the jurisdictions of UP and TP. The theoretical basis for defining the nature of activities, that makes them subjects of a particular local government, should be established, even though the actual assumption of responsibility by the particular local government may be phased in.
- (c) A local government should have a permanent premise to house its officials. The staff of a local government should have adequate capacities for (a) management of the financial and fiscal affairs (i.e. revenue and expenditures) of the local government, (b) determining development priorities, planning of future activities, designing projects, monitoring of activities being implemented and collection of information, and (c) implementation of development projects and other development activities.
- (d) A guide book, serving as the internal constitution of local governments, is a critical need. Such a document, in addition to serving as guide posts for what can and can not be done, is an instrument for ensuring accountability and transparency and provides a basis for understanding between the local government and the people it governs or serves. The guide book should include: (a) a clear identification of the means of resource generation for the local government, i.e. the areas of taxation and resource sharing with the central government should be outlined in the guide book, including the role of donor financing, and (b) the relationship between a local government and the departments of the central government, including technical support of the central to local governments, should be clearly specified. It is in this specification of relations between local governments and central departments that holds the key to the balance of freedom of local governments and domination by the central government.
- (e) There should be modifications in the local government acts to incorporate the provisions of decentralisation and to place the devolution on sound legal foundations.

A Strategic Institutional Arrangement. The nerve center of a market economy is financial institutions, the driving arm of a market economy is entrepreneurship, and the logistics for coordination between the nerve

center and the entrepreneurs is the collective set of institutions like NGOs and the agents for diffusion of technology. In the context of rural prosperity during the coming decades in Bangladesh, a design of institutional arrangements that create and integrate rural banks, emerging entrepreneurs in the rural economy, and hundreds of NGOs operating in the country side, would constitute a strategic framework for government intervention for achieving that goal.

The first element of institutional triad is the rural banks that need to be organised. Government's role, particularly initiatives of the Bangladesh Bank, would be the leading intervention. We have discussed in Chapter 7 the wasteful efforts of the agricultural banks (BKB and RAKUB) in the name of agricultural development. Rural banks would be operating on banking principles and networks of micro-credit NGOs would be centered around a rural bank. Micro-credit NGOs and their clients would be rural Bank's clients for deposits as well as loans. The specialised agricultural banks would have to be dissolved or converted into rural banks to be run on commercial principles. The NGOs would work as a sort of extension agents of rural banks. These NGOs would be keeping information and contact with the new entrepreneurs in rural areas and get the banks and entrepreneurs together for determining and meeting the credit need of entrepreneurs. Thus, the NGOs and the entrepreneurs are, respectively, the second and the third elements of the institutional triad. Once the idea of the strategic institutional arrangement is deemed acceptable, the details of the arrangement could be worked out with further analytical inputs.

Institutionalising Land Ownership and Land use Planning. We flag this issue related to land resource, its ownership and use because the issue is emerging rapidly as a force causing pauperisation rather than a retardant to growth. Between 1986 and 1996, Bangladesh lost one million hectares of cultivable land to non-agricultural uses. If this trend is allowed to continue, the country is likely to lose another 2.5 million hectares (i.e. about 32 percent of cultivated area) by the end of 2030. This would imply that agriculture will have to produce food (and provide employment) for a 35 percent larger population with 32 percent less land by the year 2030. Of course, a country like Bangladesh will have to lose agricultural land to uses for industrialisation and urbanisation. That is not questioned. The point is that land is an extremely scarce resource in Bangladesh and its use has to be carefully planned to maximise well-beings of the people.

Land is owned by both private persons/institutions and public domain. The publicly owned land includes forests, *khas* land, public

water bodies and rivers. Government also acquires private land under the principles of eminent domain for the purposes of building roads, public building, urban housing and public utility developments. It is widely known that misuse of public land is extensive, resulting in environmental degradation, and deprivation of the poor of their basic land assets. Following complaints are quite frequently raised with respect to land in the public as well as private domain:

First, land is systematically encroached upon for turning forest into cultivated land. Similarly, deforestation is proceeding in vast scales without compensatory programmes of afforestation. Now-a-days, politically powerful people are grabbing public land for private purposes, in an environment of rapidly rising land prices.

Second, *khas* land has already been grabbed by powerful groups; *khas* land exists mostly in paper. As a result, the propositions of distribution of *khas* land to the poor are hollow proclamations.

Third, pollution of public water bodies by industrial and urban wastes is becoming increasingly obnoxious and environmentally hazardous.

Fourth, closed water bodies used to be the main sources of fish for fishermen to survive. Fish capture in such public water bodies has declined. On the other hand, *Jalmahal*, (publicly owned water bodies), which have been leased out to private entrepreneurs and NGOs for modern fish farming, have proven to be highly productive sources of fish production. It is the management of public water bodies that needs to be improved by eliminating the existing lease policy for *Jalmahals* and instead giving them to the real fishermen's groups with acceptable resource management plans.

Fifth, river beds are silting-up and, thereby, making water transport increasingly inoperative in Bangladesh. Moreover, some of the rivers are gradually being transformed, by various means, from rivers to places of crop production and business installations. This has started to create environmental 'hot beds' in many localities.

Sixth, the law of inheritance, which has been responsible for splitting of families and fragmentation of land holdings in Bangladesh, has not yet evoked any social response to change the law. The failure of land administration agencies in the government to keep updating land records has resulted in a continual confusion about actual ownerships of land. Possession often renders de-facto ownership to land, causing numerous litigations and land disputes. In this process of operation of property rights, it is generally the poor who lose out. Moreover when the land-ownership records are not reliable and clear, land titles cannot be used as collaterals for the purpose of bank loan. It is one of many reasons for non-

development of sustainable rural credit institutions in rural areas. It is also one of many causal factors for perpetual high rate of poverty in Bangladesh.

Seventh, with economic development, the real price of land is skyrocketing in Bangladesh. A class of developers has been rising fast, both in numbers and extent of operation, for construction of houses and modern settlements. These developers, in numerous occasions, have adopted deceptive means to oust poor land owners from their land and develop housing societies for the rich with fabulous profit margins.

The foregoing discussions, with respect to both public and private land ownership, use and associated problems, have convinced us to consider the issue of reforming and strengthening the land administration a top priority area of response by the Government of Bangladesh. The discussions are brief and without analytical underpinnings. But we have no doubt in their authenticity or importance. It is, therefore, suggested that the government appoints a temporary commission to (a) undertake analysis of the issues discussed, (b) formulate a land use policy, and (c) develop an agenda of actions by the government to establish rational land administration in the country.

As we proceed to conclude this book; it has been fairly well established that Bangladesh has moved forward in economic and social development inspite of numerous hard obstacles. As it strides ahead, the country needs to conduct strategic reforms in order to travel towards the predicted path outlined in the book. However, our prediction of the future socio-economic status of Bangladesh is simply a case couched in probability. Prediction of the future requires wisdom and is shrouded with uncertainty. Learning from the past requires intelligence and expert interpretation. We have deployed our sincere ability to understand the process of transformation of the rural economy and society of Bangladesh and paint a picture of the future on the canvas of the past. On this task, a scope of some dissention is always expected. We observe a glaring lag in political development compared to economic and social development. Weakness in political leadership bears the potential of clogging the path for economic and social progress at faster pace. This effect of political deficiency can be partly compensated by a vigorous civil society and free media that debate problems on the basis of right and reliable information. The role of institutions, gathering and processing right kind of economic and social intelligence, is a critical need for Bangladesh. We hope that, in the agenda of future reforms, this development of institutions for economic and social intelligence would receive a very high priority.

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Index

- accountability in public resource management, 292, 303
- Agriculture and Rural Development, 38, 145-146, 148, 150-151, 160, 175, 177-178, 215, 223, 256, 322, 331, 344, 357, 376
- Agriculture Extension Department, 260
- agriculture, 2-5, 10-11, 16, 24-28, 38-39, 41, 43, 46-48, 52, 54, 57, 69-70, 83-86, 89, 98, 116, 121-125, 127, 130, 132, 145-146, 148-152, 155, 157, 159-160, 162, 164-165, 173-174, 179-180, 184-185, 187, 189, 201, 205-207, 211-213, 223, 234, 242, 244, 246, 249, 251, 254, 256-257, 260-261, 282-283, 288, 306-307, 312-315, 322-324, 330-334, 338-339, 343, 345, 347, 352, 354, 357-359, 364; AgGDP, 159, 206, 223; census, 11, 83, 184, 282-283, 306, 322; development banks and micro-credit institutions, 45; diversification of, 294; electricity for, 250; future of, 83; high rate of return to investment in rice research, 164; impact on agricultural growth, 206, 338; national agricultural research system, 162; need for supplemental irrigation, 250; need to rearrange priorities in agriculture and rural development, 174; primary objective of agricultural development, 43; priorities in, 174, 185; private institutions for agricultural research, 158; private investors to invest in agricultural R&D, 159; research challenges, 164; research institutes in Bangladesh, 162; research policy in Bangladesh, 156; technological progress in, 14; technology driven agricultural growth, 10
- Ahluwalia, Isher J., 367
- Ahmed, Akhter, 367
- Ahmed, Nazir, 71, 367
- Ahmed, Raisuddin, 2, 5-6, 18, 47-50, 52-54, 76, 121, 125, 152-153, 157, 160, 163-164, 186, 198, 244, 246, 252, 256, 267-270, 287, 312, 314, 322, 324, 334, 367-368, 370
- Ahmed, Sadiq, 317-318, 320-321, 325, 333, 341, 368, 372-373
- Alamgir, M., 312, 368
- Ali, Shaukat A.M.M., 53, 252, 368
- Alston, J.M., 163, 368, 373
- aman* rice, 51-52, 55-56, 58-59, 153, 248, 263-265, 276, 285, 314, 346, 374; damage to *aman* rice crops, 274
- analysing and reporting performance findings, 302
- analysis of expenditure systems, 25
- Annual Development Programme (ADP), 82, 91, 94, 107-123, 125-126, 130, 146, 148-149, 151, 177-178, 200-203, 206, 215-216, 305, 331, 338, 369-370; expenditures, 110, 113-114, 116, 121-122; number of projects has been increasing, 112; special projects under ADP for increasing production, 214
- Anti-Corruption Commission (ACC), 22-23, 33, 194, 350
- anti-hoarding laws, 267
- Aoki, M., 226-227, 254, 368
- Arends-Kuenning, Mary, 198, 367
- Arrow, K.J., 228, 368
- Asaduzzaman, M., 7, 52, 368, 373
- Asian Development Bank (ADB), 2, 5, 14, 17, 57, 105, 241-242, 292, 319-320, 329, 367-368, 374-376
- Association for Social Advancement (ASA), 81, 208, 233, 241
- Association of Importers, 251
- Athukorala, Prema-Chandra, 1, 18, 368
- Atkinson, Anthony B., 30, 368
- Badamtali rice market in Dhaka (largest market in Bangladesh), 266
- Bangladesh Academy for Rural Development (BARD), 47

- Bangladesh Agricultural Development Corporation (BADC), 48, 53, 86, 151-152, 314; seed marketing by, 152
- Bangladesh Agricultural Research Council (BARC), 156, 158, 166-168, 256; institutes under, 156
- Bangladesh Agricultural Research Institute (BARI), 157
- Bangladesh and West Bengal of India produce paddy at costs of US\$89 and US\$92 per ton, respectively, 246
- Bangladesh Bank (BB), 33, 100, 200, 232, 234-235, 237, 239, 255; lead intervention, 364; *see also* Central Bank
- Bangladesh Bureau of Statistics (BBS), 5, 7, 11, 39, 45, 49, 68-69, 75, 87, 183, 185, 209, 212, 218-222, 236, 297, 306, 308, 316, 320, 353, 368-369; master surveys of agriculture by, 314
- Bangladesh Forest Research Institute (BFRI), 157
- Bangladesh Institute of Development Studies (BIDS), 7, 9, 56, 71, 306, 308, 353, 368-370, 373
- Bangladesh Krishi Bank (BKB), 230-232, 235-239, 334, 364; income and expenditure of, 239; operation of BKB, a major PSI in rural credit, 236; staggering default rate, combined with mismanagement by bank officials has turned as a loss making institution, 238
- Bangladesh Local Government Institute, 369
- Bangladesh Planning Commission, 112, 201, 206, 209, 327, 369-370
- Bangladesh Rice Research Institute (BRRI), 48-52, 157, 164, 370, 372
- Bangladesh Rural Development Board (BRDB), 215, 231, 235, 237
- Bangladesh University of Engineering and Technology (BUET), 374; Institute of Flood Control and Drainage at, 153
- Bangladesh Water Development Board (BWDB), 52-53, 151-156, 257, 331, 359, 374-375; projects of, 155-156, 258
- Bangladesh, 1- 5, 7, 9-20, 22, 24-28, 32-33, 35-38, 40-41, 43-50, 52-60, 62-64, 66-87, 90-109, 111-112, 114-115, 117-121, 123, 125-126, 128, 130-136, 139, 141, 145, 148-153, 155-166, 168-170, 173-175, 177-191, 196-201, 203-209, 211-216, 218-222, 225, 230-232, 234-250, 252-253, 255, 257, 259, 261, 263-267, 270-272, 274, 276, 278-286, 288-289, 291, 295-297, 304-307, 309, 311-323, 325-328, 331, 333-335, 337-343, 345-351, 353-360, 362, 364-376; changes in rice markets, 264; citizens going abroad for earnings, 313; constitution gives enough opportunity to develop viable self-government, 171; constitution subjected to amendments a number of times, 36; cost of irrigation is higher for *boro* rice in, 250; cost of production of rice in, 247; CPI for, 203-204, 318-319; create enabling environment for the private sector to expand, 46; create new infrastructures, such as roads, waterways, railways, electrification, energy supply, information and communication infrastructures, 46; demonstrated a superior performance in comparison with most other South Asian countries, 208; economy, 7, 265; emergence of, 1, 311; evolution of local governments in, 174; exploring the feasibility of a new deep-sea port facility near Cox's Bazar, 356; financial institutions for agriculture and rural business in, 334; Five-Year Plans of, 3, 47, 313, 369; frequent food crises, 360; government did a good job in managing food crisis in, 289; had a poverty rate of 49.8 percent as compared to 29 percent in India, 33 percent in Pakistan and 25 percent in Sri Lanka, 16; illegal grabbing of property serious challenges in, 131; in the South Asian Context, 14; inequality in income distribution increasing in, 316; inherited chronic poverty, 12; is the second most densely populated country in Asia, 244, 283; K-ratio in the fertilizer use in, 252; killing campaign of the Pakistani army, 312; little private agricultural research undertaken in, 158; little power with local governments, 168; livestock sub-sector, 4, 256; living conditions in, 319, 326; local governance, 168; located at the cross-roads of landlocked regions of eastern India, Nepal, Bhutan, Myanmar and prosperous Southern China, 341; moved forward in

- economic and social development, 366;
poverty and inequality in, 209; production
structure of the economy of, 2, 315;
projected output of fish in, 69; readiness
assessment for, 297; rice accounts for
about 50 percent of agricultural GDP in,
186; rice research has received highest
priority in, 164; role of the water sector to
economic development in, 358; scale of
non-government microfinance activity in,
233; should regularly monitor prices in
adjoining countries, 280; significant tenets
of public policies in, 27; socialism was
made a pillar of country's development in
the Constitution, 327; spends Tk 1,300
crores from its annual budget on fertilizer
subsidy, 253; structure of power points in
government, 192; system of government,
31; topped the CPI, 190; transformation of
economy, 2; vision for, 339; war of
independence of, 1, 48, 311-312
- baor*, 68
- Bardhan, P.K., 197, 228, 370
- Barind Development Board, 125, 306
- Barisal, 41, 76, 155, 186-189, 218-222, 266, 269,
321, 353
- Basic Democracy Act, 173
- Bautista, R.M., 44, 370
- Benapole Land Port (BLP), 280
- Bengal Local Self-Government Act, 169
- Bengal Village Chowkidari Act, 169
- Bengal Village Self-Government Act, 169
- Bernard, Andrew, 269, 367
- Bhalla, S., 248, 370
- Bhattacharya, Debapriya, 96, 370
- Bhutan, 83-85, 217, 341, 354, 356
- Binnedijk, Annette, 370
- boro* rice, 51-52, 55-56, 175, 250-252, 264, 346;
emergence of a large dry-season boro crop
had shifted the timing of price peaks, 265;
season, 259, 263-264
- Bose, M.L., 372
- Brahmaputra River, 358
- bribes
customs, central bank, export promotion
bureau a hurdle that has to be overcome
by entrepreneurs by paying bribes, 199;
paid to conduct garment business in
Bangladesh, 199; rate of bribe is higher in
business that earns, 199; to bureaucracy, 199;
to initial set-up cost ratio for licenses, 199
- Bruce, Neil, 30, 92-93, 98, 370
- budgets
budgetary allocation for agriculture and
rural development, 332; budgetary
process, 329; deficit, 99-100
- building baseline information, 299
- bullock carts, 357
- bureaucracy, 20-21, 33, 86, 192, 196, 199, 201,
216, 337, 348; structure of, 312
- business environment and enterprise
performance survey of the EBRD and the
World Bank, 203
- capital market, 103, 105-106
- Central Bank, 100; *see also* Bangladesh Bank
- cheap medicine, 326
- Chen-Kang, C., 175, 368
- child
birth, 326; development, 325; mortality
rate, 12, 325; care, 326
- China, 18, 32, 72, 341, 356
- Chittagong Hill Tracts (CHT), 34, 41, 75-76,
125, 172, 186
- Chittagong, 34, 41, 62, 71, 75-76, 125, 136,
141, 172, 186-189, 218-222, 245, 266, 321,
341, 353, 355
- Chowdhury, A., 372
- Chowdhury, J., 153, 374
- Chowdhury, N., 6, 47, 49, 198, 263-266, 269,
324, 370
- Chowdhury, Omar Haider, 43, 169, 370
- Chowdhury, Tawfiq-e-Elahi, 76, 267-268, 270,
334, 367-368, 370
- chowkidars*, 169
- Circle Officers, 169-170
- civil society, 23, 291, 298, 350, 366
- coarse rice, 58, 281; average wholesale price
of, 280 (table)
- Coase, R., 228, 254, 370
- commercial banks, 100, 231, 235, 240-241,
334-335

- communication of research results to policy makers have been challenging, 163
- Comptroller and Auditor General (CAG), 194
- contraceptives, 12; prevalence of, 325
- Cooperative Banks Ltd., 231
- corruption and mismanagement, 20-21, 23, 27, 37, 40, 52, 97, 103, 131, 137, 142, 179, 190-209, 211, 213-214, 292, 307, 336-339, 342, 348-351, 360, 370, 373-374; corruption starts from election cost for political parties, 195; defined, 190; diverts resources from public to private sector, 213; empirical evidences on extent of, 338; flows from absolute power, 194; government, 20, 190, 194; how the corrupt bureaucrats and politicians use their ill-gotten money, 207; illegal transactions or corruption, 192; impact of corruption on growth and poverty, 21, 27, 208, 213-214, 337; increases cost of production and consumption, 349; is a crime, 191; lead to deterioration in governance, 194; leakage estimated, 202; leakage of public resources, 190, 336; literature on, 191, 197; long-run impact of corruption on growth rate of GDP, 196; myriad rules and regulations for import and export trade created corrupt officials, 199; of development projects, 205; reduce, the extent of, 349; size of, 196, 337
- Corruption Perception Index (CPI), 190, 203-204, 292
- Cost of Basic Needs (CBN), 181, 317-320
- credible evaluation information, 293-294, 300-301
- crops
 estimated net returns for selected, 56;
 loan, 236; production, 49, 53, 57, 69, 83, 145, 152-153, 155, 251, 332, 365
- Crow, B., 268, 371
- customs, 199, 226
- cyclones, 270
- dafadars*, 169
- Daily Inqilab*, The, 201
- Daily Ittefaq*, The, 201
- Daily New Age*, The, 252, 368
- Daily Prothom Alo*, The, 190, 201, 259, 261
- Daily Star*, The, 40, 197, 201, 362, 371, 376
- Datta, A., 53, 154, 374
- Dawson, John E., 132, 371
- dealers
 get allocation of urea quotas from the Ministry of Agriculture, 53; in northern Kurigram, 260; politics of, 259
- death of rivers, 39, 87, 344
- deceleration of population growth, 212
- del Ninno, Carlo, 72, 175, 323, 371, 373
- democracy, 20, 131, 194, 342, 349; basic system of, 170; effective, 22
- Department for Public Health Engineering, 156
- Deputy Commissioners (DCs), 253
- Devarajan, S., 115, 331, 371
- development
 and revenue expenditures, 108; emerging development challenges, 19; financing options, 99; for rural areas, 48; measurement of impact, 179; multilateral institutions, 291; objectives of a nation, 94; of intellectual infrastructure in government, 353; of rural infrastructure, 9, 10, 47, 176, 324; of suitable agricultural equipment, 47; of the banking sector in the rural area, 240; priorities in infrastructural, 354; technology, 47
- Dhaka, 4, 36, 41, 45, 61, 71, 77, 155, 186-189, 201, 209, 218-222, 232, 238-240, 242, 245, 266, 269, 321, 353, 362, 367-376; overcrowding of Dhaka city with private universities, 41
- difference between the poor and the rich, 181
- Direct Consumption Income (DCI), 181, 317-319
- diseases
 avian flu, 73, 128, 159; cholera, 326; deaths from diarrhoea, 326; diarrhoea, 326, 335; malaria, 326, 335; preventable, 326 (table); small pox, 326, 335
- distributions of block expenditures, 151
- District Magistrates, 169
- domestic
 borrowing, 100; dynamics, 342; savings rates, 3

- Dorosh, Paul, 55, 72, 153, 175, 245, 274, 279, 323, 345-346, 371, 373
- droughts, 270
- East Pakistan Agriculture Development Corporation (EPADC), 48
- East Pakistan, 1, 48, 312, 371
- Economic Intelligence Unit, 39, 203
- economy, 2-4, 6-10, 15, 17-18, 24-31, 46, 86, 89-90, 97, 126, 132-133, 205, 207-208, 213, 246, 254, 257, 263, 267, 282, 284, 289, 306-307, 313-315, 329, 331, 337, 344-345, 356, 360-361, 363; bodies, 226; development, 2, 22, 25, 77, 84, 94, 101, 113, 129, 171, 197, 254, 327-328, 344, 354, 366; structural change in, 4
- education
 equalisation of gender in primary school enrollment, 16; high priority to primary and secondary education and population control, 14; reducing gender gap in, 325; spread of, 84, 325, 335
- Efferson, I.N., 372
- Election Commission (EC), 22, 33, 136, 141, 194
- elections
 estimate of election cost in the parliamentary elections, 195
- electrification of villages, 10
- elements of macroeconomic policies, 44
- Elliot, H., 159, 373
- employment creation programmes, 215-216
- entrepreneurship
 coordination, 363; development in rural economies, 26; dynamic upsurge of, 11; emerging new, 39
- environment
 natural calamities, 121, 184, 214, 230, 270, 272, 288; natural disasters, 32, 100, 116, 127, 159, 214, 242, 263; natural resource constraints, 343
- equity consideration, 31
- Ershad, President H.M., 260, 327
- exchange rate of taka against dollar, 12, 14-15, 24, 33, 44-45, 98, 102, 164, 200, 244-246, 278, 327-328; liberalisation of, 44; trade and exchange rates, 315
- Export Processing Zones (EPZs), 217, 353-354
- exports, 2-3, 10, 16-18, 37, 43-44, 46, 57, 60, 70, 73, 77, 85, 96, 106, 158-159, 175, 199, 217, 243-244, 266, 274, 278-279, 282, 286, 306, 329, 334, 340-341, 347, 353-355; acceleration in, 127; licensing of trade, 44
- Faaland, J., 2, 371
- Fagerberg, J., 164, 371
- Fair Average Quality (FAQ), 266
- Falipe, J., 164, 371
- family-planning measures, 12
- famine, 126, 187, 267, 269-270, 277-278, 281, 287, 289, 311-312
- farm holdings, 11, 184-185
- farmers, 6, 30, 39, 46, 48, 50, 52-53, 56-57, 60, 62, 71-72, 98, 145, 154, 158-159, 165, 182, 185, 212, 230, 233-234, 236, 250-253, 255-257, 259-261, 263-265, 268, 283-284, 288, 314, 334-336, 360
- Farruk, M.O., 267-269, 371
- fertility rate, 212, 325
- Fertilizer Traders' Association, 260
- fertilizers, 37, 47-50, 53-54, 56, 242-243, 246, 249-253, 256-257, 259-261, 263, 283, 307, 323, 360; are smuggled out to Myanmar and India, 53; crisis, 37, 259, 261, 283; discriminatory pricing policy favouring urea over other fertilizers, 252; distribution structure of the fertilizer market, 252; false fertilizers produced in clandestine facilities, 53; government management in the creation of crisis, 252; granting subsidy, 253; increase in subsidy on, 242-243; issues on subsidy, 251; liberalisation of markets, 53; main culprit of crisis (in Bangladesh), 259; phosphate and potassium, 53; retailer and sale of fertilizer in the open market, 260; supply of fertilizer and use by farmers, 251; urea, 53, 252
- Fiber-Optic Networks, 356
- fiscal policy, 97
- fish
 average wholesale price of *Hilsha*, 67 (table); average wholesale price of *Ruhi*, 64 (table); farmers, 158; growth rate in production, 68, 323

- Flood Control, Drainage and Irrigation (FCDI), 258, 372
- floods, 34, 39, 153, 270, 276, 358, 371, 373, 375
- Food and Agriculture Organization (FAO), 6, 11, 61, 69-70, 242-243, 279, 367, 369, 372
- Food for Education (FFE), 198, 367
- Food Planning and Monitoring Unit (FPMU), 61, 270, 272-273, 275-276, 280, 286-287
- food
- aid, 103, 107; competitive market, 289; crisis, 28, 32, 281-282, 288-289, 361; Director General of, 266; for education programmes, 198; managing sudden crisis of, 281, 360; onset of crisis, like the ones in 1974 and 2008, 282; processing enterprises, increasing, 159; security, 263, 371; sudden crisis for, 281, 283
- Food-For-Work (FFW), 78, 197, 214, 270, 272, 288
- foodgrain, 34, 127, 177, 268, 271-272, 367, 374; analysis of prices during the preceding years of the crisis in 2008, 278; distribution of, 270, 286; distribution to consumers, 263; fundamental changes in the operation of the market, 274; growth in production principal criterion for measuring success in agriculture, 47; key holders of stocks, 268; market, 27-28, 47, 76-77, 152, 271, 274, 312; self-sufficiency, 47-48, 54, 127, 284; stock for, 371
- foreign aid
- actual receipts of, 101; annual disbursement of foreign aid by type, 104 (table); annual flow of foreign aid to Bangladesh, 102 (table); commitment of, 101; commodity aid, 103; declining trend of, 328; donors, particularly multilateral development banks, 306; extent of non-performing credit, 236, 238; external debt service, as percentage of total exports of goods and services, in selected South Asian countries, 106; measures to reduce leakage on both aid and credit allocations, 105; to Bangladesh, 101; what forms of, 103
- forestry
- structure of production of products, 75; sub-sector, 4
- free market, 263, 371; economy and liberal trade among nations emerged as a force for global economic integration, 340
- Gabre-Madhin, Eleni Z., 225, 371
- Gallup International, 203
- Ganges River, 8, 41, 358
- Ganges-Kabodak Irrigation Project, 8
- Gerpacio, R.V., 248, 373
- global turbulence, 286, 360-361
- globalisation
- preparing the nation for global competition by 2030, 340
- Goletti, R., 269, 287, 371
- governance, 19-22, 25, 27, 31, 35, 37, 40, 105, 110, 113, 167-168, 194, 207-209, 254, 291-293, 312, 336-337, 347-348, 352, 355, 361-362; dysfunctional, 20-22, 191, 205, 208; elements of good, 292; enhancing transparency in, 302
- government
- agencies involved in agriculture and rural development, 38; budgetary process of, 89, 107; change of dealers with the change of, 259; collaboration with NGO, 37; decentralised programme of the government, upazilas became the focal point of local level government, 171; determinants of the size of, 93; generally blames donor's conditionality, 101; inefficiency arising from institutional weakness, 22; intervention, 29-32, 159, 364; of Bangladesh has liberalised the economy, 40; of India banned export of rice by private traders, 280; size of, 90, 93, 126; what ought to be the size of, 106
- Grameen Bank (GB), 81, 167, 208, 212, 231-233, 240-242, 334, 342, 376; microcredit programmes of, 334; network of mobile phones in rural areas linked rural Bangladesh with global cities, 212
- Griffin, Keith, 125, 371
- Griliches, Zvi, 163, 371
- Gross Domestic Product (GDP), 2-7, 13, 16-18, 26, 39, 55, 57, 59, 62-64, 66-67, 69-70, 74-75, 82, 90-96, 99-100, 106, 108-110, 127, 148-149, 160-162, 196-197, 206-207, 211,

- 223, 232, 309-310, 312-315, 323, 328, 331-333, 337-338, 342, 355; growth rates of GDP in agriculture, industry and services sectors, 4; ratio of research expenditure to agricultural GDP has declined, 161; sector based allocations are made generally to maximise overall growth rate in, 129
- growth rates of income, 342
- Gulati, Ashok, 248, 371
- Haggblade, Steven, 6, 9, 47, 49, 76, 198, 263-265, 267-268, 270, 324, 334, 367-368, 370, 372
- handling sudden crisis, 286
- haor*, 48
- Harun, E., 372
- Hasanuzzaman, S.M., 163, 372
- Hazell, Peter B.R., 9, 333, 371-372, 374
- health
 - education, 326; services, 325-326
- High-Yielding Varieties (HYVs), 47-50, 55-56, 248, 263-266, 286, 314, 368; *boro*, 263; critics of technology, 125; new, 50; paddy retains more moisture, 264; seeds, 47, 49; transplanted *aman*, 263
- Hossain, Mahabub, 2, 7, 9, 47, 248, 311, 368, 372-373
- Household Income and Expenditure Surveys (HIES), 7, 182, 209-210, 288, 316, 319-321, 324-325, 369
- households
 - consumption needs, 6; income, 7
- Human Development Index (HDI), 210
- imperfect information, 31
- Implementation Monitoring and Evaluation Division (IMED), 111, 117, 119, 130, 136, 141, 201, 305, 307, 352-353, 372
- imports
 - BLP import parity, 280; ex-New Delhi import parity, 280; licensing of trade, 44; substitution policies, 45
- improvement of nutritional status of the people, 36
- income distribution and poverty, 315, 360
- income
 - elasticity, 5, 9-10; non-farm source of income in rural areas, 314; per capita, 1, 9, 15, 17, 311, 316-319, 324, 343
- India, 13, 15-19, 32, 65, 70, 83-85, 93, 95-96, 100, 106, 155, 170, 204, 217, 244-250, 257, 274, 276-280, 282, 286, 289, 312-314, 341, 354, 356, 359, 368, 371, 376; experienced the highest growth rate of the services sector, 16; private trade imported huge volumes of rice from, 274
- industrial technology, 50, 333
- industries were nationalised, 327
- inflation rate brought down within one-digit range and stabilisation at 4 to 8 percent, 328
- Information and Communication Technology (ICT), 167, 340
- Information International from Beirut, 203
- information technology, 11, 17, 41, 212, 324, 340, 356
- inland and coastal water transport
 - development and creation of inland ports, 344
- Institute of Management Development (in Lausanne), 203
- institutions
 - coordination among various, 27, 230; expenditure on market and, 152; regulatory, 22, 37, 40, 87, 360; review of the literature on, 228; specialised financial, 241; theory of, 225
- intellectual infrastructures, 340
- internal security, 122-123, 128, 131-132, 330, 350
- International Financial Institutions (IFIs), 292
- International Food Policy Research Institute, (IFPRI) 71, 158, 197-198, 248, 271, 367-368, 370-374, 376
- International Fund for Agricultural Development (IFAD), 241-242, 333
- International Monetary Fund (IMF), 91, 131, 148, 292, 328-329
- International Rice Research Institute (IRRI), 47-48, 50, 373
- investments, 30, 49, 76-77, 89, 94, 113, 115-116, 128-129, 152, 166, 179, 206, 208, 225, 229-230, 265, 315, 327, 338; actual net public investment, 337; in agricultural research, 156; in fertilizer production, 49; in infrastructures, technology, 338; in the power, gas, and mining sector, 123

- irrigation, 30, 34, 47-50, 52, 56, 151, 153-156, 173, 177, 236, 242, 249-250, 257, 263, 294, 314, 323, 331, 358; diesel fuel for, 242; electricity for, 242; equipment, 263, 314; evaluation report on Teesta irrigation project, 155; from surface sources for dominant crop, 250; privately through tube-well, 250
- Islam, A.M. Hossain, 268-269, 372
- Islam, K.M. Nabiul, 72, 74, 175, 373
- Islam, N., 372
- Jahan, Rounaq, 312, 372
- jalmahal*, 365
- James, Muir, 69
- Jamuna Bridge Authority, 103
- Johansson, L., 372
- Kang, M.S., 159, 373
- Karim, Zahurul, 157, 160, 163, 333-334, 368
- Khan, Akhtar Hamid, 47, 372
- Khan, Azizur Rahman, 2, 125, 311, 371-372
- Khan, H.R., 153, 372
- Khan, M.A., 372
- Khulna, 60, 76, 186, 188-189, 216, 218-222, 266, 321-322, 339, 353
- Kibria, Golam, 259
- Kierkegard, Soren, 339
- Kissinger, Dr. Henry, 1
- Kusek, Jody Z., 295, 297, 301, 372
- labour
force surveys, 7; income, 7-8
- lands
complaints about land, 365; cultivated land covered by BWDB irrigation projects, 153; cultivation equipment, 50; grabbing, 39; loss of land to non-agricultural uses, 346; planned use of, 346; robbery, 39; use, 39, 83, 364; use plan, 344
- Lavalin, Shawinigan, 153, 374
- law and order, 20-21, 33, 169, 173, 330, 362; maintaining internal law and order, and property rights, 350; maintenance of, 169, 172, 312
- Lewis, D., 372
- life expectancy, 5, 13, 16
- literacy rate, 13, 16, 312, 325, 329
- loan recovery, 238
- Local Government Amendment Act, 172
- Local Government Engineering Department (LGED), 48, 78-79, 85, 151, 156, 168, 258, 294, 335-336, 359; allocation of LGED for rural roads, markets, 332
- local government
devolution of power to, 347; four-tier system of, 170; frequent changes in the tiers, 173; functions and responsibilities of various levels of, 173; renaming institutions, 170-171
- MacDonald, Mott, 153, 373
- macro-economy, 43, 46; policies identified to be of crucial importance, 23, 25, 205, 287-288, 328; policy indicators in Bangladesh, 45; transformation, 314
- Mahajan, Sandeep, 372
- Mahmud, Wahiduddin, 175, 367-368, 372-373
- Mandal, M.A.S., 7, 373
- markets
changing structure, 265; imperfections in, 360; incomplete, 31; liberalisation and price management, 18, 272, 359; liberalisation of input and output, 334, 360; liberalisation of trade policies, 44; liberalisations, 37; monitoring behaviour, 40; reform, 14; worldwide competitive, 244
- Marra, M.C., 175, 368
- media, 23, 274, 291, 306-307, 335, 341, 350; free, 366
- Meghna River, 41, 358
- Meghna Valley, 125
- Merchant International Group Limited (in London), 203
- Micro Finance Institutions (MFI), 233, 241; level of efficiency in, 241
- microcredit
model found acceptability in many countries, 231; programmes, 126, 212, 334
- Millennium Development Goal (MDG), 169, 320-321, 353
- milling of paddy into rice, 266
- Minister for Finance and Planning, 127

- Ministry of Agriculture, 6, 11, 34, 38-39, 47, 54, 58-59, 62, 64, 66-67, 77, 80, 86-87, 137, 142, 153, 167, 218-222, 243, 246, 256, 280, 352, 369-370; department of marketing in, 152; minister of Bangladesh, 242
- Ministry of Environment and Forests, 34, 38, 167, 352
- Ministry of Finance, 4, 33, 35, 38, 45, 49, 77, 79, 91, 95-96, 99, 102, 104-109, 114, 117, 119, 122, 135, 201, 243, 254, 305, 329, 369, 372
- Ministry of Fisheries and Livestock, 34, 38, 68, 86, 138, 142, 167, 352, 367, 369
- Ministry of Food and Disaster Management, 38, 61, 152, 270-271, 273, 276, 280, 286
- Ministry of Law and Parliamentary Affairs, 369
- Ministry of Local Government, Rural Development and Cooperatives, 38, 48, 78, 85, 152
- Ministry of Planning, 369
- Ministry of Water Resources, 34, 39, 138, 143
- Mondol, Shamsul Islam, 260
- monetary and fiscal policies, 24, 44
- monetary instruments synchronised with budgetary deficits, 328
- monga*
areas, 189, 198; phenomenon, 126, 187
- Mongla Port, 216-217, 354, 356
- Monitoring and Evaluation (M&E), 293, 295-298, 301-308, 310; critical aspects of, 308; effective system of, 293, 307; institutions in public organs and efficient operations of government, 293; six critical components of sustaining results-based system of, 303-304
- Monitoring and Evaluation Division (IMED), 369
- monitoring information provides lesson for implementing agency, 294
- Mubin, A.K.A., 37, 373
- Muir, James, 62-63, 69, 175, 373
- multi-agency involvement to enhance check and balance, 198
- Murgai, Rinku, 317-319, 324, 373
- Murshid, K.A.S., 268, 371
- Myanmar, 83, 85, 253, 257, 276, 278-280, 286, 341, 356
- National Agricultural Research System (NARS), 157, 166-167
- National Economic Council (NEC), 113, 304
- Nationalised Commercial Banks (NCBs), 231-232, 235
- Nazir, Ahmed, 71
- Neil, Bruce, 373
- Nelson, R.R., 226, 368, 373
- Nepal, 13, 15-19, 83-85, 95-96, 106, 204, 217, 341, 354, 356
- New Institutional Economics (NIE), 227-228
- Nongovernmental Organisations (NGOs), 10, 14, 16, 37, 63, 77, 80-82, 86-87, 100, 126, 158-159, 166, 168, 208, 231-233, 241, 255, 291, 293, 297, 308, 325-326, 334-335, 364-365; emergence of numerous, 313; intensive health programmes of, 326; loan disbursement of microfinance by, 240; microcredit programmes of, 334
- Open-Market Sales (OMS), 285-286
- operation of cost-effective port facilities, 355
- Organisation for Economic Co-operation and Development (OECD), 293, 295, 370, 373
- pace of growth, 3, 10, 23, 345, 355
- Pakistan, 1, 13, 15-19, 47, 95-96, 100, 106, 170, 204, 230, 311-313; army, 312
- Palli Karma-Sahayak Foundation (PKSF), 232-233, 241-242, 334
- Panchayet System, 169
- parboiling and de-husking of the bulk of marketed paddy, 266
- Pardey, P.G., 157, 159-160, 175, 334, 368, 373
- Parkinson, J.R., 2, 371
- Parliamentary Committees, 22, 305
- Partner Organisations (POs), 241-242
- patent rights, 158
- pesticide, 48, 56, 158, 249, 334
- Piggott, Roley R., 368, 373
- Pingali, P.L., 248, 373
- Planning Commission and Finance Division, 9, 113, 127, 130, 155, 203, 206, 308, 354, 369

politics

dedicated political leadership, 22; glaring lag in political development compared to economic and social development, 366; political institutions, 22, 226, 342; politicians approach politics as mechanisms of amassing personal wealth, 342; politicians consider it legitimate to raise funds by making use of their authority, 194; serving political constituencies of influential political personalities, 125

population growth, 12, 16, 210, 212, 315, 325, 335, 339

poultry farms, 71, 73, 158-159

Poverty Reduction Strategy Paper (PRSP), 19-20, 87, 110, 113, 126, 145, 166, 174, 179-181, 187, 189, 208, 210-211, 214, 297, 307-309, 319-321, 339, 343, 354, 369; adopts general strategy of growth, 208; case of, 179; critique of, 190; document prepared by the government, 208; goals of, 180; reduction of poverty rate from 50 to 25 percent, declared goal of, 185; second, 180; strategic path for achievement of goals, 216; strategy outlined in, 339

poverty, 1, 5, 12, 13, 16, 19-22, 23, 25-27, 31, 41, 43, 48, 66, 68, 80, 82, 86-87, 110, 113, 116, 124-127, 145, 162, 166, 168, 174, 179-187, 189-190, 196-197, 204-205, 208-216, 225, 234, 236-238, 270-271, 292, 294, 297, 305-310, 316-322, 324-326, 337-339, 342-343, 349, 353-354, 360-361, 366, 368-370, 373-375; able to reduce the extent of poverty to around 20 percent by 2030, 343; analysis of poverty in Bangladesh, 179, 320, 375; corruption-free situation compared to corruptive situation, 21; differentiate the extreme poor from the mass of absolute poor, 181; dynamics of, 183; extreme poor in the rural areas to depend on wage income, 187; extreme poor, 182, 184, 187, 234; fifty three percent of the rural population was poor, 182; impact on, 208, 338; magnitude of absolute poverty in Bangladesh, 319; measurement of, 181; problems of traps, 124, 126; rate of utilisation of project aid, 112; reduction in, 12, 129, 174, 187, 189, 210-211, 216, 339; regional trends in

poverty in Bangladesh, 321; specific projects targeting poverty alleviation, 215; target of reducing poverty levels to half, 169; urban poverty, an extension of rural poverty, 182

Power and Participation Research Centre (PPRC), 198

Pray, Carl, 50, 158, 373

prices

average wholesale price of local chicken, 66 (table); commodity prices in world markets, 282; comparison of rice price in Bangladesh with neighbouring countries, 245 (table); erode real income during a food crisis, 287; escalation in most prices, arising from worldwide oil crisis, 312; index, 44-45, 202, 281, 318, 332; international prices of rice and wheat, 61, 279; key factor in inducing farmers to increase production, 284; of inputs make a difference in cost of production, 250; of inputs in Bangladesh and India, 250

private sector, 3, 17-18, 20, 22, 29, 31, 42, 46, 53, 68, 71, 86, 93, 97, 100, 106, 116, 126, 129, 153, 158-159, 166, 207, 213, 256, 267, 272, 277, 291, 310, 315, 328, 334, 354-355, 359; research, 158

process of pauperisation, 184

process of result-based monitoring, 300

progression of industrialisation, 2

project aid, 27, 101, 103-104, 107, 111-114, 120, 123-124, 160-161; features of development budget and mechanism of using, 110; proportions of project aid in sector based expenditures, 124; sector based distribution of, 123; share in total sector based expenditures, 124

property right, 30, 33, 131, 184, 226, 228, 292, 348, 365

proposal of a large investment by Indian Tata Group, 353

public expenditures, 24-27, 38, 40-41, 87, 89-91, 93-94, 97, 99, 101-103, 106-110, 115, 121-123, 126, 128, 130-132, 145-146, 148-153, 160, 162, 177-179, 204-208, 212, 214, 223, 229, 306, 315, 328-329, 331-332, 335, 337-339, 350, 352, 367, 370-371, 374-375; aggregate public expenditure to GDP

- ratio, 91; annual public expenditure on rice development, 164; Bangladesh and USA comparison of, 133; distribution of, 116, 146; functional classification of, 128; impact of, 179-180, 204, 336; impact on poverty, 212; in agriculture relative to agricultural GDP, 148 (table); in United States, 132; regional distribution of, 124; resource mobilisation for financing, 106; strategies and policies of, 328; total public expenditures in Bangladesh, 108; trade-off, 106; trend and composition of public expenditure in Bangladesh, 108; trend of, 108
- Public Foodgrain Distribution Systems (PFDS), 270, 272, 286; reforms in, 271
- public goods, 30-32, 80, 129-131, 165, 167, 191-192, 207, 213, 327; pure, 32, 129
- Public Service Commission (PSC), 22, 33, 136, 141, 194
- Public Supported Credit Institution (PSI), 233, 236; credit for poverty alleviation by, 236
- public
 alternative uses of resources, 126; areas for actions, 31; areas of initiatives, 216; coordination a critical element for success of institutions, 254; credit disbursement by public supported institutions, 237; design of investment, 89; electricity generation warrant high priority areas for investment, 355; intervention, 263, 291; investments for rural prosperity, 225; private collaborations with, 37; private sector ratio in investment, 3; programmes, 145, 198, 214, 352; stock, 267, 284-285, 370; targeted programmes for the poor, 214; use of resources, 89, 106
- Purchasing Power Parity (PPP), 13, 15, 18, 246
- Quasem, M.A., 72, 74, 373
- Quddus, Munir, 199, 373
- Rahman, Hussain Zillur, 372-373
- Rahman, R., 153, 374
- Rahman, S.A., 198, 372
- Rahman, Shamsur, 334, 373-374
- Rahman, Sultan Hafiz, 44-45, 96, 175, 373-374
- Rahman, Ziaur, 327
- Rajshahi Krishi Unnayan Bank (RAKUB), 230-232, 235, 237-238, 334, 364
- Rajshahi, 87, 186-190, 212, 216, 218-222, 230, 309, 321-322, 339, 353
- Rashid, S., 198, 371-372
- Ravallion, M., 210, 269, 289, 314, 374
- Readymade Garments (RMG)
 cost of bureaucracy and corruption for exporters, 200; garment industry has become a hallmark of success, 199, 212
- Reardon, Thomas, 9, 372
- reforms
 agenda of, 25, 28, 348; pathbreaking, 327; police, 351; strategic areas of, 25
- regional dynamics, 341
- remittances
 by Bangladeshi workers working abroad, 208; measurement of the impact of remittances on growth and poverty, 212
- resource mobilisation, 106, 255, 359
- revenue
 budget, 110, 113-116, 121-122, 151, 166, 178, 223, 331, 352; collection, 95, 97, 192
- rice
 marketing, 263; markets, 263, 370; production, 10, 48-50, 153, 164, 186-187, 263, 283-284, 313-314, 323, 345, 359; wholesalers and *aratdars* (large stock holders) have grown in number, 266
- rising price
 backdrop of the evolution of the emergence of the 2008 rapidly rising price scenario for rice and wheat, 276
- Rist, Ray C., 295, 297, 301, 372
- river system would be made more navigable and sustained, 344
- rivers becoming polluted during dry season and siltation aggravating navigability, 358
- Rosegrant, Mark, 50, 333, 374
- rural development
 agents, 168; blue print of a strategy for rural transformation, 89; embraces economic and social development of the rural people, 145
- Rural Electricity Board (REB), 78, 146, 335-336
- Rural Financial Market (RFM), 231, 238, 242

- Rural Rationing System in 1993 and Statutory Rationing System in 1994, 198
- rural
- credit institutions, 230, 238; demand for credit in, 231; economy, 6, 10, 21, 39, 45, 78, 89, 145, 150, 216, 313, 364, 366;
 - extensive development of rural infrastructure, 14; growth of urban enclaves in areas, 347; housing, 348; ideas for promoting rural prosperity, 361; inflow of remittance resources to, 14; institutional policies relevant for rural prosperity, 225, 228; maintenance of infrastructures, 34, 78, 86, 265, 336, 347, 355, 361; progress in building roads, 357; public actions for development, 23; shares of rural non-farm sector in employment, 7; spreading sanitary toilets in, 326; transformation, 329, 314
- safety net programmes, 288, 348
- Samuelson, Paul A., 30, 374
- Schotter, A., 227, 374
- Second World War, 340
- sector based policies, 23-25, 43, 89, 205
- seed multiplication farms, 48-49
- selected indicators of transformation, 2, 5
- selection of performance indicators, 298-299
- Sen, Amartya, 287
- Sen, Binayak, 169, 209-210, 370, 372, 374
- Shahabuddin, Quazi, 72, 153, 164, 175, 323, 371, 373-374
- Sharma, Monohar, 45, 376
- Siddiqui, Kamal, 169, 374
- silting-up of river beds, 344
- skills
- management, 340; skilled scientists are more likely to get jobs abroad, 163
- Sobhan, Rehman, 374
- social
- accounting matrix, 7; bodies, 226; development, 5, 12, 325, 367, 370
- socio-economic transformation, 2
- Solow, Robert M., 163, 374
- Soussan, J., 53, 154, 374
- South Asian Countries, 13, 17-18, 92-93, 96
- Sri Lanka, 13, 15-19, 93, 95-96, 100, 106, 204
- St. Martin Island, The, 41
- Stan, Peter J.E., 132, 371
- state-owned enterprises, 89-90, 94
- Stiglitz, Joseph E., 30, 228, 374, 368
- stock level falling to about half of what government professes prior to the on-set of 2008 crisis, 286
- strategic road networks for overland trade, 356
- Sugden, R., 227, 374
- Sundarban, 41, 68, 76
- suppliers' credit for financing power, 105
- Swandip Island infested with pirates, 41
- Swaroop, V., 331, 371
- Syeduzzaman, M., 101, 374
- Sylhet Division, 187, 321
- System Rehabilitation Project (SRP), 154
- T&V system (Training and Visit), 50
- Tahmina, Kurratul Ain, 259
- taxes, 31, 76-77, 86, 94-98, 106, 126, 169; economic incidence of, 98; holidays, 44, 77, 97; policy, 97; property tax burden, 97; shifting of tax burden, 98; statutory incidence of, 97; structure of, 95-97; trade related, 97-98
- technological innovations, 333
- Teesta River, 155, 294, 369
- tidal bores, 270
- Total Factor Productivity (TFP), 50, 163-164, 339, 345, 357
- trade
- new horizon for expansion, 341; opportunities with ocean freight versus overland transportation costs, 341; with India is assumed to occur through land routes, 244; with Thailand can take place only through the ocean route, 244
- transfer of knowledge through the extension service, 50
- transition to commercialisation, 6
- transparency and accountability, 190, 197, 203-204, 291-292, 297, 337, 352, 374
- Transparency International (TI), 190, 197, 203-204, 292, 297, 337, 374

- Transparency International of Bangladesh (TIB), 197
- transport and communication core of infrastructural development, 121
- UN Millennium Development Goals, 211
- UN World Food Conference, 159
- Union Boards, 169
- United Nations (UN), 159, 375
- United Nations Development Programme (UNDP), 242
- upazilas, 79, 171-172, 255, 259-261
- USAID, 11, 69, 77, 375
- van der Geest, Willem, 43, 370
- Vietnam, 246-249, 274, 278
- violence, 23, 203, 312; culture of violence in conflict resolution, 312
- voting rights of women, 169
- Vulnerable Group Development (VGD), 79, 86, 197-198, 214, 272, 285, 288
- Vulnerable Group Feeding (VGF), 198, 214, 253, 272, 285, 288
- vulnerable group, 34, 116, 270, 310
- water
 critical priorities for water resources management, 358; logging, 39, 153; misuse of, 344; resources, 117-120, 153, 375; studies on water and water related problems, 358; technical feasibility of augmenting underground, 359; use of water available during monsoon season, 359
- welfare
 function, 29, 169; spending, 93
- West Pakistan, 1, 312
- Williamson, O., 228, 375
- World Bank (WB), 7, 13-18, 37, 44, 50, 63, 68-69, 78, 81-82, 91-92, 94, 96, 100, 105-106, 155-156, 159-161, 165-166, 199-200, 232-233, 241-244, 246, 276, 292, 295, 299, 319-320, 328-329, 333, 345, 357-358, 362, 367-368, 371-372, 374-376; conducted an in-depth analysis of the agricultural research and extension in Bangladesh, 357; development indicators, 15; sees governance where power is exercised in the management of a country's economic and social resources, 292; study of, 165, 166
- World Development Report (WDR), 38, 175, 375-376
- World Economic Forum, 203
- World Markets Research Center, 203
- World Trade Organisation (WTO), 85, 340, 353
- Yunus, Professor Muhammad (Nobel Laureate), 342, 376
- Zaidi, Salman, 317-319, 324, 373
- Zeller, Manfred, 45, 376
- Zila, 170, 172
- Zohir, S., 175, 373
- Zou, H., 331, 371