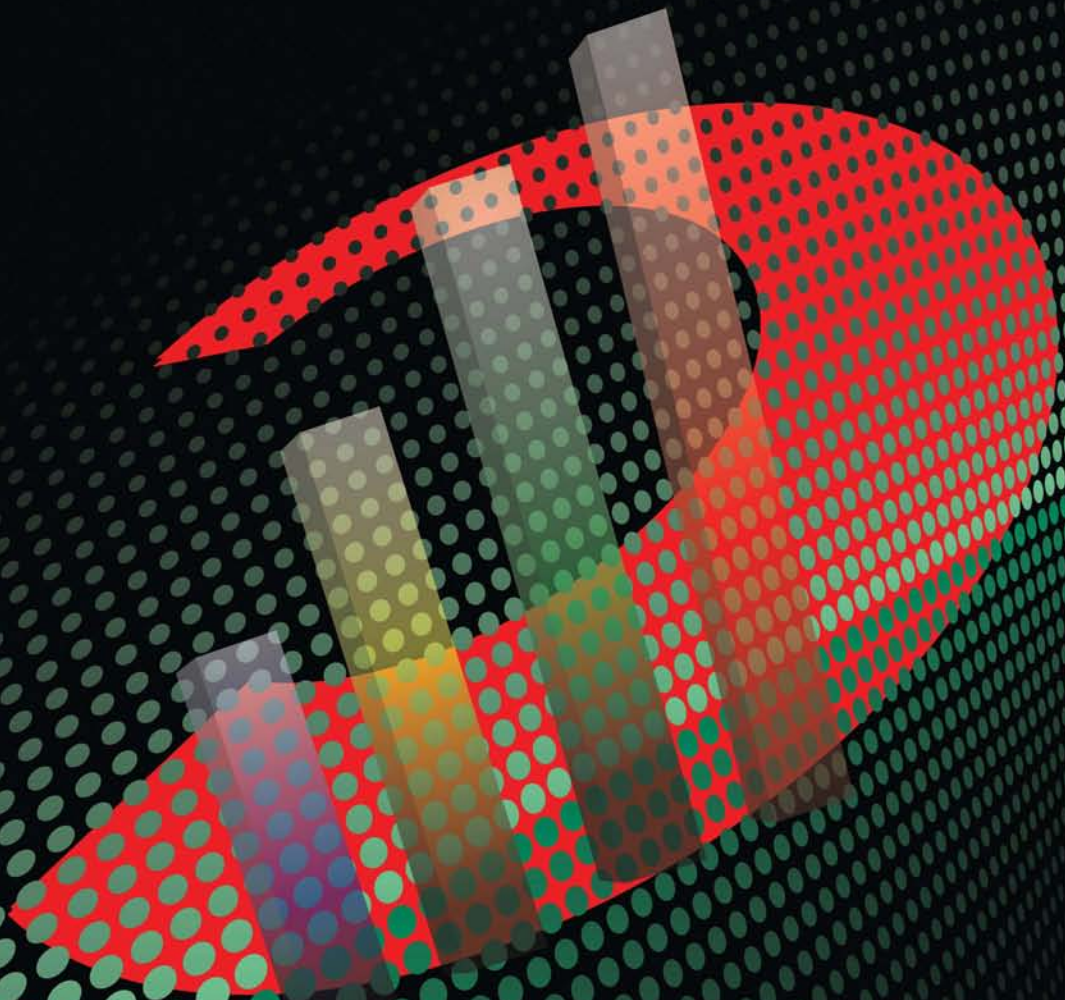

Development of Bangladesh with Equity and Justice

Immediate Tasks for the New Government

Centre for Policy Dialogue (CPD)

Development of Bangladesh with
Equity and Justice
Immediate Tasks for the New Government

Independent Review of Bangladesh's Development 2008-09

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Immediate Tasks for the New Government

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ABOUT CPD

The Centre for Policy Dialogue (CPD), established in 1993, is mandated by its Deed of Trust to service the growing demand originating from the emerging civil society of Bangladesh, for a more participatory and accountable development process. CPD seeks to address this felt need through organisation of multistakeholder consultations and dialogues, by conducting research on issues of critical national and regional interests, through dissemination of knowledge and information on key development issues, and by influencing the policymaking process in the country. At the core of CPD's activities lies its dialogue programme. The dialogues are designed to provide a forum for constructive engagement and discussion on key relevant issues, and to come up with specific recommendations to redefine the policies and for ensuring their effective implementation. The recommendations are then placed before current and prospective policymakers of the country as inputs to the decision making process. CPD's flagship research activity is the preparation of an annual *Independent Review of Bangladesh's Development (IRBD)*. Other CPD programmes include *Trade Related Research and Policy Development (TRRPD), Investment Promotion and Enterprise Development, Agriculture and Rural Development, Ecosystem and Environmental Studies, Human Resource Development, Gender Issues and Social Protection, and Governance and Policy Reforms*. CPD actively networks with other institutions within and outside Bangladesh which have similar interests and also regularly participates in various regional and international fora where interests and concerns of developing and least developed countries are discussed. CPD's current publication list includes more than 350 titles including Books, Monographs, Occasional Papers, Dialogue Reports and Policy Briefs. CPD outputs are available for sale at the Centre and also in selected bookstores in Bangladesh. CPD publications and other relevant information are also regularly posted on CPD's website www.cpd.org.bd

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PREFACE

The Tradition

The Centre for Policy Dialogue (CPD) has by now established a well-acclaimed tradition of public agenda setting for successive governments of Bangladesh. This tradition owes its intellectual debt to the initiative launched by *Professor Rehman Sobhan,* founder Chairman of CPD, in his capacity as the Planning Advisor of the Caretaker Government (1990-91). *Professor Sobhan* formed 29 Task Forces to produce a set of development policy documents for the then in-coming government. The Task Force Reports were prepared to assist the new Parliament and the government that took office in 1991 after a prolonged struggle for democracy. These historic documents have now entered the annals of Bangladesh's development discourse.[1]

CPD's flagship programme, namely the *Independent Review of Bangladesh's Development* (IRBD), which monitors the Bangladesh economy on an ongoing basis and provides policy feedback to the government, was to a large extent inspired by the experience of the Task Forces (1991). However, CPD decided to take a step further when, at the wake of national elections in 2001, it once again assembled the leading experts of Bangladesh under 16 Task Forces to address the issues of public concerns and draw up a body of policy recommendations for the next government. This was, in some way, the first attempt by the Bangladesh civil society to articulate a comprehensive development agenda for the consideration of a newly elected government.[2]

It is to the credit of CPD that it did not absolve its responsibility by just producing a set of policy documents for the incumbent government. Thus, in 2003, it decided to assess the implementation status of the recommendations advanced by the Civil Society Task Forces (2001). These mid-term review

[1]Task Force. 1991. *Report of the Task Forces on Bangladesh Development Strategies for the 1990's: Policies for Development* (4 volumes). Dhaka: University Press Ltd.

[2]CPD. 2003. *Developing a Policy Agenda for Bangladesh: Civil Society's Task Force Reports 2001*. Dhaka: Centre for Policy Dialogue (CPD) and University Press Ltd. (UPL).

documents were prepared through broad based consultations and close interactions between independent experts and policymakers in the government.[3]

Taking stock of its rich and varied experience of policy analysis and advocacy, CPD in 2006 launched an extra-ordinary campaign to promote citizen's aspirations in the run-up to the scheduled national elections of 2007. The major objective of the campaign was, by leveraging the voice of the citizens, to promote establishment of an accountable development process in the country.[4] Concurrently, with a view to developing a longer term development perspective for the country, CPD brought together a group of eminent citizens, styled as *Nagorik Committee* 2007, to articulate "Vision 2021" for Bangladesh.[5] The choice of the time horizon was defined by the 50th anniversary of Bangladesh's Independence. This Vision document was later validated through a series of regional dialogues and expert group meetings held across the country. Records will show that CPD's Vision document subsequently had perceptible influence on the election manifestos (2008) of the leading political parties.

As the country proceeded through a tortuous journey of democratic transition, the caretaker government changed composition in quick successions during end of 2006 and early 2007. Irrespective of these developments, CPD continued to highlight the economic issues of major public concern of the time.[6]

Consequently, the present publication needs to be considered in the context of CPD's sustained efforts to use its analytical research and policy dialogues to catalyse an inclusive and participatory development process in Bangladesh. These efforts have been particularly pronounced whenever the citizens were engaged in the process of electoral choice.

The Publication

Once the much awaited national elections were successfully held in December 2008, CPD, in keeping with its track record, prepared a series of analytical

[3]CPD. 2005. *Monitoring the Implementation of Bangladesh's Development Policies: Civil Society's Review Reports 2003*. Dhaka: Centre for Policy Dialogue (CPD) and University Press Ltd. (UPL).

[4]CPD. 2006. *Jatiya Nirbachan 2007: Jababdihimulok Unnayan Prochestay Shusheel Shomajer Udyog* (in Bangla). April 2006; and *Jatiya Nirbachan 2007: Jababdihimulok Unnayan Prochestay Shusheel Shomajer Udyog* (in Bangla). December 2006. Dhaka: Centre for Policy Dialogue (CPD).

[5]CPD. 2007. *Bangladesh Vision 2021*. Dhaka: Centre for Policy Dialogue (CPD).

[6]CPD. 2007. *State of the Bangladesh Economy in FY07: An "Election Plus" Economic Agenda for the Second Caretaker Government*. Economic Programme: CPD's Recommendations for the Caretaker Government. Paper presented at the Press Briefing held on 25 January 2007 at CPD Dialogue Room.

papers on a select set of critical developmental challenges facing the new government. Most of these papers were presented at a two-day long Conference titled *Development with Equity and Justice: Immediate Tasks for the Newly Elected Government*. The Conference was held in Dhaka on 28-29 March 2009 and was attended by a large number of Cabinet Ministers, Members of Parliament, political leaders, leaders of trade bodies, academics, policy activists and development practitioners. The papers presented at this Conference and the dialogue reports capturing the rich discussions which took place in the Conference, along with a couple of other contributions, have been included in this volume. All these papers were prepared under CPD's IRBD programme.

The present publication includes seven articles on selected issues. Indeed, a hard choice had to be made to keep the issues limited in number and focused in scope. The selection of themes was dictated by the emerging economic challenges in Bangladesh economy at the beginning of 2009 as well as by the priorities set by the electoral mandate. Each of the thematic papers concentrated on diagnosis of the problem and identification of key concerns as well as articulation of an actionable agenda for addressing immediate tasks before the newly elected government in the context of the available policy options. The papers also attempted to generate inputs for the then forthcoming budget for the fiscal year 2009-10.

The volume opens with a paper on challenges of macroeconomic management in Bangladesh in the face of the brewing global economic crisis. The second theme includes two papers - one on crop production and the other on food security. A related theme, namely, provisioning of social safety net through employment generation scheme, has also been included in the volume. Another set of themes dwelt with three issues, each of which is of autonomous importance. These issues include the challenges of adding new capacities in the energy sector, immediate doables for promoting information and communication technology (ICT) for development and restructuring of the jute manufacturing sector. The discussions which followed the presentation of each of the papers at the Conference have been recorded in the accompanying dialogue reports exposing the debated options and choices in each of these areas.

Acknowledgement

The present volume has benefited enormously from contributions of many people. *Dr Mahabub Hossain, Dr Fouzul Kabir Khan* and *Dr Ananya Raihan* have authored three Conference papers. I would like to put on record my deep appreciation to all of them. There were others who have shared data and

information, participated in the various dialogues organised by the CPD to discuss the preliminary drafts, and have made insightful comments on issues taken up in each of the chapters. On behalf of the authors, I would like to express my sincere gratitude to each one of them for their readiness to share knowledge, expertise, experience and wisdom with the authors of this volume. I would like to particularly put on record my deep appreciation to the discussants and participants of the two-day Conference on *Development with Equity and Justice: Immediate Tasks for the Newly Elected Government*.

CPD's IRBD team would like to acknowledge the support received from officials of various institutions including Bangladesh Bank, Bangladesh Bureau of Statistics (BBS), National Board of Revenue (NBR), Export Promotion Bureau (EPB), Rural Electrification Board (REB), Power Development Board (PDB), Implementation Monitoring and Evaluation Division (IMED), Planning Commission, different Ministries and departments of the government who have generously helped individual team members in accessing latest data and relevant resource materials.

I would like to make a special mention to the untiring work of the CPD's Research Associates who have provided valuable assistance in preparation of the papers. We laud the hard work put in by members of the survey teams who have collected field level data for the papers on "100-Day Employment Generation Programme," "Higher Boro Production for Food Security," and "Restructuring of the Jute Manufacturing Sector."

The contribution of colleagues at CPD's Dialogue, Communication, Publication and Administrative Division, led by *Ms Anisatul Fatema Yousuf*, in organising the Conference and bringing out this volume needs to be duly recognised. The Administration Division provided the necessary support. Our sincere appreciation goes to the CPD publication team without whose dedicated effort this volume could not have been brought out so fast. In this connection, I would particularly like to mention about the sincere and hard work of *Ms Nazmatun Noor*, Senior Dialogue Associate, CPD for copy editing and proof reading of the manuscript and *Mr Avra Bhattacharjee*, Senior Documentation and Publication Officer, CPD for his high quality of work related to desktop publishing and designing of the cover of this volume. Both of them had to work under extremely tight schedule. I would also like to appreciate the contribution of *Mr Fazley Rabbi Shakil* for his dedicated work to bring this publication out in such a presentable format. In this context, contributions of *Mr Subir Kanti Bairagi*, Research Associate, CPD and *Ms Rony Akther*, Dialogue Associate, CPD are also sincerely acknowledged.

Finally I would like to complement *Professor Mustafizur Rahman*, Executive Director, CPD for his inspiring leadership in designing and delivery of the research papers as well as the policy Conference. He and his colleagues have added another important chapter in CPD's illustrious history of time relevant high level policy analysis and advocacy.

Over the last decade and half, CPD has pursued painstaking research, objective writing and conscientious policy advocacy for the greater benefit of the nation. Hopefully, this has not only improved general enlightenment with regard to public issues, but also provided specific solutions to developmental problems. The present publication is expected to take the process yet another step forward and contribute to achieving our national aspirations at this important moment of democratic consolidation and developmental transition.

16 June 2009

Debapriya Bhattacharya
Distinguished Fellow, CPD

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ACRONYMS

ADB	Asian Development Bank
ADP	Annual Development Programme
AIDS	Acquired Immune Deficiency Syndrome
ARPP	Accelerated Rice Production Programme
ASEAN	Association of Southeast Asian Nations
AWD	Alternate Wet and Dry
AfT	Aid for Trade
AmCham	American Chamber of Commerce
BADC	Bangladesh Agricultural Development Corporation
BAEC	Bangladesh Atomic Energy Commission
BAPEX	Bangladesh Petroleum Exploration & Production Company Limited
BARC	Bangladesh Agricultural Research Council
BARI	Bangladesh Agricultural Research Institution
BASIS	Bangladesh Association for Software and Information Services
BAT	British American Tobacco
BBS	Bangladesh Bureau of Statistics
BCC	Bangladesh Computer Council
BCCP	Bangladesh Center for Communication Programs
BCI	Bangladesh Chamber of Industries
BCS	Bangladesh Computer Society
BDT	Bangladesh Taka
BERC	Bangladesh Energy Regulatory Commission
BFLLFEA	Bangladesh Finished Leather, Leathergoods and Footwear Exporters Association
BGFCL	Bangladesh Gas Fields Company Limited
BGMEA	Bangladesh Garment Manufacturers and Exporters Association
BGSL	Bakhrabad Gas Systems Limited
BICF	Bangladesh Investment Climate Fund
BIDS	Bangladesh Institute of Development Studies
BIFR	Board for Industrial and Financial Reconstruction (India)
BIID	Bangladesh Institute of ICT Development
BJEL	Birds Jute and Export Limited (India)
BJGA	Bangladesh Jute Goods Association

BJMA	Bangladesh Jute Mills Association
BJMC	Bangladesh Jute Mills Corporation
BJSA	Bangladesh Jute Spinners Association
BKIICT	Bangladesh-Korea Institute of ICT
BKMEA	Bangladesh Knitwear Manufacturers & Exporters Association
BMET	Bureau of Manpower, Employment and Training
BNP	Bangladesh Nationalist Party
BOI	Board of Investment
BOP	Balance of Payment
BPC	Bangladesh Petroleum Corporation
BPDB	Bangladesh Power Development Board
BRRI	Bangladesh Rice Research Institute
BSCL	Bangladesh Submarine Cable Limited
BSNL	Bharat Sanchar Nigam Limited
BSTI	Bangladesh Standards and Testing Institution
BTA	Bangladesh Tanners Association
BTCL	Bangladesh Telecommunications Company Limited
BTN	Bangladesh Telecentre Network
BTRC	Bangladesh Telecommunication Regulatory Commission
BTTB	Bangladesh Telegraph and Telephone Board
BUET	Bangladesh University of Engineering and Technology
BUP	Bangladesh Unnayan Parishad
BU-IED	BRAC University - Institute of Education and Development
BdOSN	Bangladesh Open Source Network
bcf	Billion Cubic Feet
CAGR	Compound Annual Growth Rate
CBC	Carpet Backing Cloth
CC	Cash in Credit
CCS	Cash Compensation Scheme
CD	Customs Duty
CDMA	Code Division Multiple Access
CEO	Chief Executive Officer
CFL	Compact Fluorescent Lamp

CHT	Chittagong Hill Tracts
CIB	Credit Information Bureau
CIMMYT	International Maize and Wheat Improvement Center
CM	Cutting and Making
CNG	Compressed Natural Gas
CPD	Centre for Policy Dialogue
CPI	Consumer Price Index
CRR	Cash Reserve Requirement
CSD	Central Storage Depot
CSO	Civil Society Organisation
CTG	Caretaker Government
DAE	Department of Agricultural Extension
DAM	Department of Agricultural Marketing
DAP	Diammonium Phosphate
DAR	Daily Achievement Report
DC	District Commissioner
DDMC	District Disaster Management Committee
DESCO	Dhaka Electric Supply Company Limited
DFI	Development Financial Institution
DIIA	Danish Institute of International Affairs
DJI	Dow Jones Industrial Average
DLD	Delay Liquidated Damage
DSE	Dhaka Stock Exchange
DSI	DSE All Share Price Index
D.Net	Development Research Network
EBRS	Electronic Birth Registration System
EBSN	Employment-based Safety Net Programme
EC	Election Commission
ECNEC	Executive Committee of National Economic Council
EDGE	Enhanced Data rate for GSM Evolution
EEF	Equity and Entrepreneurship Fund
EEZ	Exclusive Economic Zone
EGS	Employment Generation Scheme
EIA	Energy Information Administration
EIU	Economist Intelligence Unit

EPB	Export Promotion Bureau
EPZ	Export Processing Zone
ESMAP	Energy Sector Management Assistance Program
EU	European Union
FAO	Food and Agriculture Organization
FAQ	Frequently Asked Question
FBCCI	Federation of Bangladesh Chambers of Commerce and Industry
FCB	Foreign Commercial Bank
FDI	Foreign Direct Investment
FERI	Foundation of Education Research and Invention
FFE	Food for Education
FFW	Food for Work
FGD	Focus Group Discussion
FOB	Free on Board
FPMU	Food Planning and Monitoring Unit
GDP	Gross Domestic Product
GIIP	Gas Initially in Place
GIS	Geographic Information System
GNI	Gross National Income
GNP	Gross National Product
GPRS	General Packet Radio Service
GR	Gratuitous Relief
GSB	Geological Survey of Bangladesh
GTCL	Gas Transmission Company Limited
GWh	Gigawatt hour
GoB	Government of Bangladesh
gm	Gram
G-20	Group of 20
HES	Household Expenditure Survey
HIES	Household Income and Expenditure Survey
HSC	Higher School Certificate
HTP	High Tech Park
HYV	High-yielding Variety
ha	Hectare

IAEA	International Atomic Energy Agency
IBPC	ICT Business Promotion Council
ICT	Information and Communication Technology
ICX	Interconnection Exchange
IDB	Inter-American Development Bank
IDB	Islamic Development Bank
IDBI	Industrial Development Bank of India
IDCOL	Infrastructure Development Company Limited
IEC	Information Education and Communication
IFPRI	International Food Policy Research Institute
IGTI	Inequality-Growth Trade-off Index
IGW	International Gateway
IIFC	Infrastructure Investment Facilitation Center
IIG	International Internet Gateway
IJIRA	Indian Jute Industries Research Association
IJMA	Indian Jute Mills Association
ILDTSP	International Long Distance Telecommunication Services Policy
ILO	International Labour Organization
IMF	International Monetary Fund
INR	Indian Rupee
IOC	International Oil Company
IP	Internet Protocol
IPP	Independent Power Plant
IRBD	Independent Review of Bangladesh's Development
IRRI	International Rice Research Institute
ISP	Internet Service Provider
ISPAB	Internet Service Providers Association of Bangladesh
IT	Information Technology
ITES	IT-enabled Service
ITF	ICT Task Force
ITU	International Telecommunication Unit
JGTDSL	Jalalabad Gas Transmission and Distribution System Limited
JMDC	Jute Manufactures Development Council
KPCL	Khulna Power Company Limited

kcal	Kilocalorie
LBIP	Labour-based Approaches in Infrastructure Programme
LDC	Least Developed Country
LFS	Labour Force Survey
LGRD	Local Government and Rural Development
LIMCOV	Limited Coverage at a Socially Determined Minimum Wage
LPG	Liquefied Petroleum Gas
LSD	Local Storage Depot
L/C	Letter of Credit
MCA	Millennium Challenge Account
MCCI	Metropolitan Chamber of Commerce and Industry
MDG	Millennium Development Goal
MEP	Minimum Export Price
MHHDC	Mahbub ul Haq Human Development Centre
MIS	Management Information System
MKWhr	Million Kilowatt hour
MP	Member of Parliament
MPS	Monetary Policy Statement
MSP	Minimum Support Price
MT	Metric Ton
MTMF	Medium Term Macroeconomic Framework
MTNL	Mahanagar Telephone Nigam Limited
MW	Megawatt
MoA	Ministry of Agriculture
MoC	Ministry of Commerce
MoF	Ministry of Finance
MoP	Muriate of Potash
MoPEMR	Ministry of Power, Energy and Mineral Resources
MoSICT	Ministry of Science and Information & Communication Technology
MoT	Ministry of Textiles (India)
mg	Milligram
mmbtu	Million British Thermal Unit
mmscfd	Million Standard Cubic Feet per Day
msl	Mean Sea Level

NBR	National Board of Revenue
NCTB	National Curriculum and Text Book Board
NCJD	National Centre for Jute Diversification (India)
NFE	Non-formal Education
NGO	Non-government Organisation
NJMC	National Jute Manufactures Corporation Limited (India)
NNC	National Nutrition Council
NPL	Non-performing Loan
NRB	Non-resident Bangladeshi
NREGP	National Rural Employment Guarantee Programme
NSD	National Savings Directorate
NWPGC	North-West Power Generation Company
NYA	New York Stock Exchange Composite Index
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
OMS	Open Market Sale
PASS	Participatory Advancement Social Service
PAU	Policy Analysis Unit
PC	Personal Computer
PCB	Private Commercial Bank
PDB	Power Development Board
PFDS	Public Foodgrain Distribution System
PGCB	Power Grid Company of Bangladesh
PGCL	Poshchimanchol Gas Company Limited
PIC	Project Implementation Committee
PKSF	Palli Karma-Sahayak Foundation
PLD	Performance Liquidated Damage
POL	Petroleum, Oil and Lubricant
PPP	Public-private Partnership
PRSP	Poverty Reduction Strategy Paper
PSC	Production Sharing Contract
PSC	Public Service Commission
PSMP	Power System Master Plan
PSTN	Public Switched Telephone Network
PL 480	Public Law 480

QIP	Quantum Index of Production
RCC	Rajshahi City Corporation
RDRS	Rajshahi Dinajpur Rural Service
REB	Rural Electrification Board
REER	Real Effective Exchange Rate
REOPA	Rural Employment Opportunities for Public Assets
RMG	Readymade Garments
RMP	Rural Maintenance Programme
RPP	Rental Power Plant
RTI	Right to Information
R&D	Research and Development
SAARC	South Asian Association for Regional Cooperation
SAP	Structural Adjustment Programme
SASEC	South Asia Subregional Economic Cooperation
SCA	Seed Certification Agency
SCB	State-owned Commercial Bank
SGFCL	Sylhet Gas Fields Limited
SHS	Solar Home System
SICT	Support to the ICT Task Force
SLR	Statutory Liquidity Ratio
SME	Small and Medium Enterprise
SMS	Short Message Service
SPARRSO	Space Research and Remote Sensing Organization
SPS	Sanitary and Phytosanitary
SRI	System of Rice Intensification
SSP	Single Super Phosphate
SoE	State-owned Enterprise
SARI/E	South Asia Regional Initiative for Energy
SEA-ME-WE 4	South East Asia - Middle East - West Europe 4
TBT	Technical Barrier to Trade
TE	Triennium Ending
TEC	Technical Evaluation Committee
TFR	Total Fertility Rate
TGTDCL	Titas Gas Transmission and Distribution Company Limited

TR	Test Relief
TSP	Triple Super Phosphate
TUF	Technology Upgradation Fund
tcf	Trillion Cubic Feet
UAE	United Arab Emirates
UFG	Unaccounted for Gas
UK	United Kingdom
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNDP	United Nations Development Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNESCO	United Nations Educational Scientific and Cultural Organization
UNO	Upazila Nirbahi Officer
UP	Union Parishad
US	United States
USAID	United States Agency for International Development
USD	United States Dollar
USITC	United Stated International Trade Commission
VAT	Value Added Tax
VCD	Video CD
VGD	Vulnerable Group Development
VGF	Vulnerable Group Feeding
VSNL	Videsh Sanchar Nigam Limited
VoIP	Voice over Internet Protocol
WEO	World Economic Outlook
WFP	World Food Programme
WIDCOV	Wide Coverage with Flexible Wage Rate
VRS	Voluntary Retirement Scheme (India)
WSIS	World Summit on the Information Society
WTO	World Trade Organization
WZPDCL	West Zone Power Distribution Company Limited
WiMAX	Worldwide Interoperability for Microwave Access
100-DEGP	100-Day Employment Generation Programme

MACROECONOMIC MANAGEMENT IN THE FACE OF GLOBAL ECONOMIC CRISIS*

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1.1 INTRODUCTION

1.1.1 Nature of the Crisis

Developing countries, particularly low-income countries such as Bangladesh, in view of the adverse impacts and consequences of the ongoing global economic crisis, have been confronted with a number of critical challenges, particularly in the area of macroeconomic management. Hardly any country has been immune to a global shock of such wide and deep scale. Indeed, the scenario is still continuing to develop and unravel, requiring countries to design and adjust their strategies accordingly. All projections, from various sources, give clear indications that the global economic meltdown, which started in 2008, is likely to continue and further deepen in 2009 (Table 1.1). The financial crisis, which developed into liquidity and solvency crises, has afflicted the real economy and has now degenerated into an economic crisis at global scale, hurting growth, job and income to varying degrees. Countries that did not feel the impact of the first shockwave, are now being impacted adversely by the second wave (through impact on credit) and third wave (through impact on real economy). The International Monetary Fund (IMF) analysis published in March 2009 (IMF 2009a) portrayed a bleak picture of global economic growth for 2009, with the situation improving only in the next year (-1.0 to -0.5 per cent in 2009 and 1.5 to 2.5 per cent in 2010).[1] Although the United States (US) and the Euro Area, two major economies, registered lower but positive growth in 2008 (1.1 per cent and 0.9 per cent, respectively), both were likely to experience negative growth in 2009 (-2.6 per cent and -3.2 per cent, respectively), before they start to pick up in 2010.[2] It is to be noted that the US registered significant negative growth of -6.2 per cent in the fourth quarter of 2008.

Whether L, V or U shaped,[3] the downturns observed in the developed countries have started progressively to affect advanced and subsequently emerging, developing and low-income economies (Figure 1.1). Economic growth of Middle East countries was likely to be 3.9 per cent in 2009, about 2.2 per cent lower compared with 2008, mainly as a consequence of lower crude oil prices, drying up of foreign capital and declining demand for the region's energy-intensive industrial and building materials (Gulf Finance House 2009).

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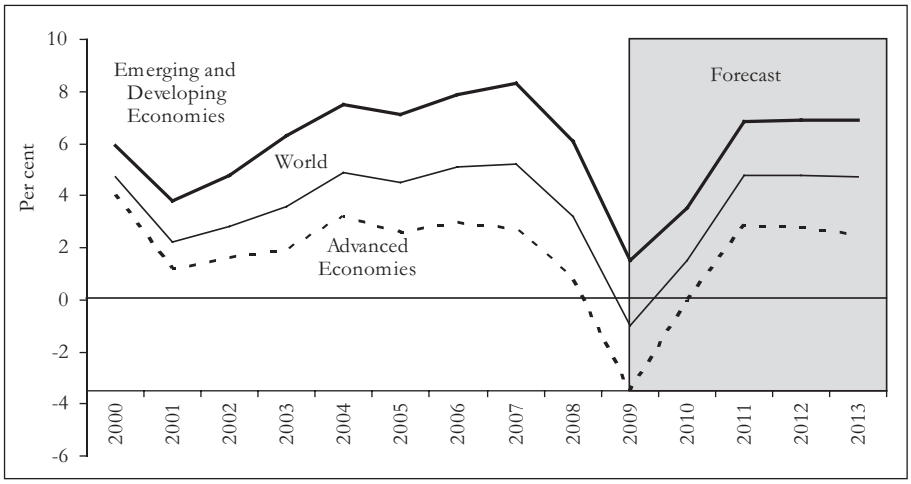
[1] Indeed, a recent World Bank projection maintains that the world economy will experience negative growth in 2009 for the first time since World War II.

[2] Within the European Union (EU), all major economies registered a low level of growth in 2008 and were likely to face negative growth in 2009: Germany (1.7 per cent and -0.80 per cent), the United Kingdom (UK) (0.8 per cent and -1.3 per cent), and Italy (-0.2 per cent and -0.6 per cent).

[3] A prolonged recession, a recession that reaches the bottom line soon and the economy picks up, or a recession that runs for one to two years before the global economy sees an upturn.

Figure 1.1: Achieved and Forecast Growth for the World, Advanced Economies and Emerging and Developing Economies (as Per cent of GDP): 2000-2013



Source: Prepared from IMF WEO, various issues.

Table 1.1: Growth Projections for Major Economies (as per cent of GDP): 2007-2010

Major Economies	Actual 2007	Actual 2008	January 2009 Report		March 2009 Analysis	
			2009	2010	2009	2010
World Output	5.2	3.4	0.5	3.0	-1.0 to -0.5	1.5 to 2.5
US	2.0	1.1	-1.6	1.6	-2.6	0.2
Euro Area	2.6	1.0	-2.0	0.2	-3.2	0.1
Germany	2.5	1.3	-2.5	0.1	--	--
France	2.2	0.8	-1.9	0.7	--	--
Italy	1.5	-0.6	-2.1	-0.1	--	--
UK	3.0	0.7	-2.8	0.2	--	--
Middle East	6.4	6.1	3.9	4.7	--	--
China	13.0	9.0	6.7	8.0	--	--
India	9.3	7.3	5.1	6.5	--	--

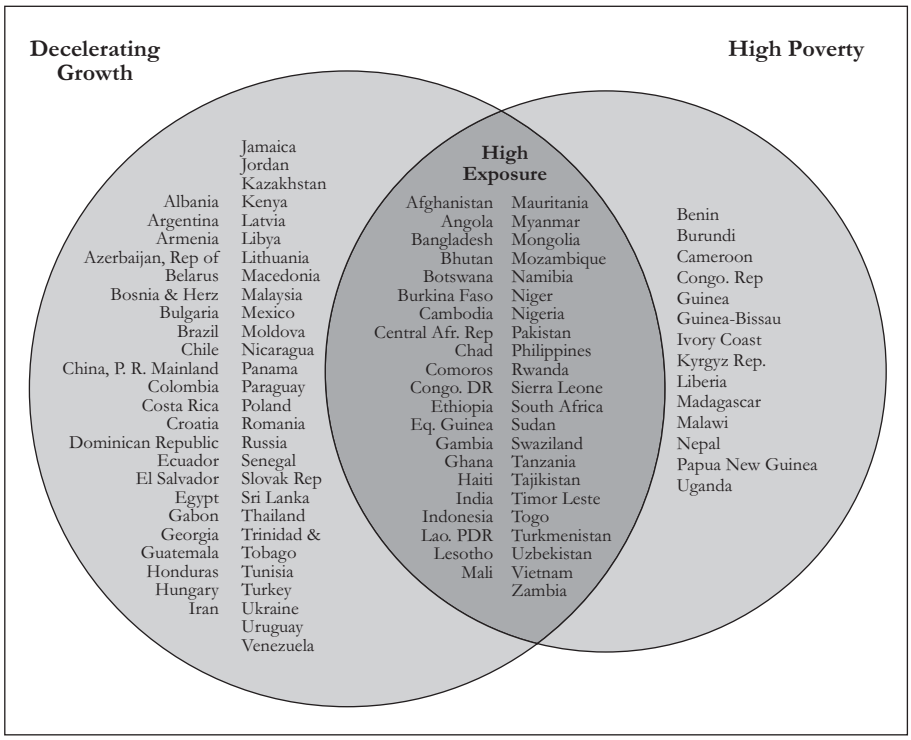
Source: IMF World Economic Outlook (WEO) updates, various issues.

According to the January report, Southeast Asian major economies were expected to experience slower economic growth in 2009 compared with that in 2008: Malaysia (from 5.8 per cent in 2008 to 4.8 per cent in 2009) and Singapore (3.6 per cent to 3.5 per cent). Economic growth in China and India was also expected to decline in 2009 (to 6.7 per cent and 5.1 per cent, respectively). Least developed countries (LDCs) are likely to experience a 5.1 per cent growth in 2009 against the 6.4 per cent attained in 2008 (UN 2009). Recovery was likely to start only in the second half of 2010, according to some projections; some

analysts have projected that the upturn will kick off only in early 2011, much of it depending on how the stimulus packages actually work on the ground.[4]

According to a recent policy note prepared by the World Bank (2009), the global economic crisis is exposing households in virtually all developing countries to increased risk of poverty and hardship (Figure 1.2). Almost 40 per cent of developing countries are highly exposed to the poverty effects of the crisis (with both declining growth rates and high poverty levels,) and an additional 56 per cent are moderately exposed (these face either decelerating growth or high poverty levels). Only less than 10 per cent face little risk.

Figure 1.2: Exposed Countries



Source: World Bank (2009).

It is to be noted that this particular report places Bangladesh in the group of countries that are highly exposed to the poverty effects of the crisis (with both declining growth rates and high poverty levels).

[4]Professor Nuriel Rubini, one of the very few who saw it all coming and who predicted an ensuing crisis back in 2006 (gaining him *"notoriety"* as Mr Doomsday), predicts that the recession could as well be an "L-shaped one" (meaning a prolonged recession), instead of an "U-shaped one" (quick recovery), depending on the efficacy of the bailout packages of developed countries to stimulate their economies.

Some of the general features of the ongoing economic crisis can be summarised in the following manner: i) the crisis comes on the back of a sharp fall in commodity prices; ii) the crisis has evolved from financial crisis to credit contraction to crisis of confidence; iii) global financial markets continue to remain volatile; iv) global imbalances are unwinding in a disorderly fashion, heightening the risk of exchange rate volatility; v) unemployment is increasing worldwide at an alarming pace; vi) many countries have seen their fiscal position deteriorate significantly; vii) crisis-driven countries are trying to cope with the emergent situation through various fiscal and monetary measures and stimulus packages. Indeed, what started as a crisis in the sub-prime housing market in the US soon took the shape of systemic failure.

1.1.2 The Bangladesh Context

The Bangladesh economy has become increasingly integrated with the global economy over recent years, through trade, remittance flows, and in some measure, flows of foreign direct investment (FDI) and portfolio investment. Export value addition accounts for 9 per cent of gross domestic product (GDP), with remittances equivalent to 11 per cent of GDP.[5] The degree of openness of the Bangladesh economy was about 43.4 per cent towards the end of FY2007-08[6], with the extent of globalisation equivalent to 56.6 per cent of GDP.[7] Net exports account for about 10 per cent of GDP, and net exports and remittances are equivalent to 20 per cent of gross national income (GNI) (Table 1.2). About 85 per cent of Bangladesh's exports are[8] destined for developed economies, and about 60 per cent of her imports[9] are sourced from those countries. If India, China[10] and other emerging economies are taken into consideration, the extent

Table 1.2: Bangladesh's Degree of Openness and Extent of Globalisation: FY1980-01-FY2007-08

(in Million USD)

Indicators	FY1980-01	FY1990-01	FY2000-01	FY2006-07	FY2007-08
1. Export (X)	725.0	1718.0	6467.0	12154.0	14088.0
2. Import (M)	1954.0	3472.0	9335.0	17157.0	20217.0
3. Remittance (R)	379.0	764.0	1882.0	5978.0	7915.0
4. ODA disbursed	1146.0	1733.0	1369.0	1565.0	1873.0
5. FDI (net)	NA	24.0	550.0	793.0	650.0
Total (1-5)	4204.0	7710.5	19603.4	37646.3	44743.8
GDP (current price)	19811.6	30974.8	47306.0	67714.0	78996.9
Degree of openness (X + M as per cent of GDP)	13.5	16.8	33.4	43.3	43.4
Extent of globalisation	21.2	24.9	41.4	55.6	56.6

Source: CPD-IRBD database (2009).

[5]The share of the industrial sector in Bangladesh's GDP is about 30 per cent, and that agriculture and services are 20 per cent and 50 per cent, respectively.
[6]Share of export and import in the GDP.
[7]Share of all types of external flows in the GDP.
[8]Mainly apparels, and also frozen food, textiles, leather and footwear.
[9]Capital machineries, industrial raw materials and chemicals.
[10]Major imports are fabrics, agricultural products, machineries and industrial inputs.

of exposure of the Bangladesh economy to crisis-driven developed and developing economies will be quite significant.

Consequently, it is to be expected that the increasingly globalising economy of Bangladesh will not be able to avoid being affected by the global crisis, through various transmission mechanisms. However, projections with regard to Bangladesh's GDP growth tend to vary (Table 1.3). Bangladesh Bank (2009a) earlier reconfirmed GDP projections made in the national budget for FY2008-09 (6.5 per cent growth), which was subsequently revised downward (6.0 per cent). The January 2009 Monetary Policy Statement (MPS) of the central bank (Bangladesh Bank 2009a) mentions a high case of 6.6 per cent and a low case of 6.3 per cent. The World Bank (2008) has come up with two alternate scenarios: under the best case scenario, Bangladesh's GDP will grow by 5.4 per cent; under the worst case scenario, GDP growth could come down to 4.8 per cent. The Asian Development Bank (ADB), in its December 2008 issue of Quarterly Economic Outlook on Bangladesh, projected the growth rate to range between 5.5 per cent and 6.0 per cent.[11] It might be pointed out that most of these projections were not based on real time data.

Table 1.3: GDP Growth Projections for Bangladesh for FY2008-09

(in Per cent)

Institutions	GDP Growth	
Bangladesh Bank	6.5 (high case 6.6; low case 6.3)	
IMF	5.6	
World Bank	Scenario 1	Scenario 2
	5.4	4.8
EIU Country Report	5.5	
ADB	Scenario 1	Scenario 2
	5.5	6.0

Source: ADB (2008); Bangladesh Bank (2009a); EIU (2009); IMF (2008); World Bank (2008).

Admittedly, any slowdown of the Bangladesh economy is likely to have knock-on impact on resource mobilisation, poverty alleviation and employment creation. Downward deviations in GDP growth from what has been projected by the government for FY2008-09 (6.5 per cent) would imply that the number of people coming out of poverty will be lower for the year. Using growth elasticity of poverty (0.38, as mentioned by the Second Poverty Reduction Strategy Paper (PRSP II) of Bangladesh (Planning Commission 2008), if the IMF projection for Bangladesh materialises (GDP growth of 5.6 per cent), about 0.49 million fewer people will come out of poverty in 2009 compared with the expected level. If the lower projection of the World Bank (4.8 per

[11]Bangladesh economy achieved 6.43 per cent real growth in FY2006-07 and 6.21 per cent real growth in FY2007-08.

cent) is considered, the reduction in the number of people in poverty during FY2008-09 will be lower by about 0.9 million people. At the same time, a deceleration in GDP growth would mean fewer employment opportunities. Following the International Labour Organization (ILO) methodology (2002), with 6.5 per cent growth in GDP, the projected level of employment generation during FY2008-09 would be about 1.9 million. The PRSP II projected that, during 2009-2011, on average 1.8 million people would be added to the labour force. If GDP growth underperforms, as projected by the IMF, there will be 0.3 million fewer jobs on offer. If GDP growth further slows down to the World Bank's projected level of 4.8 per cent, incremental job opportunities may squeeze by 0.5 million compared with the expected level.

It is thus imperative to examine and investigate the performance of the various transmission channels (export, import, remittance, FDI, portfolio investment and official development assistance (ODA)) in order to understand their likely impact on the growth prospects of the economy in 2009 and their possible social dimensions. It is to be further noted that crisis-driven countries are taking various proactive measures with the goal of addressing the adverse impact of the ongoing crisis. Accordingly, it is also important to evaluate and assess how policies of other countries, having market linkages with Bangladesh, are likely to impact on the performance of her domestic economy in general, and export-oriented sectors in particular. Possible consequences for domestic resource mobilisation represent an area that merits close scrutiny.

In view of the above, it is vital to examine and analyse which policy stance Bangladesh should take in order to best accommodate the possible negative consequences of the crisis. This will likely pose formidable challenges in terms of macroeconomic management. No doubt, how far Bangladesh will be able to cope with the possible adverse impact of the crisis will hinge critically on her ability to pursue appropriate fiscal, monetary and overall macroeconomic management policies in view of the emerging situation and challenges. At the same time, these policies are also important from the perspective of realising potential opportunities that could emerge from the crisis.

It is reckoned that, with adverse implications of the global crisis for government revenues, as a consequence of falling commodity prices and slowing down of economic activities, the budgetary position of low-income countries could be significantly weakened. Potential declines in donor support and tighter financing conditionalities could impose heightened pressure on the budgets of these countries. Spending in support of social safety net programmes could go up, and currency depreciation to enhance export competitiveness could raise debt-servicing liabilities. In the face of restrained

flow of aid from developed countries in crisis and binding fiscal constraints, there will be a need for renewed emphasis on rationalising spending and increasing the efficacy of resource allocation and use. This will be required to create the fiscal space for social protection programmes, poverty alleviation efforts and millennium development goal (MDG) attainment activities. Strengthened effort may be required for more domestic resource mobilisation in view of such scaled-up activities. Maintaining macroeconomic stability would be crucial. Declining inflationary pressure could help, as would flexible exchange rates act as shock absorbers. Particularly, the health of domestic financial institutions will need to be carefully monitored for any signs of gathering weakness, and if this is the case, it will be necessary to monitor the situation through quick proactive interventions.

In other words, the possible adverse impact of the ongoing crisis will require sound macroeconomic management on the part of economies that are particularly exposed to the global economy. Where does Bangladesh stand in view of the above? Is there any need to revisit its policies? Should this be reflected in current policies and in the context of the upcoming budget, work on which must have begun in earnest by now? These are questions that merit serious consideration.

1.1.3 Layout of the Paper

This paper first traces the performance of the Bangladesh economy, focusing particularly on the major transmission mechanisms of the impact of global economic crisis on the domestic economy. The paper then makes an analysis of the state of the economy (particularly relating to fiscal, monetary and real economy sectors) to assess the strengths, weaknesses and vulnerabilities of the Bangladesh economy as it faces the global crisis; this is important since it will determine policy space at the disposal of the government and its ability to act. Some suggestions have been put forward with regard to policy options that merit consideration by policymakers in view of the emergent situation.

1.2 BANGLADESH ECONOMY AND GLOBAL ECONOMIC CRISIS: TRANSMISSION CHANNELS AND INITIAL IMPACT

1.2.1 Exports: Gradual Slowdown in Growth

With the deepening of the ongoing crisis, most countries have seen their exports go down significantly (e.g. China's declined by 17 per cent in January 2009, those of Singapore by 44 per cent). Compared with many other countries, Bangladesh's

export performance, if the first few months of the current fiscal year are considered, has been quite remarkable - growth during first seven months of FY2008-09 (July-January) was a robust 18.2 per cent (only 0.45 per cent lower than the target).[12] Two major contributors, knit and woven readymade garments (RMG), maintained impressive figures, of 26.2 per cent and 20.6 per cent growth respectively (these growth figures were 14.3 per cent and 4.2 per cent respectively, for July-January period of FY2007-08). Export of apparels, which contributes about three-fourths of export earnings, is still holding. Demand for low-end products registered overall growth in the first seven months (to a significant extent, thanks to the so called 'Wal-Mart effect') in keeping to trend growth rates.[13] If the US market is considered, total imports by the US during the last quarter (October-December) of 2008 (which represents the most affected quarter of the year from economic shock) declined by -8.8 per cent.[14] US imports from China and Sri Lanka increased only marginally, whereas imports from India and Cambodia experienced negative growth (over the last quarter of the previous year). However, imports from Bangladesh and Vietnam increased impressively, by 18.1 per cent (compared with negative growth of 3.4 per cent in the same period of 2007) and 20.1 per cent, respectively (Table 1.4), mostly on account of higher imports of lower-end apparels.

Table 1.4: Growth in US Imports (in Value Terms): Fourth Quarter of 2007 and 2008

(in Per cent)

Country of Origin	October-December 2007	October-December 2008
World total	10.1	-8.8
Africa sub-total	35.4	-18.1
Cambodia	6.7	-8.5
China	6.8	0.1
India	14.7	-3.2
Pakistan	-1.5	7.5
Sri Lanka	-11.4	0.4
Vietnam	33.9	20.1
Bangladesh	-3.4	18.1

Source: Computed from the United States International Trade Commission (USITC) database.

If the top 14 RMG products (for which Bangladesh's export was over USD 40 million in FY2007-08, which include eight woven items and six knit items) are considered, during the fourth quarter of 2008 US imports from Bangladesh increased by 22.1 per cent (Table 1.5) to about USD 618 million; exports of these items from China increased by 34.4 per cent over the same period (when China's overall growth was only about 0.1 per cent) (Figure 1.3).

[12]The Export Promotion Bureau (EPB) of Bangladesh provides annual and periodic growth targets for exports.

[13]Demand for lower-end products tends to be relatively less impacted in times of economic downturn because of distributional effects of income on patterns of demand.

[14]Exports to the US market constitute about 25 per cent of the total exports of Bangladesh. Share of exports to EU markets is about 52 per cent of the total.

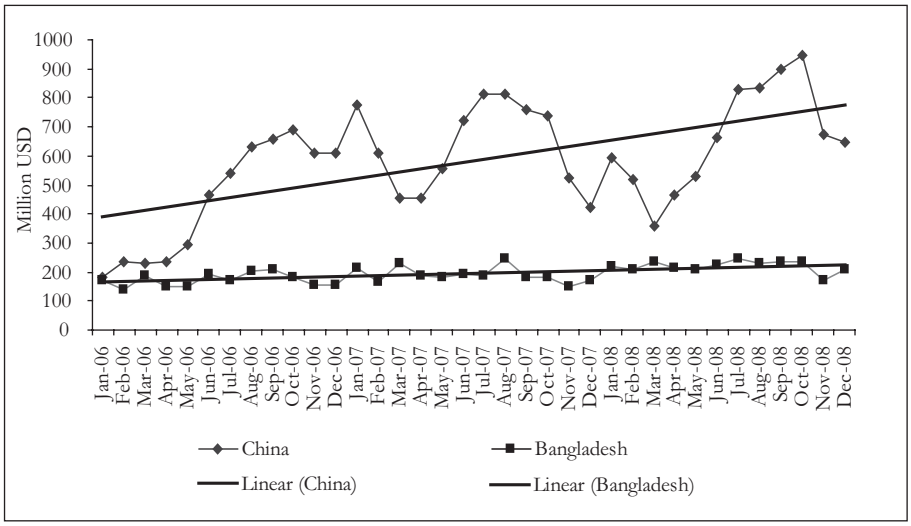
Table 1.5: Growth in US Imports of Major RMG Export Items (>USD 40 Million) (in Value Terms): Fourth Quarter of 2007 and 2008

(in Per cent)

Country of Origin	October-December 2007	October-December 2008
Bangladesh	2.6	22.1
Cambodia	7.9	-7.3
China	-11.5	34.4
India	-6.5	-4.1
Pakistan	-1.5	-2.3
Sri Lanka	-17.8	1.8
Vietnam	74.7	10.9

Source: Computed from USITC database.

Figure 1.3: Imports by the US of Bangladesh's Major RMG Export Items vis-à-vis China: 2006-2008



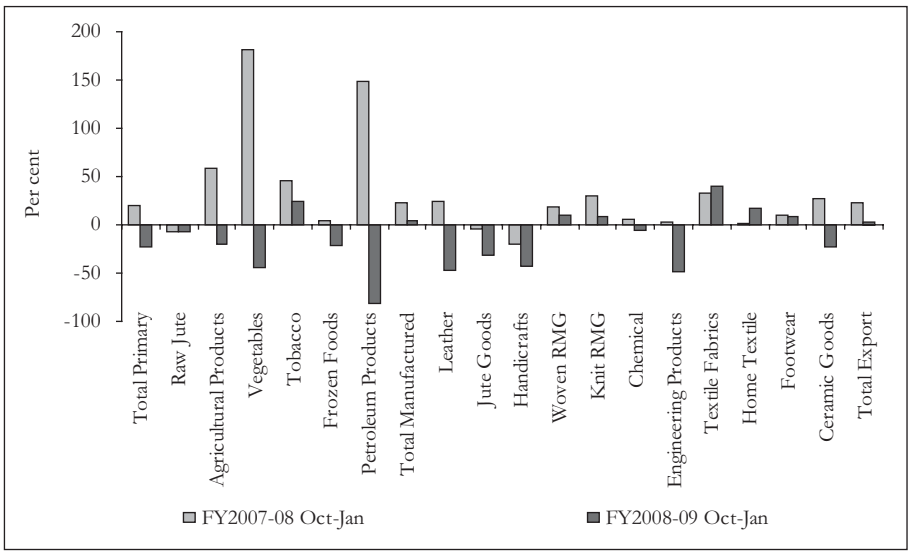
Source: Computed from USITC database.

Withdrawal of the US quota restriction on imports from China as of January 2009, combined with China's response to the global shock (e.g. raising tax rebates on certain exports along with other export incentives), could put exports of these items from Bangladesh under further increasing pressure in the coming months.[15]

While the overall exports of Bangladesh during the first seven months of FY2008-09 were impressive, some slowdown is visible when performance in recent months is considered. Monthly export data bear this out quite clearly.

[15]It is to be borne in mind that US imports for January-December 2008 do not include Bangladesh's exports for the month of December 2008, as the Bangladesh's exports take about a month to reach the US.

Figure 1.5: Growth in Major Export Items of Bangladesh: FY2007-08 and FY2008-09



Source: EPB (2009).

Manufactured products posted a marginal positive growth of 4.3 per cent during this quarter, owing only to the slower but positive growth recorded by woven (10.0 per cent) and knit (9.0 per cent) RMG[18] (Figure 1.5 and Table 1.6 provide further product-specific performance). Apart from these two items, only textile fabrics (39.6 per cent), home textiles (16.8 per cent) and footwear (9.1 per cent) recorded positive growths. All other major manufacturing items recorded significant decline in exports during October-January period of FY2008-09, over the same period of FY2007-08. Particularly hard hit was the leather sector which posted a negative growth of -47.3 per cent during this period.

As noted above, following the disturbing developments of the second quarter, overall exports picked up in January, with a month-on-month increase of 11.86 per cent, underpinned by RMG export performance. However, there are a number of disquieting signals: volatility appears to have increased; China continues to remain a major threat for Bangladesh in traditional apparels markets; higher discounts are being asked for by buying houses and buyers; orders are being deferred and at times cancelled; profits are being squeezed. However, this is based on anecdotal evidence, drawing on discussions with entrepreneurs. According to entrepreneurs, the January increase came against

[18]RMG constitutes about 85 per cent of Bangladesh's total manufactured product exports. The US, Germany, the UK and France are the major markets for RMG products.

the backdrop of a substantial cut in profits and the overall growth in demand in major markets in view of early summer orders.

Table 1.6: Growth in Major Export Items during the Second Quarter of FY2008-09 and January 2009

(in Per cent)

Export Item	Growth	
	FY2008-09 vs. FY2008-09	Jan 2009 vs. Jan 2008
Total primary	-21.1	-28.4
Total manufactured products	0.5	14.7
Raw jute	7.4	-55.5
Tea	-28.7	-55.2
Agricultural products	-20.0	-18.0
Vegetables	-52.8	9.1
Tobacco	20.6	52.8
Frozen foods	-24.3	-14.2
Petroleum products	-79.9	-86.4
Leather	-50.2	-31.4
Jute goods	-32.0	-32.5
Handicrafts	-32.0	-61.8
Chemical	-13.9	38.1
Engineering products	-55.8	-20.4
Textile fabrics	125.3	-36.0
Home textile	-3.8	205.7
Footwear	8.9	9.4
Ceramic goods	-22.7	-26.5
Woven RMG	6.4	18.7
Knit RMG	4.7	21.2
RMG total	5.5	19.9
Non-RMG total	-20.9	-16.1
Total exports	-1.2	11.9

Source: Based on EPB monthly statistics.

It needs to be underlined here that prices offered for Bangladesh's products, particularly for apparels, have been on the decline in recent years, seriously undermining the country's terms of trade situation. As Table 1.7 shows, Bangladesh's terms of trade have deteriorated significantly in the recent past. If only apparels price dynamics are taken into consideration, this fact becomes quite evident. In view of this, from a medium-term perspective, there is a growing need for renewed initiatives to promote export diversification and strengthen backward linkage industries.

Table 1.7: Declining Terms of Trade: FY1999-00 – FY2007-08

Period	Export Price Index	Import Price Index	Apparels Price Index	Terms of Trade	Apparels Price Index/Import Price Index*100 (Terms of Trade - Apparels)
FY1999-00	100	100	100	100	100
FY2000-01	102	108	101	95	94
FY2001-02	105	116	85	91	73
FY2002-03	107	125	83	86	67
FY2003-04	115	130	80	89	62
FY2004-05	119	134	78	89	58
FY2005-06	121	139	74	87	53
FY2006-07	127	145	71	88	49
FY2007-08	132	150	71	88	47

Source: CPD-IRBD database.

It is also to be noted that the emerging ship-building industry of the country, which is considered to have great potential and has received export orders of about USD 500 million for about 40 vessels to be delivered by 2010, is also at present experiencing difficulties. These relate to receiving fewer orders consequent to slower growth of trade and significant falls in shipping traffic and freight incomes; some of the orders placed earlier have now been cancelled.[19]

To summarise, although export earnings for the first few months (July-January) of FY2008-09 remain high, both month-by-month performance and record of performance at disaggregated sector level allude to disquieting developments.

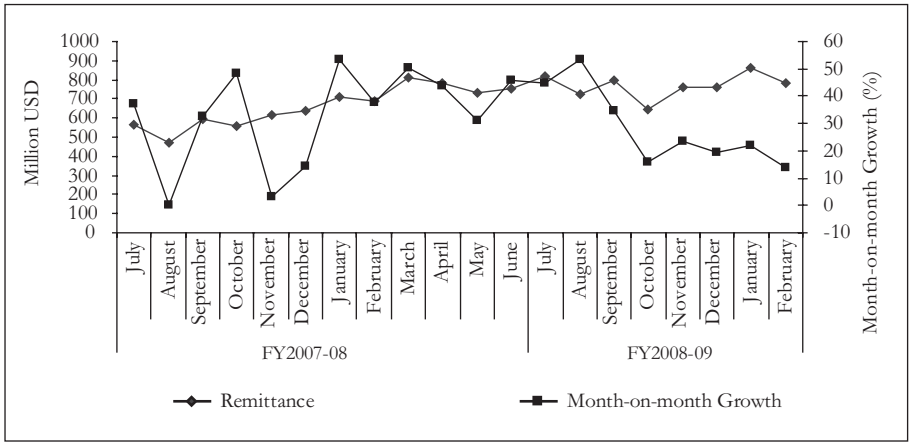
1.2.2 Remittances: Robust Inflow but Deceleration in Number of Workers Leaving

Over the past two years, a record number of Bangladeshi workers (1.7 million) left the country in search of jobs abroad (the total number of migrant workers is estimated at about 6.1 million at present, over 10 per cent of the total labour force; they are estimated to have sent about USD 7.9 billion in FY2007-08, equivalent to 10 per cent of GDP). Remittance flows play a crucial role on three counts: i) ability to pay for import payments; ii) sustaining foreign exchange reserves; and iii) household income of remitters. Remittance flow till now has been quite robust. During July-February of FY2008-09, remittance earnings increased by 27.1 per cent compared with the corresponding period of last year. Indeed, USD 865.3 million was remitted in the month of January

[19]Production of ships, in terms of metric tonnage, declined significantly in September 2008 (273 metric tonnes (MT)) compared with August 2008 (409 MT).

2009, a new record; another USD 784.4 million was sent in February, 13.8 per cent higher than the comparable month of FY2007-08 (Figure 1.6).

Figure 1.6: Remittance Inflow: FY2007-08 and FY2008-09



Source: Bangladesh Bank (2009c).

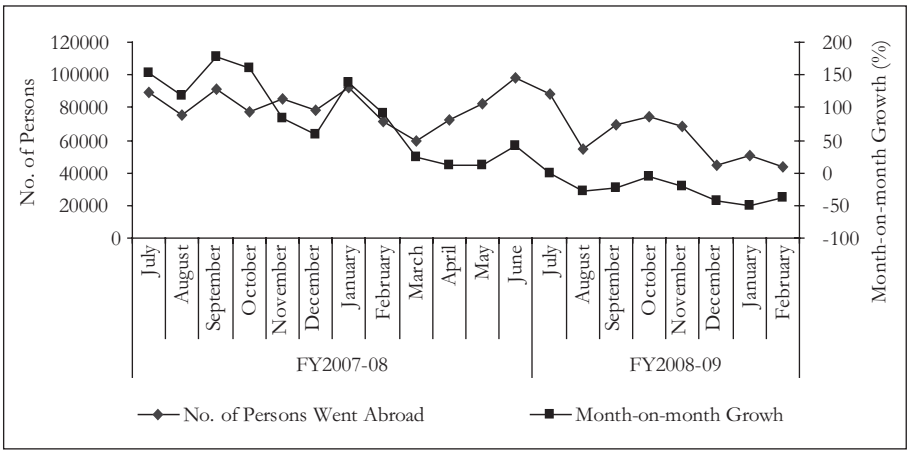
However, in all likelihood, the number of workers going abroad will be significantly lower in 2009. One important impact of the crisis has been the significant slowdown in the number of people migrating in recent months. Already some of the traditional destinations, including the United Arab Emirates (UAE), Saudi Arabia, Malaysia and Singapore, have indicated caution with respect to recruitment, in the face of sluggish economic growth and lower demand for construction and other services.[20] According to recent data, during July-February of FY2008-09, the number of people migrating abroad in search of jobs declined by -26.2 per cent compared with the same period of FY2007-08.[21] In February 2009, the number of persons was only 43,856, compared with 71,716 in February 2008 (38.8 per cent fall) (Figure 1.7). Saudi Arabia and Kuwait have virtually stopped issuing new work permits to Bangladeshi workers; these destinations account for 39.7 per cent of all Bangladeshi migrant workers. The UAE, another major destination, has also shown lower demand for migrant workers, with the number of workers going to the UAE in February 2009 lower by 5,000, compared with January 2009. Falling demand in Dubai, particularly in view of stoppage of ambitious construction works, may

[20]Malaysia has an estimated 2.2 million foreign workers. Recently, it slashed work permits for foreign workers by about 70 per cent in January and February 2009, on average only 250 permits were approved daily, compared with the corresponding period of 2008, when about 500-600 work permits were approved. In recent times, Malaysia has introduced more stringent vetting of foreign workers and adopted policies to encourage recruitment from its own job market.

[21]In 2008, over 75 per cent of all migrant workers went to Middle East countries, 15 per cent to Malaysia, and 6.5 per cent to Singapore.

make the UAE picture gloomier in the near future. It is to be kept in mind that many workers leaving the country now are going against work permits issued earlier; the slowdown of issuance of new contracts and work permits could reduce the number of future migrants significantly.[22] Slowdown in growth of the US and the UK economies (accounting for 17 per cent and 11 per cent of remittances) could also have adverse impacts in the near future.

Figure 1.7: Number of Persons Leaving for Jobs Abroad: FY2007-08 and FY2008-09



Source: Bangladesh Bank (2009c).

There is a dearth of adequate information about returnee migrants, as information regarding expatriates is not maintained in a systematic manner. Returnees could include both retrenched workers and natural returnees (who would have come back anyway). Nevertheless, evidence suggests that workers in affected countries are experiencing retrenchment (though on a limited scale).[23] Some Middle East employers are not issuing new job permits. Malaysia announced retrenchment of about 45,000 workers by January 2009, of whom a substantial number appears to be migrant workers from countries such as Bangladesh. Bureau of Manpower, Employment and Training (BMET) figures as stated in newspaper (Parvez 2009) show that, over the past three months, 13,540 Bangladeshi workers have returned: 701 in December 2008, 4,817 in January 2009, and 8,022 in February 2009. Although there are indications of migrant workers losing their jobs, this is yet to be reflected in remittance

[22]Recently, the Malaysian government, under pressure from labour organisations, revoked the work visas of 55,000 Bangladeshi workers issued earlier. The government has banned hiring of new workers after reports that 45,000 jobs could be lost over the next few months. Of the three million Asian migrant workers staying legally and illegally in Malaysia, about 500,000 are Bangladeshi.

[23]For example, owing to the slowdown of the Singapore economy, especially in the shipping and construction sectors, 55 Bangladeshis employed by construction sub-contractor Tunnel & Shaft, have returned home after working there for seven months or fewer. They were recruited last year in anticipation of two major projects estimated to be worth USD 20 million.

figures, at least in the short-term, since the number of returnees does not constitute a significant share in the total number of people still working abroad (flow as a small percentage of stock). This would perhaps be reflected in remittance statistics gradually, over the medium-term. Record high remittance inflow in January 2009 in the face of growing numbers of people losing jobs abroad raises concern as to whether this is because of terminal returnees coming back with whatever savings they had. Workers are being sent back from Middle East countries such as UAE, the country with the largest Bangladeshi workforce (around 0.9 million). Countries are sending back workers on long vacations or reducing their salary owing to the slowdown of work in construction projects. An intensive diplomatic initiative will need to be undertaken to safeguard the interests of Bangladeshi workers and to ensure that Bangladesh does not miss out on any remaining opportunities.

Gloomy growth projections of major destinations for Bangladeshi migrant workers (both developed and developing) would indicate that the current downward trend in demand may continue over the near term, in 2009 and perhaps 2010. If this is the case, remittance growth could slow down in future, beyond 2010.

In the recent past, large outflows of migrant workers have eased the employment situation in Bangladesh.[24] Lower numbers of people going abroad could exacerbate the unemployment situation. This will have important implications for the domestic job market and social safety net programme-related expenditure. In view of the emergent situation, efforts should now be strengthened so that Bangladesh is able to cater to the needs of the new markets for migrant workers in the developed countries, which relate to a large extent, to the caring sectors (nurses, medical technicians, etc.) It will also be important to negotiate with host countries, particularly in the Middle East, to allow for extension of work permits, even when Bangladeshi workers lose their jobs because their respective companies have discontinued operations. This is also an opportunity to curb and discipline the activities of unscrupulous middlemen in the "manpower business." Comprehensive regulation with strict guidance as regards charges/fees, guarantee of work, wages to be received by migrant workers, etc. will need to be designed and strictly enforced.

[24]The total number of people entering the job market of Bangladesh every year is about 1.8 million. About 8.4 per cent is absorbed by growth in overseas employment (taking average overseas employment growth for the past 10 years). According to the last Labour Force Survey (LFS) of 2005-06, Bangladesh has an unemployment rate of 4.2 per cent and underemployment rate of 24.5 per cent; share of informal sector employment was 75.3 per cent (BBS 2008a).

In view of the difficulties faced in the overseas job market, and also in response to needs to diversify the market, Bangladesh will require a comprehensive plan for training and skills development. A time-bound plan should be put in place so that all workers travelling abroad have an opportunity to undergo skills upgrading. In this context, the need to tap the emerging opportunities in the medi-care sector of developed countries and in Eastern European markets should merit special attention. For this to happen, public-private partnership (PPP) will need to be encouraged, using appropriate incentives. A dedicated fund may be created for this. The government has made plans to make the vocational training system more market-oriented through PPPs. A more involved engagement with trade associations may be considered in this context.

1.2.3 Imports: Gradual Slowdown with Falling Global Prices

In the coming months, import payments are likely to slow down, as suggested by recent trends. During July-December of FY2008-09, total import payments posted 23.25 per cent growth compared with the corresponding period of the last year. But this high growth was, to a significant extent (42.4 per cent of the incremental contribution), accounted for by high growth in imports of crude and refined petroleum products and fertiliser, prices of which have now come down sharply in the international market over the recent past few months. This has resulted in a gradual slowdown in import growth, as seen from recent data. Import growth for July-November of FY2008-09 was 29.7 per cent, which came down to 23.25 per cent for July-December because of significantly lower growth in the month of December 2008 (Table 1.8). Aggregate import figures available for July-January of FY2008-09 reveal that this growth rate has further declined to 18 per cent, indicating a further dip in imports. With lower import demand of fertiliser for the rest of the fiscal year, with plantation of Boro coming to an end soon, import payments may further slow down over the remaining few months of FY2008-09. It is also to be noted that it is increasingly production-related imports, rather than consumption-related imports, that have a larger share in the incremental import payments of Bangladesh.

Table 1.8: Growth in Import Payments: FY2007-08 and FY2008-09

(in Million USD)

Import Items	Jul-Dec FY2007-08	Jul-Dec FY2008-09	Growth	Incremental Contribution
Foodgrains	612.90	394.10	-35.70	-9.80
Rice	314.60	195.60	-37.83	-5.30
Wheat	298.30	198.50	-33.46	-4.50
Other food items	952.60	853.50	-10.40	-4.40
Consumer and intermediate goods	4227.50	5831.20	37.93	71.90
of which:				
Clinker	163.10	143.80	-11.83	-0.90
Crude petroleum	279.90	403.10	44.02	5.50
Petroleum, oil and lubricants (POL)	881.20	1206.10	36.87	14.60
Fertiliser	258.00	756.50	193.22	22.30
Dyeing and tanning materials	98.60	145.50	47.57	2.10
Plastics and rubber articles thereof	371.80	428.90	15.36	2.60
Yarn	308.30	423.70	37.43	5.20
Textile and articles thereof	915.50	1048.10	14.48	5.90
Staple fibre	48.80	61.10	25.20	0.60
Capital goods and others	3231.20	4104.70	27.03	39.10
Iron, steel and other base metals	545.30	718.00	31.67	7.70
Capital machinery	752.20	760.50	1.10	0.40
Others	1933.70	2626.20	35.81	31.00
Total	9024.20	11183.50	23.93	96.80
Import by Export Processing Zone (EPZ)	575.70	648.00	12.56	3.20
Grand total	9599.90	11831.50	23.25	100.00

Source: Bangladesh Bank (2009c).
Note: Bangladeshi Taka converted into US Dollars (USD).

1.2.4 ODA: Decline, but Perhaps Not Related to Crisis

Aid is a soft target in any crisis. While earlier commitments could hold, new pledges in view of the growing needs in crisis-driven developing economies may not be forthcoming. Although aid's role has been on the decline over the past years, it still accounts for about half of Bangladesh's expenditure on development budget.[25] However, until now, no adverse affect is visible in this regard. The figures for July-December FY2008-09 indicate a decline of -8.0 per cent in net foreign aid disbursement in Bangladesh, with gross disbursement falling slightly, from USD 903.2 million in FY2007-08 (July-December) to USD 898.3 million in FY2008-09 (July-December) (Table 1.9). Commitment figures for FY2008-09 look promising, however, with the highest ever commitment (USD 1.34 billion) by the World Bank for the current fiscal year.

[25]Bangladesh government prepares its expenditure budget under two broad heads: *Revenue* budget and *Development* budget. Development budget constitutes about 25 per cent of the total budget.

Table 1.9: Flow of Foreign Aid: FY2007-08 and FY2008-09

(in Million USD)

Period	Food Aid	Commodity Aid	Project Aid	Total Aid	Payment (Principal)	Net Foreign Aid
Jul-Dec FY2007-08	54.3	0.0	848.9	903.2	273.2	630.0
Jul-Dec FY2008-09	2.4	0.0	895.9	898.3	318.6	579.6
Growth (Jul-Dec) FY2008-09	-95.6	-	5.5	-0.5	16.6	-8.0

Source: Bangladesh Bank (2009b).

It is to be borne in mind that a major part of the aid flow in Bangladesh comes as project aid, through the annual development programme (ADP) channel. Actual project aid disbursement under the ADP is subject to implementation status of different projects. Therefore, actual disbursement will depend more on Bangladesh's capacity for utilisation than being constrained by availability of aid itself. However, as is known, only 30 per cent of the project aid allocation could be utilised during the first seven months of FY2008-09. Slow implementation of donor-funded ADP projects in the current fiscal year could be a reason for lower disbursement of aid so far this year. In view of the need to generate more local demand through enhanced economic activities, as a consequence of the crisis, it is crucial that both quality and quantity of aid disbursement and ADP implementation are significantly improved this year.

1.2.5 Flow of FDI: No Impact So Far

Flow of FDI to Bangladesh was considerably higher during July-December 2008 compared with the same period of the previous year. Net FDI increased to USD 706 million during this period, which was only USD 285 million in the previous year (Table 1.10). It is to be noted here, however, that FDI inflow to Bangladesh has traditionally been rather low, even compared with her South Asian counterparts, and constitutes only about 3.4 per cent of total investment.[26] A worrying sign, though, relates to registration of FDI in 2008. The number of units registered with the Board of Investment (BOI) in 2008 was only 13 (with a total investment proposal of USD 60 million), whereas in 2007 it was 75 (with a total of USD 327 million investment). As would be expected, the global meltdown has particularly affected the flow of portfolio investments in the capital market: the net flow was negative (-USD 48.0 million) during July-December of FY2008-09, implying a higher amount of withdrawal of capital by foreign investors.[27]

[26] In Bangladesh, FDI primarily goes to telecommunications, energy and EPZs (RMG, textiles, footwear, etc.).

[27] Underdevelopment of the country's capital market and low exposure to global financial markets (only 2.5 per cent market capitalisation is accounted for by the portfolio investment) may have saved Bangladesh from a large outflow of capital from her share market, with consequent adverse effects on the economy (as happened in India).

Table 1.10: FDI and Portfolio Investment in Bangladesh: FY2006-07–FY2008-09

(in Million USD)

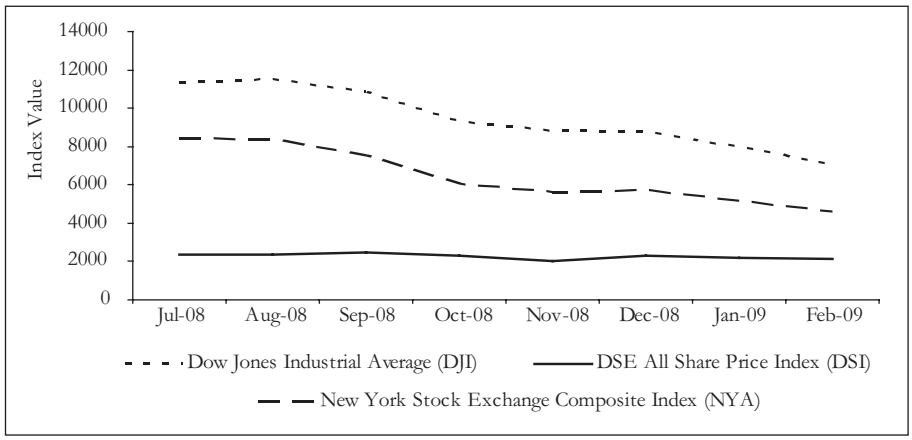
Investment	FY2006-07	FY2007-08	Jul-Dec FY2007-08	Jul-Dec FY2008-09
FDI	793	650	285	706
Portfolio investment	106	48	48	-48

Source: Bangladesh Bank (2009b).

1.2.6 Capital Market: Sluggish Growth, Mainly for Domestic Reasons

A sluggish trend has been observed in the capital market for the period between July 2008 and February 2009. However, in view of the insignificant role played by foreign capital in the capital market of Bangladesh, (accounting for about 2.5 per cent of market capitalisation) it was mainly the domestic factors rather than the negative affect of global shock that contributed directly to this trend. Movement of Dhaka Stock Exchange (DSE) indices did not correspond to the sharp downward movement of major global indices in the aftermath of the global financial meltdown (Figure 1.8). However, it needs to be highlighted that all the indices in the DSE experienced negative growth during the first few months of FY2008-09 (Table 1.11).

Figure 1.8: Movement of Major World Indices and DSE All Share Price Index: July 2008-February 2009



Source: New York Stock Exchange (www.nyse.com) and DSE (www.dsebd.org).

Table 1.11: Movement of Share Price Index at DSE: FY2008-09

Indices	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
DSE (All)	2369.00	2389.20	2498.50	2278.20	2040.20	2309.40	2196.96	2144.30
DSE (20)	2526.20	2441.50	2466.10	2351.90	2090.10	2328.70	2175.11	2085.90
DSE (Gen)	2761.10	2791.20	2966.80	2748.60	2468.90	2795.30	2649.49	2571.00
Market Capitalisation (USD billion)								
FY2008-09	13.95	14.15	15.18	14.37	14.01	15.21	14.75	14.50

Source: www.dsebd.org.

1.3 BANGLADESH ECONOMY AND GLOBAL ECONOMIC CRISIS: MACROECONOMIC BALANCES AND REAL ECONOMY

Trends in external sector aggregates imply that global economic meltdown is gradually affecting Bangladesh's performance; these adverse impacts are likely to intensify in the coming months. At the same time, policies of other countries, most importantly Bangladesh's competitors in global export markets, are having direct implications for the country's export competitiveness and also domestic sector performance. What is the state of the macroeconomic fundamentals of Bangladesh's economy against this backdrop? How feasible is the idea of a stimulus package of her own? An analysis of the current state of the Bangladesh economy will help decide which policy options and flexibilities Bangladesh actually has in view of the emerging situation and the attendant challenges. The following discussion focuses on the state of the fiscal, monetary and real sectors of the Bangladesh economy at this crucial juncture.

1.3.1 Fiscal Balance: Strengths and Weaknesses

The budget for FY2008-09 presented in June 2008 was relatively large, prepared against the backdrop of high inflation, commodity prices, import burden and subsidies. A large deficit projection of Tk. 30,623 crore, equivalent to 5.0 per cent of GDP[28], made the task of balancing the budget challenging. This higher deficit was to be met by higher revenue generation and higher financing by development partners, to be replenished by increased government borrowing from domestic sources, both banking and non-banking.

Subsequent developments had repercussions for the budget in FY2008-09 both ways: some bringing comfort and some adding to the challenges. With the onslaught of the financial crisis and the consequent decline in global demand, global commodity prices experienced a significant fall. This was true particularly for petroleum products, which were the single largest contributor to demand for subsidy in the budget. The budget FY2008-09 kept Tk. 6,106 crore for Bangladesh Petroleum Corporation (BPC) alone, and also Tk. 540 crore as a diesel and electricity subsidy for agriculture. The over 72.8 per cent fall in the price of petroleum on the international market has now created an opportunity for significant savings on account of budgetary allocations for fuel subsidies, in spite of the downward revision in prices. As may be recalled here, BPC made its last profit in FY1998-99, following which there was an uninterrupted string of losses over subsequent years. In the first seven months

[28] This deficit was 15 per cent higher than the previous year.

of the current fiscal year (July-January), BPC incurred a net loss of around Tk. 1,600 crore. However, this owed to losses incurred during the first four months (July-October 2008). Thereon, BPC started to make profit: during the months of November 2008 to January 2009, BPC made a profit of Tk. 553 crore, in view of the falling fuel prices on the global market and in spite of the aforesaid reduction in the managed price level of fuel products.

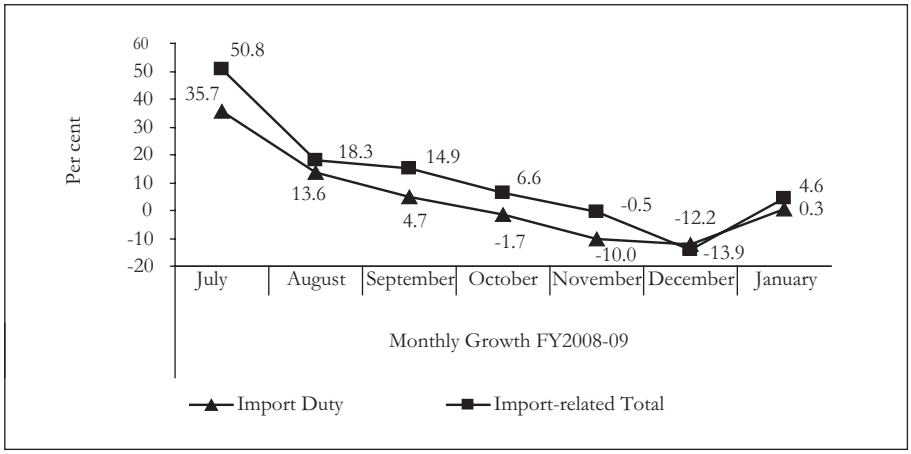
In view of the crisis and the consequent fall in demand in the near future, oil prices on the international market are likely to hover around the current level of USD 40-45 per barrel during the remaining months of FY2008-09. This would allow BPC to continue to make a profit in the coming months, as it did in December and January, if prices are not revised significantly further downward. It is estimated that, at the current rate, for the entire fiscal year, the total subsidy on account of BPC is likely to be about Tk. 600 crore. This would be about Tk. 5,500 crore less than the budgetary allocation for subsidy on account of BPC. At the same time, prices of various types of fertiliser on the international market have also fallen sharply (barring Muriate of Potash known as MoP). This is likely to further reduce subsidy demand for FY2008-09 on account of fertiliser. Thus, a significant amount of the Tk. 13,641 crore subsidy kept in the FY2008-09 budget will be saved.

The fall in commodity prices is reflected in the revenue expenditure account of the government.[29] This shows 12.7 per cent growth in total revenue expenditure (not accounting for BPC, the Power Development Board (PDB) and agriculture and export-related subsidies) during July-December of FY2008-09, against an annual growth target of 19.5 per cent. These figures are for the first and second quarter of the fiscal year only; since then, the prices have gone down further and new contracts made at present should be able to take advantage of the falling prices. It is to be noted that implementation of the ADP (only 31 per cent during July-January) is also indicative of the possible lower government expenditure by the end of the fiscal year. Even if the FY2007-08 performance record of ADP utilisation is attained for the current fiscal year, about Tk. 19,000 crore of the total Tk. 25,600 crore allocated for the ADP in FY2008-09 will be utilised. This will result in approximately Tk. 6,000 crore of reduced expenditure from the projected expenditure budget of FY2008-09. In fact, fiscal space created by the non-implementation of the ADP will be somewhat less because, based on recent trends, a part of it (around Tk. 2,000 crore) will not be actually available (unutilised project aid will not be available to the government). However, this will still leave the government with some comfort zone.

[29] Oil prices have gone down from a peak of about USD 140/barrel to USD 40/barrel at present. Prices of a wide range of commodities have fallen. On 24 February 2009, The Economist's commodity price dollar index had fallen by 42 per cent compared with a year ago - the index for food was 30 per cent down, for non-food agricultural products 45 per cent down, and for metal 60 per cent down.

True, the government is likely to face formidable challenges from the perspective of domestic resource mobilisation. Revenue earnings data for July-January of FY2008-09 confirm these suspicions. With the fall of imports, in value and in many instances volume terms[30], there were adverse impacts on import duties collected during July-January of FY2008-09. These posted only a 3.4 per cent growth in the first seven months against the annual target of 13.1 per cent for FY2008-09. Month-on-month comparison shows that collection of import duty experienced a sharp fall in recent months (Figure 1.9), with only marginal improvement in the month of January 2009. Import duty and other import-related duties together constitute around 42 per cent of total National Board of Revenue (NBR) revenue collection in Bangladesh. Thus, it is likely that revenue collection in FY2008-09 will fall short of the target by a significant margin.

Figure 1.9: Recent Decline in Import Duty Collection: Month-on-month Growth of FY2008-09



Source: NBR (2009).

However, overall growth in NBR revenue collection (12.4 per cent) is still hovering around the target set for FY2008-09 (14.9 per cent), owing mostly to higher than targeted income tax growth and high import stage duty collection achieved in the initial months of FY2008-09, when the international prices were way higher compared with their current level (Table 1.12).[31]

[30]Imports have fallen in value terms owing to a fall in commodity prices; in some instances, imports have also fallen in volume terms because of a fall in domestic demand (e.g. cereals, because foodgrain production has picked up following the fall in food production in FY2007-08 owing to two floods and Cyclone Sidr).

[31]NBR revenue accounts for about 80 per cent of Bangladesh's total revenue; thus, import-related duties account for about 35 per cent of total duties in Bangladesh, a significantly high share by any measure.

Table 1.12: NBR Revenue Collection: FY2008-09

(in Crore Tk.)

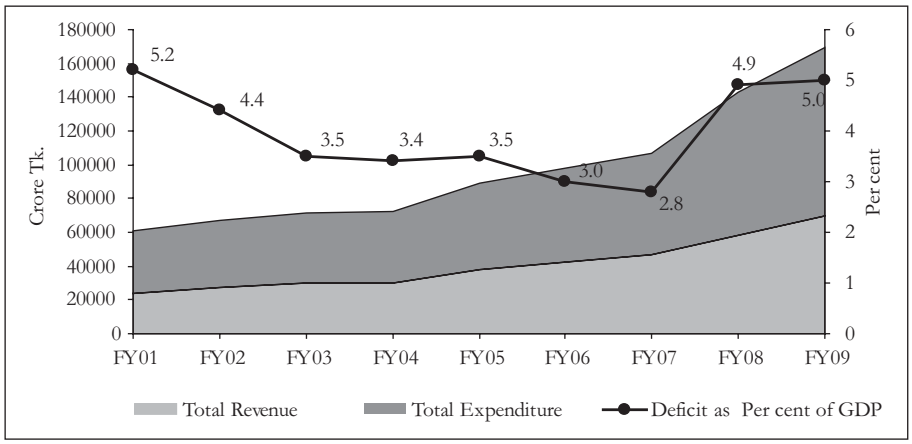
Sources of NBR Revenue	Annual Growth Target FY2008-09	Growth Jan FY2008-09	Growth Jul-Jan FY2008-09	Jul-Jan FY2007-08 as % of Actual	Jul-Jan FY2008-09 as % of Target
Import duty	13.1	0.3	3.4	43.2	39.8
Value added tax (VAT) import	12.6	8.3	15.3	41.7	42.7
Supplementary, import	20.4	8.1	26.0	49.1	54.0
Import-related total	13.5	4.6	10.6	43.1	42.4
Excise duty	17.1	-80.9	-78.4	3.9	1.5
VAT local	16.4	13.8	19.7	43.1	42.5
Supplementary, local	23.6	4.4	3.1	46.9	39.0
Turnover tax	17.2	-32.0	-14.1	42.8	53.0
Local total	19.2	5.2	12.0	44.0	40.5
Income tax	11.1	19.0	17.8	35.7	37.2
Travel tax	24.9	9.7	-5.4	53.2	40.6
Others	1566.7	100.0	14.3	550.0	9.5
Total direct tax	11.7	18.7	16.6	36.3	37.3
Grand total	14.9	7.7	12.4	41.6	40.5

Source: NBR (2009).

The other source of financing, ODA, has recently shown a downward turn, as net foreign flow of foreign aid declined by -8 per cent during July-December of FY2008-09. However, commitments made by development partners for the rest of the fiscal year look promising. In fact, as was noted earlier, the World Bank committed the highest ever aid to Bangladesh (USD 1.34 billion) in FY2008-09. Recent commitments of €50 million by the EU and USD 90 million by the World Bank for food security and safety nets, along with USD 440 million by Japan in power and infrastructure, will contribute to the resource envelope of the government in the current fiscal year.

Since FY2000-01, Bangladesh has been experiencing a fall in the deficit-GDP ratio; however, in FY2007-08, the ratio climbed to 4.9 per cent from 2.8 per cent in FY2006-07 (Figure 1.10). Thus, the 5 per cent GDP equivalent deficit targeted for FY2008-09 was rather high compared with recent trends, although it approximated the FY2007-08 deficit.

Figure 1.10: Trend in Budget Deficit: FY2000-01–FY2008-09



Source: Ministry of Finance (MoF) (2008).

It is reckoned that, between the gains from the falling subsidy expenditure and the losses in the revenue account, there are likely to be some net gains in the budget for FY2008-09. As the latest available figures show, net domestic financing has declined by -28.9 per cent and net foreign financing has also declined by -8.0 per cent during the first six months of FY2008-09. Thus, overall, deficit financing of the government decreased by -23.0 per cent during the July-December period of FY2008-09, compared with the corresponding period of the previous fiscal year (Table 1.13). This is a cushion that the government is likely to continue to build on over the rest of the fiscal year.

Table 1.13: Growth in Deficit: FY2008-09

(in Crore Tk.)

Period	Net Bank Borrowing	Net Non-bank Borrowing	Net Domestic Financing	Net Foreign Financing	Total Financing
Jul-Dec FY2007-08	9478.4	1557.28	11,035.68	4324.58	15,360.26
Jul-Dec FY2008-09	5569.3	2273.89	7843.19	3977.19	11,820.38
Growth (Jul-Dec) FY2008-09	-41.20	46.00	-28.90	-8.00	-23.00

Source: Bangladesh Bank (2009b).

It is also to be kept in mind that the remaining months of FY2008-09 may show month-on-month decline in the expenditure account, owing to the absence of the high rehabilitation costs associated with mitigating the consequences of the natural catastrophes (two floods and Cyclone Sidr) seen in the previous year. For the same reason, flow of foreign financing may also show some decline in the coming months, as a substantial part of the aid received by Bangladesh in FY2007-08 was dedicated towards rehabilitation efforts. Subsidy expenditure for fertiliser will increase against the backdrop of the higher amount of subsidy announced by the government on fertiliser in view of the critically important Boro season.

However, as was noted, the continuing fall in fertiliser prices and its positive impact on government's subsidy expenses could result in a net gain and ease the overall fiscal situation in FY2008-09. In view of the need to undertake any additional expenditure for mitigating adverse impacts of the ongoing crisis, the government may also seek resources that were not allocated in the original budget. Tk. 1,200 crore recovered from the anti-graft drive undertaken by the immediate past caretaker government (CTG), which is now lying with the Bangladesh Bank, could be a possible source. This, along with the net budgetary gains, could create some fiscal space to allow the government to go for higher expenditure, without overshooting the projected deficit of 5.0 per cent of GDP.[32] Mode of financing the deficit remains a concern. While borrowing from the banking system has the advantage of being less costly in terms of the interest payment burden, it has the disadvantage of being inflationary. Crowding-out effects on private sector credit remain a concern, although a contrary view is that, in view of the surplus liquidity in the system, this should not be a worry. On the other hand, non-bank borrowing, which is non-inflationary, involves higher interest payment obligations; availability of such borrowing could also be a problem. The government will need to decide on options and policy choices in this regard through careful consideration of the needs, priorities and possible implications for the economy.[33]

1.3.2 Monetary Developments: Decreasing Inflationary Pressure and Some Freedom to Act

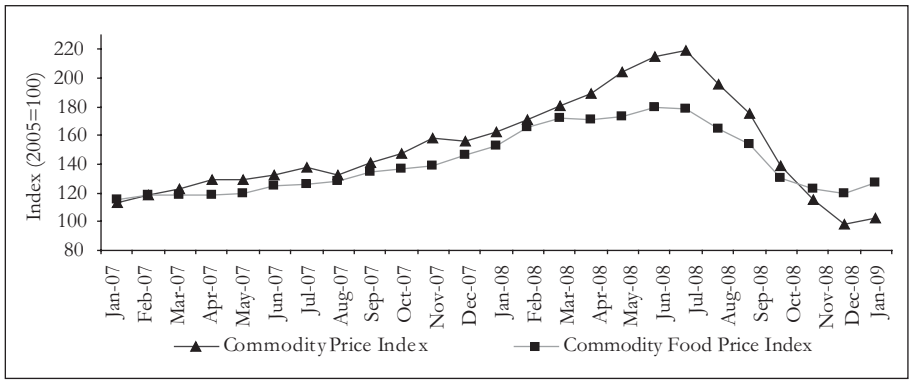
Trends in Inflation Rates

In the context of concern over rising price of commodities, particularly essential commodities, experienced in the recent past, restoring macroeconomic stability and curbing high inflation were perceived as major policy goals by policymakers. One important feature of the current economic situation is that inflationary pressure has started to ease in recent months. Inflationary pressure is expected to come down further in response to falling global commodity prices and good harvests. Significant devaluation in India, the major import source for consumer products, is also expected to have a positive impact on the general inflationary situation (Figure 1.11).

[32]Taking into consideration that the GDP growth rate projected for FY2008-09 (6.5 per cent) will actually reach about 5.5 to 6.0 per cent.

[33]Since part of the fertiliser distributed in the first six months was purchased at higher prices, the subsidy burden during the first six months was perhaps higher. However, later purchases should have been able to take full advantage of falling prices, with subsequent positive impacts on government expenditure on account of fertiliser subsidies.

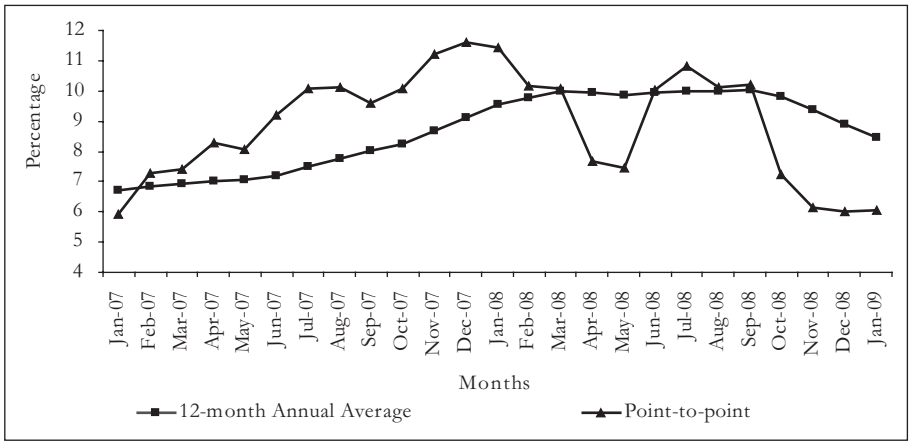
Figure 1.11: IMF World Commodity Price Index: 2007-2009



Source: IMF (2009b).

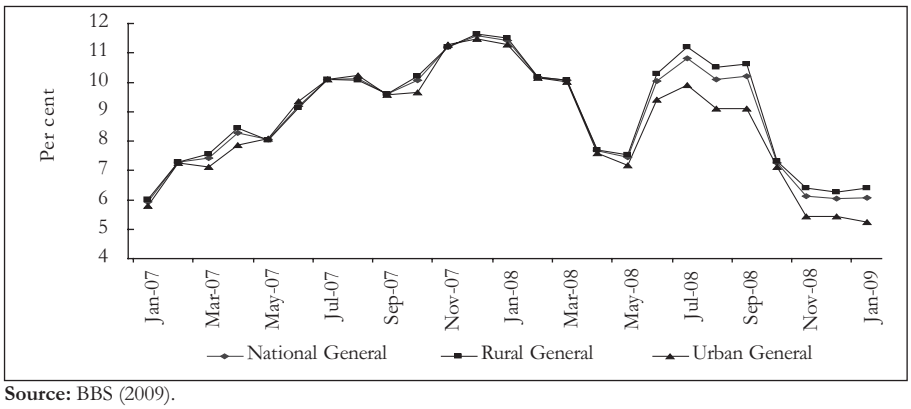
There has been some respite thanks to the declining trend of inflationary pressure during July-January FY2008-09. The annual average rate of inflation (12-month annual average commodity price index, 1995-96 = 100) decreased to 8.5 per cent in January 2009 from 9.6 per cent in January 2008 (Figure 1.12). The 12-month point-to-point inflation declined to 6.1 per cent in January 2009 compared with 11.4 per cent in January 2008. This deceleration in inflationary trends is visible for both food and non-food items, and for both rural and urban areas (Figure 1.13). This would indicate that the overall inflation rate could be below the projected rate of 9.0 per cent for FY2008-09, mentioned in the national budget. Maintaining moderately high growth rates with low levels of inflation could thus be an attainable target. Given the trade-off between growth and stability, the government appears to be somewhat better placed at present for pursuing active growth financing policies.

Figure 1.12: Inflation Rate: 2007-2009



Source: BBS (2009).

Figure 1.13: National, Rural and Urban Inflation Rate (Point-to-Point): 2007-2009

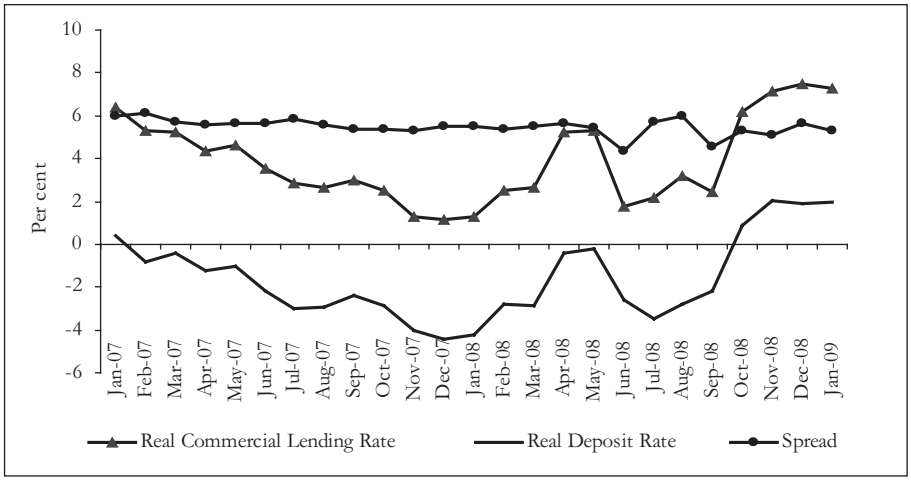


Source: BBS (2009).

Interest Rates

As noted, the commercial lending rate is considered to be high in Bangladesh. In recent times, the rate has risen further, in January 2009 the lending rate was 13.33 per cent, about 0.71 percentage points higher than September 2008. The real lending rate was 7.27 per cent (Figure 1.14). A higher spread between lending and deposit rates has continued to be a major concern for Bangladesh's policymakers. Investors have often mentioned the high interest rate as a major disincentive from the perspective of undertaking entrepreneurial activities. Indeed, this conflict of interest has persisted for quite some time now. Bangladesh Bank has often tried to convince the commercial banks to reduce the interest rate spread but the situation has not changed much. Indeed, in January FY2008-09 the spread was higher, at 5.33 per cent compared with 4.58 per cent in September FY2007-08.

Figure 1.14: Real Interest Rates and Spread: 2007-2009



Source: Bangladesh Bank (2009c).

Classified Loan Scenario

The share of non-performing loans (NPLs) has been in gradual decline over the past couple of years; this was particularly evident in the first half of FY2008-09 (Table 1.14). At the end of December 2008, the percentage share of classified loans to total outstanding loans declined to 10.8 per cent, compared with 13.2 per cent in the corresponding period of the previous year. The percentage share of net classified loans to total loans also decreased, to 2.8 per cent the-end December 2008 from 5.1 per cent at end-December 2007. The government has corporatised three large state-owned banks with the objective of improving the quality, efficiency and performance of these institutions. The loan default scenario of these banks has started to show some positive improvements in recent times. State-owned commercial banks (SCBs) were able to reverse earlier trends and to reduce the amount of classified loans (by 7.45 per cent). These banks account for the largest share in total classified loans. However, a significant rise of the classified loan portfolio of private commercial banks (PCBs) and foreign commercial banks (FCBs) has emerged as a cause for concern. There needs to be examination of why this is happening and whether corrective measures are required. Nevertheless, the overall, data suggest some improvements in banking sector efficiency.

Table 1.14: Classified Loan Scenario: December 2007 and December 2008

Institutions	As of Dec 2007 (Tk. Crore)	As of Dec 2008 (Tk. Crore)	Growth (Per cent)
SCBs	13791.17	12764.15	-7.45
PCBs	4921.70	5698.60	15.79
FCBs	194.30	286.30	47.35
Development Financial Institutions (DFIs)	3716.90	3732.30	0.41
Total	22624.07	22481.35	-0.63

Source: Bangladesh Bank (2009d).

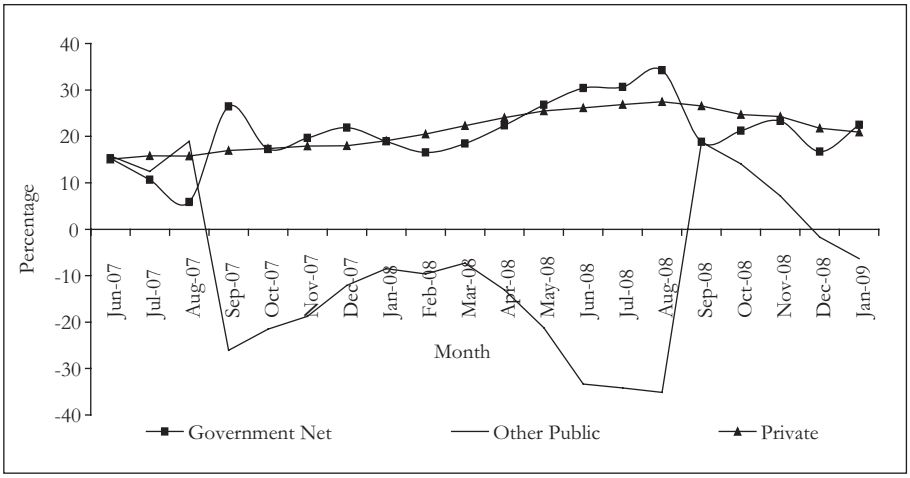
Maintaining the good health of banks will be critical to addressing possible adverse impact of the crisis. Some of the commercial banks are having to defer settlement of credit lines in view of difficulties faced by importers who made import contracts before the slump in commodity prices. Of importance will be monitoring whether this is having adverse implications on trade financing, and if required, taking remedial measures.

Money Supply, Credit Flow and Liquidity

Broad money supply (in terms of M2) has started to slow down in recent times. Outstanding M2 posted a growth of 19.83 per cent at the end of January 2009

against a backdrop of around 16.9 per cent growth projected in the PRSP II for FY2008-09. Growth of outstanding M2 was 23.50 per cent in September 2008. Growth of domestic credit and its major components have also somewhat slowed down in recent times. Outstanding net domestic credit registered 19.53 per cent growth at the end of January 2009 on a point-to-point basis over the corresponding benchmark figure of FY2007-08 (Figure 1.15); in September 2008, the corresponding figure was 24.58 per cent. Such deceleration originated from lower growth of net credit to the public sector, at 15.33 per cent at the end of January 2009; although growth in net credit to the government was 22.5 per cent, net credit to other public sector in fact declined by 6.36 per cent at the end of the same period.

Figure 1.15: Trends in Net Domestic Credit: 2007-2008



Source: Bangladesh Bank (2009c).

Growth of net domestic credit to the private sector also slowed down considerably, posting a growth of 19.53 per cent, which was 26.6 per cent in September 2008. An increase of repo and reverse repo rates during the second quarter of FY2008-09 may have discouraged credit flow in subsequent months.[34] This move indicated some tightening of monetary policy by Bangladesh Bank, a departure from the accommodative monetary policy of the recent past. However, in the latest half-yearly MPS (announced on 14 January 2009), the central bank indicated pursuance of a policy of monetary accommodation for achieving the GDP growth target by supporting adequate credit growth for activities that facilitate production and supply of goods and services. Subsequently, repo and reverse repo rates were refixed to their earlier

[34]Bangladesh Bank raised the interest rate of repo to 8.75 per cent on 17 September 2008 from 8.50 per cent, and then refixed interest rate on reverse repo at 6.75 per cent on 19 November 2008 from 6.50 per cent.

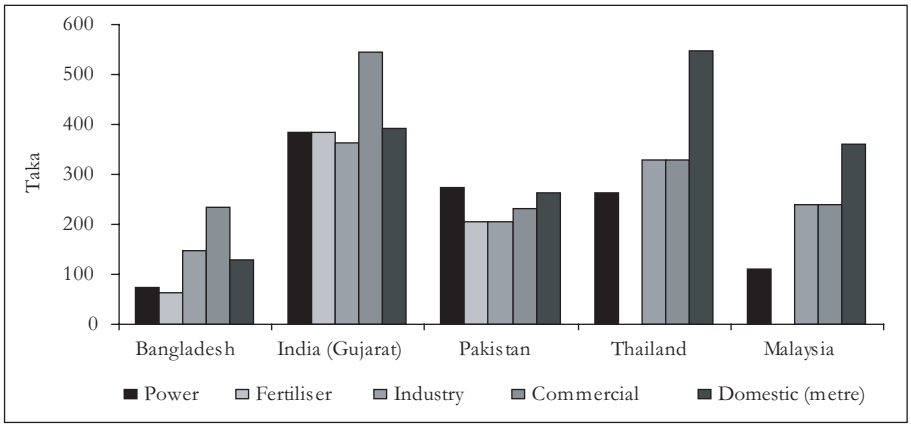
rates (8.50 per cent and 6.50 per cent, respectively) on 11 March 2009. Bangladesh Bank also indicated that it would provide refinance against lending in priority sectors (small and medium enterprises (SMEs), agriculture, low cost housing, etc.) which are not appropriately served by the market. Bangladesh Bank has also indicated that it would discourage excessive expansion of non-essential, life style-related consumer credit and other demand side lending.

It is, however, to be noted that the scheduled banks had excess liquidity to the tune of Tk. 20,275.55 crore as of end December 2008, against Tk. 129,88.58 crore as of end June 2008. The current deceleration in the growth of domestic credit provides an opportunity to once again go for monetary expansion, if required, in view of the global crisis.

On 17 March 2009, the central bank increased loan disbursement limits for the four SCBs which will allow them to lend more aggressively. These banks will now be able to increase the amount of lending by 10 per cent over the preceding year (previously the growth was limited to 5 per cent). Additionally, the ceiling on single borrower exposure has been raised by another 5 per cent of paid-up capital. Together with the reduced repo and reverse repo rates introduced earlier, these measures are expected to enhance credit flow to productive sectors of the economy.

As in many other countries, in recent times Bangladesh has been using indirect instruments such as repo and reverse repo as the major monetary policy instruments, as distinct from direct instruments of cash reserve requirement (CRR) and statutory liquidity ratio (SLR). These latter two ratios have tended to remain constant over the past years (Figure 1.16). A survey on monetary policy instruments in developing, emerging and developed countries has

Figure 1.16: Regional Gas Price Comparison



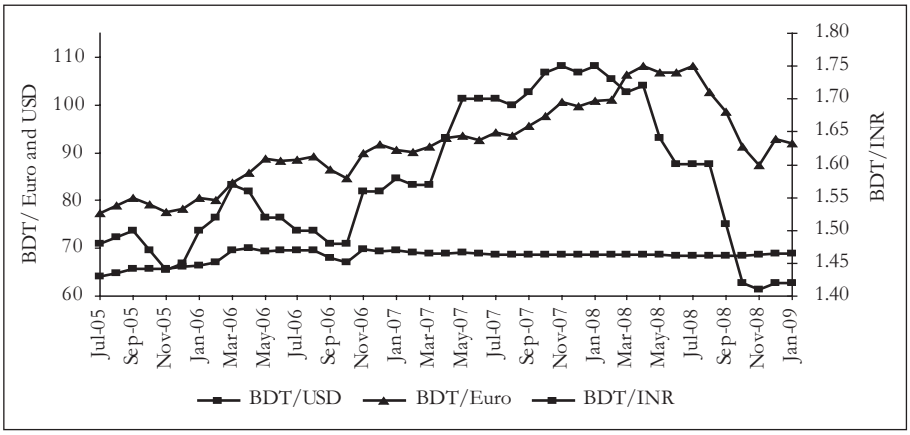
Source: Wood Mac., UK Study, 2005

observed that in recent years a majority of countries have abandoned the use of direct instruments as vehicles of monetary policy (Buzeneca and Maino 2007).

Exchange Rate

At the global level, all major currencies have become weaker against the USD (Figure 1.17). On the contrary, the Bangladesh Taka (BDT) has continued to remain stable against the USD. Consequently, BDT has appreciated considerably against other currencies, including the Euro and the Indian Rupee (INR).[35] Depreciation of both the INR and the Euro against the USD resulted in appreciation of the Taka by 21.5 per cent and 13.4 per cent, respectively, between February 2008 and February 2009. In view of apprehension about the weakening competitiveness of Bangladesh's exports in the global market in recent times, the idea of dual exchange rates and proactive interventions towards depreciation of the currency have been floated.

Figure 1.17: Movements of BDT against USD, Euro and INR: 2005-2009

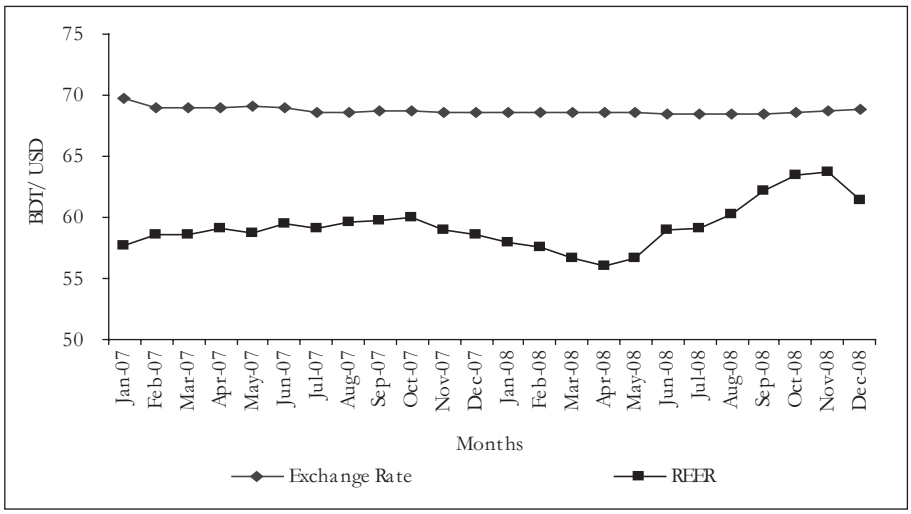


Source: Bangladesh Bank (2009c).

Movements of the real effective exchange rate (REER) (Figure 1.18) would not, however, support the idea of further depreciation of the BDT. Indeed, in recent times, Bangladesh Bank's policy appears to be geared towards maintaining stability of the price of the USD against the BDT. The apprehension is that policy-induced depreciation could lead to higher prices for export-oriented inputs and also imports in general, and have negative impacts on the expected decline in inflationary pressure.

[35] Euro/BDT and INR/BDT rates are calculated from the traded rates of USD/BDT.

Figure 1.18: Exchange Rate and REER: 2007-2008



Source: Bangladesh Bank (2009e).

1.3.3 Balance of Payments: Still Healthy, but Concerns for Near Future

Over 19 per cent growth in exports and around 30 per cent of higher remittance flow helped Bangladesh to maintain a healthy balance of payments (BOP) situation at the end of December 2008. High growth in imports, driven by high commodity prices in the initial months of FY2008-09, however, resulted in a deteriorated trade balance compared with July-December of the previous year (Table 1.15). While trade balance during July-December of FY2007-08 was USD -2,227.0 million, during the same period it stood at USD -2,974.0 million in FY2008-09. But thanks to higher remittance inflow, the current account balance maintained a surplus of USD 232.0 million during July-December of FY2008-09, albeit lower compared with the USD 298.0 million surplus during the matching period of the previous year. Combined with a surplus of USD 213.0 million in the financial account (which was a deficit of USD 130.0 million in July-December FY2007-08), the overall balance experienced a higher surplus of USD 489.0 million in the first six months of the current fiscal year compared with USD 44.0 million for the corresponding period of the previous year.

How the BOP situation will develop, and whether the trade balance and current account balance will further improve, will hinge on the extent of deceleration in import payments in view of falling global commodity prices, and the impact of the ongoing crisis on export earnings (affecting not only non-RMG, but also the RMG sector) and remittance flow of Bangladesh, and also the aid situation.

Table 1.15: Balance of Payments Situation: FY2006-07–FY2008-09

(in Million USD)

Indicators	FY2006-07	FY2007-08	Jul-Dec FY2007-08	Jul-Dec FY2008-09
Trade balance	-3458	-5541	-2227	-2974
Exports FOB*(including EPZ)	12053	13945	6421	7708
Imports FOB (including EPZ)	-15511	-19486	-8648	-10682
Current transfers	6554	8743	3839	4874
of which, Workers' remittances	5979	7915	3441	4505
Current account balance	936	672	298	232
Capital account	490	576	338	130
Capital transfers	490	576	338	130
Financial account	762	-431	-130	213
i) FDI (net)	793	650	285	706
ii) Portfolio investment	106	48	48	-48
iii) Other investment	-137	-1129	-463	-445
Errors and omissions	-695	-213	-462	-86
Overall balance	1493	604	44	489

Source: Bangladesh Bank (2009b).
Note: * FOB = Free on Board.

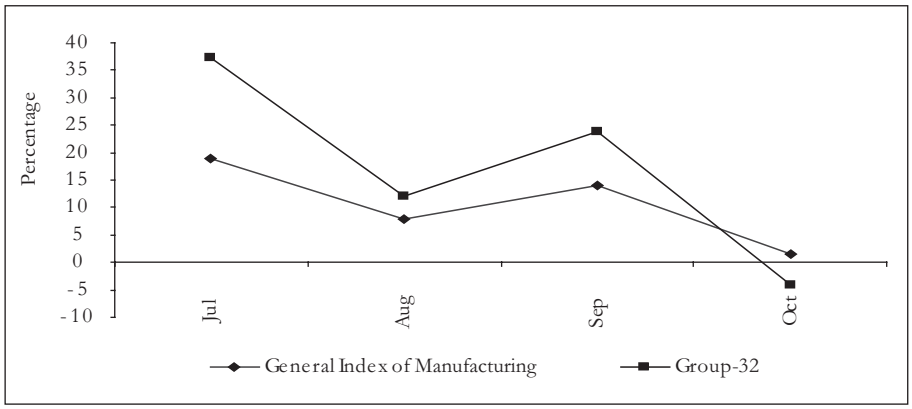
1.3.4 Real Sector: Weak Investment May Put Medium Term Outlook Under Strain

Production of rice during Aus and Aman season of FY2008-09 was satisfactory, which helped Bangladesh keep inflationary pressure under control in recent months. Preliminary estimates of Aus production indicate a 25.7 per cent annual growth in FY2008-09. Despite the fact that some areas were affected by flood in 2008, and there were reports of insect attacks in some pockets of production, field-level information is indicative of an overall satisfactory Aman production in FY2008-09. If potential benefits of measures initiated for the Boro season (e.g. revision of fuel and fertiliser price and subsidies, and greater availability) can be realised effectively on the ground, a good Boro harvest could be expected this year, critical to ensuring food security and helping further reduction of inflation.

While good harvests in the agriculture sector could provide a cushion of comfort for the government during these troubled times, slowdown in the industrial sector is likely to become a major concern in the near term. During the first four months of FY2008-09, production estimates based on quantum index of production (QIP) of large and medium-scale manufacturing industries have recorded a moderate growth of 10.6 per cent (Figure 1.19). Within the general index, Group 32, which includes major export-related industries (e.g. jute, cotton, apparels and leather, etc. with 38.16 per cent

weight), registered 17.4 per cent growth. However, growth of this group appears to have decelerated in October 2008, with adverse implications for the performance of the manufacturing sector.

Figure 1.19: Growth in Industrial Production: FY2008-09



Source: BBS (2008b).

However, it is the growth achieved in the first three months that is still holding the growth figure up. While the first quarter (July-September) of FY2008-09 showed growth of 13.5 per cent, the first month in the second quarter (October 2008) achieved only 1.5 per cent. For most of the categories of industries, month-on-month production growth over October 2007 had slowed down in October 2008 which was a rather disquieting development (Table 1.16). Industrial growth performance also has important implications for export sector performance and should be carefully monitored to see whether the observed slow pace of growth is connected with the global crisis.[36]

Table 1.16: Industrial Production Situation: October 2008 and July-October FY2008-09

(in Per cent)

Sectors	Unit	Production	
		Growth Oct 2008	Growth Jul-Oct FY2008/09
Jute textile	MT	-14.24	-8.03
Yarn	MT	2.63	3.33
Cloth	000' Metres	10.04	9.58
Garments	Tk. millions	-7.32	26.78
Tanning and finishing	000' m^2	-49.39	-35.11

Source: BBS (2008b).

[36]The slowdown in production performance of jute textile, tanning and finishing is already reflected in export performance in the subsequent months. For RMG, the production figures are difficult to relate to export performance because of high volatility in RMG exports.

Proxy indicators suggest that the declining trends in the manufacturing sector could continue in the near future. Indeed, letters of credit (L/Cs) figures show that, during the first quarter of FY2008-09 (July-October), both opening (37.5 per cent) and settlement (40.1 per cent) of L/Cs for industrial raw materials did maintain high growth. However, quite disturbingly, during the second quarter (October-December) of FY2008-09, L/C opening for industrial raw materials posted a negative -12.0 per cent growth. L/C settlement of the same, however, posted a positive growth (26.8 per cent), owing perhaps to high growth in opening of L/Cs during the previous quarter. L/C opening for capital machineries also declined by -39.8 per cent in the second quarter, which was already negative (-3.0 per cent) in the first quarter. What is noteworthy in this connection is that term loan disbursement fell quite sharply during the second quarter of FY2008-09, when disbursement declined significantly by -32.1 per cent; to compare, disbursement was 30.8 per cent higher in the first quarter of FY2008-09 (amounting to Tk. 4,950.93 crore) over the first quarter of FY2007-08. This significant fall in disbursement in the second quarter was accompanied by 20.3 per cent growth in recovery during the second quarter. This resulted in a net disbursement of a mere Tk. 4.35 crore (against Tk. 2,567.02 crore net disbursements in the second quarter of the previous year), a 99.8 per cent fall (Table 1.17)!

Table 1.17: Proxy Indicators for Manufacturing Outlook and their Recent Trends

Indicators	Amount		Quarterly Growth (%)	
	Jul-Sep FY2008-09	Oct-Dec FY2008-09	Jul-Sep FY2008-09	Oct-Dec FY2008-09
Average industrial output (QIP)	419.6	352.1	13.5	1.5*
L/C opening for industrial raw material (USD million)	2740.5	1837.4	37.5	-12.0
L/C opening for capital machinery (USD million)	397.4	230.1	-3.0	-39.8
Term loan disbursement (gross) (Tk. crore)	4950.9	3989.6	30.8	-32.1
Term loan disbursement (net) (Tk. crore)	1072.6	4.3	-7.5	-99.8

Source: BBS (2008b), Bangladesh Bank (2009b).
Note: * For the month of October 2009 only.

L/C opening data for the first month of the third quarter of FY2008-09 (January 2009) portray a further dismal picture. L/C opening for industrial raw materials declined by -34.6 per cent, compared with the L/C opening figure for January 2008. For capital machineries also, opening of L/Cs declined by 39.7 per cent in January 2009. Opening of L/Cs for capital machineries experienced negative growth for all major groups of industries during the last few months,

particularly those related to export (Table 1.18). Such a significant decline in import of capital machineries is likely to have negative implications for investment and could emerge as a major concern in the medium term.

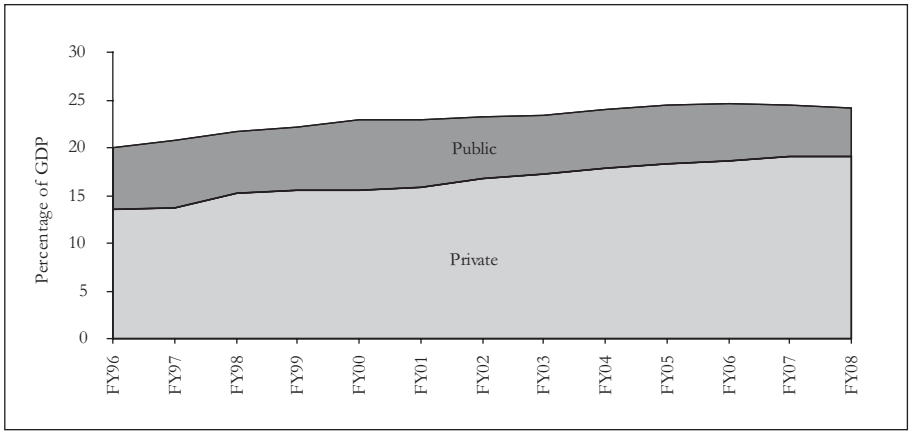
Table 1.18: Month-to-month Growth of L/C Opening: FY2007-08 vs. FY2008-09

Import Items	Jul	Aug	Sep	Oct	Nov	Dec	Jan
Capital machinery	13.9	-39.4	26.8	-46.5	-34.9	-38.7	-39.7
Textile	-23.5	-6.8	-26.3	-59.1	-49.2	-57.6	-67.1
Jute industry	-52.0	-67.2	203.0	-53.4	253.4	-98.0	-94.8
Garment industry	71.0	-41.2	-0.9	-43.3	-9.3	-44.1	-46.6

Source: Bangladesh Bank (2009b).

Along with the sharp deceleration of manufacturing sector growth, another emerging concern in the real sector of the economy relates to the stagnating investment scenario (Figure 1.20). For the second consecutive year, gross investment rate as a per cent of GDP declined in FY2007-08. Following an insignificant improvement in FY2005-06, to 24.7 per cent of GDP (from 24.5 per cent of GDP in FY2004-05), the gross investment rate fell back to 24.5 per cent in FY2006-07 and then to 24.2 per cent of GDP in FY2007-08.[37]

Figure 1.20: Investment: FY1995-96–FY2007-08



Source: MoF (2008).

Public investment has continued to decline and scored a historic low rate of 5 per cent of GDP in FY2007-08, lower when compared with the earlier low levels of 5.5 per cent in FY2006-07. Low implementation of the ADP is the major reason for the slowdown in the pace of public investment, which in turn explains the fact of stagnating gross investment in recent times.

[37]This was, however, lower than the medium term macroeconomic framework (MTMF) target of the extended PRSP which was set at 24.9 per cent in FY2007-08.

Implementation of the ADP did not improve during FY2008-09 either; only 31 per cent of the ADP could be implemented during the first seven months. Lack of availability of power has been a major problem, severely limiting growth potentials of the country. Significant public sector investment will be required to address the situation; however, the power division has managed to implement only 30 per cent of the total ADP during July-January FY2008-09, which will adversely impact on gross domestic investment in FY2008-09. In this regard, it is worth underlining here that, as suggested by a Bangladesh Bank analysis, public sector investment has a positive crowd-in effect for private sector investment in the Bangladesh context (Majumder 2007).

Private investment, which covers four-fifths of total investment of the country, as a share of GDP increased marginally, from 19.0 per cent in FY2006-07 to 19.2 per cent in FY2007-08. However, as signs of political transition became clear, the private sector started to show renewed interest in investment. The BOI received some 1,217 local investment proposals, with total investment registration amounting to Tk. 17,684 crore for January-October of 2008, against only 286 investment proposals with an investment registration of Tk. 1,966 crore in the 12 months of 2007. The majority of these investment proposals (953) were made in the apparel/textile sector, of which 643 were in textile industries. However, as the aforesaid trends of proxy indicators, such as import of capital machineries, term credit and import data would suggest, these registered investment proposals have perhaps remained mostly unrealised.

1.4 BANGLADESH ECONOMY AND GLOBAL ECONOMIC CRISIS: IMPLICATIONS OF STIMULUS PACKAGES OF OTHER COUNTRIES

Both advanced and emerging economies have initiated various fiscal and monetary measures in the form of bailouts and stimulus packages in view of the current economic meltdown. The objectives of such initiatives appear to be primarily five-fold: i) to restore confidence in the financial system and revamp and stabilise the financial market; ii) to stimulate domestic demand; iii) to create new job opportunities; iv) to support domestic industries; and v) to safeguard export interests. However, in today's globalised context, initiatives taken by one country are expected to have consequences for their competitor countries, through knock-on impact on consumer confidence and demand for imports, relative change in export competitiveness strength and availability of resources for aid, FDI and portfolio investment. An evaluation of these is important from the perspective of designing Bangladesh's own stimulus package, if and when such an initiative is considered (major features of the packages declared by India, China, Vietnam and Indonesia are given in Annex 1.1).

A review of stimulus packages by countries mentioned above reveals some common policy stands: i) boosting domestic demand through additional investment in infrastructure and productive sectors; ii) fiscal stimuli by way of reduced duties and taxes; iii) aggressive monetary policy through rate cuts and reduced interest rates; iv) readiness to go for higher deficits to stimulate the economy; v) fiscal/financial incentives in the form of cash compensation schemes, income tax rebates, credit at reduced interest rates in support of export-oriented sectors; vi) competitive devaluation of the currency ranging from 6 per cent to 40 per cent.

For Bangladesh, this cross-country evidence has relevance in two ways: first, it provides an insight into the thinking of policymakers of neighbouring countries in the area of macroeconomic management against the backdrop of the ongoing crisis; second, it provides an idea about how export-competing sectors of these countries are being supported, with consequent impacts on Bangladesh's own relative competitiveness situation in the global market.

Initiatives of competing countries in the form of currency depreciation, tax rebates and duty drawbacks, lower interest rate, cash compensation schemes, availability of additional funds and other fiscal-monetary incentives are likely to undermine the competitive strength of Bangladesh's exports quite significantly in the global market. As noted earlier, for example, in the US and EU apparels markets, China, India and Vietnam are some of Bangladesh's major competitors. Stimulus packages of these countries have significantly enhanced their competitive edge vis-à-vis Bangladesh. Until now, Bangladesh's performance record has been maintained, thanks mainly to readiness of exporters to accept lower cuting and making (CM) charges and profit margins. Yet another example relates to the adverse impact on backward linkage sectors, such as yarn/spinning, which have now lost a large part of their competitiveness as a consequence of stimulus-induced lower import prices of Indian yarns. It may also be recalled in this connection that in the recent past, a number of large-scale buyers, particularly from Japan, have shown interest in sourcing apparels from Bangladesh in view of higher prices in China. The stimulus packages put in place by China have now limited Bangladesh's opportunity to avail herself of these new opportunities. In view of the above, and against the backdrop of the warning signs in the country's external sector performance, it is time for Bangladesh's policymakers to start to come up with their own stimulus package in order to support the country's export-oriented and also other sectors that have come to be affected by the crisis. Such a package is also required to help realise the emerging opportunities in the global market.

1.5 BANGLADESH ECONOMY AND GLOBAL ECONOMIC CRISIS: POLICY STANCE, ALTERNATIVES AND TRADE-OFFS

It is worth noting that Bangladesh Bank took a number of energetic steps when the financial sector crisis first kicked off in October 2008. Central bank reserves were safeguarded through withdrawal from risky investments and transfer to reliable central bank accounts, and private sector financial institutions were immediately advised by the bank to protect their respective deposits. It helped that the capital market was exposed to foreign portfolio investment only to a limited scale (2.4 per cent of market capitalisation), and exotic but toxic derivatives were not traded on the country's capital market. This enabled Bangladesh to avoid the consequences of the first wave of the adverse impact. However, as the analysis indicates, Bangladesh has not been immune to the second wave of impact, when financial crisis hit the real economy. The adverse impacts have started to be transmitted through various channels to the domestic economy.

The discussion above indicates that, while Bangladesh's economy has thus far been able to avoid the worst adverse consequences of the ongoing global crisis, a number of disquieting developments transmit cautionary signals and should be of concern to policymakers. Macroeconomic performance indicators relating to the first seven months of the current fiscal year do not appear to be off the recent trends. However, when month-on-month performance is put under scrutiny, one cannot fail to locate some disquieting developments. When these are considered and analysed in light of the ongoing global economic crisis, there is much reason to be concerned. Slowdown in export growth, lower number of workers leaving for jobs abroad, declining industrial growth, negative growth of import of capital machineries, slow growth of term loans, lower domestic resource mobilisation and adverse impact of policies pursued by competing countries are disquieting developments indeed. As the analysis indicates, these can to a large extent be related to the adverse consequences originating from the global economic crisis.

As noted, countries that have been adversely affected by the crisis have been taking an array of proactive measures in order to mitigate the negative fallouts and to address the challenges in the area of macroeconomic management. These counter-cyclical policies relate to exchange rate management, export incentives, tariff rates, credit and interest rates, domestic demand stimulation through investments in infrastructure development and policies to promote job creation.

It is reckoned that, as policymakers get on with the task of designing the budget for FY2009-10, they will weigh the policy options at their disposal to best accommodate the emergent situation. The work on the budget will begin in earnest in April, with the budget expected to be announced on 11 June 2009. It is to be mentioned here that the government has taken an initiative to bring about three million additional people, including RMG workers, under the rationing system (20 kg/month of rice at a subsidised rate). The government has also declared expansion of entitlement under the safety net programmes. However, the government is attributing these initiatives not as a consequence of the global financial crisis, rather as part of its programme of implementation of promises in its election manifesto.

The earlier government set up two task forces made of government officials, and on 24 March 2009 the much-awaited National Task Force, comprising 27 members, with the Minister of Finance as convenor, was announced. Its mandate is as follows:

1. To identify the transmission channels through which the impacts of the ongoing financial crisis will be transmitted to the Bangladesh economy, and to analyse relevant outcomes and indicators on a quarterly basis;
2. To prepare qualitative analysis of economic situation and its review;
3. To review and evaluate any depression-related model, if these are available at various research and policy institutes. If these are not readily available, to encourage building of such models;
4. To keep the investment growing and pursue growth-friendly policies;
5. To draw measures to avoid excessive government spending;
6. To increase the pace of growth of rural and agriculture sectors (to design employment generating recommendations for the domestic sector);
7. To continue ongoing endeavours to provide adequate energy and undertake steps for improving physical infrastructure for electricity, gas, etc.;
8. To remain cautious about the exchange rate management of the BDT;
9. To remain cautious about monetary policy and interest rate policy;
10. To analyse the BOP situation (especially with regard to export earnings, remittance and foreign fund flow);
11. To facilitate overseas employment; and
12. To maintain robust domestic demand.

Some of the policy options related to these areas that the government will need to weigh, are elaborated in the following section.

Box 1.1: Suggestions and Demands Put Forward by Private Sector Organisations

Bangladesh Garment Manufacturers and Exporters Association (BGMEA)

- 10 per cent cash incentive for RMG exporters on total export value.
- As an alternative, government could maintain a separate exchange rate for the sector, and give Tk. 10 more against USD 1, for 30 per cent of total export value.
- Withdrawal of VAT from utility and other services (electricity, telephone, etc.) for the sector.
- Lower commercial lending rate of 7 per cent (currently 13.3 per cent).
- Rescheduling of 3-year loans to 5-year loans and 7-year loans to 10-year loans.
- Subsidised diesel for the RMG sector in view of the rising cost of power supply occurring from the use of generators owing to frequent power failure.

Bangladesh Knitwear Manufacturers & Exporters Association (BKMEA)

- 10 per cent cash subsidy to the knitwear industries on total export value.
- Reduction in interest rates to 10 per cent.

Federation of Bangladesh Chambers of Commerce and Industry (FBCCI)

- A Tk. 6,000 crore rescue package for the export sector (Tk. 3,500 crore for garment exporters, Tk. 1,400 crore for textile spinners, and Tk. 1,100 crore for jute, leather, frozen food and vegetable exporters).
- Rescheduling and one-two year moratorium facility on bank loans.
- Relaxation of Credit Information Bureau (CIB) rules by Bangladesh Bank which bars loan-defaulting companies from transacting export and import orders.

Metropolitan Chamber of Commerce and Industry (MCCI)

- A supportive monetary policy and conducive tariff regime rather than a direct cash incentive to exporters as part of the government's effort to tackle the recession. Supportive monetary policy and conducive tariff regime include reviewing and keeping the exchange rate stable and competitive, keeping the interest rate supportive to export and production, ensuring priority distribution of bank credit to agriculture, manufacturing and service sectors, and limiting government's borrowing from the banking sector.
- If a cash subsidy is an absolute necessity, it is to be given after a thorough analysis by the government, only to affected businesses.
- Rescheduled term loans and creation of a contingency fund.
- Opportunity to whiten black money paying relevant taxes and 5 per cent extra penalty tax.
- Reduced corporate tax rate and widened tax holiday facility as a tool to encourage more investments.

(Box 1.1 contd.)

(Box 1.1 contd.)

Bangladesh Finished Leather, Leathergoods and Footwear Exporters Association (BFLLFEA) and Bangladesh Tanners Association (BTA)

- Increase in cash subsidy to 25 per cent on the total export value. The national budget has a provision of 15 per cent cash subsidy to the sector.
- Credit flow at a lower interest rate of 5 per cent.
- Waiver of interests and penalties for loans taken since 1 January 2008.
- Withdrawal of duties and VAT on inputs and machineries used by the tanneries, along with abolishment of the provision of 25 per cent tax at source for leather and leather products.
- A temporary suspension of recovery of interests on loans for two years.

1.5.1 Exchange Rate

Exchange rate management is an important tool that policymakers have at their disposal but it involves various trade-offs. A depreciation of the BDT exchange rate will basically work in the same manner as cash incentives for exporters and remittances earners. However, it could adversely affect imports, domestic prices and inflation. While a BDT depreciation could have a positive impact on export competitiveness and profits, the net impact in view of Bangladesh being a net importing country remains questionable. In the context of the recent high inflation, the need for transmitting the positive impact of falling commodity prices to consumers and constraining inflationary pressure also remains a concern. Also, depreciation will result in higher import cost of raw materials for export-oriented sectors.

As pointed out earlier, the REER appears to be below the nominal rate of the BDT. Additionally, in a managed float system, the capacity to influence the exchange rate depends on various factors, including access to adequate resources to intervene in the market. Until now, Bangladesh's policy appears to have been focused mainly on maintaining stability of the USD. Towards this, Bangladesh Bank has intermittently been purchasing dollars from the market. Between 15 January and 11 March 2009, the bank purchased about USD 269.2 million from the market, which helped restrain the BDT from appreciating against the USD. The current level of reserves (USD 5,513.65 million on 9 March 2009) amounts to about 2.8 months of import payments, implying that there is further room to purchase dollars from the market in order to replenish dollar reserves.

Since exchange rate manipulation is likely to have economy-wide impact, it is argued that a better policy option would be to have sector-specific intervention mechanisms in place, rather than pursuing a proactive policy that induces the

exchange rate to depreciate. As pointed out earlier, because of significant depreciation of currencies and other support measures put in place by many of Bangladesh's competitors, the competitive strength of Bangladesh's exports in the global market has seen significant erosion in the recent past.

1.5.2 Interest Rate

Interest rates on lending have come under scrutiny in Bangladesh in the recent past. With high interest rates on deposits, induced by high inflation, the lending rate has also tended to remain high. As noted, the spread between the lending and deposit rate is considered high and thereby discourages investment. In spite of repeated attempts by Bangladesh Bank, not much has happened in this context. In the 1990s, Bangladesh gradually shifted towards market-driven policymaking in determining the interest rate. Bangladesh Bank routinely uses repo and reverse repo interest rates and open market operations to regulate levels of reserve money and influence growth of M2 and its components on the asset (credit) and liability (currency and deposit) sides, rather than imposing direct influence on the interest rate.

Changes in the CRR and SLR for scheduled banks are the other monetary policy tools used, albeit less often. However, the extent to which the interest rate is able to stimulate investment and economic activities in Bangladesh has been questioned. Results of an empirical study by Bangladesh Bank suggest that investment spending at the aggregate level is non-responsive to interest rates (Ahmed and Islam 2006). Investment spending at disaggregated level is responsive to the interest rate, to a limited scale, for the private sector investment category. A conducive business environment and overall good governance remain critically important factors; the lending rate appears to be a sufficient factor in stimulating investment. However, in view of bolstering the competitive strength of both export-oriented and domestic market-oriented activities, availability of credit at a lower interest rate remains a vital issue. Against a backdrop of high liquidity in the system, it would appear that there is scope to reduce this high spread.

1.5.3 Reduction in Duties, Taxes and Bank Charges

The rate of duty on capital machinery imports and spare parts was reduced from 5 per cent to 3 per cent in the FY2008-09 budget. In this regard, the CPD (2008) observed at the time that, given the depressed investment scenario, imports of capital machinery and spare parts may be made duty-free to stimulate industrial investment. At present, export-oriented industries import capital machinery and spares on payment of 1 per cent customs duty (CD) - the indemnity bond system was abolished and replaced with a concessionary

rate of 1 per cent in the FY2008-09 budget. The aforesaid CPD report pointed out that this has raised exporters' production costs. This concessionary rate of 1 per cent could be revisited by the government in the upcoming budget. In the budget of FY2008-09, CD on basic raw materials was reduced to 7 per cent from 10 per cent. At the same time, duty on intermediate raw materials was reduced from 15 per cent to 12 per cent. In view of the current financial crisis, a number of countries have adjusted their duty levels. The government may think about further rationalisation of these rates.

In July 2008, the government relaxed import conditions to enable producers to take advantage of low-cost Indian yarn. To protect the interests of the local spinning sector, the government has now tightened rules on yarn imports, particularly from India. Imports are subject to more rigorous checks on yarn-count and chemical tests. The present move by the government in tightening the rules is expected to benefit local yarn industries. However, additionally, local spin millers are demanding a rescheduling of the loan payback time. In view of this, extension of loan settlement could be considered.

A number of fiscal measures were proposed in the budget for FY2008-09 in support of SMEs. For example, the SME sector has been given income tax relief by defining SMEs as entities with an annual turnover below Tk. 2.4 million. The upper limit of investment in capital machinery, in order to enjoy the cottage industry benefit (i.e. no VAT), was increased from Tk. 700,000 to Tk. 1.5 million and the turnover limit was raised from Tk. 2 million to Tk. 2.4 million. This measure is expected to help growth in the SME sector. At the same time, VAT was set to be withdrawn from the production stage for some items, including fabrics produced from artificial fibres and thread using handlooms. A tax holiday was given to agro-processing industries. In view of the crisis, many countries, such as India and Vietnam, are now putting in place new initiatives in support of small and medium domestic industries, particularly to boost domestic demand. Various industries, as noted, received support through duty cuts and access to funds at lower cost. While designing the budget for FY2009-10, the Bangladesh government may consider revisiting the existing tax and duty structure and undertake further adjustments against the backdrop of the gloomy investment outlook.

Earlier, Bangladesh's exporters and importers raised concern about high bank charges for various services offered. To mitigate the situation, Bangladesh Bank issued a circular (on September 2008) through which banks were asked to undertake certain disciplines in making service charges.[38] The government will need to strongly monitor adherence to what is stipulated by this circular.

[38]The circular was issued on 30 September 2008, fixing charges to be imposed for a number of services.

1.5.4 Credit Line

In the budget for FY2007-08, the government allocated an endowment fund of Tk. 100 crore for the SME Foundation to provide credit to SMEs through PCBs. Government has decided to provide more funds to the Foundation in the FY2008-09 budget; an additional amount of Tk. 100 crore was allocated in support of SMEs. The SME Refinancing Scheme of Bangladesh Bank allocated Tk. 500 crore in FY2008-09, up from Tk. 300 crore in the previous year. Other than this, allocations from the Equity and Entrepreneurship Fund (EEF) in the FY2008-09 budget (Tk. 100 crore) have been targeted to information technology (IT)-related industries.[39] Bangladesh Bank has also indicated that it will establish a fund, under a refinancing scheme, in support of the country's emerging ship-building industry, in a bid to help it to graduate into an important export earning sector.[40]

Many of Bangladesh's competitors have come up with initiatives to establish dedicated funds that would allow access to credit line at lower cost. Policymakers could think of establishing such funds in support of export-oriented industries that are facing difficulties in view of the global crisis. Such funds could be used to ensure credit flow to crisis-hit sectors at lower interest rates, with expanded repayment periods requiring a higher number of (smaller size) instalments for repayment. The government could also consider pursuing the commercial banks to extend the repayment period of the existing loans for the sectors that are already affected.

1.5.5 Cash Incentive

An amount worth Tk. 1,050 crore has been kept in the budget for FY2008-09 as a cash subsidy for 13 export-oriented activities, including frozen food, products made of hogla, straw, coir and sugar cane, bicycles, processed agricultural products, RMG, jute products, leather products, potatoes, hatching eggs and one-day chicks, liquid glucose and light engineering products. In view of the need to bolster competitive strength and lower the costs of doing business, this cash compensation scheme may be furthered. Immediate steps are required to release the arrear of about Tk. 2.43 billion cash subsidy which was not released to the 13 sectors eligible for this support.

As detailed, Bangladesh's competitors are coming up with various initiatives to address the emerging challenges. Recently, India has announced the setting-up

[39] In FY2007-08 EEF allocations were also targeted to agro-based industries.

[40] Bangladesh Bank has agreed, in principle, to create this fund, worth about Tk. 500 crore and to be disbursed through commercial banks.

of a cash incentives programmes for a number of items. For example, a Rs. 325 crore export incentive programme has been established for apparels and leather products that are to be shipped to the US and EU markets. Exporters will receive 2 per cent of the exported value as an incentive from April 2009.[41] India has also made an additional allocation of Rs. 350 crore for export incentive schemes; the exact mechanism to implement the scheme is yet to be known - this could take the form of cash incentives, tax refund for import of inputs, etc. At the same time, along with India, other countries, including China and Indonesia, are creating multibillion dollar funds mostly directed towards infrastructure development, domestic demand stipulation, tax and duty refund, support to export-oriented sectors, etc.

Table 1.6 provides an idea about the volatility being faced by the various export-oriented sectors. Although overall exports picked up again in January 2009 (12 per cent growth compared with January 2008), disaggregated figures of the second quarter FY2008-09 and January 2009 testify to the fact that the global crisis has started to have an adverse impact on Bangladesh's export-oriented sectors and has subjected it to higher volatility. The government has said that it is considering the idea of expanding the existing cash subsidy scheme to an additional seven export items. These will need to be carefully selected. Forward-looking analysis will need to be undertaken towards this end, for example, from the RMG sector's performance with regard to issuance of "Utilisation Declaration" certificates, it is possible to get a preview of future export performance.[42] Evidence suggests negative growths of Utilised Declarations for the months of December 2008 (-7.68 per cent), January 2009 (-4.98 per cent) and February 2009 (-17.5 per cent). This is likely to have adverse consequences for the performance of the export-oriented apparels sector in future months.

As pointed out, Bangladesh has some fiscal space in FY2008-09 in view of lower budgetary expenditure pressure, particularly on subsidies. Using this cushion, the government could consider undertaking well-considered initiatives in view of the crisis. These could include economy-wide measures, such as monetary and fiscal policies (influencing the interest rate, general fiscal rationalisation), as well as sector-specific measures (in the form of withdrawal of VAT, incentives for entry into new markets, product-specific tariff concessions, etc.). Two issues are important here: first, many such initiatives

[41] This facility will be provided on a temporary basis for six months.

[42] Utilised Declaration are certificates issued by the BGMEA and BKMEA to their member enterprises certifying the orders that they have received from apparels buyers through back-to-back L/Cs. These declarations (in volume terms) and their growth compared with earlier years provide an idea as regards trends in orders placed and hence give an indication about growth in volume in the near-term future (Utilised Declarations are generally realised through exports in about two-three months).

should be strictly time-bound, and second, they should be strictly monitored to ensure that they are targeted and used in an appropriate manner. Such initiatives could be in two forms: immediate measures of support and through the upcoming budget for FY2009-10. The National Task Force set up by the government is mandated to monitor the impact of the crisis on various sectors of the economy. Its work will be critical to addressing the attendant challenges. The government may like to consider the idea of a comprehensive stimulus package, if on the basis of performance of macroeconomic indicators relating to exports, imports, remittances, industrial growth and the domestic labour market, the Task Force puts forward such a suggestion to the government.[43]

Support to backward linkage industries of apparels, in the spinning sector, could bolster Bangladesh's competitive strength. Better performance of trousers compared with shirt items in recent times testifies to relative advantages that originate from domestic backward linkages (denim sector) as against imported fabrics. In view of the need to help entrepreneurs to go for upmarket products and raise productivity, the government could also consider providing incentives for research and development (R&D) activities and import of capital machineries. A Technology Upgradation Fund (TUF) could be set up to provide assistance for this. Any support should also take into account the emerging opportunities for Bangladesh's export sector.

1.5.6 Domestic Demand Stimulation

In these times of trouble, stimulating domestic demand must be seen as a critical policy instrument to address the adverse consequences of the crisis. Unlike many other low-income countries, Bangladesh has a formidable and large domestic market. Private consumption accounted for 74.5 per cent of Bangladesh's GDP in FY2007-08. While the export sector is important, export value addition constitutes only about 9.0 per cent of GDP. Unlike many other neighbouring countries to the east, Bangladesh economy is thus critically dependant on domestic demand. Stimulating private consumption through direct government expenditure would thus be the most effective way of stimulating the economy. In view of the low level of development of the financial market, direct fiscal budgetary support to stimulate domestic economic activities, job creation and domestic demand should be seen as major policy interventions in view of addressing the adverse affects of the crisis.

[43]Some members of the Task Force in its first meeting on 24 March 2009 put forward a number of suggestions: speedy release of money under Cash Compensation Scheme (CCS); withdrawal of renewal fee on diesel generators; relaxation of rules and regulations relating to loans and loan defaults; withdrawal of VAT on export income; expansion of safety net programmes; and support to modernise the Bangladesh Standards and Testing Institution (BSTI) to meet standardisation requirements. Emphasis was put by many on agriculture and rural development and infrastructure development, particularly energy. A recurring issue mentioned was that of the high interest rate on lending and ways to bring it down.

The upcoming budget provides an opportunity to take concrete steps in this regard. Effective implementation of programmes such as the 100-day Employment Generation Programme, proposed initiatives in support of "one job-one family," higher allocation for vulnerable group development/feeding (VGD/VGF) and other social protection programmes could absorb shocks arising from a slowdown in export growth, slower pace of industrial growth and lower numbers of people going abroad. The government has already mentioned plans to go for a more expanded VGD programme and the introduction of a rationing system for selected groups of workers. The upcoming budget will need to reflect the government's initiatives and contemplations in this regard. Government's initiatives to pursue large-scale infrastructure projects could also play a positive role in stimulating domestic demand and creating jobs.

1.6 CONCLUDING REMARKS

The third wave of adverse implications of the ongoing crisis appears to have started to hit the increasingly globally integrated economy of Bangladesh. The need to take policy initiatives in order to address the emerging challenges originates from four considerations:

1. Negative impacts affecting the economy through various transmission mechanisms;
2. Possible adverse impact of policies pursued by other countries;
3. The need to stimulate domestic demand in view of knock-on affects on production and employment situation; and
4. Taking advantage of emerging opportunities.

The upcoming budget offers an opportunity to undertake medium-term economy-wide as well as targeted initiatives in view of the above challenges. However, concrete sector-specific measures will need to be considered for immediate implementation. Three considerations could inform policy choices in this regard: first, as pointed out, the government will be able to take advantage of fiscal space in the FY2008-09 budget; second, targeted measures can be put in place for a limited period, i.e. would be of a clear time-bound nature; and third, any opportunity arising from any global stimulus/initiative must be fully exploited. The analysis in this report has mentioned various possible initiatives to stimulate both production-related activities and domestic demand as instruments of possible counter-cyclical measures. These are related to tariff rationalisation and tariff rebates; a stimulus package for export-oriented sectors in the form of cash incentives; duty-free access for inputs; setting up a TUF; establishing special credit lines for lending at reduced interest

rates; income tax rebates; setting up of dedicated funds for returnee migrant workers; domestic demand stimulation through enhanced safety net programmes; and higher entitlements and higher investment in infrastructure programmes that create jobs and income earning opportunities.

Along with the above, renewed efforts to improve the overall governance and business environment to raise the quality of implementation of various initiatives and programmes of the government, and greater efforts to mobilise higher domestic resources, will be needed to address the emerging challenges.

The recent Group of 20 (G-20) meeting provided an opportunity to highlight developing country interests with respect to aid and debt cancellation. There is likely to be a renewed call for raising aid commitments to 0.7 per cent of the GNIs of developed countries;[44] a review of the global financial architecture and the role of World Bank and IMF are also on the cards. In the last meeting of the G-20 Finance Ministers and central bank Governors (14 March 2009), there was an appeal to ensure higher capital availability to multilateral development banks; the need for a substantial capital increase for the ADB to help the world's poorest was highlighted in this context. As a leading member of the LDC group, Bangladesh should play an active role in this debate. The attention of the international community in recent times has been focused relatively more on Africa, even though the vulnerabilities of Asia Pacific low-income countries are also being quite manifestly exposed as a result of the ongoing crisis. It needs to be emphasised in this context that any package of support should not exclude low-income countries of the Asia Pacific region. In this connection, it may be recalled that Bangladesh has not been considered for support from the Millennium Challenge Account (MCA) put in place by the US government; this could be an opportunity to explore Bangladesh's inclusion.

It needs to be recalled in the context of the current discussion that over the recent past Bangladesh had suffered a reversal of poverty reduction because of high inflation, particularly on account of high prices of essentials. Possible negative consequences of the ongoing crisis could undermine Bangladesh's efforts to reverse this reversal of poverty reduction trends. In view of this, every effort will need to be put in place so that policy initiatives are geared towards a higher pace of poverty alleviation and that attainment of the MDGs by Bangladesh continue to stay on track. Global economic crisis is likely to make both of these tasks much more challenging in 2009, and perhaps beyond.

[44]It is also to be kept in mind that the devaluation of the British Pound against the USD (by about 30 per cent) and the Euro against USD (by about 15 per cent) over the past one year is likely to cut the value of EU commitments.

ANNEX 1.1: STIMULUS PACKAGES OF OTHER COUNTRIES

This section highlights salient features of stimulus packages announced by selected countries over the recent past.[45]

Annex 1.1.1 India

In response to the global financial crisis, the Indian government has announced three rescue packages. On December 2008, India declared the first stimulus package, worth USD 4.0 billion, with several fiscal measures and support for infrastructure development. The Indian government adopted an across-the-board 4 per cent cut in central value added tax, aimed at bringing down the prices of both consumers' as well as producers' goods (cars, cement, textiles and others). Export support measures included: i) pre and post-shipment export credit for labour-intensive exports, i.e. textiles (including handlooms, carpets and handicrafts). Leather, gems and jewellery and marine products and SME sectors were provided incentives through an interest subvention of 2 per cent up to 31 March 2009, subject to a minimum rate of interest of 7 per cent per annum; ii) additional funds of Rs. 1,100 crore to

[45]These information were collated from various websites; some of these are:

For India
1. www.rajind.rajasthan.gov.in/Stimulus_Packages.pdf
2. http://www.india.com/news/india/govt_announces_second_stimulus_package_2381
3. http://news.bbc.co.uk/2/hi/business/7770126.stm
4. http://www.google.com/hostednews/afp/article/ALeqM5gAt1sysAqdY_n4e55Qe4my9WRsaw
5. http://www.rediff.com/money/2008/dec/07bcrisis-govt-announces-package-to-boost-economy.htm
6. http://www.ft.com/cms/s/d47ddfae-d8f3-11dd-ab5f-000077b07658,Authorised=false.html?_i_location=http://www.ft.com/cms/s/0/d47ddfae-d8f3-11dd-ab5f-000077b07658.html%3Fnclick_check%3D1&_i_referer=&nclick_check=1
7. http://timesofindia.indiatimes.com/India_Inc_cheers_stimulus_package/rssarticleshow/3805155.cms
8. http://www.hindu.com/2009/02/27/stories/2009022755371500.htm
9. http://www.business-standard.com/india/news/m-govinda-rao3rd-stimulus-packagefiscal-conundrum/08/21/350685/

For China
1. http://www.forbes.com/2008/11/09/china-stimulus-economy-biz-cx_pm_1109notes.html
2. http://news.xinhuanet.com/english/2009-02/26/content_10899531.htm

For Vietnam
1. http://www.mof.gov.vn/DefaultE.aspx?tabid=616&ItemID=57193
2. http://www.btimes.com.my/Current_News/BTIMES/articles/vackf/Article/
3. http://www.thanhniennews.com/business/?catid=2&newsid=45660
4. http://english.vovnews.vn/Home/Businesses-benefit-from-Govt-stimulus -package/20092/101614.vov

For Indonesia
1. http://www.antara.co.id/en/arc/2009/2/26/fiscal-stimulus-to-absorb-three-million-workers/
2. http://www.btimes.com.my/Current_News/BTIMES/articles/indonsti/Article/
3. http://news.xinhuanet.com/english/2009-02/25/content_10895518.htm

ensure full refund of terminal excise duty or central sales tax; iii) an additional allocation for export incentive schemes of Rs. 350 crore; iv) government back-up guarantee to be made available to the Export Credit Guarantee Corporation of India Limited, to the extent of Rs. 350 crore to enable it to provide guarantees for exports to difficult markets or products; v) exporters to be allowed a refund of service tax on foreign agent commissions of up to 10 per cent of FOB value of exports. They were also to be allowed a refund of service tax on output services while availing benefits under the Duty Drawback Scheme.

Incentives for textiles sector included: i) an additional allocation of Rs. 1,400 crore to be made to clear the entire backlog in the TUF scheme; and ii) all items of handicrafts be included under the *Vishesh Krishi & Gram Udyog Yojana* (Special Agriculture and Village Industry Scheme). The package also contained full exemption from basic CD on industrial intermediate naphtha to give relief to the power sector and withdrawal of export duty on iron ore fines while cutting down the levy on export of iron lumps from 15 per cent to 5 per cent. The government declared that it would accord the highest priority to supporting the medium, small and micro enterprises sector, perceived to be critical for employment generation. To facilitate the flow of credit to this sector, the Reserve Bank of India announced a refinance facility of Rs. 7,000 crore for the Small Industries Development Bank of India, which would be available to support incremental lending, either directly to the enterprises or indirectly via banks, non-banking financial companies and state financial corporations.

The following steps were also taken in the first stimulus package of the Indian government: i) to boost collateral free lending, the current guarantee cover under the Credit Guarantee Scheme for Micro and Small Enterprises on loans was to be extended from Rs. 50 lakh to Rs. 1 crore, with a guarantee cover of 50 per cent; ii) a lock-in period for loans covered under the existing Credit Guarantee Scheme would be reduced from 24 to 18 months in order to encourage banks to cover more loans; iii) government would issue an advisory to central public sector enterprises and request state public sector enterprises to ensure prompt payment of bills of medium, small and micro enterprises. Easing of credit conditions was likely to help public sector undertakings to make such payments on schedule. The Reserve Bank has announced that in the near future it will put in place a refinance facility of Rs. 4,000 crore for the National Housing Bank. As a further measure of support to the housing sector, public sector banks would announce in the immediate term a package for borrowers of home loans in two categories: up to Rs. 5 lakh, and Rs. 5 lakh to Rs. 20 lakh.

Following the announcement of the first stimulus package, there was criticism on the grounds that not enough was done to address the liquidity crisis that had deterred banks from lending to their clients and to face the adverse impacts of global recession. In January 2009, the Indian government announced that another USD 4.0 billion would be pumped into the economy over the next two years. The second stimulus package had five elements, which included a strong focus on interest rate reduction; an additional liquidity injection to productive sectors; financial aid to the export sector; a boost to the infrastructure sector; and easier access to external commercial borrowings and foreign institutional investors. The stimulus package announced an additional expenditure to the tune of Rs. 20,000 crore during the current year, mainly for critical rural, infrastructure and social security sectors, and measures to support exports, housing, medium, small and micro enterprises and textiles. The Reserve Bank reduced the repo and the reverse repo rate, and in addition, the CRR has been reduced with a view to injecting additional liquidity into the system. The reduction in policy interest rates and the CRR is expected to further encourage banks to lower interest rates and provide additional credit, infusing more liquidity in the market.

Credit targets of public sector banks are to be raised by an increase in the provision of sectoral credits, which the government would monitor closely. Duty entitlement passbook rates were to be restored to those prior to November 2008. The Duty Entitlement Passbook Scheme would be extended till 31 December 2009, which would provide predictability and stability in the short-term for future contracts. Duty drawback benefits on certain items, including knitted fabrics, bicycles, agricultural hand tools and specified categories of yarn, were being enhanced. These changes would take effect retrospectively from 1 September 2009. Exim Bank would provide pre-shipment and post-shipment credit to Indian exporters at competitive rates from a line of credit of Rs. 5,000 crore obtained from the Reserve Bank.

The stimulus package also included measures to boost infrastructure spending, small and medium businesses and labour-intensive export sectors such as textiles and handicrafts. Several other initiatives, including tax rebate, credit facilities and devaluation of the INR were also being pursued. It was envisaged that in the short-term these expenditure of the central government would induce budgetary expansion and may lead to a higher budget deficit. However, it was felt by the Indian policymakers that these initiatives were necessary to boost domestic demand, enhance investment and create employment opportunities, and hence were justified. Furthermore, as is known, between July 2008 and February 2009, the INR depreciated by about 18.4 per cent.

At the end of February 2009, the Indian government came up with a third stimulus package. This included a 2 per cent cut in excise duty and service tax. Service tax was reduced to 10 per cent from the prevailing level of 12 per cent and excise duty was reduced by a similar magnitude for items presently subject to 10 per cent. Tax concessions would entail a revenue sacrifice of about Rs. 30,000 crore for the economy or about 0.5 per cent of GDP. The package also includes an extension of 4 per cent across-the-board excise duty cut beyond 31 March 2009, and excise duty on bulk cement to be 8 per cent or Rs. 230 per MT, whichever is higher.

A special package of Rs. 325 crore for the employment-intensive industries was unveiled on 26 February this year. The package includes incentive for leather and textile sectors, removal of import curbs on gems and jewellery, relaxation in export obligations and a 5 per cent in duty credit for exports of handmade carpets under the Focus Product Scheme, against 3.5 per cent that was given earlier.

Annex 1.1.2 China

China announced a USD 586 billion stimulus package in November 2008 to be implemented over the next two years to boost domestic demand in view of sluggish global demand and significant falls in exports.[46] This package was equivalent to about 7 per cent of China's annual GDP. In the stimulus package, four trillion Yuan were to be spent on upgrading infrastructure, particularly roads, railways, airports and the power grid; raising rural incomes via land reform; and social welfare projects such as affordable housing and environmental protection. China indicated a shift to "moderately easy" monetary policy, where lending limits on commercial banks were being lifted. The stimulus package also involved a cut in VAT. One of the stimuli to boost the economy was raising tax rebates for certain exports to help producers cope with falling profit margins as a result of slacking market demand and rising cost of production. The adjustment involves 3,486 items from labour-intensive industries such as textiles, garments, toys and hi-tech and high value-added sectors such as anti-AIDS (acquired immune deficiency syndrome) drugs and tempered glass.

Annex 1.1.3 Vietnam

Vietnam announced a USD 1 billion demand stimulus plan in December 2008, focusing mainly on the manufacturing sector and infrastructure development.

[46] The Yuan appreciated marginally in the recent period, which also had some negative impacts on China's exports.

The budget deficit of the country is likely to rise to 7 per cent from the current 5 per cent of GDP. Vietnam has initiated a programme that encourages its people to use locally made products. The government would use economic stimulus package to help small and medium-sized businesses, especially those engaged in processing agricultural products and providing jobs for workers, particularly those involved in building rural infrastructure. The government would spend significant resources to assist poorest districts to implement social welfare policies. Supportive policies involving VAT, export duties for oil and coal and import taxes on car components are being pursued. To boost the purchasing power of the poor, the package included allowances for these population groups, who were severely affected by inflation, which was as high as 19.9 per cent in December 2008. Vietnam depreciated the Dong by 4.1 per cent between July 2008 and February 2009.

Annex 1.1.4 Indonesia

The Indonesian government came up with a plan to launch a fiscal stimulus package worth about USD 6.1 billion (R 73.3 trillion) in March 2009 in view of the ongoing global financial crisis. The government estimates that up to three million new jobs will be created in the current year. Part of the fiscal stimulus relates to tax, which was already being implemented from January 2009, when a new income tax law began to take effect. Infrastructure expenditure was raised by another R 2.0 trillion. The R 73.3 trillion package included taxation stimulus worth R 56.3 trillion and state expenditure stimulus worth R 17.0 trillion. Taxation stimulus included reduction of tariffs, government-borne VAT and import duties, and incentives related to income tax. The state expenditure stimulus consisted of infrastructure expenditure worth R 12.2 trillion (USD 1.02 billion) and direct subsidy and energy subsidy worth R 4.8 trillion (USD 400 million). The stimulus package is expected to increase the deficit in the 2009 state budget to 2.5 per cent of GDP from 1 per cent of GDP. During the past eight months, the Indonesian Rupiah has been depreciated by about 30 per cent in order to boost the country's export earnings.

Annex 1.1.5 Others

In response to the financial crisis, Association of Southeast Asian Nations (ASEAN) Finance Ministers have come up with a proposal to set up a multilateral fund of USD 120 billion to boost the regional economy. Japan, China and South Korea have also joined the scheme; the agreement with regard to the fund will be finalised in May this year.

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REPORT ON THE DIALOGUE PROCEEDINGS

The Dialogue*

The theme of the first session of the Conference, also the Inaugural Plenary Session, was *Macroeconomic Management in the Face of Global Challenges.* The session was chaired by *Professor Rehman Sobhan,* Chairman, CPD. Hon'ble Finance Minister and Member of Perliament (MP) *Mr AMA Muhith,* attended the session as the Chief Guest. *Dr Masihur Rahman,* Economic Affairs Advisor to the Hon'ble Prime Minister was present as the Guest of Honour. *Professor Mustafizur Rahman,* Executive Director, CPD presented the keynote paper. Amongst others, CPD Trustee Board Member and Former Finance Minister *Mr M Syeduzzaman,* Former Finance Advisor to the caretaker government (CTG) *Dr A B Mirza Azizul Islam,* Bangladesh Nationalist Party (BNP) lawmaker *Mr MK Anwar,* MP, political leaders, academics, leaders of various chambers and representatives of different stakeholder groups and media participated in the session. Full list of participants is provided in the Annex B of the volume.

The Keynote Paper

The session discussed short and medium-term implications of the ongoing global economic crisis for the increasingly globalising economy of Bangladesh, in the backdrop of the emerging adverse affects. Transmission channels (exports, remittances, imports, official development assistance (ODA), policies of other countries, foreign direct investment (FDI) and portfolio investment) through which performance of the Bangladesh economy was likely to be impacted by this crisis were discussed with a view to identifying appropriate response mechanisms. Whilst the overall performance of the Bangladesh economy in FY2008-09 thus far (during July to January-February), leaves some room for comfort, some disturbing developments (slow down in export orders, lower number of people going abroad for jobs, term loan disbursement, impact

* The dialogue report was prepared by *Mr Md Ashiq Iqbal,* Senior Research Associate, Centre for Policy Dialogue (CPD) with inputs from *Tapas Kumar Paul,* Research Associate, CPD.

of capital machinery, etc.) were already becoming increasingly visible. The keynote paper assessed the current state of the Bangladesh economy and examined key indicators in order to identify positive trends and the emerging developments that required corrective steps. The paper also focused on measures taken by other countries, particularly those countries which compete with Bangladesh in the global markets. Salient features of these stimulus packages included boosting of domestic demand, development of domestic infrastructure, creation of new job opportunities and targeted support to export-oriented activities.

Participants discussed the scope and extent of policy space available to the government to deal with the crisis and policy options to be persuaded to address the attendant challenges. Discussion also focused on opportunities that could arise for Bangladesh in view of the crisis. Discussants made a number of recommendations for the *Task Force on Global Financial Crisis* constituted by the government and in the context of the upcoming budget for FY2009-10.

Key issues which were discussed at the dialogue following the presentation of the keynote paper are presented below.

Floor Discussion

Fiscal Management

The global economic crisis and the attendant challenges will require the government to incur higher expenditure in the current and near fiscal year. All discussants felt that there was a need to allocate additional resources to mitigate possible adverse consequences. *Professor Mustafizur Rahman* had mentioned that some fiscal space was available in the budget for FY2008-09, thanks to falling commodity prices in the international market and the resultant lower subsidy demand (particularly on account of fuel subsidy and also subsidy on agriculture-fertiliser and electricity). While the keynote presentation argued that the government should be ready to tolerate a deficit of around 5 per cent of gross domestic product (GDP) (foreseen in the budget), former Finance Advisor to the CTG *Dr Mirza Azizul Islam* argued that, if required, the option of going for higher deficit equivalent to even 5.5 to 6 per cent of the GDP in FY2009-10 should not be excluded outright. *Dr Islam,* however, added that while estimating fiscal space in the current budget, Bangladesh Petrolium Corporation's (BPC) previous loans and liabilities and increased expenditure associated with implementation of the proposed new pay-scale should be taken cognisance of. He also recommended that in identifying sources of deficit financing the government may concentrate more

on foreign financing in consideration of the relatively lower inflationary impact of this particular source.

Mr MK Anwar, MP, pointed out that the ongoing global financial crisis has also created some opportunities for Bangladesh economy which the country should be ready to take advantage of. In this regard he mentioned about lower commodity prices, lower bills on import payments and significantly lower inflationary pressure compared to the recent past years. He supported the view expressed in the presentation that opportunities for some flexibility, particularly in terms of fiscal expenditure, has been created in the current budget, thanks to the subsidy demand, particularly on account of earlier resource allocations made on account of fuel subsidy. He emphasised on the efforts needed to pass the benefits of lower inflation to the consumers.

A number of other discussants supported the idea of accommodating higher budget deficit in FY2009-10. However, they also felt that such higher deficits emanating from higher expenditure could be justified only if and when the expenditures are rightly targeted and effectively implemented. Some participants also cautioned against inflationary implications of a high budget deficit and urged for the heightened need for vigilance in identifying appropriate areas for resource allocation in the budget. In this regard, CPD Board of Trustees Member and Former Finance Minister, *Mr M Syeduzzaman* remarked that since the time of independence Bangladesh had continued to suffer from three gaps - food gap, fiscal gap and balance of payment (BOP) gap. Over the years the country has made commendable progress in reducing food and BOP gaps. But fiscal gap still remains a major problem for the country that required immediate attention of the policymakers.

In the same vein, *Professor Abu Ahmed,* Economics Department, University of Dhaka argued that since the economy has performed reasonably well till now, proper discretion should be applied in responding to the manifold demands stemming from various quarters.

Interest Rate and Credit Availability

The prevailing high interest rates on lending came under close scrutiny during the floor discussion. *Professor Abu Ahmed* maintained that despite the considerable slowdown in inflation during recent months, interest rates had not responded accordingly; rather, it has gone up further. It was suggested by many that the Bangladesh Bank should pursue a more proactive policy to induce banks to lower the lending rate. Concerns were raised by many with regard to the existing high spread between lending and deposit rates. It was argued that

in the backdrop of excess liquidity in the system, there are opportunities to reduce this high spread. *Professor Ahmed* expressed his concern that high interest rates and high spread act against private investment and consequently have adverse impact on economic growth of the country. In this connection, *Dr Mirza Azizul Islam* and some other participants recommended that through consultations with relevant stakeholders the government could contemplate about introducing a limit on the spread between lending and deposit rates. *Professor Syed M Ahsan,* Concordia University, Montreal, Canada, suggested that the government should make necessary adjustments with regard to interest rates on National Savings Directorate (NSD) certificate to influence interest rates of commercial banks. *Professor Muinul Islam,* Economics Department, University of Chittagong, also recommended intervention by the government to reduce interest rates on lending.

The keynote paper had highlighted that to address the adverse affect of the crisis, many of Bangladesh's competitors have come up with various initiatives including establishment of dedicated funds that would allow access to credit line at lower cost. *Dr Mirza Azizul Islam* suggested that policymakers could consider establishing such dedicated funds in support of export-oriented industries which were facing difficulties in view of the global crisis. Such funds could be used to ensure credit-flow to crisis-hit sectors at substantially lower interest rates. He suggested that the government could think of setting up an Export Stabilisation Fund, which would be of time-bound nature, to provide credit (and other related) support to sectors which have been adversely impacted by the crisis. Joint contribution from the government and exporters could be thought of to set up such a fund. However, he also added that any fund created to ensure credit availability with lower interest rates and extended repayment period should be subject to strict monitoring to avoid possible misuse. Provisions should be made so that repayment cannot be delayed and opportunities for borrowers to take recourse to court actions involving repayment could be appropriately restricted.

Floor discussion also touched upon the issue of efficiency of the banking sector as a pre-requisite to bring down interest rates. *Professor Muinul Islam* stated that loan default scenario has not changed in Bangladesh and has been a bottleneck that has constrained the scope for improvements in banking sector's efficiency. He argued that the idea of sending cautionary signals to defaulters should merit consideration also in view of the ongoing crisis which calls for strengthening of vigilance. He went on to propose that cases against selected top defaulters should be pursued vigorously.

Dr Muhammad Abdul Moyeen, Director, Bangladesh Knitwear Manufacturers & Exporters Association (BKMEA), suggested that the government should

immediately set up a fund for refinancing exporters at concessionary lending rates; in this content he pointed out that there was an excess liquidity of over Tk. 20,000 crore in the banking system (as of December 2008). He recommended that the idea of using this excess liquidity in support of the crisis-hit export sector should be carefully considered.

Some participants argued that reduction of tax rates on financial institutions could be a possible policy alternative in reducing interest rates (income tax rate for financial institutions is at present as high as 45 per cent). However, *Professor Abu Ahmed* suggested that the existing rate should be maintained in the next budget in view of the high rates of profit that financial institutions were making.

Considering the increasingly important role of the small and medium enterprises (SMEs) in the domestic economy (in terms of employment generation and increased contribution to exports), *Professor Momtaz Uddin Ahmed,* Economics Department University of Dhaka suggested that a crisis management fund could be set up to help SMEs mitigate adverse impacts of global financial crisis, particularly the small-scale entrepreneurs. This could be in addition to the Tk. 500 crore allocated for SME Fund which is being operated by the Bangladesh Bank.

Reduction in Duties

Professor Mustafizur Rahman had suggested that the government revisit the existing one per cent customs duty (CD) on imports of capital machineries. *Dr Mirza Azizul Islam,* however, argued this to be a debatable issue since the elasticity of reduction of duty to investment enhancement in Bangladesh was not very strong, and opined that the impact of such reduction would be rather weak.

Dr Islam suggested that before considering any duty cut, the government should analyse the net tax incidence and impact on exports and production in order to measure net gains emanating from any such initiative.

Cash Incentive

Professor Mustafizur Rahman had recommended enhancement of budgetary provisions for cash compensations to target crisis-affected export sectors. Former Secretary *Mr Al-Husainy* mentioned that some of Bangladesh's neighbouring countries have set up Technology Upgradation Funds (TUFs) with the objectives of promoting and providing incentives for adoption of productivity enhancing technology. He felt that such a fund could stimulate competitive strength of our

industries. *Dr Mirza Azizul Islam* favoured higher credit availability with extended repayment periods over cash support since the former would be a more effective policy instrument to support the affected industries.

Mr MK Anwar emphasised on the need to identify sectors that have already been affected by the global recession. Referring to the suggestions placed by the private sectors, he argued that the government should identify, on an urgent basis, the appropriate modalities to provide the required support.

Domestic Demand Stimulation

Professor Mustafizur Rahman had pointed out that private consumption accounts for 74.5 per cent of Bangladesh's GDP (for FY2007-08) and had argued that stimulating private investment and consumption would be the most effective means to stimulate the economy. In this context, *Mr Al-Husainy* pointed out that apart from the large number of people joining the labour force every year, the increased number of returnees from jobs abroad would worsen the unemployment situation in the current year and also perhaps in the near future. He suggested that the government should go for employment generation programmes for the poor. This would have a positive spillover impact on domestic demand. *Mr Badiul Alam Majumder,* Country Director of The Hunger Project, Bangladesh, suggested that the government should consider investing in infrastructure development programmes to boost domestic demand and create employment opportunities.

In discussing options to augment domestic demand, discussants emphasised on improving the quality of implementation of the annual development programme (ADP). Successive ADPs had suffered from poor performance over the last several years. Former Secretary, *Mr Anwarul Islam* argued that since the late 90's development budgets have never been fully utilised. He also pointed to the fact that in the last fiscal year development budget was reduced by about Tk. 900 crore, which was the first time in Bangladesh's budgetary history. He suggested that the government should scrutinise the reasons for non-implementation of the public investment programmes and identify ways and means to address the situation. He emphasised that in view of the current crisis, public investment could prove to be vital in stimulating the domestic economy by creating new demand. *Mr M Syeduzzaman,* in this regard, added that gross national investment in Bangladesh was less than gross national savings of the country. This, according to him, was a rather unhealthy situation. He expressed concern over the gradual fall in the public investment-GDP ratio. This was a disturbing development particularly because public investments had a major role in activating private sector. He remarked that

private sector performs better in an environment where there was a proactive public sector.

Dr Quazi Mesbahuddin Ahmed, Managing Director of the Palli Karma-Sahayak Foundation (PKSF), also stressed on the issue of ADP implementation. He recommended that the government take immediate measures with the primary objective of improving the implementation of development programmes. He also argued in favour of prioritisation of poverty-related projects in the ADP, and preferred their speedy implementation.

Former Finance Secretary *Mr Siddiqur Rahman Choudhury* felt that a vicious cycle of low quality of ADP implementation - lower utilisation of ADP - lower revised ADP allocation has emerged in Bangladesh. Immediate steps were necessary to improve this situation. In view of the local government structure at the upazila level being in place now, he suggested that appropriate ADP allocation to and utilisation through these local government bodies should be given high policy priority.

Mr Badiul Alam Majumder emphasised the need for good governance for stimulating domestic demand and boosting employment generation. He argued that the government should also be concerned about the quality of governance which was crucial to implementing the envisaged enhanced economic activities to deal with the ongoing global crisis.

Suggestion of a district-wise budget was put forward by *Mr Al-Husainy* for improving the quality of implementation of the budget, particularly the part that deals with development budget.

Dr Syed Akhtar Mahmood, Senior Programme Manager, Bangladesh Investment Climate Fund (BICF), reiterated the need for domestic demand stimulation to offset the negative consequences of the global economic crisis. He put particular emphasis on large-scale infrastructural development projects. However, he raised concern as regards the capacity of the government to finance such projects. He stressed the need for public-private partnership (PPP) in this connection, particularly for developing the energy sector.

In view of negative consequences of the ongoing energy crisis for the industrial sector, *Professor Muinul Islam* stated that the country should immediately look for other alternative sources of energy to secure production. He remarked that the current shortfall in gas and electricity supply acts as major hindrance to investments and industrial growth which were pre-requisites for domestic demand stimulation.

Overseas Employment

Both the keynote presentation and the floor discussion raised concerns over the negative impact of the crisis on the prospects of overseas employment. *Professor Mustafizur Rahman* had put emphasis on diplomatic efforts in dealing with retrenchment of overseas workers by the host countries. He felt that contact should be established with the host countries so that Bangladeshi workers could stay on even when work permits (akamas) are discontinued. He also stressed on the issue of proper training of migrant workers. A number of participants also felt that Bangladesh should pursue energetic policies for: (i) exploring new markets for migrant workers; (ii) retention of existing workers in the host countries; (iii) supporting returnee migrants; and (iv) training of migrant workers.

Former Planning Secretary, *Dr Haroonur Rashid* recalled that a welfare fund for returnee workers was already in existence. He expressed concerns that because of the crisis, a large number of overseas migrants were returning home. This could create social unrest if these workers are not absorbed in the local job market. In this regard, he suggested that the government may create soft loan facilities from the aforesaid welfare fund to help returnees start businesses independently. He observed that because of low skill of Bangladeshi migrant workers, most were engaged in lower-end jobs. There was thus a need for skill upgradation training for these workers. He felt that this was needed both from the perspectives of attracting higher remittance flow and also for increasing overseas job opportunities for Bangladeshi workers.

Professor Muinul Islam, however, observed that despite the crisis and slowdown of demand in the host countries, remittance flow have continued to register impressive growth which would perhaps sustain in the short term. He emphasised the need to divert remittance inflow coming through illegal channels *(hundi)* to legal channels as it is widely believed that a significant percentage of the total remittance are sent to the country through informal channels.

Exchange Rate

Professor Mustafizur Rahman had mentioned the need for transmitting the positive impact of falling global commodity prices to domestic consumers. He pointed out that global prices were not being appropriately reflected in the domestic market and that this was a concern particularly in view of the high inflation of the recent past. Depreciation of Bangladesh Taka (BDT) would not be good for consumers, and was likely to have adverse economy-wide impact.

Dr Mirza Azizul Islam also agreed with this view, and felt that the government should maintain a stable exchange rate policy stance rather than go for policies that lead to depreciation of the currency. He however, conceded that exchange rate depreciation was a policy that was being pursued most vigorously by a number of Bangladesh's export competitors, but felt that on balance, other measures and not competitive devaluation were more effective policy options.

Miscellaneous Issues

Professor Muinul Islam urged the government to consider lowering the prices of diesel and kerosene in the backdrop of decline in the international prices of fuel. This, according to him, was necessary to transmit the benefits of falling fuel prices to consumers, particularly of diesel and kerosene.

Dr Quazi Mesbahuddin Ahmed noted that lack of appropriate and timely data was a major limitation which severely constrained informed policymaking decisions in Bangladesh. In view of this, he suggested that the Bangladesh Bureau of Statistics (BBS) be further strengthened and that the Household Income and Expenditure Survey (HIES) be conducted more frequently since it is one of the major sources of information on poverty, and the progress being made in terms of attaining millennium development goals (MDGs).

Dr Anwara Begum, Research Fellow of Bangladesh Institute of Development Studies (BIDS), felt that the upcoming budget should be formulated by giving due consideration to the adverse impact of climate change. She emphasised on the need for a gender audit in designing the budget by taking cognisance of the impact of global financial crisis particularly on women workers.

Mr A Gafur, Executive Director of the American Chamber of Commerce in Bangladesh (AmCham), urged the government to strengthen the quality of monitoring the current global economic crisis. He felt that there was a need to examine closely the possible transmission mechanisms, and assess the impacts of the crisis on various sectors of the economy on an ongoing basis. In this context, he recommended that the government should consider holding periodic press briefings on the impact of the crisis and the initiatives that the government was taking and considering to take in order to cope with the consequences.

The *Task Force on Global Financial Crisis,* set up by the government, was viewed by participants as an important and welcome initiative of the government. It was felt that the work of the Task Force should be further strengthened so that it is able to make speedy and concrete suggestions in responding to and addressing the concerns that emanated from the ongoing global economic crisis.

Remarks by the Guest of Honour

Dr Masihur Rahman remarked that the keynote paper had dealt with some key aspects of the current crisis and observed that suggestions to deal with its adverse consequences merit careful consideration. However, he also felt that the paper did not adequately address the problem of resource scarcity. If taxes were reduced in response to the emphasis put on stimulating the industries that were affected by the global recession, there would be further pressure on resources that the government would be able to raise and spend. He felt that the government would be required to choose between expenditure priorities relating to domestic policy interventions and the need to provide incentives to export-oriented sectors.

He was cautious about availability of fiscal space in the budget, a point that was highlighted in the keynote presentation. He argued that this may not be the case when seen against the revenue losses that were being incurred by the government from the fall in import duties.

Dr Rahman noted that there was some problem with regard to the exchange rate as indicated by the gap between real effective exchange rate (REER) and nominal exchange rate. He recommended that the basket of currencies with reference to which the exchange rate was determined should be revisited. If the trade weights have meanwhile changed, perhaps the gap between REER and nominal exchange rate would be less than it appears.

The current crisis and its impact on Bangladesh's export sector originated from reduction in demand in the destination countries, and not from rise in the cost of production of export goods. Partner country governments are taking measures to boost consumption and demand in their own economies, *Dr Rahman* noted. In view of this, he suggested that as an exporting country, Bangladesh needed to adjust her own policies in accordance with the reduced demand. He felt that sustaining previous levels of growth of exports to those countries facing lower demand, in quantitative terms, may not be a logical expectation. Bangladesh could, however, try to raise her share for those products for which she enjoyed competitive advantage, he conceded. *Dr Rahman* was of the opinion that Bangladesh depended on a few exports; there could be some excess capacities in the readymade garments (RMG) sector, he pondered. He suggested that exporters should consider shifting some resources to other sectors which were viable, had growth potential, and could expect export opportunities.

Dr Rahman supported *Dr Mirza Azizul Islam's* suggestion with regard to establishment of an Export Stabilisation Fund which would be financed jointly

by the government and the exporters. He also added that the banks should contribute towards such a fund.

Referring to the longstanding debate on interest rate, *Dr Rahman* argued the problem was that the interest rates on deposits tended to remain too high. As an alternative way of bringing down the interest rates, he suggested some form of generous refinancing by the central bank, perhaps through a dedicated crisis management fund. This, however, would be a deviation from the Bangladesh Bank's declared monetary policy, he conceded.

Dr Rahman referred to the hassle (for example, at customs point) that investors faced and felt this to be a greater problem than the duty on capital machineries which was quite low in any case. He was apprehensive that if duties on machineries were too low, there could be a possibility that industries would be shifted from labour-intensive to capital-intensive sectors.

He admitted that SMEs were more vulnerable to the current crisis as these had a lower capacity to cope with the crisis because of lower capital base and less preferential access to credit flow.

Regarding job losses in the overseas markets, *Dr Rahman* suggested that returnee workers be absorbed in infrastructure projects which would be undertaken by the government. A larger number of such workers had working experience in infrastructure projects. However, he admitted that there was a possibility that they would expect higher wages.

Dr Rahman suggested that incidence emanating from tax reduction be studied thoroughly; same exercise should be carried out with respect to other forms of support. These were critical to making decisions with regard to any additional support that the government would provide. He noted that the government would perhaps be required to make a difficult choice between higher inflation and higher employment generation. He felt that perhaps a higher level of employment with higher inflation was a better policy choice, provided that employment generation was sustainable and inflation was within tolerable limit.

Remarks by the Chief Guest

Finance Minister *Mr AMA Muhith* appreciated the paper by noting that it had dealt comprehensively with key aspects of the crisis, and how the various transmission channels were working. He opined that the paper and the discussants had come up with some very useful insights and suggestions with regard to ways and means to address concerns at producer and consumer

levels. He expressed satisfaction by noting that priorities of the government have been endorsed by the discussants. In this connection, he welcomed the emphasis on rural and agriculture sector, employment generation programmes, SMEs and the need for training in order to access overseas employment opportunities. In this context he also appreciated that many discussants have highlighted the need to provide support to industries adversely affected by the financial crisis.

He was of the opinion that as of now Bangladesh is somewhat better positioned in the South Asian regional context in view of the ongoing crisis. However, he was more worried for the next fiscal year. He mentioned that two major challenges that will be faced in the next fiscal year were – i) managing resources for the public sector, and ii) keeping up the investments in view of the increasing needs of the economy. With possible difficulties that will be faced in mobilising additional revenue, he felt fiscal policy space for providing extensive tax incentives would rather be limited in the upcoming year.

The Finance Minister emphasised on the key role that banks could play during these troubled times. He felt that the banking sector will need to make sacrifices in view of the emerging needs. He particularly dwelt on the issue of delays in repayment by industrial borrowers who faced difficulties due to the ongoing crisis. He thought that in view of this the banking sector should come forward with some forms of assistance.

The Hon'ble Finance Minister mentioned that his priority will not be to help recover income losses incurred by industries or to pay for their deficits, but to make sure that they are able to withstand the pressure over the next couple of years. The design of the support mechanism will be informed by this approach and he stated that he preferred to use the term "support measure" rather than "incentives" in this regard.

As for the demand for incentive packages voiced by many stakeholders, the Finance Minister noted that the highest amount of such demand that he has received was for a package worth about Tk. 6,000 crore. These demands will require raising considerable new funds. He stated it will be unrealistic to think that the government will distribute money and bailout institutions; rather, he would prefer to expand support in a manner that was geared towards creating domestic demand and job opportunities.

The Minister agreed with the discussants about the need to maintain public investments at a reasonable level observing that Bangladesh had the lowest public investment in the region. However, a major concern in this regard will

be raising the required resources. He also pointed to the growing revenue expenditure of the country which was affecting public investments. The Minister proposed introduction of a "public-private participation budget," which along with the traditional revenue and development budgets will envisage a PPP component. However, he conceded that there were formidable difficulties in this regard which was related to designing of appropriate modalities and incentives for the proposed PPP initiative. Infrastructure-related investments, particularly roads and power, already had some guidelines for such PPPs. Nevertheless, the scope for making use of such PPPs was not limited to infrastructure only; immense possibilities of PPP also existed in investments in human resources including in such areas as education, housing and health care. Then again, till date, there were no criteria that provided guidelines as to how such PPP would be set up. He suggested that CPD and interested dialogue participants, should come forward and help the government to devise appropriate criteria and tools to expand PPPs beyond the area of infrastructure.

He also emphasised on the need to improve administrative capacity towards better implementation of public investment programmes acknowledging the fact that public investments, as percentage of Bangladesh GDP, has declined to historical low levels in recent years. About the lack of commitment in the public services, he termed this to be the greatest famine in the country at present.

He also stressed that the country's investors must be ready to reenter the global market as speedily as possible when the current crisis is over.

The Finance Minister disagreed rather strongly with the concept of "exit from aid." He would rather seek more aid from the donor community, particularly in the form of budget support, from the Asian Development Bank (ADB) and the World Bank. The operative issue was identifying modalities for effective use of aid. He expressed his dissatisfaction that the International Monetary Fund (IMF) did not come forward with trade financing earlier.

The Minister maintained that the country ought to enhance domestic demand, particularly in the next year. Towards this end, the government may have to go for an expansionary monetary stance and for more foreign assistance. Prudent management of foreign debts was important. He expressed that if the USD 700-800 million that Bangladesh pays in debt servicing liabilities annually is given as budget support, it would be very helpful to maintain domestic demand and navigate through the tides of the current crisis.

Closing Remarks by the Chair

Professor Rehman Sobhan in his concluding speech suggested that in establishing PPPs for infrastructure projects, it would be advisable that the local community is involved closely. People of surrounding communities of such projects (e.g. the Padma bridge) should be allowed to become owners through equity participation in the project. In the past, international funds had been mobilised for such big projects (e.g. Jamuna bridge), which subsequently became highly profitable ventures. Apart from investors, the general population of the surrounding areas should be eligible for getting a share of the potential benefits.

He pointed out that international financial institutions have structural flaws that have resulted in the current global crisis. This had adversely affected international trade and transactions and domestic economies, requiring new packages of financial sector reforms at both these levels. At the domestic level, small savers need to be connected to investors to receive appropriate returns on their savings. This is an area which ought to be closely examined to address the current crisis, he felt.

Professor Sobhan noted that there were huge amount of underutilised productive capacities in the agriculture and the SME sectors. Deficit financing channelled to these sectors, through appropriately designed subsidies, could generate extensive investment response as well as output response which had an ability to compensate or neutralise the potential inflationary pressure.

Professor Sobhan concluded by expressing his deep appreciation for the presence of the Hon'ble Finance Minister, Advisor to the Hon'ble Prime Minister and other distinguished participants who had so kindly volunteered their time and shared their thoughts in response to invitation from CPD.

FOOD SECURITY AND CONTAINING PRICE ESCALATION

FACTS AND IMPLICATION FOR POLICY

Mahabub Hossain
Uttam Deb

2.1 INTRODUCTION

Food security is defined as "access by all people at all times to enough food needed for an active and healthy life. Its essential elements are the availability of food and the ability to acquire it" (Reutlinger 1985). It is important to view food security from both national and individual angles. At the national level food security means the availability in the country of sufficient stocks of food to meet domestic demand until such time as stocks can be replenished from harvests or imports. At the individual level, it means that all members of the society have access to the food they need, either from their own production, from market and/or from the government's transfer mechanism.

In view of repeated experience of famine during the Second World War and the early 1970s, for long periods, food security was synonymous with achieving self-sufficiency in rice production and stabilisation in rice prices. A tripling of rice production since independence, improvements in road and communication infrastructures and increased real incomes made possible by acceleration of economic growth over the last two decades have transformed the Bangladesh food economy. Indeed, Bangladesh passed a major milestone in its efforts to achieve food security at the end of the 1990s, since for the first time in its history, foodgrain production exceeded target requirements.

Yet food security has not been achieved, and whatever progress has been made would be difficult to sustain in view of the growing pressure of population on extremely scarce natural resources. Domestic foodgrain production remains susceptible to floods, cyclones and droughts thereby perpetuating the threat of major production shortfalls and inadequate food availability. Moreover, increases in cereals production have not been accompanied by significant increases in availability of other foods. Over 40 per cent of the population lives below the food consumption-based poverty line, lacking sufficient resources to afford diet of 2,122 kilocalories (kcal) per person per day, along with other basic necessities (FAO/WFP 2008). The recent hike in food prices severely affected the livelihoods of the industrial workers, agricultural labourers and the self-employed in the informal economy.

Apart from the prevailing deficit in total calorie intake, the normal diet of Bangladeshi people is seriously imbalanced, with inadequate consumption of fat, oil and protein, and with more than 80 per cent of calories derived from cereals. Women and children are especially vulnerable due to their greater nutritional requirements. This dietary imbalance reflects insufficient domestic production of non-cereal foods (pulses, oilseeds, meat, milk and eggs), low incomes, and lack of nutrition education. Moreover, the general health environment, poor

sanitary conditions and unhygienic practices compound the problem of inadequate food intake, further contributing to poor nutritional outcomes.

2.2 FOOD PRODUCTION AND CONSUMPTION SITUATION

2.2.1 Production of Food Items

Major items in the food basket in Bangladesh are rice, wheat, pulses, potato, vegetables, spices and fish. These food items account for almost 85 per cent of the total calorie and protein intake. Rice and wheat alone contribute to 74 per cent and 57 per cent of the total per capita calorie and protein intake respectively. Other food items which are considered essential are pulses, oil, and spices such as chilies, onion and salt. Production trend of these major items are provided in Table 2.1.

The rice economy has made respectable achievement due to development and diffusion of improved rice varieties supported by expansion of minor irrigation (Ahmed 2001; Hossain 2000, 2003; Hossain *et al.* 2006, 2007). Rice production declined in absolute terms immediately after the Independence in 1971 due to the destruction of infrastructure during the Liberation War and the consecutive natural disasters. However, the growth of cereal production resumed from 1976 and had almost an unhindered growth since then (except for a short period in the early 1990s). The growth in rice production kept pace with population growth in the 1980s, and surpassed it by a significant margin since then. The growth of production again stalled during the first half of this decade.

The growth in rice production was propelled by adoption of high-yielding modern varieties of rice, facilitated by an expansion of irrigation infrastructure. Almost two-thirds of the cultivated land now has access to irrigation facilities, developed mostly by private investment on small-scale shallow tube-wells and power pumps. The adoption of modern rice varieties has reached almost three-fourths of the rice cropped area. Only in the deep-flooded areas in the depressed basins and in the salinity affected coastal areas, farmers still grow low-yielding traditional rice varieties. Almost 90 per cent of the growth in rice production came from the increase in yields made possible by the technological progress in rice cultivation. The dry season-irrigated Boro rice contributed to over 80 per cent of the increased production since independence, and now accounts for over 55 per cent of the total rice production in Bangladesh (Hossain *et al.* 2004). However, the easy ways of increasing production has already been exploited. Without development and diffusion of technologies for the unfavourable environments (salt-affected

coastal areas, flood-prone areas in the north-west, *char* lands, etc.), sustaining the growth in rice production will be difficult.

Bangladesh does not have a favourable agro-climatic environment for growing wheat because of the short winter season and heavy soils. Wheat is grown mostly in the north-western region of the country which has a relatively longer winter period. Till the late 1960s, wheat was an unimportant crop occupying less than one per cent of the cropped area. The availability of high-yielding modern varieties in the late 1970s induced farmers to grow more wheat replacing low-yielding dry season crops such as pulses and oilseeds. The area under wheat expanded exponentially from 126,000 hectares (ha) in 1976 to 676,000 ha in 1985, while the production increased from 117,000 tonnes to 1.46 million tonnes. The expansion was halted over the next decade when expansion of ground water irrigation through shallow tube-wells lead to rapid expansion of Boro rice cultivation. Wheat production picked up again since 1996 due to a favourable trend in the price of wheat relative to rice. Recently, maize has been replacing wheat because of its higher yield and profitability and suitability to the agro-ecological conditions in Bangladesh. Wheat now accounts for less than 4.0 per cent of the total cereal production.

In the context of food security, an important point to note is that the cereal production has become more resilient to natural disasters over time because of the dramatic change in the seasonal composition of production. The area under the early-monsoon low-yielding Aus rice (April to July) has been reduced from 3.5 to 1.1 million ha; so the loss of production from the late arrival of the monsoon rains (drought) is now substantially lower than it was earlier. Similarly, the area under the direct-seeded deep-water Aman rice (March-November) has been reduced from 2.2 to 0.7 million ha, substantially reducing the crop losses from floods. In the deeply flooded area, farmers now keep the land fallow during the monsoon season or practice pond aquaculture with raised embankments, and grow high-yielding Boro rice crop (February to June) with the help of irrigation. The Boro rice area has expanded from 0.5 million ha in the early 1970s to nearly 4.5 million ha by 2008. The Boro rice together with wheat now brings nearly 60 per cent the cereal production during the March to June period; their share of the total cereal harvest was less than 10 per cent in the early 1970s. The farmers can now recover from their traditional loss of monsoon season Aman crop within four to five months, which has become a regular phenomenon due to climate change. Earlier the farmer had to wait for a year to recover such losses. This change in the seasonal composition of production also had a smoothening effect on the seasonal variation in rice prices.

The rapid expansion in the production of cereals was achieved partly through reduction of area for producing pulses and oilseeds and sugarcane. Pulses and oilseeds are important sources of protein and micronutrients, particularly for the poor. The reduction in the production of these crops has had negative effect on nutritional balance. Recently, the production of oilseeds has picked up, but the decline in the production of pulses and sugarcane continues.

Bangladesh has substantial biological and physical resource base for fish production. In terms of nutrition, fish also occupies a significant position in the dietary habits of the people. The growth in fish production was sluggish in the 1970s. The growth picked up in the 1980s, and was very rapid (7 per cent per year) in the recent years due to wide expansion of pond aquaculture. Farmers in flood-prone areas have started converting low-lying land parcels into fish ponds and engage in culture fisheries. The growth in the production of meat and milk has remained unsatisfactory despite the expansion of the poultry industry, while their demand has been growing fast. The growth in livestock and poultry farming is constrained by lack of feed, risk imposed by avian flu and other animal diseases, and poor marketing infrastructure.

Table 2.1: Long-term Trend in the Production of Major Food Crops: 1970-2007

Food Item	Production ('000 tonnes)				Growth Rate (%)	
	1970-72	1990-92	1999-01	2006-07	1971-2000	2000-2007
Cereals	10584	19223	26002	28056	3.10	1.30
Rice	10393	18157	24126	27318	2.90	2.20
Wheat	111	986	1807	737	10.10	-7.80
Potato	1637	1715	3342	5167	2.50	10.80
Sugar	1367	991	995	851	-1.20	-2.40
Pulses	376	518	379	259	0.03	-4.30
Oil crops	250	466	486	683	2.30	5.70
Vegetables	1182	1354	1794	1862	1.40	0.60
Fruits	1384	1338	1369	3319	-0.04	13.50

Source: FAO (2004), Food Balance Sheet and Bangladesh Bureau of Statistics (BBS).

2.2.2 Imports and Availability of Food

Availability of food at the national level depends not only on domestic production but also on imports and exports. Except shrimp and aromatic rice, Bangladesh does not export any other food item. But the country is heavily dependent on imports of almost all food items to meet the demand of the growing population. The imports of rice remained stagnant at around 0.5 million tonnes per year, with substantial increase in imports in years following poor harvests due to floods and droughts. Bangladesh imported over 2.0 million tonnes of rice during 1973-75, 1988-89 and 1998-99; all these years

followed years of disastrous floods or droughts. In 1999-2000, following the disastrous floods of 1998, Bangladesh imported over 3.5 million tonnes of rice and wheat. In a few odd years (1991, 2000) following bumper harvests, the government declared achieving self-sufficiency in rice production, only to find that it slipped back to import dependence due to increasing demand from growing population.

The rapid increase in imports of rice in recent years raise question about the accuracy of the official statistics on rice production, on the basis of which the food balance sheet data indicate surplus rice production in the country. The Report of the National Level Sample Survey conducted in 2005 show the area under Aman rice is one million ha less that reported in the Statistical Yearbook (BBS 2006). If the Survey data is correct, total rice production in Bangladesh would be three million ton less that that reported in official statistics. Such inconsistency of data from the same source needs to be resolved for effective policymaking.

Bangladesh used to receive substantial amount of wheat in the form of food aid. Commercial import of wheat has increased consistently over time despite the rapid growth in domestic production due to the reduction in food aid in recent years. The volume of imports increased from 1.0 million ton in the early 1970s, to 1.4 million tonnes in the early 1990s, and further to 2.0 million tonnes during the 2000-02 and continues to grow since then. Recent imports are mostly on account of the private sector. Wheat is an inferior table food in the Bangladeshi diet (except for the urban middle class), but the demand has been growing due to urbanisation and the practice of eating away from home by the rising participation of educated women in the labour force and the spread of western food habit among educated youth.

The other food items for which imports have been growing very fast are oils, pulses, sugar, milk and fruits. The rapidly rising imports of these food items are becoming a major drain on the limited foreign exchange earnings of the country. The government has adopted a policy of promoting crop diversification to reduce the dependence on imports, but without much success.

Food aid has played an important role in meeting the domestic food demand. In the early years after independence, the country faced major food deficits, most of which was taken care of through grain imports of wheat from the United States (US) under the PL 480 (Public Law 480) programme. Between 1975 and 1977, more than 1.3 million metric tonnes (MT) of foodgrains came into Bangladesh as food aid, which was more than 85 per cent of the total inflow of foodgrain. Increases in domestic production of wheat,

augmented capacity of the government to import foodgrains commercially, and a policy change from Food for Work (FFW) to cash for work programmes have resulted in the food aid imports to decrease over time.

In conclusion, the food availability at the national level barely kept pace with the population growth till the mid-1990s. The situation improved since the late 1990s, particularly for cereal grains and potato, due to acceleration in the growth of production and the success in reducing the growth of population. The growth of population declined slowly from about 3.0 per cent in the 1960s to 2.4 per cent in the 1980s, but then sharply to 1.4 per cent in the 1990s. The per capita availability of most other food items however declined over the last three decades, despite the upward trend in imports.

2.2.3 Adequacy of Food Consumption

Food accounts for bulk of the household expenditure of the poor. According to the 2005 Household Expenditure Survey (HES), the poorest 40 per cent of the population spend 70 per cent of their income on food (BBS 2007). In spite of this, a large segment of the population consumes less than 1,805 kcal per capita per day, which is much below the norm of the minimum energy intake of 2,110 kcal, for living a healthy productive life.

The level of consumption of different food items reached in 1990s as estimated in the Household Income and Expenditure Surveys (HIES) of the Bangladesh Bureau of Statistics (BBS) can be reviewed from Table 2.2. The Table also compares the level of food consumption with the normative food requirement prescribed by the National Nutrition Council (NNC) for the average Bangladeshi people for having a balanced nutrition and living a healthy productive life. It can be noted that for rural areas the consumption of rice, the dominant staple food for Bangladeshis, reached a level much higher than the minimum requirement; there is a marginal deficit for tubers and vegetables and fish; and substantial deficits for pulses, oils and livestock products that are major sources of protein and micronutrients. The picture is almost the same for urban areas, except that the consumption of cereals is lower compared to rural areas while the consumption of most other food items is higher. It appears from the composition of the diet that the quality of the food basket is superior for urban people compared for those living in rural areas.

The per capita food consumption continues to increase in rural areas, but the total intake is still about 11 per cent lower than the minimum requirement, and the deficit is mostly on account of absence of non-cereal food in the diet pattern, as mentioned earlier. For urban areas, total intake has declined in the

1990s and the present level of intake is still about 13 per cent lower than the minimum requirement. Over time, there has been substantial decline in the consumption of wheat and pulses but respectable increases in the consumption of vegetables (including potatoes), fruits and fish. The upward trend in the consumption of vegetables and fruits reported by HIES is in contrast to the declining production obtained from the food balanced sheet data. It is a general perception that the official statistics under-report the recent growth in vegetables and fruit production in Bangladesh.

The decline in the food intake in the 1990s for urban areas is mostly on account of the decline in the consumption of rice. This is in contrast to the substantial increase in rice production since the late 1980s, as reported earlier. The general pattern of consumption observed during the process of economic transformation is that the staple food has the lowest income elasticity of demand, which also declines with the growth of income. After a threshold level of income, when consumers can afford to have a diversified diet needed for balanced nutrition, the per capita consumption of staple food starts declining.

Table 2.2: Consumption of Different Food Items: 1983-84 – 2005

(gm/Person/Day)*

Food Item	Minimum Intake Required for Balanced Nutrition	Rural Area				Urban Area			
		1983-84	1991-92	2000-01	2005	1983-84	1991-92	2000-01	2005
Rice	390	421	481	479	477	351	416	383	389
Wheat	100	65	42	18	12	79	55	40	28
Vegetables & potatoes	225	140	176	193	221	179	209	198	228
Pulses	30	26	17	15	13	22	22	19	19
Oils & fats	20	7	9	11	11	11	16	18	18
Fish	45	29	32	37	40	39	48	42	50
Meat & eggs	34	10	12	14	18	22	20	34	32
Milk	30	22	18	29	32	34	23	32	36

Source: BBS, HIES reports (various years); and Bangladesh National Nutrition Council (NNC).
Note: *gm refers to gram.

So does the declining rice consumption in urban areas indicate that Bangladesh has reached the consumption threshold for cereals at least for the urban areas? This is a controversial issue. It could be argued that the decline in rice consumption is a reflection of the upward trend in the proportion of slum population in cities emanating from the rapid rural-urban push migration, and the higher pressure for expenditures on transport, education and healthcare which could reduce the income available for the purchase of staple food.

Delving deeper into the trends in food consumption, a look at the consumption for the lower 40 per cent of the population in the expenditure scale reveals that only rice intake has continuously increased. This contrasts with falling rice consumption for overall expenditure groups. Thus, it appears that while the richer sections of the society are being able to gradually reduce their cereal intake and diversify their diet, the poor are still spending their incremental income on rice. For all the other food items, consumption for all income groups either stagnated or declined. From the nutritional point of view, this implies that the intake of an unbalanced diet has worsened over the years for the poorest sections of the population.

The trends in food intake during the past decade shows that consumption of pulses has substantially decreased for the population belonging to upper expenditure quintiles, while for the lower quintiles the decrease has been dramatic. The consumption of fish has also declined between 1991-92 and 2005 for the lowest and the highest quintiles. This reduction in the consumption of protein-rich foods may be attributed to a decline in accessibility. A look at prices of pulses and fish relative to rice show that the prices of these two commodities have soared over the years - an indication of relative scarcity. During the mid-70s, price of pulses was around one and half times that of rice, while fish was valued at four times that of rice (Table 2.3). Prior to the recent rice crisis, the price ratios had soared to 2.6 and 8.8. Another food item for which the growth of production was relatively stagnant was oilseeds, but the edible oil consumption has increased at a respectable rate for poor and the rich alike due to the rising imports of cheap soybean and palm oil. The price of oils relative to rice has in fact declined over time, indicating the relative abundance of this food item.

Table 2.3: Trend in the Prices of Pulses, Fish and Oils Relative to Rice: 1975-2006

Commodity	1975-77	1980-82	1998-00	2005-06
Pulses/Rice	1.5	1.9	2.6	2.8
Fish/Rice	4.2	4.7	8.8	9.5
Oils /Rice	6.1	4.7	4.3	4.1

Source: Authors' calculations based on BBS (various years).

2.2.4 Absorption of Food for Better Nutrition

The National Nutrition Surveys conducted by the Institute of Nutrition and Food Science of Dhaka University report a consistent decline in the energy intake till the mid-1990s. More recent data is not available. The per capita energy intake for rural people reportedly has declined from 2,251 kcal during 1962-64 to 2,094 kcal in 1975-76, 1,943 kcal during 1981-82, and further to

1,892 kcal in 1995-96 (Table 2.4). The decline in the protein intake was even sharper. In contrast, the HIES data show that during the early 1980s and 1990s, per capita calorie intake went up steadily for the rural population, but declined for the urban population due to the reduction in per capita cereal consumption. Between 1991-92 and 2000, urban per capita calorie intake fell by about 5 per cent, from 2,258 kcal to 2,150 kcal. Thus the picture on the trend in nutritional status obtained from different sources is confusing. It remains an issue of great controversy among the elites.

Table 2.4: Changes in Nutrient Intake in Bangladesh: Estimates from National Nutrition Surveys

Nutrient	Rural Areas				Urban Areas	
	1962-64	1975-76	1981-82	1995-96	1962-64	1995-96
Calorie (kcal)	2251	2094	1943	1892	1777	1779
Protein (gm)	57.5	58.5	48.4	46.4	49.7	49
Fat (gm)	17.7	12.2	9.8	14.1	26.1	22.5
Carbohydrate (gm)	476	439	412	395	327	345
Calcium (mg*)	304	305	260	328	239	363
Iron (mg)	9.7	22.2	23.4	11	8.7	12.7
Vitamin A (I.U.)	1590	730	763	1571	1875	2017
No. of sample households	1752	674	597	975	588	270

Source: Jahan and Hossain (1998).
Note: *mg refers to milligram.

During the last two decades, Bangladesh has made significant progress in several areas such as higher child immunisation rates, augmented life expectancy, lower infant mortality, declining total fertility rates (TFR) and greater people having access to safe water (UNDP 2006; MHHDC 2008). Despite these gains, the public health scenario is dismal in Bangladesh. Access to adequate healthcare still eludes many. Prevalence of malnutrition, particularly child malnutrition is very high. More than 50 per cent of all children between 6 and 71 months are underweight or low weight-for-age, while nearly 50 per cent of them are stunted or low height-for-age (Table 2.5). In this context, reference may be made of the "Asian enigma;" the "enigma" being that even Sub-Saharan Africa has a lower proportion of malnourished children (32 per cent) than South Asia (more than 50 per cent) despite the former having lower income and worse environmental health compared to the latter.

Table 2.5: Rural-urban Difference in Child Malnutrition (6-71 Months) in Bangladesh: 2000

(in Per cent)

State of Malnourishment	Wasted	Stunted	Underweight
Moderate/severe			
Rural	11.9	50.7	52.8
Urban	10.8	38.3	42.2
Severe			
Rural	1.0	19.7	13.2
Urban	1.8	15.1	9.6

Source: GoB (2000).

Acute and chronic malnourishment is unusually high in Bangladesh with about 20 per cent of both boys and girls severely stunted, and about 12 to 14 per cent boys and girls severely underweight. Rural-urban disparity in child malnutrition is quite stark with the percentage of rural malnourished children being significantly higher than that of urban areas. More than 50 per cent of the rural children are stunted or underweight, with about 20 per cent severely stunted and about 13 per cent severely underweight. Bangladesh also has one of the highest prevalence of low birth weight children (less than 2,500 grams) in the world.

2.2.5 Access to Food

Sen (1982) introduced the concept of "food entitlement" as a key element in the study of food insecurity and famine. In a private ownership market economy, food entitlement depends on four elements: a) production-based elements which depend on ownership of productive assets; b) trade-based entitlements which depend on market prices of food; c) own-labour entitlements which depend on the productivity and the opportunity cost of labour power owned by an individual; and d) inheritance and transfer entitlements which include relief and subsidies obtained from the government. The distribution of income and an individual's ability to access food is the outcome of the complex operation and interactions of all those elements.

The dominant determinant of food entitlement of a household is obviously the level of income. In Bangladesh, the per capita remained almost stagnant till the end of 1980s due to slow growth of gross national product (GNP) and high population growth. The income growth has accelerated since 1990, reaching 6.0 to 6.5 per cent in years. Bangladesh has also achieved respectable progress in population control. As a result the per capita income has been growing at a faster rate of about 4.5 per cent in recent years, which if sustained, would help Bangladesh join the ranks of the middle-income nations by 2020. But, the available evidence from HIES surveys shows growing urban-rural disparity in incomes. The ratio of the expenditure for the urban households relative to rural households increased from 1.40 in 1983 to 1.74 in 2000, and further to 1.94 in 2005. The incomes are also highly unequally distributed. The concentration of income as measured by Gini index was estimated at 0.30 for rural areas and 0.38 for urban areas in 2005. The increase in income inequality was moderate in the 1980s, but was very fast in the 1990s, both for rural and urban areas. As a result the effect of the recent acceleration in the growth of income on reduction of poverty has remained relatively moderate.

The HIES conducted by the BBS indicates considerable progress in poverty reduction in Bangladesh over the last three decades. Between 1991-92 and

2000 the incidence of poverty declined from 53 to 44 per cent for rural areas, and from 34 to 26 per cent for the urban areas, indicating a reduction rate of one per cent per year. A recent World Bank study based on the 2005 HIES show that due to acceleration of economic growth, poverty has declined almost two per cent per year during 2000-2005 (World Bank 2008). But the escalation in food prices over the 2007-08 had reversed the trend in poverty reduction. The proportion of the poor population might have increased by about five per cent, from 37 per cent in 2006 to 42 per cent in 2008, as a result of the abnormal increase in food prices (Raihan 2008; Rahman *et al.* 2008).

An alternative indicator often used to assess the changes in the living conditions of the poor is the trend in the real wage rate of the agricultural labour. It should however be noted that that wage rate may reflect the changes in income of the extreme poor and not necessarily the moderate poor. The latter group may earn their livelihood more as marginal and small farmers, while the former may get the major portion of their income from participation in the labour market. Also, the use of the deflator for measuring the real wage rate is problematic. The use of cost of living as an index for deflating the nominal wage rate may not be appropriate in view of the substantially larger share of foodgrains in the consumption bundle of the poor as compared to the general population. The rice prices increased at a much slower rate than the prices of the food bundle, indicating a favourable trend in prices for those who spend a larger fraction of their income on staple grains (the poorer among the poor). The measures of real wage deflated by the price of rice show a sustained increase in real wages since the mid-1990s (Table 2.6). The trend in real wages is consistent with the trend in the reduction of poverty. The increase in the real

Table 2.6: Trend in Real Agricultural Wages in Bangladesh: 1983-84 – 2003

Year	Nominal Wage Rate (Tk./day)	Poverty Line Deflator (2003=100)	Rice Price Deflator (2003=100)	Real Wage (Tk./day)	
				With Poverty Line Deflator	With Rice Price Deflator
1983-84	19.58	38.70	54.50	50.59	35.92
1988-89	32.71	55.70	72.60	58.73	45.05
1991-92	41.77	67.80	82.80	61.60	50.45
1995-96	45.58	78.20	103.00	58.29	44.25
2000	63.60	91.50	96.80	69.51	65.70
2003	72.23	100.00	100.00	72.73	72.73

Source: Sen and Hulme (2004).

wage is due to growing scarcity of labour in agriculture which has been caused by: a) movement of labour to rural non-farm activities due to expansion of trade and transport operations and the rapidly expanding supply of microcredit used for generation of self-employment in the informal sector; and b) rapid

rural to urban migration. The scarcity of agricultural labour is being reflected by a growing trend towards mechanisation of farm operations. The tillage is now almost fully mechanised, and the mechanisation in threshing operations has been expanding rapidly.

The recent food price inflation has however had a negative impact on the real wages. Although the agricultural wages responded positively to the increase in paddy prices, the adjustment was only partial. It is estimated that during 2007 and 2008 the food prices increased by 65 per cent, while the agricultural wages increased by 35 per cent. As a result there was a substantial downward movement in real wages for agricultural labourers over the last two years. Workers engaged in the urban informal sector such as rickshaw pullers and petty traders were also able to adjust their real income somewhat by asking for higher fares and marketing margin. The worst-affected were the workers in the urban labour markets, such as those engaged in the low-wage garment industry and the low-paid employees in the services sector, as their wages remained fixed. The recent downturn in the price of coarse quality rice has improved the situation considerably.

2.2.6 Vulnerability from Fluctuations in Prices

Maintaining prices of staple foodgrains within affordable limits of low-income consumers and ensuring stability in prices are important elements of food policy of the government in low-income countries. Given the level of income, the lower the prices, the higher the purchasing capacity of that income. Sharp increase in foodgrain prices significantly lowers the real income of poor households, a large proportion of whose income is spent on staple food. At the same time, instability in producer prices increases risks and uncertainty, and discourages the subsistence farmer to invest in agriculture and sustain the growth in production needed to protract supply-demand balance over the long run.

An analysis of the long-term trend in real prices (deflated by wholesale price index) till 2002 shows a substantial downward trend in prices of rice and a moderate decline in the price of wheat (Shahabuddin and Dorosh 2002). The trend indicates an adverse terms of trade for the farmer but a favourable price regime for the consumer. The downward trend in prices of both crops is partly the result of the technological progress that helped reduce the unit cost of production. There was also a large temporal fluctuation in prices indicating risks in cultivation of these crops.

Prior to the liberalisation of foodgrain trade in 1993, the government influenced prices through its "foodgrain stock maintenance policy" that

involves public procurement, public distribution and imports. During this period, the domestic market was largely insulated from the world market. As a result, the domestic prices were often divergent from the world market prices. The opening up of the economy saw a gush of imports into the country that have brought about a structural change in the determination of foodgrain prices in Bangladesh. During times of production shortages, timely imports of rice by private sector helped avoid transitory food insecurity. This has prevented wild price fluctuations in the economy and has resulted in a more stable price regime. But the recent escalation in food prices show that a liberalised trade regime is no guarantee to establishing stable food prices. When the international market for food becomes tight, the low-income food exporting countries impose restrictions on imports to give priority to their own nationals contributing to the volatility in the market. So, government intervention through participation in the food market is essential for maintaining prices within a band (a policy successfully implemented by Indonesia) for protecting the interest of the low-income consumers, and at the same time providing incentives to farmers for sustaining growth in production.

2.2.7 Safety Nets

Bangladesh is a disaster-prone country. By virtue of its geographical location, the country is often at the mercy of natural calamities such as floods and cyclones. Riverine Bangladesh also witnesses frequent land erosion causing thousands of people to lose their land every year. Against such a backdrop, despite the gains achieved by Bangladesh in augmenting food availability, safety net programmes are a must to insulate the poor from systematic and idiosyncratic shocks and help them to be food secure.

There are a number of food assistance programmes in operation, each with its own specific objectives and target population (Ali *et al.* 2008). Some are relief programmes that aim primarily at relieving immediate distress, generally due to natural disasters - these interventions are typically mobilised for a limited period and are targeted at the directly affected households. Other programmes have explicit development objectives such as rural infrastructure development, boosting primary school enrolment rates and human capital development. Although relief provision remains an important objective, most targeted programmes have gradually shifted in emphasis from relief to development.

A welcome improvement in targeting came in the early-90s when, in an effort to reorient food transfers to the poor, the government abolished the poorly targeted urban and rural ration channels. A number of the safety net programmes have evolved from being purely relief measures to having a

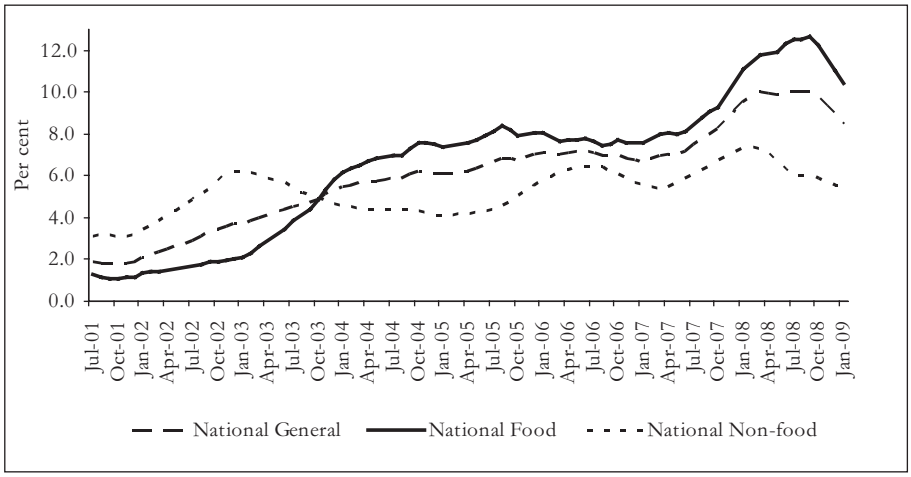
development and growth dimension. These include the FFW, Food for Education (FFE) and Vulnerable Group Development (VGD). Since 1993-94, about one million MT of foodgrains are being allocated every year to the various food-assisted programmes. As the aftermath of the 1998 floods, this quota went up to 1.8 million MT. The share of resources allocated to targeted food assistance programmes has increased through the nineties; almost 80 per cent of the total foodgrains channelled through the Public Foodgrain Distribution System (PFDS) is now directed towards these programmes. The remaining 20 per cent passes through the so called untargeted, "monetised" channels of the PFDS: Essential Priorities (subsidised foodgrain sales to defense and paramilitary forces, hospital and jail inmates), Other Priorities (subsidised sales to workers of government institutions, fire and civil defense departments) and Open Market Sales (OMS) (to stabilise domestic prices).

VGD, FFE and Vulnerable Group Feeding (VGF) programmes appear to be reasonably well targeted to the poor. The poorest-fifth quintile of the population, for instance, was nearly five times as likely to participate as the richest-fifth. Targeting outcomes can be improved by using geographic targeting to concentrate resources in areas with a greater share of the poor or of the target population. Of the various government food-assisted programmes, only the VGD and FFW attempt regional targeting. Under the VGF and Gratuitous Relief (GR), the two main disaster-coping programmes, food is distributed only among areas that are affected by a disaster.

2.3 RECENT HIKE IN FOOD PRICES

Bangladesh was enjoying lower inflation rates of below 6.0 per cent during the early years of the 2000s. Inflation rate started to rise since the beginning of 2004 (Figure 2.1). High growth in consumer prices continued in 2007 and maintained steep and rising trend during the first half of 2008 due to the hike in the price of rice, edible oil and diesel fuel. General inflation in Bangladesh increased from 1.90 in July 2001 to 10.00 in March 2008. After March 2008, it started to decline and reached below 6.0 per cent in recent months. Until October 2003, food inflation at the national level was lower than non-food inflation. Since November 2003, the situation has reversed (Figure. 2.1).

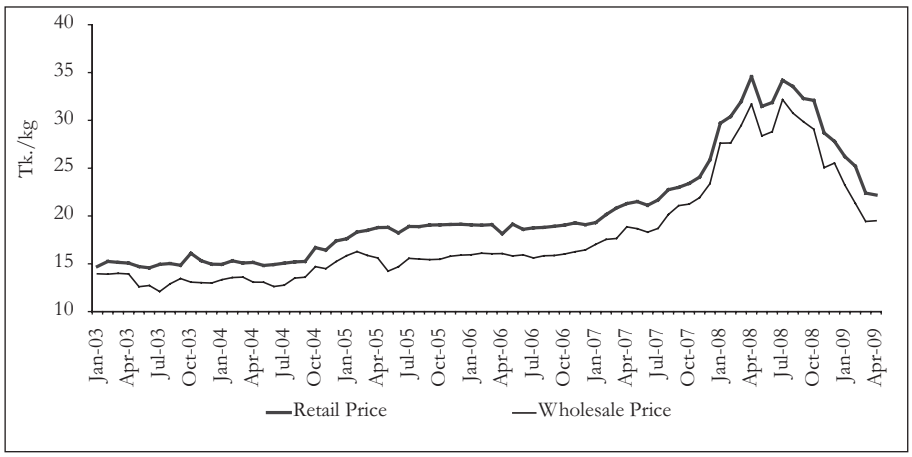
Figure 2.1: Trends in Inflation (Moving Average): July 2001 – January 2009



Source: Bangladesh Bureau of Statistics (BBS).

The wholesale and retail prices of rice, the dominant staple food in Bangladesh diet were highly volatile between 2003 and 2009 (Figure 2.2). In 2003 and early 2004, prices increased slowly; from mid-2004 to mid-2007 they rose more quickly reversing the long-term downward trend in real rice prices. Between September 2007 to April 2008, there was a sudden escalation in prices following the rapid upward trend of the prices in the world market following export ban in many countries, the panic buying by major food importers, and the resulting speculative pressures. Prices remained high from April to September 2008 and then dropped quickly, reaching 2007 levels by April 2009. At the peak in 2008, rice prices at Tk. 35 per kg were double to those of 2003-04.

Figure 2.2: Trend in Retail and Wholesale Price of Rice: January 2003 – April 2009



Source: Department of Agricultural Marketing (DAM).

Retail prices followed almost the same trend as wholesale prices during the upswing, but the gap between wholesale and retail prices was higher during that period. The upswinging higher prices in the wholesale market were immediately passed on to consumers. But during the downswing, consumer prices fell more slowly than wholesale prices (as the farm-gate price of paddy also declined), as traders tried to recoup some of the losses they have had made on paddy they bought from the market when the price was high.

The wholesale and retail price of wheat floor (atta) followed a broadly similar pattern to rice. Unlike rice, there was a general correspondence in the movement of international and domestic wheat prices throughout the period, indicating that the market was functioning relatively efficiently.

2.4 CHALLENGES FOR CONTAINING PRICE VOLATILITY

Bangladesh is going to face the following major challenges in ensuring food security for its people and containing volatity in prices:

- *Meeting the growing demand:* Demand for food is gradually increasing due to increase in population and income.
- *Increase production from shrinking resource base:* The arable land has been shrinking by almost one per cent per year due to demand from housing and industries, as well as loss of land from river erosion. With global warming, we may loss more land in coastal areas due to advancing seas. Water availability for irrigation has increasingly becoming scarce. The soil fertility has been declining due to overexploitation of soil nutrients, and imbalanced and inadequate use of fertilisers.
- *Shifting the yield frontier:* Farmers have adopted high-yielding varieties (HYVs) in most of the areas suitable for foodgrains. As a result, yield gap between the farmers' field and experimental stations has narrowed down. Therefore, further increase in yield of foodgrains at the farm level will depend on making breakthrough in yield frontier through technological improvement. Bangladesh must tap the opportunities in technological breakthrough created by advancement in molecular biology and biotechnology.
- *Facing the challenges of climate change:* Bangladesh is recognised worldwide as one of the countries most vulnerable to the impacts of climate change. A recent study (Deb *et al.* 2009) has predicted that rice production in Bangladesh is likely to be reduced annually by 1.22 million MT by 2030, as a result of climate change.

- *Decline in international support for agriculture:* International financial and technical support to Bangladesh through International Rice Research Institute (IRRI), International Maize and Wheat Improvement Center (CIMMYT) and other research and development organisations played a critical role for technological advancement and dissemination. Unfortunately, international support for agricultural research and development has declined since mid-1990s which might be a limiting factor for making a breakthrough in this arena for Bangladesh.

- *Facing the challenges of volatility in international food market:* Since the 1990s, Bangladesh has been following the strategy of self-reliance (importing from international market to meet the deficit in domestic production) to ensure her food security. This strategy worked well particularly after the floods of 1998 and 2004. However, in 2007 and 2008, Bangladesh had a hard time to import adequate amount of foodgrains after the floods, Sidr and during the time of high price of foods. Experts argue that volatility in international rice market, both in terms of price and availability is likely to continue in the near future.

- *Liberalisation of global agricultural trade:* Successful conclusion of the Doha Round negotiation on agriculture is likely to increase food prices globally. As a net food importing country, this is a concern for Bangladesh. Some studies have shown that Bangladesh might have the opportunity to export some agricultural commodities like vegetables and fruits where the country has comparative advantage. However, compliance to sanitary and phytosanitary (SPS) measures and technical barriers to trade (TBTs) may be a major constraint to materialise the export potentials.

- *Ensuring food security for the urban poor and the rural landless income group, hard core poor and provide incentives to the farmers:* Bangladesh has a formidable challenge to provide food at affordable prices to 40 per cent of the people who live below the poverty line. On the other hand, farmers need incentives in the form of higher profit margins to generate marketable surplus for the growing urban population. It will be a continuing challenge to strike a balance between ensuring adequate incentives for the numerous small producers on the one hand, and keeping food prices low for the poor consumers on the other.

2.5 POLICY IMPLICATIONS

Ensuring food security (physical availability and economic access to food) along with containing inflation would continue to be a major challenge for Bangladesh in the coming years. To meet this challenge, the government may

consider adopting an integrated strategy encompassing the following: (a) increased domestic production, (b) ensuring minimum price for the farmers that provides adequate margin over the unit cost of production, (c) expanded social safety net programmes, (d) adjusted trade policies in accordance with the domestic food production situation and in consideration of trade policies of major exporting countries particularly that of India, and (e) negotiation at the World Trade Organization (WTO). A few key issue that should determine the policymaking for ensuring food security, are:

Increase Domestic Production

Considering the hurdles of rice import faced in FY2007-08 and sudden export bans imposed by rice-exporting countries to protect their consumers at times of scarcity in the world market, Bangladesh must consider achieving self-sufficiency in rice production. Strategy for increased production complemented by action plans for meeting deficits at times of shortfalls is essential. For increased rice production, priority should be given to development and diffusion of technologies for unfavourable environments and promotion of hybrid rice for further shift in yield frontier for the irrigated environment. Continuation of input subsidies and monitoring of market situation for timely availability of essential inputs such as improved seeds, fertilisers, diesel for irrigation at affordable prices is needed. With proper support for tillage and irrigation, additional one million ha of land in coastal areas could be brought under cultivation during the dry season (late Boro and Aus). It is also possible to increase area under high-yielding Aman rice, particularly in the coastal belt. Aman rice has lower unit cost of production and higher profitability compared to Boro rice, and is competitive internationally (Deb *et al.* 2009b). Policies for agricultural diversification to achieve balanced nutrition must also be continued.

Adequate support for adaptive agricultural research, farmer-participatory technology validation, and more effective extension service would be required for technological advancement and diffusion, to achieve higher production. Training and research supports for frontier science, particularly for biotechnology and hybridisation should get priority. Training of grassroot level extension workers is also essential. Use of information and communication technology (ICT) and electronic media for dissemination of agricultural technologies should be promoted. Agricultural extension services may be provided through mobile phones with toll-free numbers or low charge.

Prices of foodgrains (rice and wheat) have declined in recent months. However, the cost of production of these commodities has gone up due to

higher prices of fertilisers, diesel, labour and other inputs. If the price drops further, it may create the reverse problem of how to sustain growth in production for maintaining supply-demand balance in future. The familiar cobweb problem points out to the role of government in following a fine balance in protecting the interests of low-income consumers and commercial farmers. To this end, linking up government procurement programmes with social safety net programmes particularly with PFDS will be needed.

Increased production alone would not be sufficient to ensure food security for the lower income group, particularly when farmers need an incentive price to sustain the growth in production. Increased distribution of subsidised foodgrains to the targeted vulnerable community under PFDS and an expanded social safety net programme will be needed. Effective implementation of the programmes to reduce mistargeting and reduction in leakages must be ensured.

Stabilisation of Prices of Essential Commodities within a Band

Although stabilisation of prices constitute an important element of production incentives and consumer welfare, price stabilisation (especially during upswing of prices) is also important politically. High rice prices in Bangladesh are treated as a crisis situation and are often interpreted by critics as the government failure to ensure food security. As such, high prices point to the need for government intervention, even though this intervention can sometimes be costly and ineffective. Typically, in Bangladesh, high rice prices create pressure for maintaining high public stocks at high levels, regardless of the fact that high stocks are no guarantee that food security of the poor will be addressed. Following the example of Indonesian successful policy of price stabilisation, the government may take on a policy of non-intervention in the market when the prices remain within a band fixed at the beginning of the year, but intervene through domestic procurement (when the price fall below the lower bound) and OMS (when the prices surpass the upper bound) to keep the prices within the band. This will also provide a guide to the private sector on the timing and nature of government intervention in the market.

Collaboration with South Asian Countries

At the South Asian Association for Regional Cooperation (SAARC), collaboration for agricultural development is always considered as a priority area, though actual progress made in this field remained limited. Collaboration with South Asian countries for setting up of SAARC Food Bank and for increased agricultural production would be beneficial to reduce the food

security risks, particularly after natural disasters (floods, cyclones, etc.). Other areas of cooperation in the SAARC region from which Bangladesh can benefit tremendously for ensuring sustainable food security are related to: (i) agricultural research and technology development (development of new varieties, hybrids and breeds, and water and natural resources management techniques; cooperation in new sciences such as remote sensing and geographic information system (GIS), biotechnology, weather and flood forecasting and disaster management; common data standard for GIS, etc.); (ii) technology exchange (exchange of germplasm; exchange of variety and breed, crop and animal husbandry practices, water and natural resources management techniques, etc.; (iii) capacity building through development of human resources and development of regional facilities (SPS-compliant facilities and certification system for organic farming and promotion of environmental goods with a view to ensure food quality and safety); (iv) regional programmes for plant and animal trans-boundary pests and diseases control; (v) harmonisation of policies and acts such as protection of plant variety, biosafety protocols, biodiversity and indigenous knowledge (Deb 2006).

Flexible Trade Policies

Rice production drastically falls in Bangladesh during periods of natural disasters and the supply of rice becomes scarce leading to abnormal rise in prices, which affects the livelihood of the poor. The government allows import by the private sector to cope with the situation. Government should follow a policy of variable tariff and subsidy with rates being fixed in the annual budget on the basis of the assessment of the previous Aman and Boro harvest, and the prevailing world market prices (Hossain and Deb 2003). Regular monitoring of agricultural trade polices of Bangladesh's trading partners, particularly that of India, will provide opportunity to the government for informed trade policy formulation and modification.

Fiscal and Monetary Measures to Contain Inflation

To contain inflation, government will need to judiciously use both fiscal and monetary tools. This might include continuation of zero tariff on import of rice, wheat and other essential items, continuity of accommodative monetary policy to encourage production-oriented credit and investment. The Bangladesh Bank should encourage the banks to provide credit facilities on softer terms to new importers, ease letter of credit (L/C) margin for food items and extend the time limit for customer facility.

Strengthening of Marketing Infrastructure and Institutional Measures

Government needs to establish *New Krishi Bazars* for farmers, particularly in regions of surplus agricultural production. Strengthening marketing services for agricultural products is necessary through allocation of adequate resources for such activities. Establishment of new wholesale markets in big cities and towns would also be required. The government has taken an initiative to introduce Consumers' Rights Protection Ordinance. It is expected that this will help safeguard consumer's interests which were being severely undermined due to lax supervision.

2.6 CONCLUDING REMARKS

Despite impressive achievements in increasing foodgrain and reducing instability in prices, long-term food and nutrition problems remain. Bangladesh has yet to achieve comprehensive food security that resolves the problems of inadequate food intake and chronic malnutrition among poor people. Solving these problems will require decisive action by the government, the private sector and individual households. A more efficient PFDS can play a central role in government's food policy and make a significant contribution to the food security of households who receive transfers. Several steps could be taken to increase efficiency in production, procurement and distribution of food. Increasing flexibility in setting (and revising) procurement prices is one option.

A better understanding of poverty dynamics and linkages between adverse shocks (such as massive floods and droughts), rural income, credit markets and nutrition is important. Appropriately targeted income transfers, credit programmes and insurance mechanisms in times of crisis may generate very high pay-offs in reducing poverty and improving food security. These interventions should be part of a broader social protection strategy that is both cost-effective and comprehensive in coverage.

Recent studies conducted by the Bangladesh Institute of Development Studies (BIDS) have shown that Bangladesh enjoys comparative advantage in the production of wide ranging crops. To achieve the desired diversification along the lines suggested by the comparative advantage, there is a need for critical public support measures. Under the dictates of Structural Adjustment Program (SAP), Bangladesh has brought down its level of public support to agriculture to an absolute minimum. Bangladesh also provides very little support for the elements under the "green box" and "blue box" that are admissible under WTO regulation.

In view of extreme pressure of population on limited natural resources, development and dissemination of improved production technology must continue to sustain the growth in food production. Among crops, the research strategy must accord higher priority to high-valued, non-foodgrain products. Continued facilitation of the import of new seeds and production technologies will be necessary for Bangladesh to capitalise on technological advancement made in international research centres. Public investment in agricultural research in Bangladesh has remained low compared to India, Pakistan, Sri Lanka and other East Asian countries. Increased spending on agricultural research appears to be necessary given the importance of agriculture to income growth and poverty reduction.

Major efforts are still needed to address nutritional issues more directly. Coordinated programmes involving nutrition education, food fortification, improvements in water quality and public health are needed. Increases in food availability and household access to food alone will not be adequate to address the malnutrition problems in Bangladesh.

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REPORT ON THE DIALOGUE PROCEEDINGS

The Dialogue*

The second session of the two-day conference was titled *Food Security and Containing Price Inflation,* held on 28 March 2009 at the Bangladesh-China Friendship Conference Centre. *Mr M Syeduzzaman,* Member, CPD Board of Trustees and Former Finance Minister, chaired this session. *Dr Muhammad Abdur Razzaque,* MP, Hon'ble Minister for Food and Disaster Management was the Chief Guest, and *Dr AMM Shawkat Ali,* Former Advisor to the caretaker government (CTG) was the Special Guest. *Dr Mahabub Hossain,* Executive Director, BRAC and *Dr Uttam Deb,* Head of Research, CPD jointly prepared the keynote paper, which was presented at the session by *Dr Deb. Professor MA Sattar Mandal,* Vice Chancellor, Bangladesh Agricultural University, Mymensingh, and *Dr Quazi Shahabuddin,* Director General, Bangladesh Institute of Development Studies (BIDS) were the designated discussants. Amongst others, the session was attended by BNP Lawmaker and former Agriculture Minister *Mr MK Anwar,* MP and Former Education Minister *Dr M Osman Farruk*. The session was also participated by academia, government officials, agriculturists, researchers of various government and non-government organisations (NGOs). The full list of participants is provided in the Annex B of the volume.

Introductory Remarks by the Chair

Mr M Syeduzzaman welcomed the Chief Guest *Dr Muhammad Abdur Razzaque,* Special Guest *Dr AMM Shawkat Ali,* designated discussants, and representatives of various stakeholder groups.

*This report was jointly prepared by *Ms Suparna Hasan,* Senior Research Associate Centre for Policy Dialogue (CPD) and *Mr Subir Kanti Bairagi,* Research Associate, CPD.

Mr Syeduzzaman started by stating that there are three important dimensions of food security. These are eradication of poverty, eradication of hunger, and improvement in health and nutrition particularly for the vulnerable groups of the society including women and children. These are also related to the humanitarian, political and developmental issues. He added that two major challenges will continue in the coming days for attaining and sustaining food security. These are: (i) increasing production and total supply at the national level on a sustainable basis; and (ii) ensuring availability and accessibility of food at the household level at a time when inequality has increased. Success in attainment of food security depends on balancing the interests of the producers and consumers. It is important to provide incentives to the producers particularly small farmers through remunerative prices on the one hand, and enhancing the ability of the consumers on the other hand through creation of employment and entitlement opportunity. This can be called for the formulation of the strategies and policies by the new government.

Agriculture sector has grown over time. However, agricultural gross domestic product (GDP) as percentage of national GDP has been decreased. The Chair also observed that food aid has been declined globally over the past decade and food price has been distorted putting various restrictions by the food supplying countries. He recalled that food aid provided to Bangladesh after 1998's flood was 1.25 million metric tonnes (MT), whereas in FY2007-08 after two floods and Sidr the total volume of food aid was only 0.26 million MT.

Mr Syeduzzaman observed that increasing production in the short-term requires intervention in the input-output market. On the other hand, medium and long-term strategies and policies should take into account new factors such as liberalisation of global agriculture and climate change. He mentioned about a number of medium and long-term challenges: (i) improvement of productivity through research and development (R&D) and reduction of the potential yield gap; (ii) sustainability of production increase through protection of the three critical natural resources (i.e. land, water and soil fertility); (iii) creation of new generation of rice scientists and agricultural scientists for building up research capability and (iv) optimum utilisation of the potentials of the hill tracts in low hilly regions of the North and Northeastern part of the region which constitute about 10 per cent of the total land area of the country.

To tackle the above mentioned challenges, *Mr Syeduzzaman* suggested the following policy measures: (i) higher public and private investments will be needed for creation of non-farm rural employment and diversification of agricultural production through cereal production, non-cereal and non-crop agricultural production; (ii) Second Green Revolution is needed for food

producing countries, which can come only through increased public investment in (R&D), rural infrastructural development and production of public goods by the international agricultural research system. In spite of the limited resources, scientists of Bangladesh Rice Research Institute (BRRI) have done a wonderful job by bringing out new varieties through partnership with International Rice Research Institute (IRRI) and other international organisations. To make their efforts more fruitful, extended policy support will be required.

The Chair, *Mr Syeduzzaman* then invited *Dr Uttam Deb* to present the keynote paper.

Summary of the Keynote Presentation

Dr Uttam Deb made the keynote presentation titled "Food Security and Containing Escalation in Prices: Facts and Implication for Policy." Defining food security as access by all people at all times to enough food needed for an active and healthy life, he noted that it is important to view food security from both national and individual angles. At the national level, food security means the availability of sufficient stock of food in the country to meet domestic demand until such time as stock can be replenished from harvests or imports. At the individual level, it means that all members of the society have access to the food they need, either from their own production, from market and/or from the government's transfer mechanism. *Dr Deb's* presentation focused on several important issues such as trends in the production of food items, food availability, consumption and absorption, recent hike in food prices, challenges for food security and containing price escalation, and their implications for policy and programmes to be taken up by the government.

The keynote paper identified eight major challenges in ensuring food security for all and containing inflation in Bangladesh. These are: (i) meeting the growing demand for food; (ii) increase production from shrinking resource base; (iii) shifting the yield frontier; (iv) facing the challenges of climate change; (v) decline in international support for agriculture; (vi) facing the challenges of volatility in international food market; (vii) liberalisation of global agricultural trade; (vii) minimising risk in agricultural production; and (viii) ensuring food security of low-income group, hardcore poor and provide incentives to the farmers,

Ensuring food security (physical availability and economic access to food) along with containing inflation would continue to be a major challenge for

Bangladesh in the coming years, *Dr Deb* opined. To meet this challenge, he proposed an integrated strategy, encompassing the following, for government considerations: (a) increase domestic production; (b) ensure minimum price for the farmers that provides adequate margin over the unit cost of production; (c) expand social safety net programmes; (d) adjust trade policies taking into consideration the domestic food production situation and the trade policies of major exporting countries particularly that of India; and (e) negotiate at the World Trade Organization (WTO). He argued that the country should revert back to the strategy of food self-sufficiency.

Floor Discussion

Self-sufficiency vs. Self-reliance

Dr Quazi Shahabuddin, Director General of BIDS, supported that Bangladesh should go back to the strategy of self-sufficiency. He observed that restrictions imposed by major rice exporting countries and volatility in international rice market were major food security problems during FY2008-09, and that the volatility in international markets, both in terms of price and availability, is likely to continue in the near future. He recalled that until 2005 policymakers in Bangladesh and other rice producing countries believed that rice demands could be met by international trade. But the experiences of 2007 and 2008 have clearly showed that a country like Bangladesh should come out of the strategy of self-reliance. Government should take the lesson and high priority should be given on self-sufficiency rather than self-reliance, he opined. *Mr Syeduzzaman* expressed similar views. Agreeing with all the supporters of self-sufficiency, *Mr Arup K Biswas,* Senior Advisor of the Royal Norwegian Embassy told that importance of achieving self-sufficiency has been proved in 2007, when the devastating cyclone Sidr destroyed 12.5 lakh tonnes of food, and Bangladesh had to face a big problem to avail the food throughout the year 2008. According to him, the most important thing to attain sustainable food security is achieving self-sufficiency.

Dr Mohammad A Jabbar, noted Agricultural Economist, added new points on this issue. In his view, impact of "achieving self-sufficiency" goes beyond. "We must be clear as to whether we are aiming to achieve autarky, i.e. 100 per cent self-sufficiency in food production. But what will happen, if there is surplus? Are we going to export? If so, then we must establish credibility in the world market," he added. It is also important to know to what extent agricultural growth performance could be attributed to government policies. He requested the authors to clarify these issues and argued that Bangladesh should design its agri-sector development strategy after deciding on these issues.

Dr Quazi Shahabuddin informed that Bangladesh enjoys comparative advantage in rice production at import parity rather than export parity, and therefore, increase in rice production should be for import substitution. *Dr MA Hamid Miah,* Liaison Scientist of IRRI opined that it is possible to achieve self-sufficiency if the yield gap can be minimised.

Increased Production of Rice

Some of the participants observed that demand for food is gradually increasing due to increase in population and income. Bangladesh needs to produce more to meet this growing demand. In this connections *Dr Shahabuddin* informed that every year two million mouths are being added and subsequently additional 3 to 4 lakh tonnes of foodgrains is needed to feed them. According to an analysis carried out by BIDS, demand for foodgrains was 24 million tonnes in 2005 which will be increased to 30.5 million tonnes in 2010, and 39.0 million tonnes in 2015, and 50.0 million tonnes in 2020. Bangladesh should think of starting "Second Green Revolution," he suggested. The main objective of this programme will remain the same as the first Green Revolution, i.e. the growth of productivity with introduction of modern variety which require supply of irrigation and other inputs like fertiliser. But many more challenges will become factors in the second Green Revolution in the context of global climate changes, land and water scarcity, environmental degradation, increasing input prices, and so on, he added.

Mr MK Anwar, MP and Former Agriculture Minister noted that loss of soil fertility will be a big challenge in the near future as he observed that soil fertility is gradually declining due to inadequate and unbalanced fertiliser and shortage of micronutrients. Farmers are not aware of this and the government is not also intervening on this important matter. He suggested that the government should take up a programme to make the farmers aware about the harmful effects of excessive use of fertilisers. These observations and suggestions were endorsed by *Mr Aktaruzzaman,* Former MP, who shared his personal experiences of cultivation with no chemical fertilisers.

Mr Syeduzzaman acknowledged the analysis of several international agricultural research institutes who not only projected the similar statistics like BIDS regarding future food demand, but also noted the possibility to achieve this figure if countries can meet certain conditions. Foodgrain production increased upto three times between 1971 and 2008, and this trend ought to be continued. Former Education Minister and Agricultural Economist, *Dr Osman Farruk* thought that food aid will decline even further in near future because the western countries are going for biofuels. So it is

important to continue to emphasise on higher agricultural production to meet our demand, he added.

Participants observed that production can be increased further through reduction in yield gap. In this context, *Mr MK Anwar* said that current yield gap for Bangladesh is nearly 50 per cent. Similar views were expressed by *Mr Hamid Miah* and *Dr Osman Farruk* who noted that most important way to minimise yield gap is to put in the available technologies into practice in the farmers' fields. Both *Dr Harun-ur-Rashid,* Executive Chairman of Bangladesh Agricultural Research Council (BARC), and *Dr MA Jabbar* cautioned that higher production can only be ensured when farmers have smooth access to the agricultural inputs.

Professor Muazzam Hussain of BRAC University elaborated the benefits of introducing the System of Rice Intensification (SRI) in rice cultivation. Adoption of SRI system of cultivation can reduce seed requirement up to 20 to 60 per cent and water requirement by 40 per cent. He informed that largest rice producing countries are taking advantage of this technology. He regrettably observed that the Bangladesh government is not providing adequate policy support to adopt this method. For the first time, during the last CTG, the Ministry of Agriculture (MoA) started to provide support to SRI. They called upon the BRRI to conduct research on SRI, and gave permission to the Department of Agricultural Extension (DAE) to make the farmers aware and popularise SRI, he added. The current government should give adequate emphasis on this, *Professor Hussain* suggested.

While addressing the issue of food security, *Professor Sattar Mandal,* Vice Chanceller of Bangladesh Agricultural University mentioned that importance should be given both on cereal and non-cereal food. He argued that people of rural areas consume less non-cereal food (livestock, poultry and fish) compared to the urban people due to high price of non-cereal food. As a result, they are suffering from malnutrition. Emphasis should be given on increase of production of non-cereal crops like pulses and oilseeds and of fish, milk and meat. To this end, focus should be geared to combat bird-flu (avian influenza), fish diseases and actions for production-enhancing husbandry practices.

Development of Seed Sector

Supply of quality seed is important to increase rice production because it alone can increase production by 20 lakh MT, observed some of the dialogue participants. *Mr MK Anwar* lamented over the fact that certified and quality

seed have not yet reached upto 50 per cent. To ensure supply of quality seeds throughout the country, the concerned Ministry needs to take a large time-bound programme, he opined.

Mr Aktaruzzaman suggested to reform the DAE so that it can play an effective role in distribution of seeds to the rural areas. He noted that in the Boro season, adequate seed supply of BRRI Dhan-28, BRRI Dhan-29, BRRI Dhan-25, BRRI Dhan-36 and BRRI Dhan-47 (in the salinity affected southern-coastal region) is necessary. This can be achieved through special schemes for production of Breeders' seed by BRRI and Truthful level seed production by Bangladesh Agricultural Development Corporation (BADC), Agricultural universities, NGOs and private companies.

During the Aman season, BR-11 is still the most popular variety, but it has degenerated at the farm-level. Higher amount of distribution of quality seed of BR-11 will increase production. According to *Mr Aktaruzzaman* efforts should be made to promote BRRI Dhan-40 and BRRI Dhan-41 in salt affected coastal regions. For late cultivation, BRRI Dhan-46, BRRI Dhan-37, BRRI Dhan-38 and Binashail Dhan need to be promoted. BRRI Dhan-44 is highly suitable for cultivation in major areas of the coastal belt. In *monga*-affected regions, BRRI Dhan-33 need to be promoted.

Regular monitoring of seed quality is important. But both *Dr MK Anwar* and *Dr Osman Farruk* deplored that Bangladesh could not establish any standard seed certification process in this country yet, whereas a country like Nepal has a Seed Production Council, *Dr Osman Farruk* added. He also suggested not to depend only on the farmers for the seeds, but to create a systematic process so that farmers can be creative and contribute in supplying seeds. The Seed Certification Agency (SCA) is a rather weak organisation. It should be converted into a regulatory authority vested with adequate power. The agency is operated by staff from the DAE. To strenghthen its effort dedicated specialised people need to be inducted into this institution. This view was also endorsed by *Dr AMM Shawkat Ali,* the Special Guest of the dialogue.

Subsidy for Diesel and Irrigation

Mr MK Anwar informed the dialogue that cost of irrigation in Bangladesh is 2 to 3 times higher than in India, Thailand and Vietnam, mainly because Bangladeshi farmers have to use diesel for irrigation, while farmers of other countries have the scope to use subsidised electricity for irrigation and they also have large-scale irrigation projects. This is a major concern, he added. *Dr Hamid Miah* informed that the efficiency of water use in irrigation can be

increased through adoption of alternate wet and dry (AWD) technology which can reduce water requirement by 25-30 per cent, and save 3 litres diesel per hectare (ha) (30 per cent of diesel requirement). Thus, for irrigating about 4.5 million ha of Boro cultivated land, it is possible to save nearly Tk. 500 crore annually through promotion of AWD technology which will ultimately reduce the need for diesel subsidy, he noted.

Reduction in diesel prices with a view to lower the cost of irrigation is urgently needed. Price of per litre diesel could be set at Tk. 35. Another alternative is to distribute diesel subsidy allocated in the Budget for FY2008-09 to the farmers. National ID card can be used for this purpose. In the case of providing subsidy marginal farmers should be targeted first, and given priority.

The government should undertake a plan to establish electricity-operated irrigation system throughout the country within 5 years. This will reduce cost of irrigation by two-thirds. *Mr Morshed Ali, General Secretary, Bangladesh Krishak Samity* suggested that the government needs to create a tempo in favour of saving rivers, ponds and canals which will have immense importance especially during the summer season when severe drought goes on. There is no water in the ponds and farmers are not allowed to pull water from the canals because those are on lease. Many of these ponds and canals are now under fish cultivation. Therefore, the important issue is to set the priority: between farming and fishing sectors.

Development of New HYVs and Hybrids

Mr MK Anwar noted that Bangladeshi farmers have adopted high-yielding varieties (HYVs) in most of the areas suitable for foodgrains. As a result, yield gap between the farmers' field and experimental stations has narrowed down over the recent past. Therefore, further increase in yield of foodgrains at the farm-level will depend on making breakthrough in development and diffusion of new varieties and hybrids that have higher yield frontier. To this end, research on hybrids and biotechnology needs to get adequate importance from the government side, he remarked. He also mentioned that new veriefy of seeds will require new practices. The crop cultivation programmes will never get adequate boosts without such effort.

Priority should be given to developing varieties for unfavourable ecologies (flood, drought, salinity). Development of hybrid rice should be encouraged for further shift in yield for irrigated environment and for this more usage of new sciences such as biotechnology, geographic information system (GIS), remote sensing and usage of information and communication technology (ICT) for

further advancement is required. However, only development of new hybrids will not be able to bring expected outcome until or unless it reaches to the farmers and become popularised. So far Bangladesh Agricultural Research Institution (BARI) has developed 50 new varieties of different crops, which *Mr MK Anwar* considered a commendable success, but the varieties are yet to reach the farmers to become a productive effort. He felt Bangladesh should end the debate on hybrids as to whether these new products will create evil effects and hamper the fertility of the soil. Agreeing with *Mr Anwar, Dr Zeba Seraj* Professor of Department of Biochemistry and Molecular Biology of Dhaka University said that debates on hybrid should end and government should extend required support towards local agricultural research organisations in developing hybrids. Locally produced seed will be more environmentally compatible compared to imported seeds, she added.

Public Investment and Management of Agricultural Research and Extension

The participants expressed that new technologies have been the major sources of increased agricultural production in Bangladesh for many years. International financial and technical support to Bangladesh through IRRI, International Maize and Wheat Improvement Centre (CIMMYT) and other research and development organisations played a critical role in technology development and dissemination in Bangladesh. *Dr Quazi Shahabuddin* argued that if Bangladesh wants to increase its production and subsequently becomes self-sufficient in food then she needs to allocate more fund for research and extension. He argued that the investment for agricultural research in the country is quite low compared to other South Asian countries like India, Sri Lanka and Pakistan. *Mr MK Anwar* observed that since mid-1980s, agricultural sector of Bangladesh has been utterly neglected by both domestic and international leaders. From this period international research organisations showed less interest to fund national research institutions, which have possibly acted as a limiting factor in making a breakthrough in technological development in Bangladesh. He added that developing countries spend 1.0 per cent of the agri-GDP for agricultural research, but in Bangladesh it is only 0.25 per cent or less than that which is quite disappointing. He added that the amount of ADP allocations in agriculture used to be 10 per cent in early 1970s which has now come down to around 2.5 to 3 per cent. But a positive development is that the World Bank recently has committed to provide USD 50 million as Trust Fund for funding agricultural research.

Dr Zeba Seraj commented that allocation of fund for research and technology generation is not enough. She stressed on the issue of research management, and firmly mentioned that a pool of talented and potential researchers as well

as adequate technologies are present in Bangladesh. But they are not getting proper management support. She brought some real life examples of BRRI scientists where they are facing lots of bureaucratic difficulties in purchasing research materials of different kinds. To resolve this problem, she gave few suggestions, one of which is to establish a Cell which will get feedback and be responsible to take coordinated action consulting with other Ministries such as MoA, Ministry of Environment and Ministry of Industry.

Mr Zainul Abedin, IRRI Representative in Bangladesh, felt that to become a technologically upgraded country, scientists with good calibre are needed in the agricultural research department. But for them a sound work environment and attractive remuneration and other incentive packages need to be ensured. In this connection, *Professor Sattar Mandal* emphasised on modernising the agricultural education system in which subjects like biotechnology, genetic engineering, and issues like climate change or food policy analysis, will be integrated. It will require investments in laboratory facilities, staff training, skill development, etc. Inter-Ministerial and inter-agency cooperation and coordination is another important task in this regard, he added. *Mr Syeduzzaman* pointed out that it usually takes 10 to 15 years for any research outcome to reach the farmers' hands. Government should speed up the process not only to carry the research outcomes to the farmers, but also to train them how to utilise and adapt with the new technology.

Dr MA Jabbar argued that government first need to design the investment strategy based on its priority, and accordingly they should decide on the GDP percentage to be invested in the agriculture sector. He emphasised on the need to utilise computer modelling techniques and calculations to develop the investment strategy. *Dr Quazi Shahabuddin* specifically suggested to use the Inequality-Growth Trade-off Index (IGTI) to estimate income inequality and then find a way to reduce that inequality. He proudly mentioned that Bangladesh has come out from the shadow of famine. But extensive hunger and malnutrition still exist and to come out from that, he underpinned the need for evidence based policy recommendations which would require solid analytical and empirical research. Food and Agricultural Organization (FAO) Representative in Bangladesh, *Mr Ad Spijkers* argued that global financial crisis will create adverse impact on nearly 63 per cent of Bangladesh's population who are engaged in agricultural production. For them to get out of such food insecurity situation, technological support will be needed.

Promoting Agricultural Diversification

Professor MM Akash, Department of Economics, University of Dhaka suggested initiating Special Crop Attention programme for the dificit agro-items such as wheat, sugarcane, pulses, oil and milk. *Dr Harun-ur-Rashid* opined that crop diversification alone cannot ensure food security rather it should be combined with production of plant and meat products. Bangladesh contains severe shortage of meat and fish, the two most nutritious food items. In case of meat the shortage is 60 per cent, and for fish it is 30 per cent. *Mr Ad Spijkers* also acknowledged that livestock and fisheries are the two neglected sectors in Bangladesh which demands long-term policy planning. To reduce import dependency on wheat, government should put emphasis on maize production, he suggested.

In recent years, production of non-cereal crops, vegetables, fruits, fish, meat, milk and egg has increased substantially, but post-harvest processing and storage facilities for vegetables, potato and fruits continues to remain limited. *Dr Harun-ur-Rashid* informed that last year a huge amount of potato was noted for the lack of adequate storage facilities, as it is a perishable product. He suggested that establishment of cold storage for vegetables and fruits and processing centres for milk should get priority. Government needs to formulate an integrated strategy to promote non-cereal production, he added. *Dr Harun-ur-Rashid* also pointed out that cereal production in Bangladesh incurred 10 to 15 per cent post-harvest losses, which means there is a substantial crop loss of 1 to 2 million tonnes after every harvest. Referring to the Phyto Pathology Society of Bangladesh, he noted that Bangladesh gets 4 million tonnes less production due to the plant diseases every year. If 20 per cent of such loss can be saved, that would bring 0.80 million tonnes more cereal after every harvest, but policymakers are not serious about this. The poultry sector is being severely threatened by bird flu. Livestock sector has suffered from trans-boundary diseases. *Mr Morshed Ali* mentioned that currently *"morok"* (epidemic) is devastatingly affecting the greater Jessore District, and therefore, the middle to poor farmers cannot opt to have livestocks. Fisheries sector is also threatened by outbreak of some diseases and genetic stagnation. Government should give adequate attention to this on an emergency basis, he commented.

Provide Incentives to the Farmers

Prices of foodgrains (rice and wheat) and many other agricultural commodities have declined in recent months. However, the cost of production of these commodities has gone up due to higher prices of

fertilisers, diesel, labour and other inputs. If the price drops further, it may create the reverse problem of providing incentives to farmers to sustain growth in production in future. So, minimum support price (MSP) should be ensured for farmers. To this end, *Dr Quazi Shahabuddin* felt that linking up government procurement programmes with social safety net programmes, particularly with Public Foodgrain Distribution System (PFDS) will be needed. But programmes must target the less advantageous and should try to avoid mistargeting and leakages, he added.

Mr MK Anwar mentioned that with the opening up of small and medium enterprises (SMEs) and other non-agricultural sectors in the rural areas, agriculture sectors are being neglected. So if government does not ensure adequate price for the farmers' produces and maximum support for their cultivation then farmers will leave the field and get involved in non-farm activities for their survival. He said that it happened in many countries and it is a big threat for any agro-dependent economy. *Mr Syeduzzaman* agreed with this comment and thought that farmers must be congratulated to be resilient even at the time of recent financial crisis. *Mr Mahbubul Karim,* Vice President of Proshika hailed the government for price support through rice procurement programme. He urged the government to buy directly from the farmers.

Dr Osman Farruk felt that the government needs to decide whether procurement policies are for price support or for procurement, because these are entirely two different issues. If it is for price support, then procurement price should be above the cost of production, and if it is for procurement per se, then it should be higher than existing market prices. Sometimes procurement prices set by the government may distort the domestic market and fail to attain the objective of price stabilisation. So secret lies on how we are defining our objectives and how we can make a balance between the interests of both producers and consumers, he added.

Participants suggested for long-term planning for agricultural support, rather than various short-term supports and subsidy. In relation to this *Mr Arup K Biswas* thought that cost of cultivation needs to be properly estimated by the government. Especially for the small and marginal farmers, it will never be possible to bear these expenses as they are not getting even the minimum price for their produces.

Farmers will be motivated to produce more when they are able to earn profit, said *Dr Zainul Abedin.* However in this regard, reaching quality inputs to the farmers at the right time need to be ensured, he said. Capital inputs are the most vital factor in this case, which are not readily available. Most of the time

farmers had to pay higher prices for these inputs and also probably they had to go to the *mahajans*. Microcredit programme can solve farmers' liquidity problem to a large extent. But, he was not comfortable with the current mode of operation of the microcredit which actually keeps the poor farmers in debt for year after year. He commented that it is important to identify an alternative mechanism to the microcredit operation. *Professor Rehman Sobhan,* Chairman, CPD, suggested that an institutional mechanism should be developed which would craft the collective voices of small farmers as well as microentrepreneurs operating in the rural areas. *Dr Abedin* felt that the best option is capital formation at the community level which will help the poor farmers to utilise their own savings as substitute of formal microcredits. Resources can thus be mobilised at the farmers' level through this type of community fund which may have positive impact on the overall credit management.

Mr Morshed Ali highlighted the importance of an efficient marketing system where difference between farmers' price and consumers' price will be minimal. Farmers will be the major beneficiary from their product rather than market intermediaries. It was felt that the government needs to establish *New Krishi Bazars* for farmers, particularly in the higher production areas of Bangladesh. Establishment of additional wholesale markets in big cities and towns would also be required. He added that insurance coverage system for crops and livestock needs to be established for farmers. The programme of agricultural insurance coverage (for crop, livestock, poultry and fisheries) was initiated several times but never continued on a long-term basis. Government needs to regularise the programme, he added.

Price Stabilisation

Participants felt that price stabilisation (especially upward movement of prices) is important even from the point of political stability. It was recognised that government should undertake such measures even if these interventions are costly. It was pointed out that stabilisation of prices of essential commodities within a band will require maintaining a comfortable level of public stock. In case of retail price of coarse rice, the government may fix a transparent target of maintaining the price level in the range of Tk. 20 to Tk. 25. This may work in the following manner - if the market price goes above this level, then the government will have to sell in the market from the public stock, so that market price of coarse rice comes down. On the other hand, if the market price falls below Tk. 20, then government will buy from the market so that there is price stability and farmers are saved from losses.

Food Security for Low Income Group and Hardcore Poor

The safety net programme needs to be designed in such a way so that hardcore poor families are covered. Effective implementation of the programmes to reduce mistargeting and reduction in leakages must be ensured. In Bangladesh, 40 per cent people are poor who cannot buy enough from the market and largely depend on safety net. *Dr Quazi Shahbuddin* put emphasis on formulating pro-poor food security policy. Unequal income distribution should be within tolerable limit, he added. In this regard, *Mr Mahbubul Karim* felt that most important issue is identifying the target population. They must be the marginal farmers and marginal and vulnerable population of the country. Government should make policy which will protect the livelihoods of the poorest community of the society.

Dr Jabbar opined that safety net is a short-term programme and through this poverty cannot be reduced in the long run. A negative correlation exists between the increased production and safety net because it is quite difficult for the government to provide price support or other incentives to the producers when she has to largely support about 40 per cent of the population through safety net.

According to *Professor Rehman Sobhan,* one of the challenges in attaining food security is to ensure smooth transferring of the resources to the rural sector either in the form of subsidies or through transfer payments. Targeting the deserving population can also be improved by using spatial targeting (higher allocation for upazilas with high poverty rate). Recently updated upazila level poverty maps (based on data related to 2005) developed by the Bangladesh Bureau of Statistics (BBS) in partnership with the World Bank and World Food Programme (WFP), could be used for this purpose.

Some of the participants thought that nutritional issues should be addressed more directly. Increased food availability and household's access to food alone will not be adequate to address the malnutrition problems in Bangladesh. Coordinated programmes involving nutrition education, food fortification, improvements in water quality and public health are also needed. *Mr Aktaruzzaman,* observed that per person calorie intake was lower than requirement and has declined recently, and the level of child malnutrition (wasting, stunting and underweight) is very high. In view of this, nutrition policy needs to be integrated with the national food policy, he said. *Dr Zainul Abedin* said that the government should not only provide cereals under the safety net programme, but also include other nutritional food like pulses, potatoes, etc. *Professor MM Akash* opined that the government needs to ensure

proper utilisation of food for better nutritional outcome especially more balanced food intake to make food security comprehensive. Though per capita consumption level of food items by both poor and non-poor population has increased over time, there is still substantial urban-rural gap in food consumption. He cited the example of Cuba where every child has a glass of milk everyday by right. He suggested that the government can also think of introducing such programme.

Agrarian Reform

In Bangladesh, absence of collective voice of the peasants and landless labourers and absence of institutions owned by small and marginal farmers exist pervasively, *Professor Rehman Sobhan* observed. In the absence of collective voice, farmers are neglected everywhere. No procurement is made directly from farmers; all procurements are made from the millers and big traders. They do not get adequate attention for support compared to organised groups like traders and business associations. He elaborated that from the time of liberation to date, annual food production increased by 20 million tonnes which is annual import saving of about USD 10 billion (at the rate of USD 500 per ton). Export-oriented industries and sectors that contribute to a much lesser extent have more say about policy and they receive various types of supports including cash incentives and others. But, we are very indifferent about millions and billions of people (farmers) who have limited income and limited education, who not only provide food, but also vote to bring the politicians in power. So, agrarian reform is urgently needed where intervention will not be confined only in the area of production, it will also include marketing and procurement of agricultural commodities.

On the issue of optimum utilisation of land, *Professor Akash* suggested that a proper land use policy be formulated. He also noted that proper implementation of such policy would not be easy. *Professor Akash* proposed a market-led reform programme where representatives from the government will go to the people who are not interested to use their land for intensive agriculture, especially the large land owners and the absentee land lords, and ask them to sell their lands to the government and government will give them a bond which will pay them a regular income. Government will distribute those lands to people who are interested to use that land intensively, efficiently and productively. On this issue, *Mr Arup K Biswas* suggested to include Ministry of Land and urged the government to take policy measures regarding share cropping.

Professor MM Akash also suggested that the government should think of introducing credit card system for farmers, where based on the land size, a

specific ceiling will be set for everyone and subsequently this ceiling will be increased or decreased depending upon their performance. His suggestion was strongly supported by *Mr Morshed Ali.* In addition to this, he mentioned that last CTG has already started the programme and the current political government should continue it.

Professor MM Akash noted that the government should promote the establishment of collective farming and cooperative marketing system to tackle both the problems of distribution and efficiency by empowering small and marginal farmers. He urged the government to encourage small farmers to establish rice milling and processing facilities through provision of credit and other supports by the government. Along with this support, landless and agricultural labourers should be given access and ownership to new productive assets, such as power pumps, solar dryer, power tiller, thresher, drum seeder, harvester, etc. through credit facilities and training.

Facing the Challenges of Climate Change

Bangladesh is recognised worldwide as one of those countries which are most vulnerable to the adverse impacts of climate change. A recent study has predicted that rice production in Bangladesh, with the existing production practices and technologies, is likely to be reduced annually by 12.20 lakh MT by 2030, as a result of climate change. It may be noted that cyclone Sidr (in November 2007) damaged rice production of about 12.95 lakh tonnes. In other words, a silent Sidr is waiting for Bangladesh even in normal years as far as impact on rice production is concerned. In future, natural calamities like drought, floods and salinity will be more frequent in Bangladesh. *Mr MK Anwar* stated that adapting to such changes would only be possible through introduction of new variants of seeds that are tolerant to drought or salinity, which can be achieved through extensive research. In this connection, *Dr Hamid Miah* emphasised on the need for conservation of genetic resources. Negative changes in the climate is becoming a big concern and development of eco-specific adaptive knowledge (including indigenous knowledge) will be required for adaptation to climate change.

In relation to environmental problems, *Mr Mahbubul Karim* brought the issue of urbanisation which is actually creating more and more pressure on the agricultural land. But this is high time to put coordinated effort to find ways to save agricultural land from this life threatening urbanisation process.

Participants felt that the government should establish a Climate Change Adaptation Fund and redesign the agricultural policies to adapt with the climate change.

Collaboration with International Agencies and SAARC Countries

Participants thought that international and regional partnership for rice research and development should be encouraged to increase production and enhance food security in Bangladesh. At the South Asian Association for Regional Cooperation (SAARC) level, collaboration for agricultural development is always considered as one priority area though actual progress has continued to be rather very limited. Collaboration with South Asian countries for setting up of SAARC Food Bank and for increased agricultural production would be beneficial to reduce the food security risks, particularly after natural disasters (floods, cyclones, etc.). *Dr Zeba Seraj* informed about a recent scientific discovery called "Zeal" invented by the Chinese scientists which is claimed to be beneficial to minimise the yield gap. Bangladesh government might request to share the research outcomes as it is declared free for everyone, she suggested. *Professor Sattar Mandal* suggested to strengthen the capacity of the WTO Cell of the Ministry of Commerce (MoC) for effective participation in the WTO negotiations and safeguard Bangladesh's interest in the area of food security in the multilateral trading system. He also opined that success in collaboration with international agencies will also require effective and timely coordination among the concerned Ministries in Bangladesh in this connection.

Mr Ad Spijkers remarked that Bangladesh has many outstanding research scientists and lot of good works are going on in the country. He added that international organisations and development partners are working together with the IRRI on the agenda of how to bring more development in the agriculture sector. FAO is ready to provide training to the stakeholders on food policy and food safety programme. Government can take support from this development partners so that an integrated food policy can be developed which will be consistent with the ecology, he added. *Mr Ciro Fiorillo,* Chief Technical Advisor of the National Food Policy Capacity Strengthening Project of the FAO felt that an effective way will be needed to amend the existing food policy in such a manner that can address the changes of global climate.

Other Issues

Some participants and discussants also expressed doubts about the authenticity of agricultural data generated by the BBS. *Professor MM Akash* suggested that BBS needs to be strengthened so that it can develop reliable food statistics and data related to production, consumption and price of the agricultural products. *Professor Sattar Mandal* echoed similar views. He told that BBS and other government institutions must be capable enough to generate authentic agriculture-related data on a continuous basis. He recommended strengthening

of the Department of Agricultural Marketing (DAM) which is involved in generation of agricultural price data. On the issue of quality data and controversy about food production, consumption and data requirement, *Dr MA Jabbar* suggested that researchers should calculate demand and supply of Bangladesh's food items from the available production and import data, and consumption data from the last Household Income and Expenditure Survey (HIES) and Nutrition Survey. These data can be used to make a projection for future demand and supply.

Mr Mahbubul Karim raised the issue of "Food Sovereignty." This means that the people of a country will decide what to produce or what type of food the people will consume. Corporate aggression in this regard should be strongly handled, he profoundly mentioned.

Remarks by the Special Guest

The Special Guest of the session *Dr AMM Shawkat Ali,* Former Advisor to the CTG, thanked the authors for an elaborate and well-written paper. He observed that progress in food security has been very slow. At the World Food Summit 1996 of the FAO, it was reported that 800 million people across the world are food insecure and suffer from malnutrition. Five years later (in 2001), FAO evaluated the progress and came out with a figure of 750 million.

Food security issue has been addressed by all governments in the past. In the late 1960s, there was a programme called ARPP (Accelerated Rice Production Programme) and the strategy of the food policy or the agriculture policy used to focus on self-sufficiency, he recalled. It was continued in the First Five-year Plan of Bangladesh, and in subsequent plans. But in between there was a debate about self-sufficiency vs self-reliance. The policy of self-reliance was adopted in the early 1990s. There has been a welcome departure from this policy and it was affirmed in the national agricultural policy of 1999, where it was clearly indicated that self-sufficiency is the main objective of the national agriculture policy.

Dr Shawkat Ali opined that *Dr Sattar Mandal's* observations about the possibilities and potentials of non-cereal production were very pertinent. This should be taken up together otherwise the problem of the malnutrition will remain, he commented. Food and nutrition policy was approved in 1997 after prolonged discussions during 1991-96. This policy needs to be revisited. The International Nutrition Conference, held in the mid-1990s, emphasised on food-based nutrition, and eight principles were adopted by the then government. But this could not be implemented due to lack of support (mainly from the donors). This can be revisited and integrated into the food and nutrition policy, he suggested.

In the mid-1990s, about 90-95 per cent of Boro rice area was under HYV seeds and at that time area under HYV Aman was around 42-43 per cent. So an important policy decision was taken to provide HYV rice seeds to the farmers faster than the then prevailing system. Access to breeder's seeds was allowed to NGOs and others. A parallel policy action or policy instruments was put in place in the annual development programme (ADP) and farmer-to-farmer seed production programme. In the span of four or five years, area under HYV Aman jumped up to 53 per cent, he recalled. Even today there is scope for further spread of HYVs, *Dr Shawkat Ali* opined.

Dr Shawkat Ali also talked about the issue of hybrid seed. He viewed that there is nothing wrong in continuing debate on hybrid, but debates must be based on accurate information. He came to know that maintaining quality of cooked hybrid rice is very low and felt that more empirical investigation is required on this aspect. Debates on the technologies should always be welcomed for the sake of food security.

On the issue of post-harvest loss to the tune of 10-15 per cent, he mentioned that the current food policy acknowledges 12 per cent post-harvest loss, which is comparable with other neighbouring countries. There is certainly some scope to reduce some of the post-harvest losses, but it is not much. Special projects were undertaken for reducing post-harvest losses, but without any significant achievement. An evaluation needs to be done to find out why progress could not be made, *Dr Shawkat Ali* added.

Maize was introduced in 1997 and the then government had supported it by encouraging NGOs to procure maize from the farmers. Maize is mostly used as feed for poultry but some of the bakeries in the districts also mix maize flour with wheat flour. Currently, maize has become a part of the food basket, he added.

Drawing attention to an issue raised by *Dr Zeba Seraj,* the Former Advisor agreed that the lack of waiver system and absence of provision to buy research apparatus and materials with cash, are creating serious problem for the research institutions. To this end, *Dr Shawkat Ali* suggested to come up with a clear proposal for waiver. He said such waivers for procuring equipments for its 3-year maintenance programme was allowed to the Health Ministry. Similar steps could be taken for agricultural research institutes.

On the issue of introducing credit card system for the farmers, *Dr Ali* suggested to revisit the loan pass book system which was introduced by the Bangladesh Bank. In the late 1980s, more than one million passbooks were

issued to the farmers. These passbooks can be looked at and modernised. Steps, if taken in this direction, will be useful he added. Moving on to another similar note, he said that the issue of crop insurance has been very rightly raised in this forum. Crop insurance was introduced in this country beginning the 1980s, but it did not really get off the ground. It was introduced initially in the 30 upazilas but the process did not continue, he recalled. A study team was constituted by the Agricultural Ministry in 1989. to find out the underlying reasons for failure, The team visited some of the neighbouring countries to find out the state of crop insurance. They prepared a report and submitted it, but no attention was paid to the repost. This can be revisited, he suggested.

Special crop programmes were implemented during 1981 and 1985. At that time, DAE and BADC worked together for intensive transplanted Aman production programme. A complete book with operational details was prepared and published for transplanted Aman. Similar programmes were also done for Boro and wheat.

Dr Shawkat Ali raised the question whether the claim of Bangladesh being self-sufficient, despite importing rice, is right. He explained that before the flood of 1998 private sector alone was importing, and the per unit profit margin was about Tk. 2, which encouraged importing. The government at that time manipulated with letter of credit (L/C) margin and raised tariff. Zero duty was recommended and introduced after flood of 1998, which did not actually work in 2007 due to export restrictions by the rice exporting countries.

Reference to land use policy was rightly made, opined *Dr Shawkat Ali.* A land use policy was adopted in 1999, though it was not operationalised. He said that it was his lesson that each successive government revises the existing policies without reviewing previous government's achievement, which is not helpful for the people. There is no policy for share croppers, he added. In 1984, an ordinance was put in place to protect rice share croppers. But no successive government cared to examine and implement it.

Referring to the keynote paper, the Special Guest raised several important points. The immediate challenge is to arrange for subsidy for diesel for irrigation and fertiliser, but the paper did not bring it to focus. There is interface between the energy policy and agriculture policy. Since power is becoming increasingly scarce, it is the time to explore the possibility of solar-based power pumps. The Former Advisor informed the floor that some private commercial organisations and NGOs are in fact trying it on a limited basis,

mainly for domestic use, but not for irrigation pumps. He agreed that about one million hectares of land in the coastal area may be brought under cultivation in the dry season if salinity-tolerant rice varieties are available. He added that establishment of surface water irrigation system will be required for materialising the opportunity, which will obviously require technical efforts, but the paper has not mentioned this.

Agricultural mechanisation has silently taken place across the country, mainly due to the efforts of the private sector. Gains and advantages of mechanisation were brought out very clearly by one of the studies published by the Bangladesh Agriculture Economists Association. He suggested to look into this study for additional support on mechanisation programme.

On the issue of public investment, the Special Guest informed that a road map for this kind of investments was prepared in 2001 with technical support from FAO. A detailed framework for this was suggested by *Dr Raisuddin Ahmed* of International Food Policy Research Institute (IFPRI), who recommended a plan of action for high, medium and low growth districts. Attention should be paid to medium and low growth districts in terms of modern input use and development of irrigation facilities. However, it has not received attention of any government since then. This document could save a lot of additional efforts for grain production programme, he continued.

On the issue of yield gap (i.e. gap between yield in the farmers field and research station field), *Dr Shawkat Ali* told that the yield gap could not be eliminated; it could only be narrowed down to some extent. He added that difference in yield is also partly due to the factors beyond the control of farmers. So, efforts need to be given to narrow down the yield gap to a possible extent providing adequate level of inputs.

About the additional availability of land, *Dr Shawkat Ali* suggested three specific interventions (i.e. to find out the culturable waste land, to find out the current fallow land, and bring into the water logged areas of the south-west region under cultivation) which could be the part of agrarian reform programme. He informed that *Ms Matia Chowdhury,* Hon'ble Agriculture Minister already constituted a team to look at the issue and will soon hold a conference with experts to come out with some options.

Safety net is one of the main instruments of the food security issue in Bangladesh. He noticed a welcome departure from the past policy particularly in the mind set of the donors who used to advocate abolishment of the PFDS on the ground that it is administratively costly and there is leakage. The government

rightly resisted the donor pressure. Although various donors during 1974-1980 agreed that optimum stock for the PFDS should be 1.2 million tonnes, but successive donors pressed to reduce it and the government actually reduced it. Some domestic and mostly international experts always said that subsidy on food through PFDS and subsidy on agriculture distorts market and should be eliminated. *Dr Shawkat Ali* was happy that the government did not totally agree and he felt that it was a right decision to continue these programmes.

Finally, *Dr Shawkat Ali* shared his views about collaboration with SAARC countries for food security. He that the concept of establishing SAARC Food Bank was agreed upon and it was also agreed that Bangladesh will contribute to the bank. However, more details particularly to the necessary steps to bring it into operation will be very important. The trade agreements alone will not resolve the problem. So collaboration in the context of food security will have to be strengthened and Bangladesh should pursue it, he concluded.

Speech by the Chief Guest

Dr Muhammad Abdur Razzaque, MP, Hon'ble Minister for Food and Disaster Management thanked the authors for an excellent paper. He told that food security is an important issue and the present government is committed to the nation, through their election manifesto, to reduce the prices of the essential commodities particularly foodgrains, attain self-sufficiency by 2013 and promote farmers' welfare.

The government is currently guided by the National Food Policy 2006, which is a very comprehensive policy document, although there is a lot of opportunities to put new elements, new thoughts for food security, which could be coming from such types of dialogues, seminars and workshops. The main objective of the government is to provide food for all the people of the country by ensuring availability of food, access to food and utilisation of food. In this regard, he pledged that their government will meet the national requirement for food through increasing domestic production and importing foodgrain.

Regarding the access to food, *Dr Razzaque* observed that about 45 per cent of the total population in Bangladesh are living below the poverty line, while about 25 per cent people are hardcore people. So, priority would be given to increase availability of food for them. Physical access to food would not be adequate to ensure food security of the poorest people of the society, he opined. So, the government provides food to the school children (Food for Education), garments workers (VGD) and other low-income and vulnerable

groups at subsidised prices or even in some cases at free of cost. These will be brought under the social safety net programme, he informed the session.

Bangladesh has achieved tremendous growth in production of foodgrains and other food items. However, increased production is not yet sufficient to meet her demand due to mounting population growth. Growth in rice production was possible through the development and spread of HYV seeds, development of irrigation infrastructure and shifting of rice cultivation from Aus and Aman to dry season irrigated Boro rice. *Dr Razzaque* hoped that it would be possible to increase food production and meet up the deficit through proper utilisation of natural resources such as land and water, developing new technology, and providing inputs and adequate credit to the farmers.

On the issue of hybrids, he noted that hybrid is a technology and there is no evidence which cause harm to human health. More than hundred years ago, the United States and other western countries started to produce hybrid maize. After that, countries like Japan, Taiwan engaged them to produce hybrid vegetable and export it, but they did not find any problem in consuming hybrid food. Bangladesh has been importing hybrid seeds from China and other countries, and so far has managed to develope only one hybrid seed. To be successful in development of hybrids and new technology, investment needs to be increased for research and extension, emphasis should be given on development of human resources and encourage rice scientists. Without developing modern technology, it would be difficult to be a self-sufficient or self-reliant country, he opined. Bangladeshi farmers do not produce quality rice so export as well as competition is not our target, he clarified. The ultimate goal is to achieve a self-sufficiency for the country. If Bangladesh can sustain surplus production then eventually the farmers will reduce cereal production, and will go to produce high-value crops. So a comprehensive policy is needed in this regard, he felt. Agriculture sector already diversified from mono-crops rice to high-value crops such as livestock, poultry and fisheries. As attaining food security is a multidimensional process so the high-value products can address our nutritional issues which could be the part of food security. He again stressed that the primary target is to be self-sufficient.

As regards impact of climate change, the Minister opined that it is becoming an emerging issue and Bangladesh is one of the most vulnerable countries in the world. Due to the climate change Bangladesh already experienced natural calamities like floods, Sidr in the past years. Therefore, salinity resistant varieties need to be developed on an urgent basis, and more emphasis should be given to increase in productivity, he also added. Efforts will be given to bring additional one million ha of seasonal fallow land under cultivation in the dry season.

Dr Abdur Razzaque mentioned that their government has brought down the price of non-urea fertiliser at substantial level. Price of diesel has been refixed, but the reduction was not substantial, he added. In response to the question of *Professor Rehman Sobhan,* he assured that more emphasis will be given to develop the rural economy both in agriculture and non-agriculture/non-farm sector. He added that recently the government started wheat procurement and declared minimum price for wheat, to safeguard the interest of wheat farmers. During the last one month, the market price of wheat went down, and it was even lower than the cost of wheat production, he observed. Thus, if the farmer sells their product at the market price, they would be loser. Finally, the Food Minister assured that all suggestions and recommendations of this dialogue will be taken into consideration during formulation of programmes and policies and will be discussed in the Parliament.

Concluding Remarks by the Chair

In his concluding remarks, the Chair commented that if the government is committed, any country is bound to do well. Since independence, Bangladesh has been doing well in agricultural production, population control, primary education and other areas as well because these are mentioned in the Constitution as the mandatory duties of the government. In this regard, he recalled that the first Prime Minister of Bangladesh declared primary education compulsory, put emphasis on self-sufficiency and population control. He arguably mentioned that this is the reason why Bangladesh did well in the above mentioned sectors so far. To ensure food security, adequate research and policy support needs to be provided. Policies with regard to dissemination of technologies developed for unfavourable ecologies, and promotion of hybrid rice for further shift in yield for the irrigated environment require urgent attention by the government. Chair of the session also drew attention of the participants on several important issues and related recommendations came from the floor such as SRI, research management, agricultural diversification, hybrid, and so on.

At the end, the Chair thanked everyone for their active participation at the dialogue and valuable inputs. He then, declared formal closing of the session.

100-DAY EMPLOYMENT GENERATION PROGRAMME

CHALLENGES OF EFFECTIVE IMPLEMENTATION

Fahmida Khatun
Kazi Mahmudur Rahman
Ashiqun Nabi

3.1 INTRODUCTION

Employment generation has been recognised as an important instrument for reducing poverty in developing and least developed countries (LDCs). The fundamental idea behind establishing such correlation is that these countries are characterised not only by high unemployment leading to high poverty, but also natural disasters and economic and political inabilities which affects the effort towards economic development. This includes natural shocks such as flood, cyclone and drought, global economic shocks such as commodity price hikes and recession, and domestic political shocks such as lack of democracy and conflicts. Additionally, these are also countries with less resources and high budget deficits which constraint their efforts to ensure livelihoods for all. Often, a large section of people, particularly in the rural areas, remain outside the main activities of the economy due to their lack of capabilities to generate income and for resource limitations. The creation of wage employment porgrammes for these people has been proved to be successful to alleviate poverty and advance the rural economy in some of those countries. These programmes have not always been safety nets in nature, but more catered for development through employment generation in the rural areas. In several countries, such as Argentina, Bangladesh, Botswana, Cambodia, China, Ethiopia, Indonesia, Malawi, Namibia, Nepal, Sri Lanka, Tanzania, Uganda, Vietnam, Zambia and Zimbabwe rural employment creation programmes have been undertaken at different scales that resulted in positive impacts of various degrees.

The Government of Bangladesh (GoB) had embarked on creating employment for the rural poor in the mid-1970s through a number of activities such as the Food for Works Programme (FFW), Rural Maintenance Programme (RMP), Vulnerable Group Development (VGD) and Test Relief (TR). These food-waged employment programmes engage the landless and marginal rural population in activities such as rural road construction and maintenance, digging, irrigation channels, flood control and embankments. Notwithstanding several limitations related to designing and implementation (IFPRI 1986) these programmes have, by and large, been playing a vital role in the social protection of the vulnerable groups in Bangladesh.

Given the fact that 25 per cent of Bangladesh's total population still remains in the category of extreme poverty (according to the Household Income and Expenditure Survey (HIES) 2005), the need for government sponsored employment creation programmes cannot be underplayed. In the backdrop of volatility of international prices of commodities, global financial crisis and seasonal unemployment in some parts of the country, expansion of these

programmes is well justified. From this perspective, the initiation of the 100-Day Employment Generation Porgramme (100-DEGP) by the GoB in FY2008-09 is a commendable step to address poverty. As a matter of fact, in view of the high inflationary pressure and seasonal unemployment during September to November (Bangladesh Bank 2008), particularly in the areas which are prone to river erosion, flood and *monga,* the GoB decided to initiate the 100-DEGP. This new programme, which is an addition to the existing social safety net programmes for the poor, aims to reduce poverty by providing employment to the extreme poor during the lean season, or by giving cash to them in case of failure to provide employment. Resource poor people from all 64 districts would be covered under this programme which is planned to be implemented in two phases in a year. The first phase is the slant period that is between mid-September to end of November and the second phase is between March to end of April. An amount of Tk. 20 billion (equivalent to around USD 290 million) has been allocated in the budget of FY2008-09 for the programme targeting 2 million people for employment.

The 100-DEGP is the largest and first of its kind in Bangladesh to alleviate poverty and hunger which guarantees employment and income in the short run, and develop rural economy in the long run by building rural infrastructure. Hence, the efficiency of the programme is the most important determinant to achieve such goals. Now that the first phase of the programme has been carried out during September to November 2008, an early assessment of the programme can shed lights on the underlying achievements and shortcomings on the basis of which decisions as regards its continuity or operational modality can be made by the policymakers. While there have been several newspaper reports and evaluations by some organisations on the 100-DEGP, these are far less comprehensive to cover all aspects of the 100-DEGP. The current study by the Centre for Policy Dialogue (CPD) assesses the administrative, financial and distributional aspects of the programme and makes policy recommendations to make the 100-DEGP more effective.

3.2 DESIGN OF THE STUDY

3.2.1 Objectives and Scope of the Study

The key objective of this study is to evaluate the 100-DEGP on the basis of field level experiences and draw lessons for providing feedback to the policymakers in order for them to make informed policy decisions as regards the 100-DEGP in future. To this end, the paper will investigate the early impacts of the programme on beneficiaries focusing on the design, implementation and monitoring mechanism. Specific objectives of this study are:

a) to review the design and implementation of the programme;

b) to speculate the perception of the beneficiaries and other stakeholders, mainly union parishad (UP) chairmen and members and non-government organisations (NGOs), on the impacts of the programme;

c) to review the experiences of similar programmes in other countries for addressing related problems of such programmes; and

d) to suggest policy recommendations for fine tuning the programme design and enhancing effective implementation during the second phase.

The study is only a first order assessment of the newly initiated 100-DEGP and does not attempt to do any impact analysis of the programme since it is too early to do such exercise. Thus socioeconomic impact of the programme on the extreme poor in terms of increase in income and reduction in incidence of poverty are not within the scope of the paper, either.

3.2.2 Research Questions

In order to fulfill the above objectives, this study attempts to address the following questions:

- How good have been the design and preparation of the 100-DEGP?
- How well has the targeting done in reaching the extreme poor? Has the beneficiary selection criterion been inclusive in nature? Has the selection criterion of beneficiaries been followed strictly? Was the participation of female workers satisfactory?
- How 100-DEGP can be compared with other anti-poverty programmes in Bangladesh?
- What are the direct benefits of the 100-DEGP to the poor?
- Are the jobs created and income provided through the 100-DEGP enough? Is there a need for scaling up?
- Has the selection of projects under the 100-DEGP been correct in terms of type of the work and choice of time?
- What was the extent of leakage in terms of providing employment to non-

target groups and misappropriate utilisation of 100-DEGP funds by the implementing authorities and agencies?

- How can the misuse of 100-DEGP fund be reduced and how can more transparency in fund usage be ensured? Are the accountability mechanisms and transparency of the100-DEGP adequate to reduce leakage of funds?

- How good were the monitoring and coordination of the 100-DEGP? Are the delivery and recipient systems clear and integrated?

3.2.3 Methodology and Sources of Data

The study is primarily based on information from field level investigation of the 100-DEGP. In order to address the research questions the study team gathered information from three districts, namely Nilphamari, Jamalpur and Naryanganj. These districts were selected in view of their unique socioeconomic characteristics. For example, Nilphamari is a *monga*-prone area, Jamaplur is affected by river erosion and Narayanganj[1] is close to the capital city Dhaka where most economic activities are performed. A total of nine focus group discussions (FGD) were conducted during the field visits, out of which six were with the beneficiaries and three were conducted with the service providers including government officials, chairmen and members of the UP. A semi-structured questionnaire was used to elicit information on various aspects of the 100-DEGP from the field, including income, employment, expenditure, assets, food insecurity and necessity of the continuation of the programme.

On average 15 individuals participated in each FGD which took place during February-March 2009 in four randomly selected unions under four upazilas of the three districts (Table 3.1). In addition to FGDs, a rapid appraisal was also carried out among 112 individuals in the sample areas, to have their perception in terms of benefits, loopholes and ways to improve the programme.

Table 3.1: Distribution of Beneficiaries and Areas under Field Investigation

District	Upazila	Union	Number of Sample Beneficiaries	
			Male	Female
Nilphamari	Sadar	Luxmichup	20	20
	Sadar	Kundupukur	25	10
	Sadar	Charaikhola	10	10
Jamalpur	Islampur	Kulkandi	15	2

Source: CPD field investigation (2009).

[1]In Narayanganj, a debriefing was conducted (not FGD) among the service providers alone, which included government officials, chairmen and members of UP. Therefore, field survey data was not provided for this district throughout the paper.

A debriefing session was held as well with the responsible officials working at the Ministry of Food and Disaster Management. The report also draws information and findings from existing literature on various social safety net programmes in Bangladesh and across the world.

The analytical approach of the study is qualitative. Based on the information from FGDs, perception survey and debriefing sessions, the paper presents a review of the experiences on the current developments of the 100-DEGP at the field level.

3.2.4 Layout of the Paper

The paper is organised in the following manner. Section 3.3 presents an overview of the social safety net programmes in Bangladesh with particular focus on the 100-DEGP. The findings of the field level investigations are presented in Section 3.4. This section reviews the design, implementation and monitoring of the 100-DEGP based on the information from the FGDs. Section 3.5 presents an overall assessment of the programme. Finally, Section 3.6 provides a number of policy recommendations, while Section 3.7 makes some concluding remarks.

3.3 A BRIEF OVERVIEW OF THE EMPLOYMENT GENERATION PROGRAMMES

3.3.1 Major Safety Net Programmes

While addressing poverty in Bangladesh, it is viewed from two broad perspectives, namely income poverty and human poverty. Employment generating programmes and direct transfers for the poor are used as a tool to address income poverty. Programmes focusing on areas such as education, health, nutrition and water and sanitation are targeted to mitigate human poverty. Safety net programmes are considered as direct measures which are devised to address both income and human poverty. Examples of indirect or growth-oriented measures include mostly infrastructure development and rehabilitation programmes. However, there are safety net programmes that are both direct and indirect in nature. For example, direct measures like FFW programme, targeted towards the poor is used to construct infrastructure, also falls in the category of indirect measure.

The modality of support under social safety net programmes can be direct cash transfer and support through creating opportunity for income. Programmes such as old-age allowance, allowance for the widowed, deserted and destitute

women, honorarium for insolvent freedom fighters, assistance to the fully retarded, fund for mitigating risk due to natural disaster, fund for rehabilitation of the acid burnt women and physically handicapped, and maternity allowance for the poor lactating mother are among the few to be mentioned in the direct support category. As has already been mentioned in Section 3.1, there are also programmes for the seasonally unemployed poor which are undertaken under the social safety net programmes. Some of these include 100-DEGP, FFW, VGD, TR, Rural Employment Opportunities for Public Assets (REOPA), Employment Generation for Hard Core Poor, and Rural Employment and Rural Maintenance Programme (RMP). A summary of the major social safety net programmes are presented in Table 3.2.

Table 3.2: Major Safety Net Programmes in Bangladesh

Programme	Objective
Employment Generation	
• Food for Work (FFW)	• Targeted to the rural poor for working on various public works projects
• Vulnerable Group Development (VGD) employment	• Programme for training, credit and employment for low-income women in the rural areas
• Test Relief (TR)	• Provides employment for the very poor through programmes for the development and maintenance of rural infrastructure
Cash Transfer Payments	
• Stipends for primary education	• Targeted to low-income households as an incentive to keep their children in school
• Stipend for girls secondary education	• Targeted to enhance girls attendance in secondary school
• Gratuitous Relief (GR)	• Provides emergency short-term relief to disaster victims
• Vulnerable Group Feeding (VGF)	• Provides foodgrains on a short-term basis to disaster victims
• Pure transfer payments	• Includes allowances for distressed, widowed or divorced women, old age allowances, cash assistance for the low-income freedom fighters, funds for the homeless

Source: GoB (2008), Hossian and Osman (2007).

3.3.2 Allocation for Social Safety Net Programmes

Though the allocation for social safety net programmes is gradually increasing over the years, its share in total public expenditure has been on the wane since

1998-99 till 2007. On average, during 1996-97 to 2004-05 period, the share of expenditure on these programmes was 0.8 per cent of the gross domestic product (GDP) and 5.7 per cent of the total public expenditure (World Bank 2008). However, during FY2006-07 and FY2007-08, higher allocations were made for social safety net programmes. In FY2006-07, total allocation for safety net programmes was 9.3 per cent of the budget and 1.4 per cent of the GDP, which increased to 13.32 per cent of the revised budget of FY2007-08 and 1.8 per cent of total GDP. In FY2008-09, the share has been increased further to 16.94 per cent of the total budget and 2.76 per cent of the GDP. Apart from government initiatives, a number of NGOs are also engaged in operating various social safety net programmes for the poor. Table 3.3 presents the trend in government expenditure on social safety net programmes in Bangladesh during 1996-2007.

Table 3.3: Average Expenditure on Allocation of Social Safety Net Programmes

(in Crore Taka)

1996-97–2000-01	2001-02–2004-05	2006-07–2007-08
1947	2270	7053

Source: World Bank (2008); Budget documents, GoB.

In FY2007-08 about 8.6 per cent of total safety net expenditure in Bangladesh was spent to create employment opportunities for the poor and vulnerables. This is in addition to other microcredit programmes that also support programmes for employment creation. An amount of Tk. 47,370 million has been allocated in the budget of FY2008-09 of which more than 42 per cent has been allocated for the 100-DEGP. In the budget FY2008-09, Tk. 3,064.9 crore was allocated for the employment generation programmes, whereas Tk. 818.0 crore was allocated for the cash transfer programmes (Table 3.4). Table 3.5 gives details on various social safety net programmes and employment generation programmes including allocation in the budget FY2008-09.

Table 3.4: Allocation for Social Safety Net Programmes in Bangladesh

Programme	Allocation in FY2007-08 (RB*) (Tk. crore)	% in SSNPs** Budget	Allocation in FY2008-09 (Tk. crore)	% in SSNPs Budget	Increase (%) in FY2008-09 over FY2007-08
1. Employment Generation	1635.0	14.3	3064.9	18.1	87.5
FFW	503.0	4.4	1577.6	9.3	213.6
VGD	721.0	6.3	855.8	5.1	18.7
TR	411.0	3.6	631.5	3.7	53.6
2. Cash Transfer Payments	834.5	7.3	818.0	4.8	-2.0
Stipends for Primary Education	468.0	4.1	468.0	2.8	0.0

(Table 3.4 contd.)

(Table 3.4 contd.)

Programme	Allocation in FY2007-08 (RB*) (Tk. crore)	% in SSNPs** Budget	Allocation in FY2008-09 (Tk. crore)	% in SSNPs Budget	Increase (%) in FY2008-09 over FY2007-08
Stipend for Secondary and Higher Secondary (female student)	340.0	3.0	340.0	2.0	0.0
GR	26.5	0.2	10.0	0.1	-62.3
3. Non-cash Transfer	2704.0	23.6	3383.0	20.0	25.1
Payments					
VGF	855.0	7.5	708.1	4.2	-17.2
Open Market Sale (OMS)	1849.0	16.1	2675.0	15.8	44.7
4. Others	6293.9	54.9	9665.7	57.1	53.6
Total safety net (1+2+3+4)	11467.4	100.0	16931.6	100.0	

Source: Food Planning and Monitoring Unit (FPMU), Ministry of Food and Disaster Management.
Note: *RB is the revised budget.
**SSNP is the social safety net programme.

Table 3.5: Coverage of and Allocation for Employment Generation Programmes (Excluding Microcredit-based Programmes)

Programmes	Objectives	Targeting/ Eligibility Criterion	Coverage in FY2008-09	Budget Allocation in FY2008-09 (Tk. Crore)	% of Budget	Share of Total Allocation for Employment	Share of Total SSNPs' Allocation
100-DEGP	Employment generation for extreme rural poor unemployed people; Increasing purchasing power of extreme poor affected by price hike	Extreme poor and permanent, capable resident and marginal farmers in rural areas (especially vulnerable areas); Eager to work but unemployed and unskilled poor people; Landless or temporary farm	200 mln person-days	2,000.00	2.01	42.00	11.80

(Table 3.5 contd.)

(Table 3.5 contd.)

Programmes	Objectives	Targeting/ Eligibility Criterion	Coverage in FY2008-09	Budget Allocation in FY2008-09 (Tk. Crore)	% of Budget	Share of Total Allocation for Employment	Share of Total SSNPs' Allocation
		labourers; Not benefiting from other ongoing SSNPs					
FFW	Employment generation for the poor in slack season; Development and maintenance of rural infrastructure	Landless, femal-headed households, day labourers and temporary workers, people with income less than Tk. 300 month	4.7 mln person-months	1,577.60	1.59	33.00	9.30
TR	Employment generation for poverty stricken people in rainy season; Development and maintenance of rural infrastructure	Poverty sticken areas	1.9 mln person-months	631.50	0.63	13.00	3.70
Food Support for Chittagong Hill Tracts (CHT)	Employment generation; Infrastructure development	-	0.74 mln person-months	237.90	0.24	5.00	1.40
REOPA	Empowerment of women; Rural infrastructure maintenance	Households with less than 0.3 ha of land, female-headed households; Households with no other income and not participating in other targeted programmes	24,000 women	40.00	0.04	1.00	0.20
Employment Generation for Hardcore Poor		-	0.1 mln individuals	100.00	0.10	2.00	0.60

(Table 3.5 contd.)

(Table 3.5 contd.)

Programmes	Objectives	Targeting/ Eligibility Criterion	Coverage in FY2008-09	Budget Allocation in FY2008-09 (Tk. Crore)	% of Budget	Share of Total Allocation for Employment	Share of Total SSNPs' Allocation
RMP		-	5 mln individuals	190.00	0.19	4.00	1.10
Total				4,777.00	4.80	100.00	28.10

Source: FPMU, Ministry of Food and Disaster Management.

3.3.3 Phase-I of the 100-DEGP

The 100-DEGP has been designed to cover 20 lakh beneficiaries. By the end of the first phase of the programme, the actual number of beneficiaries was 19,97,075; average per day workers were 17,93,720, out of which 14,44,921 were male and 3,48,798 were female. This implies that the targeted coverage was not achieved during the first phase of the programme. This has resulted in non-utilisation of the total allocated budget for the programme. For the first 60 work-days, an amount of Tk. 9,154.7 million was disbursed against the allocation of Tk. 12,000 million. From a pool of 1,48,228 approved projects, 1,01,059 projects had been started. However, during the 60 days of the first phase, only 51,207 projects could be completed (Table 3.6).

Table 3.6: 100-DEGP during Phase-I

Total Population Coverage	
Estimated	
Male	Not Specified
Female	Not Specified
Total	19,97,075
Actual Average/day	
Male	14,44,921
Female	3,48,798
Total	17,93,720
No. of district covered	64
Total allocation (Tk. million)	12,000
Total disbursement (Tk. million)	9154.7
No. of approved project	1,48,228
No. of started project	1,01,059
No. of completed project	51,207

Source: Ministry of Food and Disaster Management.

The Guideline of the 100-DEGP spells out that based on the local demands, the local Chairman should propose project plans to the Upazila Nirbahi Officer (UNO), who would approve the projects in consultation with the District Commissioner (DC). The proposed projects should include following types of activities: pond and canal excavation, re-excavation; construction and reconstruction of roads and dams; compost fertiliser; drainage for removing water logging; filling grounds of various organisations; waste removal; afforestation; reconstruction of houses destroyed by natural hazards; grass plantation and vegetable cultivation; resist Jatka fishing, etc. (Table 3.7).

Table 3.7: Projects Undertaken during the 100-DEGP

Division	Compost / Biofertiliser	Reconstruction of Houses Destroyed in Natural Disasters	Ground Filling of Houses	Construction/ Reconstruction Road and Embankment	Digging and Dredging of Drainage to Remove Water Logging	Afforestation/ Grassing/ Vegetable Cultivation	Digging and Dredging of Canals and Old Pond	Waste Removal	Ground Filling of Social Welfare Institutions	Others	Total
Dhaka	3261	1	16	26246	271	135	472	916	3789	51	35158
Chittagong	4405	22	0	20472	433	147	2412	756	2486	698	31831
Sylhet	276	7	1	8479	458	27	214	346	656	50	10514
Khulna	1216	278	3	10601	245	6	580	208	1825	187	15149
Barisal	1883	0	65	7538	136	41	609	101	871	115	11359
Rajshahi	3487	4	310	29553	821	137	619	295	8635	356	44217
Total	14528	312	395	102889	2364	493	4906	2622	18262	1457	148228

Source: GoB (2009).

3.3.4 100-DEGP Compared with other Social Safety Net Programmes

According to the latest official data from the Household Income Expenditure Survey (HIES), 13.1 per cent of the households in Bangladesh were under the safety net coverage in 2005 (Table 3.8). Division-wise distribution of beneficiary households shows that the highest share of households receiving benefits from social safety net programmes was in Sylhet division (22.4 per cent) and the lowest in Khulna division (9.5 per cent). However, according to the division-wise poverty data, percentage of people living below poverty line was second lowest in Sylhet and third highest in Khulna (Table 3.9). It indicates that safety net programmes were not undertaken with proper consideration of regional incidences of poverty.

Table 3.8: Spatial Poverty Rates in 2005 and Distribution of Beneficiaries in Social Safety Net Programmes

(in Per cent)

Division	Poverty Head Count Rate	Beneficiary Households		
	Upper Poverty Line	Total	Rural	Urban
Dhaka	32.0	14.3	20.0	4.9
Barisal	52.0	13.3	14.8	5.0
Chittagong	34.0	11.1	12.9	5.7
Khulna	45.7	9.5	11.0	4.2
Rajshahi	51.2	12.4	13.0	7.7
Sylhet	33.8	22.4	24.3	11.3
National	40.0	13.1	15.6	5.5

Source: BBS (2008).

As opposed to the expenditure pattern of social safety net programmes, the 100-DEGP addressed the regional inequality in a better manner. The 100-DEGP is better designed to address the regional variations in poverty since the distribution of beneficiary households are in line with the extent of poverty across most of the divisions (Table 3.9). However, there is further scope to increase the allocation efficiency of the programmes in terms of regional concentration of this programme.

Table 3.9: Spatial Poverty Rates in 2005 and Distribution of Beneficiaries in 100-DEGP

Division	Poverty Head Count Rate (%)		No. of Registered Beneficiaries	Beneficiary Households (%)
	Upper Poverty Line	Lower Poverty Line		
Dhaka	32.0	19.9	539895	6.10
Barisal	52.0	36.5	142180	7.68
Chittagong	34.0	16.1	321680	5.85
Khulna	45.7	31.6	219400	6.59
Rajshahi	51.2	34.5	656520	9.60
Sylhet	33.8	20.8	117400	6.53
National	40.0	25.1	1997075	7.09

Source: GoB (2009); BBS (2008).

Note: Population has been calculated assuming a average of 1.58 per cent yearly incremental rate using the baseline of 2001 census (Ministry of Finance). Average household size has been calculated as 4.85 persons considering HIES 2005.

3.3.5 100-DEGP Compared with Similar Programmes in Other Countries

In the literature, there are debates as to what should be the focus of programmes such as 100-DEGP. Debates centred around the idea of work "wide coverage with flexible wage rate (WIDCOV)" and "limited coverage at a socially determined minimum wage (LIMCOV)." Arguments have also been made for and against two similar concepts of programmes such as the labour-based approaches in infrastructure programmes (LBIPs) and employment-based safety net programmes (EBSNs). The LIMCOV and LBIPs fix higher wage rate and have greater potential for poverty reduction, while WIDCOV and EBSNs are more effective at achieving broad-based poverty reduction by offering work to all who want it at any wage rate. However, depending on the requirement, countries may opt for programmes that suit their conditions best.

One of the most successful programmes in ensuring employment and income to the poor is the National Rural Employment Guarantee Programme (NREGP) in India which has been initiated after the encouraging performance of Employment Guarantee Scheme (EGS) in Maharashtra in the 1970s. The NREGP has made it obligatory on the state governments to provide 100-days of paid work to at least one member from each household who may be in need of work. This programme was operationalised in FY2006-07 in 200 of India's poorest districts and then was extended to 330 poorest districts in FY2007-08; in FY2008-09, the programme has been extended to 596 districts. The NREGP generated 905 million person-days of employment in FY2006-07 which was extended to 1,437 million person-days with the expansion of the programme in FY2007-08. One study indicates that the NREGP provided work, albeit for less than 100 days, to around 21 million persons in FY2006-07 and 34 million in FY2007-08.

Though conceptualised in a similar note, the 100-DEGP in Bangladesh is different from the NREGP in many respects. Since the EGS and NREGP have been in operation for a long period the experience of these programmes and other successful programmes around the world can be useful for Bangladesh. Table 3.10 presents a comparison of the Bangladesh 100-DEGP, Indian NREGP and Argentine social protection project TRABAJAR.

Table 3.10: Comparison among the 100-DEGP of Bangladesh, the NREGP of India and TRABAJAR of Argentina

Criteria	Bangladesh 100-DEGP	Indian NREGP	Argentina TRABAJAR
Strategic goals	• Create employment for extreme/unemployed poor in rural areas; • Increase purchasing power of extreme poor people affected by price hike; • Develop/maintain small-scale infrastructure;	• Enhance the livelihood security of people in rural areas; • Create durable assets and sustain livelihood resource;	• Provide temporary income support to poor and unemployed workers;
Coverage	• Targeted to physically and mentally able poor/unskilled unemployed poor; • No gender target; • Excludes persons covered by other social safety nets; • Only one member per household; • Age range: 18 to 50;	• Every household adult member willing to perform unskilled manual work; • One-third of the employed has to be women; • More than one member of a household can apply; • No restriction regarding participation in other safety nets; • Age range: minimum 18, no upper age limit;	• Targeted to poor, unemployed workers; • No gender target
Implementation aspects	• Nationwide: 64 districts, 480 upazilas, in two phases, matching to lean periods.	• Piloting: Maharashtra EGS in 1972; • Two Phases: I Phase: 200 districts in 2006; II Phase: 130 districts in 2007-08, others from April onward; • Act notified in 2005 to cover whole country by 2010;	• Geographically targeting poverty-prone areas;
Implementation period	• 100-days during lean seasons (mid-September to end-November) and March-April; • In case of natural disasters, programme can be launched any time;	• 100-days per household at any time throughout the year;	• Throughout the year; • Each of the undertaken projects must be completed within 4-6 months and can employ no more than 100 persons;

(Table 3.10 contd.)

(Table 3.10 contd.)

Criteria	Bangladesh 100-DEGP	Indian NREGP	Argentina TRABAJAR
Past experiences with Public Rural Employment Schemes	• Limited;	• Long: Rural Manpower Scheme (1960); Crash Scheme for Rural Employment (1971-72); Maharashtra programme initiated in 1972; Food for Work Programme (1977); transformed into National Rural Employment Programme; National Food for Work Programme (2005);	• In the '90s, series of short-term public employment programmes named PIT (intensive work programme); • TRABAJAR replaced the old programme in March 1996;
Provision of legal obligations	• No statutory work guarantee;	• Scheme backed by Parliament NREG Act emphasising the right to work and guaranteed employment;	• No statutory work guarantee;
Budgetary commitments	• Project-wise allocations fixed within the limits of the funds; • Administrative expenses borne by the government;	• Central government bears entire wage costs of projects for unskilled workers; • Funds released based on project appraisal;	• Initially funded by the government, later the government sought external assistance;
Institutional settings	• Four-tier set-up of: central government, district, upazila and UP;	• Multi-tier set-up of: Central government; State District Panchayat, District Programme Officer; Intermediary Panchayat, Block Programme Officer; Gram Panchayat (execute 50 per cent of works);	• Multi-tier set-up of : Ministry of Labor and Social Security (MTSS), Municipalities, provinces, national agencies, NGOs and/or private organisations;
Beneficiary selection procedure	• Consultations to be held with stakeholders at union level, which would be approved at upazila level by the UNO;	• Interested households have to apply for registration to the local Gram Panchayat;	• Targeting mechanism is the low wage rate, lower than market rate; • Considered to be self-selection;
Type of work	Preparation of compost heap for cultivated land, road/barrage construction; repair of houses affected by natural calamities, pond/canal excavation; afforestation and vegetable grass cultivation on	Water conservation and harvesting, drought proofing (afforestation, tree planting); irrigation facilities for households belonging to "scheduled castes or scheduled tribes," renovation of traditional water bodies,	Minor construction, repair, expansion, or remodeling of schools, health facilities, basic sanitation facilities, small roads and bridges, small dams and canals, community kitchens and centres, tourist centres, and low-cost housing;

(Table 3.10 contd.)

(Table 3.10 contd.)

Criteria	Bangladesh 100-DEGP	Indian NREGP	Argentina TRABAJAR
	government land; canal irrigation/construction for removing water logging; removal of sweeping and waste materials - other agricultural production activities, as approved by the National Steering Committee of Ministry of Food and Disaster Management;	land development, flood control, rural connectivity (all-weather roads); any other work notified by the Central Government;	
Works selection	Preparation: • UP/ward members, based on consultation with identified stakeholders; final work list to be approved by UNO;	Preparation: • Annual plan for the village by each Gram Panchayat, in consultation with Gram Shabhas, which are ultimately consolidated and approved at District level; • Work proposals to be implemented by agencies (in most cases Gram Panchayat) as designated by the states or the Centre;	Preparation: • A participatory approach incorporated into the operations; • Projects can be proposed by local governments, community groups or NGOs; • All sub-project applications are to be evaluated by professionals according to a methodology which involves a comprehensive review of each proposals;
	Selection criteria: • To be consistent with the Guidelines; no minimum labour requirements and/or minimum labour intensity ratio; more than one project can be taken in one area;	Selection criteria: • Work proposals to be consistent with the list of permissible works under the Act;	Selection criteria: • Project selection process places emphasis on targeting poor areas to receive projects; • This geographic targeting mechanism is part of a points system used in sub-project prioritisation; • Neighbourhoods and municipalities of the target groups are promoted as potential recipients for projects that in turn provide opportunities for self-selection;
Allocation and implementation of works	• Works have to be completed within 90 and 60 days of receiving fund for the first and	• Time frame is specific to each approved work; • Works allocated to any applicants by Gram	• Sub-projects must be completed within 4-6 months and can employ no more than 100

(Table 3.10 contd.)

(Table 3.10 contd.)

Criteria	Bangladesh 100-DEGP	Indian NREGP	Argentina TRABAJAR
	second phase; • UNO to supervise officers, disseminate publicly declare list of projects/capable persons in open-ward meeting; • Project Implementation Committees (PIC), formed by Union Committees are responsible for execution of all projects; • Relevant government agencies are to provide technical assistance;	Panchayat and Block Implementation Officer; • Priority to old works within the plan; • New works initiated only if there are at least 10 labourers (formerly 50);	persons; • The initial step after sub-project approval and funding is for the executing agency to present the Provincial Manager of Employment and Training Programmes with a list of workers for the project; • Approved and prioritised sub-projects are funded up to the limit set by the available funds;
Technical assistance support	• Guidelines do not contain any such provisions;	• Central Government supports administrative expenses; • Training of stakeholders at all levels;	• The MTSS provides promotional and training activities;
Wage and disbursement	• Uniform wage of Tk. 100/day/person; • Wages are to be disbursed on daily basis payment by Union Committee through government scheduled banks at the upazila level;	• Minimum wage rates for agricultural labourers, (set in the Minimum Wage Act 1948, not less than Rs. 60/day); • Wages can be paid in cash or kind (foodgrain), but 25 per cent at least in cash; • Wages are to be paid on weekly-basis;	• Wage is lower than average market wage rate and it is paid through cheques; • Cheques are issued to each worker once a month for the previous month's work; • Depending on the location of the sub-project, workers either receive their cheques at a bank, or the post office;
Employment guarantee vs. employment generation	• No legal guarantee to provide job within 15 days of registration/issue of card;	• Jobs to be provided by Gram Panchayat within 15 days from application receipt date, as stated by the Act;	• No such provisions
Unemployment allowance	Eligibility: • 15 days after registration, if no employment provided; • Amount: Tk. 40/day for first 30 days and Tk. 50 day for the remaining period; • Payment by Union Committee through government schedule	Eligibility: • If no employment is provided within 15 days after submission of application; • Amount: no less than one-fourth of the wage rate for the first 30 days after a person becomes eligible for	• No such provision;

(Table 3.10 contd.)

(Table 3.10 contd.)

Criteria	Bangladesh 100-DEGP	Indian NREGP	Argentina TRABAJAR
	bank at upazila level; Conditionality: • Payment stopped if work can be made available; • Allowance is not given, if applicant is absent from works for which he registered;	unemployment allowance, and no less than one-half of the wage after that; Conditionality: • Applicants have to report for work within 15 days of being informed by Gram Panchayat; • Not applicable if time period for which work is sought runs out;	
Provision of worksite facilities and other social facilities	• Not specified;	• Mandatory provision of facilities such as crèche, drinking water, shade for children, etc.; • Entitlement to free medical treatment for injury, a payment to legal heirs of deceased/ disabled workers; • A person may be entrusted (and paid by the programme) if more than 5 children are brought on worksites with their parents	• Not specified;
Physical access to jobs	• No limit distance to worksites;	• Work to be provided within 5 km of the village, if not, wage premium of 10 per cent;	• Projects were selected and implemented within the locality;
Communication process	• Registration notice may be hanged in open space; • Union supervising officer nominated by UNO declare list of projects and capable persons in open-ward meeting in presence of beneficiaries;	• Various information education and communication (IEC) strategies; • Gram Sabha are responsible to inform key features of the Act;	• Not specified;
Monitoring and financial auditing	Monitoring responsibilities: • Upazila Disaster Management	Institutions: • National level monitors, independent monitors;	Monitoring: • Previously formulated monitoring indicators are used by MTSS,

(Table 3.10 contd.)

(Table 3.10 contd.)

Criteria	Bangladesh 100-DEGP	Indian NREGP	Argentina TRABAJAR
	Committee, District Committees;	Processes: • Special monitoring scheme by national level monitors, local monitors and vigilance committees; • Programme reviews by Ministry of Rural Development; • Regional Performance Review Committees;	implementing organisations, the World Bank, and the Inter-American Development Bank (IDB); • The programme also has a built-in monitoring device;
	Audit: • Generic provision that the government will take necessary arrangement for auditing the programme in consultation with Controller and Auditor General;	Audit: • Financial audit is mandatory and must be carried out by each district at the end of the final year either by local fund auditors or chartered accounts;	Evaluation: • As projects are evaluated and completed, a database on prices of materials as well as unit costs is built up in order to be used as a basis for comparison with subsequent sub-project proposals; • As part of the overall programme evaluation, a survey instrument is being used to determine the direct benefits of a random sample of TRABAJAR workers for particular sub-projects. These survey results are compared with those of a control group selected from the population at large; • The indirect benefits of the projects financed through TRABAJAR will be measured by ex-post evaluations of a random sample of projects;
Accountability and transparency	• Guidelines and monitoring sheet are available on the Internet; • Implementation Guidelines do not contain specific provisions regarding public disclosure of	• People can ask for copies of all records and accounts, as well as muster rolls; • Implementation followed-up by NGO and other independent groups;	• Not specified;

(Table 3.10 contd.)

(Table 3.10 contd.)

Criteria	Bangladesh 100-DEGP	Indian NREGP	Argentina TRABAJAR
	monitoring information; Grievance remedy: • District Committee responsible for grievance redress; no clear mechanism;	• On line access to monitoring information; • Annual reports on outcomes submitted to the Parliament Grievance remedy: • District programme coordinator is responsible for disposal of grievances - setting up of grievance redressal cells at programme offices; • Grievances are to be reviewed on a monthly basis;	

Source: Adopted from G.B.SSI. (2008); Government of India (2005); GoB (2008); Ministry of Rural Development, India (2008); BRAC (2009); and Eisenstadt (1998).

As India and Bangladesh are close door neighbours, and many of their socioeconomic contexts are also similar, the present paper attempts a direct comparison between these two countries' employment generation programmes in the Table 3.11

Table 3.11: Similarities and Differences: 100-DEGP and NREGP

	Criteria	100-DEGP	NREGP
Similarities	Objectives	Emphasising employment provision for poor and vulnerable people linked to rural infrastructure development	
	Type of works/selection of works	In both cases agriculture, disaster/flood control, removal of water logging, irrigation, rural connectivity have been mentioned	
	Employment/ unemployment provisions	In both cases beneficiaries can only avail 100-days of work, employment should be guaranteed within 15 days of the card issues and unemployment allowance is to be provided under certain conditions	
	Wage and unemployment allowance	In both cases the rate of unemployment allowance appeared to be the same	
	Implementing agency	In both cases lower tier of the local government were responsible. In Bangladesh it was at union level and in India it was Gram Panchayat	
Differences	Selection of works	Top-down, short-term focus	Bottom-up, long-term development focus
	Selection process	Identification of beneficiaries followed several steps comprising union level and chairmen level	Based on self-selection and individual application
	Institutional approach	Lacks institutional approach since it is not legally guaranteed	The Indian State Employment Guarantee Schemes are backed by a Perliament Act, the NREGA. The act has come after a long delay since the programme began its operation in different parts
	Supporting role by other institutes	Absence of freedom of information act creates constraints to the programme	Freedom of information act facilitates the schemes transparent and accountable in broader degree
	Timing	Time-bound with two phases	Can be implemented throughout the year
	Coverage	Extensive coverage comprising all districts immediately since the inception of the programme	Did piloting in Maharashtra state during 1970s. Now the programme covers 330 districts out of 500.

(Table 3.11 contd.)

(Table 3.11 contd.)

	Criteria	100-DEGP	NREGP
	Beneficiary unit	Beneficiary unit is selected household member	In India, household beneficiaries mean other members of the house
	Upper age limit	Fixed to age 50	Not fixed
	Gender dimensions	No quota for women; top-down, short-term focus	One-third of the beneficiaries must be women

Source: Adopted from G.B.SSI. (2008); GoB (2008).

3.4 100-DEGP IN BANGLADESH: FINDINGS FROM THE FIELD INVESTIGATION

The government has completed the implementation of the first phase of the 100-DEGP which created employment for a couple of months (60 days). According to the government's achievement record, 76.1 per cent of the allocation for the first phase was disbursed creating employment for 19.9 lakh hardcore poor who were the beneficiaries of the programme. A six-member team from the CPD visited the districts at Nilphamari, Jamalpur and Narayanganj to observe the situation at the field level and to study the progress of the programme. For the assessment, FGDs were held with both the beneficiaries and the providers. A rapid perception survey with regard to the effectiveness of the programme was conducted with the beneficiaries at Nilphamari and Jamalpur districts. Assessment of the first phase (through FGD) was based on the programme's "Guidelines." Field findings, presented in this section, present views both from the beneficiaries and the providers. Before proceeding to the discussion and analysis of the 100-DEGP, it is worth underlining here that since the programme is the first of its kind and it has been difficult to set benchmarks (since the programme was implemented without a comprehensive household survey) its evaluation will be useful for the programme.

3.4.1 Assessment of Design and Planning of the 100 DEGP

Groundwork and Guideline

The 100-DEGP certainly is a massive effort to accommodate two million rural hardcore and seasonally unemployed poor under the social safety net. Groundwork plays a decisive role in achieving success in such types of programmes. After the official declaration of the programme on 15 August

2008, the stakeholders had only two weeks in hand to prepare and plan for the colossal programme, since the Guideline instructed to commence the programme within a month, by September. Such limited ground work at the project fomulation stage resulted in to a deficit in terms of providing employment for 60 days. However, it must be remembered that the programme was inaugurated at an almost crisis situation when the poor people of the country were finding it difficult to survive in the face of high food and essential prices. So, the objectives of the programme also acted as a safeguard to protect the poor's incomes.

The Guideline forms the basis of the design and implementation of the programme. Again, pointing to the lack of preparedness, the Guideline was not provided to all the stakeholders in time. UP chairmen and members, who were the key players during the implementation phase, had the least idea with regard to the legal context of the programme. Besides, the Guideline itself suffers from lack of clarity in terms of both designing the approach and implementation at the root levels. Many of the instructions have indefinite and often mixed meanings, and thus have left a lot of ambiguities and scopes for leakage.

Awareness

The social safety net programmes including VGD and FFW, usually have mass response among the beneficiaries as they raise proper awareness about the details of the programmes thanks to effective preparatory planning and groundwork. However, in case of 100-DEGP, the lack of preparation time resulted into an abysmally low level of response, as was observed in the CPD study.

3.4.2 Targeting

The programme's strength lies with its target-oriented approach. The programme is aimed to be implemented in a fixed time period to help a certain group of beneficiaries. However, the field survey revealed cases of inclusion of non-poor in the list of the beneficiaries due to lack of monitoring in the selection process. Members of the poorest segment of the society and those who are excluded from other existing social safety nets are supposed to be the beneficiaries for 100-DEGP, however, a number of cases were encountered where the targeting revealed adverse selection. Some beneficiaries were found to be owning productive assets and many were covered by other existing social safety nets.

In view of the above, it can be stated that the success of the social safety nets programme in reaching the real poor has been somewhat inaccurate. According to HIES 2005, safety net programmes mainly target the population categorised as "very poor" (Table 3.12).

Table 3.12: Targeting Criteria Used by Safety Net Programmes

Criteria	Per cent of Total Beneficiaries
Very poor	61.55
Widow/separated	7.78
Landless	7.12
No earner	1.58
Crippled	0.35
Disabled/illness	1.52
Old age	5.58
Freedom fighter	11.82
Other	0.49

Source: BBS (2007).

However, as identified by various studies, there are some clear indications of leakages. World Bank assessed that 27 per cent of VGD beneficiaries are not poor (World Bank 2008). Ahmed (2006) identified that 11 per cent of participants of the Primary Education Stipend Programme met none of the eligibility criteria for programme participation, and that almost 47 per cent of beneficiaries are non-poor, and thereby, inappropriately included in the programme.

Regional targeting has always been one of the approaches of safety net programmes in Bangladesh. Seasonal Unemployment Reduction Fund, kept in the safety net programme for FY2007-08, was supposed to target regions characterised by high and seasonal poverty. However, little evidence on effective addressing of regional issues is found in the overall social safety net programme design. As the findings from HIES 2005 indicate, in regions with high poverty incidence (Barisal, Rajshahi and Khulna), percentage of recipient households is significantly low compared to the population below the poverty line (Table 3.13).

Table 3.13: Regional Poverty and Beneficiaries of All Safety Net Programmes

Division	Recipient Household	People below Poverty Line
National	13.06	25.10
Barisal	13.34	35.60
Rajshahi	12.35	34.50
Khulna	9.51	31.60
Sylhet	22.42	20.80
Dhaka	14.33	19.90
Chittagong	11.05	16.10

Source: BBS (2007).

Assessment of Targeting: Findings from the Perception Survey

As a target-oriented programme, the most important factor defining the success would be the effectiveness of targeting the beneficiaries. The Guideline provided specific criteria of targeting the beneficiaries:

1. The programme targets the hardcore poor throughout all 64 districts, including extremely poor unemployed people and marginal farmers, who remain seasonally unemployed in the lean period (5 months), giving emphasis on *char* and *haor-baor* areas and areas prone to *monga,* river bank erosion, flood and other natural disasters.

2. The landless[2] who have low-income, and have no productive assets such as pond for fish culture and no animal resources.

3. Those eager to work but unemployed and unskilled[3] poor person.

Targeting of 100-DEGP is devised on two factors, poverty level and geographical position. It should be noted here that, there remains a lack of clear understanding of the term "extremely poor" which is not well defined. When objective of the programme is to facilitate the hardcore poor, without a solid clarification of the poverty line, it would not be possible to achieve a fair targeting. On the other hand, geographical consideration of the target group seems quite consistent with the programme's views as it is known that, *monga,* river erosion, flood prone, *haor-baor* and *char* areas are the most economically stressed regions in the country.

The Guideline also provided several eligibility criteria for the beneficiary such as, s/he should be capable to work and be within the age limit of 18 to 50, should be excluded from other social safety nets and one person from each family. CPD's rapid assessment survey revealed that number of family members for most of the beneficiaries was more than five. According to the BBS (2007), household size of above four used to be more poverty-prone. Besides, most of them did not own any productive assets. Though the beneficiaries were supposed to be excluded from other social safety net programmes, many of their family members were found to be covered under various such programmes. The details of these findings have been presented in Table 3.14.

[2]Those with not more than 0.5 areas of land.

[3]Unskilled poor persons mean day labourers or farm labourers who are not trained as masons, carpenters, electricians, gas mechanics or mill workers, or persons who have no alternative employment opportunities. Those who permanently, temporarily or semi-permanently work in a farm, or belong to a solvent family are not allowed to register under this programme.

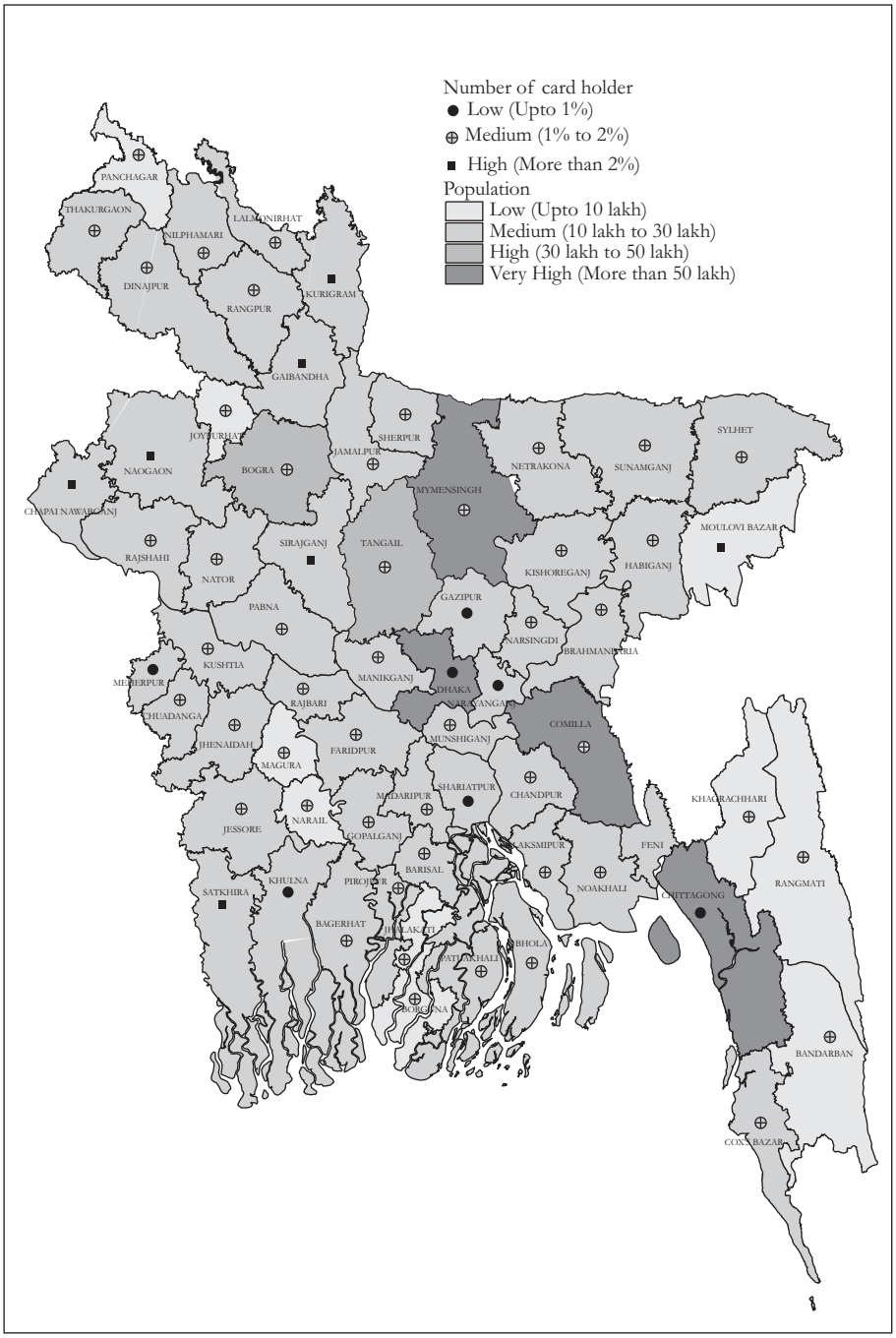
Table 3.14: State of the Targeting Beneficiaries

District	Union (Number of Sample)	Family Member		Productive Assets			Involvement of Family Members in other SSNP	
		<4	>5	No	Yes		No	Yes
					Land/ House	Livestock		
Nilphamari	Luxmichup (40)	10	30	32	8	2	33	7
	Charaikhola (35)	12	23	33	2	-	21	14
	Kundupukur (20)	7	13	17	3	-	15	5
Jamalpur	Kulkandi (17)	6	11	15	2	-	12	5

Source: CPD's field investigation (2009).

It is observed from Map 3.1 that Moulovibazar district has recorded higher number of card holders despite their lower population. Whereas, highly populated Mymensingh district, (and also with relatively higher poverty rate) experienced lower distribution of cards. In general, distribution of cards was found to be proportionate to the population density. However, for successful implementation of the programme in the next phase, this sort of loopholes need to be addressed.

Map 3.1: Share of Card Holders against Population



Source: Prepared by CPD, based on the data using from GoB (2009).

3.4.3 Time Frame

According to the Guideline, the first phase of the programme was to be implemented between September to November 2008. These 3 months are a lean period when daily labourers and marginal farmers become unemployed. However, the Guideline assumes that the timing and duration of the lean period varies across the country based on the agro-economic characteristics. Traditionally, safety net programmes in Bangladesh were targeted to address concerns during rainy season, natural calamity, drought and flood (Table 3.15). However, 100-DEGP targeted the entire time period along with the timing of *monga* and river erosion.

Table 3.15: Timing of the Social Safety Net Programmes

Timing of Programme	Total	Barisal	Chittagong	Dhaka	Khulna	Rajshahi	Sylhet
Depression	40.46	42.16	38.26	35.14	60.46	50.39	22.29
Rainy season	18.64	10.94	15.33	28.88	13.01	13.69	7.17
Natural calamities	30.65	45.85	24.04	28.09	23.72	28.42	52.51
Drought	1.08	-	2.15	1.10	0.94	0.78	0.97
Flood	8.97	1.05	20.23	7.79	1.88	7.72	17.06

Source: BBS (2007).

Indeed there was a 15 day "adjustment" slot (mentioned in the Guideline) to address necessary variability. In addition, agro-economic characteristics are not the only factor that left the targeting of time period in question, physical suitability of the works/projects undertaken also posed some difficulties. *Haor* and *char* areas, two major target areas of the 100-DEGP, remain submerged during the flood and definitely the time when seasonal unemployment emerges in these areas. The same fact applies for the large flood-prone areas of the country. As most of the approved projects were construction or maintenance of rural infrastructures (such as, road (re)construction, canal/ drainage dredging, ground filling, etc.) which involve earth works, these tasks are physically not feasible to be carried out during the adverse weather conditions. As a result, many of the projects in those areas had delays to start and hence were not completed on time. Consequently, first phase of 60 days did not provide adequate time to complete planned projects in any of the 64 districts. The duration (days) of the programme completion has been placed in Table 3.16.

Field observations revealed that in Charaikhola and Kundupukur unions of Sadar upazila of Nilphamari, the programme ran only for 44 and 39 days, respectively. But according to the official records of the UNO office, payment has been made for 51 days. Similar situation was found in Jamalpur, where officially the programme was recorded to run for 50 days, whereas field observations suggested 44 days.

Table 3.16: Completion of the Programme* in Terms of Duration (Days)[4]

Division	Approved Projects	Started Projects	Completed Projects	Completion Rate (%)
Dhaka	37917	24687	11950	48.41
Chittagong	31818	22473	9090	40.45
Sylhet	10514	6301	3479	55.21
Khulna	16383	11139	4784	42.95
Barisal	11349	8135	3800	46.71
Rajshahi	45814	28040	17805	63.50
Total	153795	100775	50908	50.52

Source: GoB (2009).
Note: *As of 1 December 2008.

3.4.4 Selection Procedure

Selection of Projects

The list of works that were to be undertaken during the lean period was finalised by the end of August 2008, and 1,53,795 projects were approved. The Ministry of Food and Disaster Management along with the Programme Steering Committee, decided on the type of work that should be considered for this programme. Priority projects have been mentioned in earlier section. It is to be noted that the range of works envisaged in the 100-DEGP is consistent with the strategic provisions on agricultural development in the National Food Policy, which emphasise on investing in rural infrastructure. Instructed by the relevant authorities and based on consultations with stakeholders, the UP went on to proposing a list of projects to the Union Parishad Disaster Management Committee. This committee made recommendations on the list of projects which was to be approved by the UNO. The UP Disaster Management Committee published the list of approved projects.

In practice, the selection of project sites and works was not done very carefully. Only in some cases, works were selected in consultation with relevant local experts such as the Department of Agriculture and Water Development Board officials. In fact, one observation that arose from the in-depth qualitative assessment carried out by CPD was that collaborating with experienced project implementers were more effective for the programme. Overall, the selection process was done on an ad-hoc basis, and not as part of an integrated local development planning, as is the practice in India, for instance. Under the NREG Act in India, an annual village plan is drawn by each Gram Panchayat in consultation with Gram Sabhas, which is then consolidated and approved at the district level.

[4] The numbers of projects were retrieved from:
http://www.mofdm.gov.bd/100%20Day%20Employment%20Generation%20Program.htm

Selection of Beneficiaries and Card Distribution

Although it was clear, that the selection criteria of poverty, age and exclusion from other safety net programmes were mentioned in the Guideline, interviews with district, upazila and union level government officials revealed that the official criteria for selection of beneficiaries had not always been clearly understood, and in some cases, were not even known.

Allocation of Cards per Ward

The basis on which UNOs decided on the number of cards for allocation in each ward varied widely. While the official criteria were poverty and unemployment intensity, the CPD study found that at times decisions were based solely on the number of people in one area, based on the notion arguing that poverty was pervasive in all areas.

The Guideline of the programme mentioned about the involvement of a number of people and consultations with relevant local community members. However, in several cases it was found that the UP chairmen or members did not consult anyone else in deciding on as to who should be on the list. Although a union level supervising officer was made responsible to review and check the list, the person had little authority to challenge the choices that had been made by the UP chairmen and members.

Incorporating NGOs Involvement

The Guideline also refers to the NGO involvement in the selection process of beneficiaries and works. However, such interface between the government and NGO/private sector of the country has not been followed.

Following Age Limit

As national ID card was used as the main document for identity confirmation almost every beneficiary had to get enlisted and receive the registration card in their respective districts. The age level instructed by the Guideline was not strictly followed. Many of the beneficiaries were of the age around 55 to 60 years (both male and female) and but they were capable of working efficiently.

Mismanagement in Selection Procedure

In the survey districts, list of beneficiaries were prepared by the chairmen or members of the UP. Local authorities responsible for providing cards reported

that those who did not own any land and who were not included in any other social safety net programme were selected for the 100-DEGP. The total allocation was quite insufficient to accommodate employment everyone for, but prospective beneficiaries were unable to accept this fact, and in some cases the authorities were accused of being biased in the programme.

It was quite evident that rules were not followed in all incidences. Many of the beneficiaries possessed productive assets including land and livestock, and conversely, many landless poor were not enlisted for the programme. A male beneficiary in one of the unions reported the CPD study team that, a school teacher who owns land or other assets was a beneficiary of the programme.[5]

Lack of Card Issued against Large Number of Poor

In Jamalpur, the selection procedure was found more or less well-organised and transparent, and the beneficiaries also expressed satisfactions with the programme. The Chairman of Kulkandi union of Dewanganj in Jamalpur complained that compared to the population and the poverty level of the union, the allocation of employment was not sufficient. This made the task of beneficiary selection difficult and demanded lot of prudence. Moreover, as the wage rate is not very high, capable labourers were not interested to work in this scheme. So in many cases, the providers had to find physically disabled or incapable persons to get enlisted in the programme.

Overall, observations in Nilphamari, Jamalpur and Narayanganj revealed that the scheme was effective in targeting young female housewives from low-income and poor families who did not have any asset, and did not have much opportunity to even earn a subsistence living.

Influence of Personal Ties and Political Factors

The selection procedure has been doubted by many, and complaints of bribery against the chairmen and members of the UP were not unusual. In the field, many eligible persons were found to be excluded from the programme list for their inability to pay bribe to the local decision makers.

Once the number of cards per ward was decided, the UP members used their own judgment to select individuals for the programme. Interviews by the CPD study team revealed a preference towards known people. This is confirmed by the information collected from the field which shows that being a close or

[5] The person has requested to remain anonymous.

Box 3.1: Corruption

Case I: Pay first to get the card

In the days of hardship, when Renubala (35) was struggling to feed her 4 children and drug-addicted unemployed husband, she was delighted to hear that she was selected as a participant in the 100-DEGP of the government. But fortune turns to fade away this time too. The UP Member came up demanding Tk. 1,000 to get her enlisted on the programme. Earning a meal for the family itself was a daunting task for her. Managing this additional money was a nightmare, from where would she manage the money? The member demanded that she would be working for 100 days earning Tk. 10,000, and hence it would not be so hard to pay Tk. 1,000. Desperate for the job, Renubala bargained and finally settled at Tk. 400 to get enlisted on the programme. This has been a common practice in the Luxmichup union of Nilphamari Sadar upazila. Many of the beneficiaries had to pay Tk. 200 to Tk. 500 each for registration in the programme. The programme ran for 51 days on an average in the first phase. So, ultimately the beneficiaries failed to derive their expected benefits.

Case II: Mismatched records of work-days

The official Guideline of the 100-DEGP was designed to be carried out in two phases, where the first phase was to take place between September and November generating 60 work-days. Lack of preparation led to the delayed commencement of the programme, and on the other hand, because of the upcoming Boro season, the programme had to be completed at an earlier date. As a result, on an average, 50 work-days were created according to the official achievement record. However, group discussions with the beneficiaries revealed that in Kundupukur of Nilphamari, the programme continued only for 44 work-days. In various wards of the union, 39 to 47 work-days were generated on an average. So, where did the extra work-days come from? Certainly there were some adjustments in the master rolls. Five fake work-days for each worker can produce large amount of leakage when the livelihood of the extreme poor is considered.

distant relative of the UP chairmen or members significantly increased the chances of becoming a beneficiary.

Another factor which was reported to have influenced the selection process was the upcoming UP election. Reportedly, in a number of cases the 100-DEGP was used as a campaign tool to strengthen the vote base for some candidates.

In spite of all these external factors influencing the process of the beneficiary selection, the effectiveness of the targeting turned out to be satisfactory. The government tried to keep track of the irregularities observed in the programme which has been placed in Table 3.17.

Table 3.17: Written or Published (in Newspapers) Complaints and Actions Taken

Issue	Number
Complaints published in newspapers	77
Editorial/features	5
Complaints by various individuals	24
Total no. of complaints	101
Letters sent to DC for investigation	95
Reports received from DCs till date	34
complaints proved	11
complaints remained unproved	23
Reports not received from DCs till date	67
Over-phone orders from the Ministry to solve complaints which were published in newspapers	3
Among the total no. of complaints	53 specific projects; 43 non-specific complaints
Amount of money notified in the complaints	Tk. 1298960
Allocation in those districts	Tk. 1250280000
Percentage of involvement of money among the complaints	0.104

Source: GoB (2009).

Corruption in Issuing Card

Registration cards for the beneficiaries were delivered in all the unions except for Jamalpur. However, many of them accused the providers (chairmen, members) for demanding illegal cash payment to get enlisted. In Luxmichup union, amount of bribery ranged from Tk. 100 to Tk. 500 per person. In Charaikhola and Kundupukur of Nilphamari, cases were found where more than Tk. 500 was demanded (Table 3.18). This type of irregularities implies that there have been incidences of fund leakages which is not negligible. For example, in Luxmichup union such leakage amounted to about 16 per cent of the total allocation.[6]

Table 3.18: Mismanagement Regarding Issuing Card

District	Union (Number of Respondents)	Card Issued		Bribery for Getting Enlisted			
		Yes	No	No	Yes		
					<Tk. 100	Tk. 100-500	>Tk. 500
Nilphamari	Luxmichup (40)	40		29		7	4
	Charaikhola (35)	35		26		8	1
	Kundupukur (20)	20		11		7	2
Jamalpur	Kulkandi* (17)		17	15		2	

Source: CPD's Field Investigation (2009).
Note: *At the Kulkandi union of Jamalpur, wages were paid weekly in few cases.

Beneficiaries were paid Tk. 100 daily in all the study areas except in Jamalpur where sometimes payments were made on a weekly basis. The Chairman of Kulkandi union of Islampur, Jamalpur notified the CPD team that allocation

[6]Leakage amount = No. of beneficiaries X (official work-day - actual work-day) X wage rate.

Table 3.19: Types of Irregularity Observed

Irregularity Allegation	Description
Selection and implementation of projects/ works	• Selection procedure often carried out without consultation with relevant stakeholders. Selection of projects was not made in a participatory or bottom-up approach. • The implemented projects were not producing social benefits. The selected projects involved ground filling or road constructions of providers' (i.e. UP chairmen, members, etc.) own properties. • Ownership of resources created through the 100-DEGP was not given to the beneficiaries of the programme. For example, the compost fertiliser produced was used by the providers for their own agricultural purposes. • Often the projects carried out were taken in sub-contract. For instance, the providers came into contract with an affluent person of the area who needed ground filling of his own residence. Recruiting workers from the 100-DEGP through the providers would substantially reduce his construction cost, a portion of which he can pay them (providers) in return, deriving benefit for both.
Selection of beneficiaries	• Selection procedure often carried out without consultation with relevant stakeholders. • Bribery was a frequent case during the enlisting of beneficiaries. The providers demanded that each beneficiary would earn Tk. 10,000 for the guaranteed 100 work-days. So, paying Tk. 500 or Tk. 1,000 per head would not be very difficult. • Providers' nepotism led to mistargeting of beneficiaries, giving selection to ineligible persons (i.e. non-poor, beneficiaries of other social safety net programmes, employed, owners of productive assets, etc.).
Forgery with workers' replacement	• The Guideline allows the replacement of an absent worker by his/ her family member. However, the providers did not permit that creating spaces for leakage. The gaps were replaced by fake or non-listed workers and the payments were captured by the providers and their associates.
Illegal relocation of workers	• Portion of workers were relocated to work for the providers' own purpose (households or crop field). This deficit of labourers at the worksite led to the incomplete status of many projects.
Faking/ adjustments in muster rolls	• Adjusted muster rolls presented illegally increased number of work-days. As release of fund for payment depends on the number of work-days recorded in the muster roll, the fake work-days transferred a significant amount of resources to the pockets of the providers.
Grievance checking	• Whenever the beneficiaries complained to the higher authority about the adjustment in muster rolls or other corruption, chairmen or members tried to settle the issues by bribing the complainers. Cases were found, where complaints of adjusting 10 work-days were settled by paying for 5 work-days, leaving the rest in their own pockets.
Hindering monitoring procedure	• Chairmen or members invited the tag officer or other monitoring officers at their own homes, distracting them from the worksites.

Source: CPD field investigation (2009).

from the government was not provided regularly. They have tried to manage the daily payment with cash from their own payment but that was not always possible. Different forms of irregularities observed in the first phase of 100-DEGP are discussed in Table 3.19.

Female Participation

In some cases, it was felt by the ward members that women did not have the physical capacity to perform the types of works offered by the programme, thus left them out of the selection process. On a number of occasions, female workers had to perform critical task such as cleaning ponds. In more conservative areas, women denied to work alongside men. In some cases, women braved the cultural norm and were faced with great criticism for daring to want to join such a programme where they would have to work outside, side by side with men, and with their heads uncovered.

Other factors restricting women's participation were lack of transportation to the worksite which was sometimes far, there were absence of toilets, safe drinking water and food. All these made it difficult for women with small children in particular to become beneficiary of this programme. Besides women who need to carry their own instruments at works, often failed to purchase those by themselves and had to borrow from the neighbours.

In spite of these constraints and without any gender target in the programme design, 19.5 per cent[7] of the beneficiaries in the first phase of the 100-DEGP turned out to be women which implies that there is a strong demand by women for participating in such a programme. This also reflects the level of desperation among women for work that instigates the Bangladeshi rural women to work with men at onerous, low-paying manual labour work (IFPRI 2007). The degree of participation in the 100-DEGP by Bangladeshi women is marginally higher than national labour force participation by women which is 18 per cent according to the Labour Force Survey 2005 (BBS 2008).

As certain sociocultural norms seem to hinder women from joining the programme in more conservative areas, reservation of some works exclusively for women may be considered to encourage female participation. For those women who do not work outside their homes, particularly in the field, gathered work experience not only outside their houses but also with their counterparts. 100-DEGP provided them an employment opportunity for the first time in their lives.

[7] GoB (2009).

3.4.5 Fund Release Mechanism and Implementation

Allocation and disbursement of a fund worth Tk. 20,000 million in such a programme is complicated. To tackle this situation, the government had to rely on existing mechanisms used in other safety net programmes such as Cash for Work. The Guideline provides a certain mechanism of fund release which involves officials at three different levels. First, the General Accounts Officer in the Ministry of Food and Disaster Management release an order to the Upazila Accounts Officer via the District Accounts Officer (and DC) to release a cheque in the name of the UNO and the Project Implementation Officer who can encash it by depositing it at any government scheduled bank in a new account jointly held by them. The Union PIC requests for cash for projects to the upazila Project Implementation Officer. This officer verifies these cash requisitions and then recommends to the UNO for payment. Each PIC gets a cheque from the UNO and Project Implementation Officer. The Chairman of the PIC then disburses the money to the labourers through the muster payroll which is checked by a "tag officer." Each beneficiary signs a form on receipt of the money. This same form is signed by six different officials including the tag officer, the Project Implementation Officer and the UNO.

Since each tag officer is responsible for all the projects under one union, it is physically impossible for the officer to be present during the daily payment of all works (as all works are likely to end towards the same time of the day). Thus the Guideline is not compatible with the requirements of the programme.

Wage Payment

As per the Guideline, Tk. 100 has to be paid to each worker as wage, on a daily basis. However, even if fund release was delayed, payment was made regularly to labourers in some areas. For example, in Jamalpur the Chairman mentioned that the PIC managed to clear the payment daily from their own savings.

It was mentioned by many at the field level that the amount paid daily is not enough to buy food for a 5 to 6 member family in the days of rocketing food price. They suggested that the wage should have been increased to Tk. 150 per day.

Since the system tries to minimise the opportunities for misuse of funds, the transaction costs involved are substantial. In particular, the fact that every payment requires a form to be signed by six officials indicates a high transaction cost (1.2 billion signatures over the life of the programme just for the payment to the beneficiaries). The Steering Committee's attention was drawn to this problem

but it was decided not to change the system for the time being, for fear of misuse of funds. Lack of financial and human resources made this administrative load heavier. As a result, payments were made often on weekly or even bi-weekly basis. The need for adequate human resources, particularly at the upazila and union levels, was felt by the officials concerned at the field level.

Market Wage Rate vis-à-vis 100-days Wage Rate

During the lean periods the average wage rate of male beneficiaries in the Nilphamari district ranged between Tk. 50 and Tk. 80 per day. In the peak season of agricultural activities, daily wage rate for male may reach as high as Tk. 200 or even more. On the contrary, for the female labourers, wages were rather low, less than Tk. 50 per day during both seasons. Since females were mainly involved in house works, in most of the cases the payment was made in kind (for example, in the form of meals). In Jamalpur, the average wage for men was above Tk. 80 per day, in the lean seasons. In peak seasons, when crops were planted or harvested, daily wage rate was usually higher, ranging from Tk. 100 to Tk. 200 for males, and around Tk. 100 for females.

Mode of Receiving Money by the Beneficiaries

Another important finding was that a large number of beneficiaries did not require to put their signatures or fingerprints on any record book at the time of payment, which left much scope for misappropriation of funds. Many beneficiaries reported that they did not have participant card. They also tend to support the aforesaid view. In effect, it was found that the number of names in the muster roll book was often higher than that of the number of workers actually present at the project site. In the five areas studied by the CPD, an average of 10 per cent of the labourers on the muster roll either did not exist or were unaware that their names were on the list.

This calls for a more efficient system of payment to labourers to be in place in order to reduce leakages or resources. The daily payment of wages has turned out to be a difficult task in many areas, and should therefore be reviewed. In this regard, the option for a weekly payment, as is practiced in the Indian programme, may be considered.

3.4.6 Keeping Records and Monitoring

The PIC has to have an important role in maintaining the muster roll and acknowledgements of the receipt of the money as labour wage under the project. Upon completion of the project, the PIC has to send a report along

with the implemented muster roll bills and voucher to the upazila PIC within 15 days of the completion of the project for audit purposes. At the upazila level, the Upazila Disaster Management Committee is responsible to monitor the implementation of the programme and to send monthly progress reports to the DC and the Ministry. The UNO has to appoint a tag officer whose role is to monitor the works of one union with the help of the PIC. The District Relief and Rehabilitation Officer has to send a consolidated monthly project progress report of all the upazilas under the district to the Ministry of Food and Disaster Management. Besides, the District Relief and Rehabilitation Officer supervises programmes/projects under the district and sends final report of the projects to the concerned cell of the Ministry of Food and Disaster Management within the scheduled date.

Concurrently, at the district level, the District Disaster Management Committee (DDMC) prepares a permanent evaluation and monitoring system: projects under this programme are to be recommended for implementation to the upazila committee after monitoring and evaluation, each month of a year. The DDMC has to examine the progress of all projects under the programme and has to arrange for these to be implemented. This Committee is also supposed to prepare a monthly report of the activities related to the implementation of programmes and send them to the Steering Committee along with suggestions.

At the Ministry, a Joint Secretary of the Ministry of Food and Disaster Management is responsible for monitoring the programme, and the Steering Committee is ultimately responsible for ensuring that the monitoring takes place. It is obvious from the above that the design of the 100-DEGP involves a large number of actors at various levels which makes the task quite complicated and difficult.

This complexity may be partly explained by the government's cautious steps to establish checks and balances in the whole mechanism of the 100-DEGP in order to ensure a transparent and accountable system. At times, this may have translated into a procedure with much operational difficulties which led the implementing authorities at the field level to adapt to the ground realities instead of sticking to the Guidelines.

Field observations revealed that the formulated mechanism according to the Guideline made the situation too cumbersome. Preparing and maintaining Daily Achievement Report (DAR) were found to be daunting and stressful task. Involvement of so many officials also seems to be confusing. In addition, several cases were found where clear instructions were not conveyed about the official method of monitoring at the union levels.

Beneficiaries complained that responsible officers did not visit worksites on a regular basis. Complaints were also raised against the tag officers that they spent more time enjoying the hospitality of the UP chairmen and members, rather than monitoring work sites. According to the Guideline, NGOs should be involved in the monitoring process, which did not happen in reality.

Box 3.2: Local Authorities' Perception about the Effectiveness of 100-DEGP

The UP Chairman of Kulkandi Union, Jamalpur, *Mr Jalal Uddin* complained that the time given to design and plan for the programme was quite insufficient. On 15 August 2008, they were instructed that they had to prepare the list of beneficiaries and projects by the end of the month. Few days before the deadline, the time period was shortened all of a sudden leaving the providers in the middle of nowhere. Moreover, orders came to reduce the number of beneficiaries. *Mr Jalal Uddin* reported that as they had to downsize the beneficiary list, complaints were raised that the Chairman and Members had forged the list in order to earn illegal money. Especially those who were not enlisted under this programme spread rumors against the providers. Lack of preparation for the programme also resulted in failure to achieve the desired outcome of the programme.

Providers from other areas also complained such misunderstandings. Government officials from the UNO and the DC office pointed out some loopholes of the programme which need to be addressed to strengthen the upcoming phases. Targeting of beneficiaries needs to be more accurate and well organised. Project selection also needs to be more participatory. A massive awareness drive needs to be made. The UP chairmen and members demanded more time to prepare for the programme.

Another problem from the providers' perspective is that, this programme is handed over as an extra responsibility upon the providers. The allocated administrative cost is quite low and irregular. As a result, often they have to pay from their own pockets.

An overall status summary of the surveyed area is presented in Table 3.20.

Table 3.20: Summary of Field Observations according to the 100-DEGP's Guideline

Guideline Points	Nilphamari			Jamalpur	Narayanganj
	Luxmichup	Charaikhola	Kundupukur	Kulkandi	Sadar
Enrollment of Phase-I within targeted time (Sep to Nov 2008)	✓	✓	✓	✓	✓
Completion of 60 work-days in the first phase	x	x	x	x	x
Provision of technical assistance	x	x	x	x	x
Selection of one beneficiary from each family	✓	✓	✓	✓	✓
Involvement of 100-DEGP beneficiaries in other SSNPs	x*	x*	x*	x*	x*
Involvement of stakeholders (as per the instructions of the Guideline) in the selection procedure	x	x	x	x	x
Open declaration/ public disclosure of selection lists	x	x	x	x	x
Complete distribution of cards in due time	✓	✓	✓	x	x
Wage payment of Tk. 100 per person per day	✓	✓	✓	✓	✓
Daily payment of wage	✓	✓	✓	x**	✓
Employment of labourers in their own districts	✓	✓	✓	✓	✓
Formation of all committees	x	x	x	x	x
Monitoring by government officials	✓	x	x	✓	✓

Source: CPD field investigation (2009).

Note: *Involvement of 100-DEGP beneficiaries in other social safety net programmes such as VGD, VGF, TR and FFW was quite low.

** In Kulkandi union of Jamalpur, in few cases wages were paid weekly.

Box 3.3: Silver Lining in the Monga-prone Districts

Against many dark patches of the 100-DEGP, the *monga*-prone area of the northern Bangladesh - one of the key target areas of the programme - reveals a success story of the programme. In Nilphamari, a *monga* stressed district, majority of the hardcore poor either migrate to other urban centres for a job or turn out to be seasonal beggars to feed the family in the lean period of the year. The scenario had changed this year. *Mr Shukhdhon* from Luxmichup of Nilphamari Sadar, participated in the 100-DEGP and did not migrate. His daily wage of Tk. 100 was not much, but at least it secured him and his family 3 meals a day in those days. Beneficiaries also reported that the programme did not help them to produce any productive assets, but what they have got was really necessary to survive at that crisis moment of unemployment and high prices of food and essential commodities.

The beneficiaries urged that this programme should continue in the coming years and throughout the whole year.

3.5 OVERALL ASSESSMENT OF THE PROGRAMME

3.5.1 Loopholes in the Programme

In Bangladesh, this programme is the first endeavour in addressing the issue of social protection for ultra-poor section of the society through guaranteed employment generation. Both in view of the newness and scale of the programme, a hundred per cent success in all cases cannot be expected. The first phase of the programme was completed in November 2008 leaving a trail of mixed reactions among the stakeholders. CPD's field experience reveals that despite many drawbacks, the programme certainly has had an impact on the vulnerable hardcore poor in terms of containing starvation. Now that the government is planning to implement the second phase of the 100-DEGP, experience of the first phase will be pertinent for consideration in achieving more success in the upcoming phase. During the field investigation by the CPD team, a number of loopholes were observed which may be considered for elimination during the next implementation phase of the programme.

The loopholes can be categorised in the following manner:

Institutional:

- One of the major institutional loopholes is that there is no legal basis of the programme as in NREGP of India.
- The Guideline does not clearly define the formation procedure of various committees.

Procedural:

- Selection procedure of the beneficiaries remained undisclosed to the public.
- Providers' nepotistic attitudes played a major role in mistargeting of the beneficiaries.
- Project selection was not always driven by local demand.
- Language of the Guideline was not concrete leaving its content ambiguous at times.

Designing:

- Time for the planning stage or groundwork of the programme was not sufficient.

- The given time frame does not necessarily reflect the crisis period uniformly for the whole country. This should depend on the socioeconomic and agro-economic features of each respective area.

- The wage rate has been fixed at Tk. 100 per day. In industrial regions, average market wage rate is higher than Tk. 100, which resulted in lack of interest among the labourers for this programme.

- While designing projects, time required to complete them was not estimated accurately.

Targeting and Selection:

- Beneficiaries were not always well-targeted. Selections were frequently made from non-target groups and on the basis of nepotism by the providers or selectors. This was one of the many complaints of the respondents.

- While targeting, the number of beneficiaries instead of the number of poor population of a particular area was considered.

- NGOs involved in poverty eradication at local levels were not consulted during selection of beneficiaries and target groups.

- Upper age is limited to 50, years and there is no quota for female participation.

Implementing:

- Actual number of working days does not match with the official records.

- The 60 work-days of the first phase were not completed. In most of the unions, the programme ran for around 50 days.

- Quality of work is unsatisfactory. In addition, most of the initiaed projects remained incomplete.

- Preparation phase for distributing registration card was not adequate in some places, and cards were not distributed on time.

Monitoring:

- Absence of integrated and clear monitoring process depicted that agents

were not legally obliged to visit the work sites during the time of selection or implementation on a regular basis.

- NGOs were not involved in the monitoring procedure.

Box 3.4: Leakages in the Road Maintenance Programme

It is inherent in the nature of such transfer programmes, located within unequal societies, and serviced by unaccountable governments, that leakages remain high due to theft, corruption and system loss. Studies of the FFW report that 30 per cent of the foodgrains did not reach the intended beneficiaries. In contrast, cash transfers under the Road Maintenance Programme or the educational stipends are more likely to reach the intended beneficiaries. However, these programmes also tend to be prone to corruption, where officials and elected representatives enjoy opportunities to extract rents. Field surveys carried out for this report indicate that leakages for the programmes for old age allowance, allowance for widows and for VGD, are in the range of 5 to 10 per cent. The report identifies that the elected UP Chairman or some Parishad Member, extracted rents from prospective beneficiaries as a pre-condition for certifying a particular person as a beneficiary. It would appear that local elected representatives have superseded the local officials in the control and distribution of official patronage. However, the Union Council Chairman and members, who have some political identity, need to collude with local officials in order to extract their share of the spoils from public expenditure.

Where resources are limited and potential beneficiaries are many, it becomes a matter of selection. In an ideal democratic system, consultation or objective criteria for selection could have been deployed. In the case of Bangladesh, the choice becomes a matter of discretion on the part of local decision makers, who could pick and choose from many resource-poor households who were seeking some work or relief. CPD survey data and other empirical work have established that this discretion was frequently exercised on the basis of payment of a bribe or extraction of political rent in the form of support in electoral contests or other forms of local factional contestation. Some of the reasons for exclusion from the VGD or old age allowance or widow's allowance programme were:

- not having a good relationship with a relative of the UP Chairman/Member
- not being a member of the vote bank of the UP Chairman/Member
- did not bribe UP Chairman/Member
- did not know reasons for exclusion
- nobody advocated their case.

The same factors acted conversely for getting selected as beneficiary for the programme.

Source: Adopted from Islam (2006); Ahmed *et al.* (2004).

The 100-DEGP is indeed a vast attempt in terms of social safety nets in Bangladesh, where scope for containing to various loopholes is rather limited. Similar types of loopholes have been observed in other social safety net programmes as well (See Box 3.4). Table 3.21 provides a few specific recommendations for the programme design to have some safeguard measures againest these loopholes, based on the experience of Bangladesh and India.

Table 3.21: In-built Mechanism to Address Loopholes of 100-DEGP and NREGP

Loopholes	Interventions from Other Country Experiences	Recommendations for Bangladesh
Target area: *Wide selection of areas without piloting*	The 100-DEGP emphasised some special regions like *monga, char, haor-baor* and river erosion, etc., but the programme started simultaneously in all 64 districts. In India, NREGP was launched in a phased-in approach - gradually increasing the coverage area.	A phase-in approach offers enough policy space to address limitations, to overcome them and to strengthen the future development of the programme.
Time period: *Bound to limited phase*	The 100-DEGP was planned to be carried out in two phases (September to November and March to April), targeting the two lean periods. However, the lean period may not refer to the same time frame across the whole country. Flooding, seasonal pattern and agro-economic conditions are major factors determining the time frame. In NREGP, the programme generates employment for 100 days throughout the whole year, leaving room to tackle any crisis period at local levels.	The time frame can be made demand-driven and may be kept as unbound.
Working days per week: *Need to be tailor-made*	The 100-DEGP in most of the districts in Bangladesh was carried out 5-days a week, which left 2 days of no income. In NREGP, the projects mostly operated 6-days a week. The beneficiaries are usually properly informed about the duration of the programmes including the off-days.	Work can be continued for 6 days instead of current 5 days. It has been observed in some occasions that work was continued for 7-days a week. But this scenario was not very frequent everywhere.
Targeting gender: *Lack of target*	The 100-DEGP indicates no special contribution from gender perspective. On the contrary, NREGP confirms participation of one-third portions of women among the workers which has made the women empowered and increased their mobility.	Like NREGP, participation of one-third segments of the women needs to be ensured.
Age group: *Scope for manipulation and elderly qualified people making unemployed*	In Bangladesh, age limit has been set between 18 to 50. NREGP allows workers to participate who are above 18 years. Another issue is old age allowance which is provided for elderly aged above 65. This reveals that, the people in age group 50 to 65 are officially not included in either 100-DEGP or old age allowance progaamme.	Success of the NREGP is highly influenced by the participation of aged people. Young are energetic enough to find alternative jobs, but an elderly has limited opportunities.

(Table 3.21 contd.)

(Table 3.21 contd.)

Loopholes	Interventions from Other Country Experiences	Recommendations for Bangladesh
NGOs' limited role: *Lack of transparency*	It has been observed that the success of NREGP facilitates through participation by the both elderly people and the women.	Local NGOs, working at grass root levels and dealing with poverty stressed people, could use their expertise in the selection and identification process of the beneficiaries. This will ultimately fertilise the bottom-up process of this programme.
Selection of works: *Without any planning and more of a top-down approach*	In the 100-DEGP in Bangladesh, though the Guideline provides an essence of participatory selection, but in reality, the selection process remained top-down. After the official declaration of the programme in 15 August 2008, the stakeholders had only half a month in hand to prepare and plan for the colossal programme as the Guideline instructs to commence the programme within September. In NREGP, selection of works is done through a bottom-up or participatory approach. Annual project plans are prepared for each village by the Gram Panchayet. NREGP works are selected from that plan. NREGP, in its earlier phases, also suffered from lack of preparedness.	Work selection process needs to be participatory. Provision of technical assistance needs to be placed while selecting projects. Additional responsibility needs to be placed while selecting projects either to new tag officer or others. Taggingthe programmes with the LGED, activities needs to be explored.
Selection of work sites: *Lack of coordination among the authorities*	Though the 100-DEGP had some provisions in the context of coordination and selection, it had failed to make an impact in the field. In India the work programme initiated in a coordinated manner comprising the relevant Ministries.	The programme in the next phase needs to take care of this provision.
Performing the work: *Lack of technical assistance*	The issue of technical assistance remained unclear in the Guideline. Even the providers do not know much about this issue. NREGP in India and TRABAJAR in Argentina train up workers and providers and provide sufficient technical assistance to carry out a project with efficacy.	For any technical work, labourers must be provided with minimum training, which additionally provides development of his/her physical capital.
Organising the work: *Lack of institutional set-up*	The 100-DEGP is not an Act. Bangladesh does not have the "right to information" Act either.	Government could think to initiate this sort of Act in order to make the programme

(Table 3.21 contd.)

(Table 3.21 contd.)

Loopholes	Interventions from Other Country Experiences	Recommendations for Bangladesh
	On the other hand, programme in India is supported by an Act.	mandatory and more legitimate.
Employment generation vs employment guarantee: *Lack of any guarantee provision*	In Bangladesh jobs are to be provided within 15 days of registration/issue of card, but there is no legal guarantee In NREGP, jobs are to be provided by Gram Panchayat within 15 days from application receipt date, as stated by the Act.	Government could consider initiating this sort of Act to make the programme not only transparent, but also accountable and credible.
Guideline: *Ambiguous and cumbersome*	Some instructions provided in the Guidelines are not very clear. Several instructions are provided with phrases like "may" and "should," which are grey areas and therefore create confusion.	Clearly instructed Guideline is a pre-requisite for any programme if it is to operate effectively.
Corruption: *Nearly at all levels*	One of the major places of corruption is the payment system. A number of ways, such as fake and adjusted muster rolls, fake workers, etc. were adopted to steal money. NREGP is backed by an Act which ensures that rapid action can be taken against any corruption practices. A big breakthrough against corruption is the collective voice of the workers. In Madhya Pradesh, such movements have guaranteed workers' right to get unemployment allowance.	An Act must be incorporated by the government to form the legal basis of the 100-DEGP. Payment system can be changed by using banks or post offices as separate payment agencies. This system also provides the workers, especially women, a control over their earnings. 100-DEGP can also introduce workers' co-operative among its beneficiaries, as in India. This collective action could not only act as an agent for ensuring accountability, but also can improve the quality of works. 100-DEGP can introduce management information system (MIS) for putting beneficiaries' information in a transparent manner. The selection process and results can also be published through this. The village call system (like Pallitathya) can facilitate this process. The registration card could be redesigned. The back of the card may include 100 rows in

(Table 3.21 contd.)

(Table 3.21 contd.)

Loopholes	Interventions from Other Country Experiences	Recommendations for Bangladesh
		several columns, where the beneficiaries can put their signatures while they signing in the muster roll. The card may also include the helpline number where they can get information or put their complaints.
Card issuance: *To card or to discard*	Both 100-DEGP and NREGP failed to complete card distribution and maintenance. But NREGP in a number of states adopted various innovative ways to tackle problems related to issuing card and its use. NREGP was recommended to push a registration drive to complete card distribution. In Maharashtra, signature in the card facilitates the card and wage distribution more transparent. Literacy appeared to be important to fight against corruption. First, literate persons know their rights and it is not easy to deceive them. Second, thumb expressions are easily faked than signature of a literate person.	Like NREGP, Bangladesh also requires such effort along with some reformations in the card design. The card should be more user-friendly. There should be help lines provided in the card There should be a system in the card that, when the cardholder gets a payment the related authority will sign on the card against the payment. This cross-matching can enhance transparency and to a larger degree of accountability. As a structural pre-requisite, literacy rate needs to be enhanced in the country.
Involvement of political party: *Political will and party participation*	In NREGP, political parties compete with each other to take the programme to their respective areas and use it as a "vote-bank." Such competition has also intensified the Lok Sabha elections.	The 100-DEGP could achieve a high success rate if the political government supports the programme. The ultra-poor people have strong sympathy for this programme as this is the only hope and scope for them in the lean periods. If the political government or parties carry out the programme seriously, their vote-bank could increase in the next national or upazila elections. Involvement of political parties to some controlled extent may increase the success rate of the programme.

(Table 3.21 contd.)

(Table 3.21 contd.)

Loopholes	Interventions from Other Country Experiences	Recommendations for Bangladesh
Low productivity: *Lack of motivations*	People often take the 100-DEGP as a government relief programme. As a result they do not work efficiently which ultimately hampers the desired progress. NREGP was recommended to introduce piece-rate wage system in order to motivate the workers to earn their extra hours.	The government could consider introducing piece-rate wage system. At least, the actual plan of the work needs to be placed before the workers.
Quality of works: *Not yet fully accepted*	The quality of the work conducted under the programme was not satisfactory. The NREGP in Uttar Pradesh also faced similar problems. This is mainly due to inadequate planning, lack of technical staff and poor supervision.	The programme design in Bangladesh did not take into account the quality of work. The whole programme needs to be holistic in nature comprising both the employment generation and developmental work.
Awareness of the programme: *Lack of idea on the issues of public asset creation*	The programme should incorporate works which create assets for the society. In Himachal Pradesh of India, work types were diversified rather than the traditional works such as construction or repairing of gabions, irrigation canals, step wells, burial grounds, playgrounds, boundary wells for schools, etc.	Diversification of works required to create assets for the society.
Awareness of people: *Lack of coordinated efforts*	The lack of time for planning and preparation of the programme has led to substantial deficiency in mass awareness. Almost none of the beneficiaries had any idea about the details of the programme. NREGP also lacked mass awareness among the stakeholders during its initial stage. Later on both print and electronic media along with the NGOs assisted to raise awareness on the programme.	The VGD programme in Bangladesh used posters to create awareness. For the 100-DEGP, similar activities can be initiated. Media can also play a very important role. In NREGP, booklets, pamphlets, videos, simplified Guidelines were suggested for awareness building. Like NREGP, *Rojgar Divash* typed day in a week can be introduced, where beneficiaries and providers will gather to share thoughts, ideas and complaints.

Source: CPD analysis.

3.5.2 Success of the Programme: Some Positive Aspects

- The programme has been highly appreciated by the beneficiaries.
- Local administration in some places proved to be capable of handling such large programmes.
- Women's economic independence had been warranted in same places.
- Empowerment of elderly people has been promoted.
- Wages were paid regularly at the committed rate (in some place).
- High success rate in some areas reveal that positive interest of the local authority in 100-DEGP can enhance the poverty alleviation process.
- Urban-ward migration of the unemployed poor has declined.
- The first two objectives of the programme (employment generation for the extremely poor unemployed people, and to increase the purchasing power of the hardcore poor who are stressed due to price hike) were fulfilled in most of the cases.
- During lean periods, especially in the *monga*-prone districts, the repercussion of such a calamity was tolerable.
- Projects such as pond digging, embankment maintenance, construction of roads, production of compost fertiliser, ground filling of various institutions have enhanced local assets owned by the poor.

The success of the programme is reflected through the responses of the beneficiaries to some extent. As is observed in Table 3.22, 90 per cent of the beneficiaries want the programme to be continued.

Table 3.22: Overview of the Programme from the Beneficiaries' Perspective

District	Upazila and Union	No. of Sample Beneficiary	Responses toward Continuation of the Programme		
			Yes	Yes, with Increased Wage	No
Nilphamari	Luxmichup	40	36 (90%)	4 (10%)	0
	Kundupukur	35	30 (86%)	5 (14%)	0
	Charaikhola	20	14 (70%)	6 (30%)	0
Jamalpur	Kulkandi	17	5 (30%)	12 (70%)	0

Source: CPD field investigation (2009).

3.6 RECOMMENDATIONS

The experience of employment generation programmes across the world indicates that the impact and success of programmes are largely dependent on two decisive factors - design and implementation (Devereux and Solomon 2006). This was the case not only in India, but in many other countries including Argentina, Botswana, Cambodia, China, Malawi, Indonesia and South Africa. Field level investigations by CPD reveals that notwithstanding some dissatisfactory performance in case of targeting of beneficiaries, selection of projects and leakage of resources, the 100-DEGP, by and large, benefited the poor by providing employment and income during their hardship. In addition to its impact on poverty, this programme can also contribute to creation of assets useful for development such as physical infrastructure in the rural areas of Bangladesh, which is essential for rural development. Therefore, policymakers will have to utilise the experience derived from the first phase of the 100-DEGP in order for it to be implemented in a more effective manner and continue it in the subsequent years, bearing in mind the paternal nature of such state-sponsored programmes.

The 100-DEGP was a well-timed intervention that sought to reduce the vulnerability of the people who have, traditionally been hit by chronic poverty and natural calamities, and even from fluctuations in global price of commodities. Attempts to overcome the shortcomings of the 100-DEGP may include addressing a number of issues which play a vital role in successful continuation of the programme, with more productive outcome in terms of poverty reduction and rural development.

Improving Efficiency in Fund Utilisation

- The programme is large both with regard to its physical and monetary dimensions.[8] The percentage of extreme poor to be covered in focused areas with higher vulnerability and poverty should be increased. The identification of this extreme poor needs to be done on the basis of incidence and severity of current poverty trends (HIES was done back in 2005). New poverty estimates are required especially in the backdrop of the world wide price hike of essential commodities which saw riots in many parts of the globe, and the ongoing global financial crisis which is already hitting exports from Bangladesh. The participation in other social safety net programmes by the poor should also be accounted for in order to maximise complementarities and reduce duplication of efforts. It is worth mentioning here that total

[8]The first phase of the programme simultaneously covered all 64 districts in the country.

allocation for Phase-I was Tk. 12,000 million of which Tk. 9,154.7 million was disbursed and the rest (Tk. 2,845.3 million) remained untapped. Whether this leftover amount will be added to Tk. 8,000 million allocated for the Phase-II or not is not yet clear. If the remaining amount is added to the allocation for the second phase, making it Tk. 10,845.3 million, effective utilisation of this resource will be a challenge as the number of work-days has been reduced by 60 days (to 40 days). During the first phase, utilisation of resources was 76.13 per cent of total allocation. If the utilisation rate is expected to be maintained, it will require Tk. 8,271.3 million to be used within the stipulated period. This requires improvement of the programme's efficiency.

- Government may wish to integrate activities under the programme with plans of the local authorities in order to increase the development impact. It could also be linked with other government sponsored programmes.

Adequate Planning and Preparation

- *A comprehensive Guideline:* A Guideline in a simple booklet format can be introduced which will include a "Frequently Asked Questions" (FAQ) section in order to clarify doubts that may arise among the common section and field-level officials. The Guideline should be made available both in the print media and on the websites (perhaps, the government's gazette).

- *Awareness building:* Workshops may be organised at the field level to raise awareness among the mass population and discuss implementation issues with the government officials, who are involved in the programme.

- *Extensive use of MIS:* Government may consider listing other social safety net programmes using the current national identity card. In addition, they may incorporate NGOs to list targeted beneficiaries of their programmes in the same way. A comprehensive MIS could facilitate the initiative. All the districts need to be taken under the automation provision. Village information and communication technology (ICT) infrastructure facilities such as the Pallitathya Model initiative can facilitate this process and can reduce overlapping of the 100-DEGP with other social safety nets, and thereby help create transparency and improve the monitoring system.

- *Allocation of more time and training for designing and planning:* More time needs to be allocated for designing the programme. If necessary, training could be initiated both for designing and implementation phases of the programme. Training for the implementing agencies such as the UP and the UNO can also be initiated for better performance of the programme.

Revisiting the Programme's Status Quo

- *Programme's objectives:* The objective of the programme needs to be revisited in order to ensure both employment generation and development works. The overarching objective should be centred on a rights-based approach, and the methodology of selection process needs to be both bottom-up and top-down. The beneficiary needs to know about the need of the projects or development activities in their areas before availing the employment opportunity. Flexibility in choosing the type of activities should be incorporated so that such works are undertaken on the basis of local needs.

- *Timing of the programme:* The programme could be introduced for the whole year instead of confining it for a certain time period. The UNO, through consultation with the local people, could identify the time frame and inform the relevent higher authorities.

- *Distribution of cards:* Consistency between the objectives of the programme, and the framework through which the number of cards for beneficiary per district is allocated, needs to be made transparent.

- *Gender issue:* More focused targeting for women should be made, and minimum quota for women's participation could be introduced. The selection of activities for women may be revisited and provision of certain facilities such as drinking water and shades for small children should be made where necessary.

Selection of Beneficiaries and Works

- *Self-selection of beneficiaries:* Like the Indian approach, the government may revisit selection of beneficiary adopting self-selection process where individuals would need to apply for the programme. The government, using the MIS, would then be able to exclude those unqualified.

- *Coverage of work area:* Flexibility provisions could be introduced to allow the workers to work beyond their own districts and thereby enhancing the programme's coverage to municipal areas.

- *Local development plans and environmental concerns:* These ought to be broadened in order to create room for wider scope of works. Designing and approval of the projects need to be considered along the environmental concerns.

- *Introduction of mechanism for absentee of the programme:* The government may consider defining a mechanism for excluding beneficiaries that are absent for a given number of days (and not replaced by an alternate member of the

same household) as a way to allow alternative beneficiaries who are most committed (and/or more in need) to replace those that do not fully participate in the programme.

- *Revisit age range:* Age selection needs to be revisited in order to allow people who are between the ages of 50 to 65 (since old age allowance starts from the age of 65). In rural areas, people in the above mentioned age range are still considered to be capable of carrying out types of work that are offered under 100-DEGP. This would also directly promote "elderly empowerment."

- *Addressing low productivity:* Field observation revealed the low productivity due to nature of the work (provider's complaint about the beneficiaries views recognised as a relief). The GoB could consider introducing piece-rate wage system in order to motivate the workers to earn more by working extra hours.

Resource Requirements and Financing

- *Daily payment vs. weekly payment:* Given the scale of the programme, the system of daily payment of wages may be reconsidered as it is expensive and also difficult to manage. Weekly or bi-weekly payment, such as in the Indian programme, may be considered after ensuring that this satisfies the needs of the ultra-poor to be able to buy food after receiving their wage.

- *Payment through bank or post office:* Payment provision through banking channel or post office needs to be explored. This will make the programme transparent and empower the poor, especially women, with ownership of wealth.

- *Provision of additional human and financial resources:* Resources may be allocated for the administration of the programme in order to co-equal the increase in work load. Tag officers are reluctant due to a severe lack of motivation; in other words, there are no incentives to induce them to remain committed to their work. All the unions were allocated the same amount for administrative costs, but the magnitude of each union is different, and thus, the administrative cost needs to be aligned with the size of the union.

Monitoring

- *Enhanced monitoring system:* There is scope for improvement in the contents of the monitoring information collected by the government as well as in the effectiveness of the monitoring processes. In the short run, for example, the frequency of the DAR may be decreased to a weekly basis (BRAC 2009).

- *Incorporation of new institutional mechanisms:* Apart from the current concerned ministry, Ministry of Food and Disaster Management, monitoring could also be jointly done with the Ministry of Labour and Employment. A separate wing in the Ministry of Food and Disaster Management could be introduced. Greater collaboration at the Ministry level would minimise duplication of work and ensure greater transparency.

- *Mechanism for addressing complaints:* A systematic method of grievance recording needs to be placed. A weekly meeting can be organised where beneficiaries and providers will gather to share thoughts, ideas and resolve their problems.

Immediate Doables for Phase-II of the 100-DEGP

- *Beneficiary targeting:* List of the beneficiaries need to be revisited incorporating the excluded. Any individual from the richer quintile, if included, needs to be immediately excluded. This will make the programme more needs-oriented, and make people aware about the strict monitoring aspects.

- *Introduction of a joint task force to implement the second phase:* The second phase of the programme needs to make use of the unutilised money from the first phase. A joint task force could be constituted in order to advise on the proper utilisation and monitoring of the programme.

- *Completion of the undertaken projects:* Completion of the already initiated projects would be a challenge for the new government. Ongoing projects should be revisited in order to check whether those can be completed in time or not. Projects could then be selected keeping in mind the duration, local needs and available manpower.

- *Completion of the incomplete days from the first phase:* Unfinished work-days (mostly 10-days on average) of the fist phase needs to be not only carried over, but more importantly, completed in the second phase. This work could be completed using the weekend. Local authorities could be authorised to plan along with the extra day if necessary keeping in mind the demand for labour.

- *Monitoring:* A Visit Book needs to be maintained in each project area. Voter ID number needs to be incorporated in the list (at the UNO office) of the registered beneficiaries.

- *Financing:*

    - The card which has not been distributed among the beneficiaries needs to be handed out immediately.

- Financial aspects need to be ensured in order to disburse the wages in time as stated in the Guideline. The wage payment structure could be remodeled in the next fiscal, subject to fulfillment of other criteria.

- Beneficiaries who have claimed for their unpaid money needs to be subject of investigation, and if needed, the amount could be provided from the money received by the accused persons (members/chairmen or others).

- Provision for additional human and financial resources may be allocated with the primary objective of successfully implementing the remaining part of the programme.

3.7 CONCLUSION

The initial findings from the field level survey reveal that the 100-DEGP was welcomed by the beneficiaries and had been, by and large, successful in addressing the poverty among the poor and vulnerable people across the country, though in varying degrees. The second round of the 100-DEGP has been postponed by the government till the next fiscal year. Hopefully, the programme will resume in the next fiscal year after being scrutinised properly in areas such as targeting, leakage of funds, selection of timing, and choice of activities. As a matter of fact, such programmes are in line with the commitment of the present government in reducing poverty through providing employment from each household of the country.

On the basis of such field level investigation reports the policymakers can think of expanding such programmes for a larger section of poor people. Of course such initiatives will have some financial implications for the government. A back-of-the-envelope estimation shows that an amount of Tk. 7,865.4 crore[9], equivalent to 1.2 per cent of the GDP at current price, will be required to support the extreme poor who are not covered under any of the government social safety net programmes. This is an insignificant amount to be spared for a greater cause which can make a big difference to the lives of hungry millions in the country. Such expenditure will also contribute towards increasing the GDP and achieving millennium development goals (MDGs).

[9]According to BBS (2007), 25 per cent of the total population, that are 3.47 crore people are extreme poor. The document(2005) also shows that the number of extreme poor covered by all government social safety net programmes was 45.46 lakh. Total coverage including 100-DEGP is 65.46 lakh people. So, the extreme poor excluded from any kind of programme is 2.82 crore. That means the number of households excluded from any programme is 58.65 lakh, and allocation required to cover these households at the rate of Tk. 100 is Tk. 5,865.4 crore. Thus, total allocation stands to Tk. 7,865.4 crore.

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REPORT ON THE DIALOGUE PROCEEDINGS

The Dialogue*

The dialogue on *100-Day Employment Generation Programme: Challenges of Effective Implementation* was held on 29 March 2009. *Professor Rehman Sobhan,* Chairman, CPD chaired the session. *Mr Hossain Toufique Imam,* Advisor to the Hon'ble Prime Minister for Administration and Establishment Affairs, attended the meeting as the Chief Guest and *Dr Akbar Ali Khan,* Chairman, Regulatory Reforms Commission and Former Advisor to the caretaker government (CTG), and *Dr Qazi Kholiquzzaman Ahmad,* Chairman, Bangladesh Unnayan Parishad (BUP), were present as Special Guests. *Dr Fahmida Khatun* presented the keynote paper, while *Dr Atiur Rahman,* Chairman, Unnayan Shamannay and *Professor Syed M Hashemi,* Executive Director, BRAC Development Institute, BRAC University, were the designated discussants.

The session was enriched by a broad range of professionals including high level government officials, development practitioners, representatives from NGOs, academics, researchers, officials from international organisations, journalists and members from the grass roots levels including the beneficiaries and service providers of the 100-Day Employment Generation Programme (100-DEGP). The list of participants has been placed in the Annex B of the volume.

Introductory Remarks by the Chair

Welcoming the guests present, *Professor Rehman Sobhan,* Chairman, CPD mentioned that the new government has put a very strong emphasis on its commitment to end poverty by undertaking a broad range of programmes. He explained that no single programme would be adequate to complete the task since poverty alleviation addresses both structural and programmatic

*The dialogue report was prepared by *Ashiqun Nabi,* Research Associate, Centre for Policy Dialogue (CPD) with inputs from *Kazi Mahmudur Rahman,* Senior Research Associate, CPD.

interventions, and from that perspective, the initiation of the 100-DEGP by the Government of Bangladesh (GoB) in FY2008-09 was a commendable step. Drawing attention to India's imminent 11th "Five Year Plan," where the National Rural Employment Guarantee Programme (NREGP) was made a flagship programme of their poverty alleviation strategy, he pointed out that the programme has made the "right to work" a constitutionally mandated right, which is not the case in Bangladesh.

Though the 100-DEGP is a new intervention of the government to eradicate poverty through employment generation, *Professor Sobhan* reminded the audience of the famed "Rural Public Works Programme" operated in former East Pakistan during the early 1960s, which has then been the biggest employment generation programme out side of China. He elucidated that the present programme can also be infested by a variety of abuses that were present in the case for the rural public works programme. *Professor Sobhan* stated that he visualised the 100-day initiative as an initial experiment creating the basis of guarantee-based employment generation that could play a crucial role in dealing with poverty if correctly implemented.

Professor Sobhan assured everyone present that the experts and professional stakeholders would assist the government in realising its ambitious goals as depicted in its manifesto by sharing ideas and experiences generated from the session.

Brief Overview of the Keynote Presentation

Since 25 per cent of Bangladesh's total population still remains in extreme poverty, the keynote speaker, *Dr Fahmida,* emphasised the need for government sponsored employment creation programmes. From that perspective, the initiation of the 100-DEGP by the GoB in FY2008-09 is a commendable step to address poverty. Expansion of this programme is well justified on several grounds; first, volatility of international prices of commodities; second, global financial crisis; third, right to have access to employment for livelihood; and fourth, commitment of the present government's election manifesto to provide employment for every household. However, the first phase of the 100-DEGP experienced a number of limitations and loopholes while being implemented. These need to be addressed during the second phase of the programme (planned to commence on April 2009) so that resources are utilised in an effective manner. The aim should be to positively impact the lives of the poor and to create useful infrastructure in the rural areas.

A number of issues were discussed and policy recommendations were made in the session, which included appropriate conceptualisation of the programme, better planning and preparation, improvements of the Guidelines, awareness building, extensive use of the management information system (MIS), correct timing of the programme, selection of beneficiaries and works, gender issues, corruption and irregularities, revisiting the wage rate, resource requirement and financing, efficiency in fund utilisation mechanism, capacity building and monitoring. All the participants emphasised the importance of this sort of programmes in a country such as ours, and the need for such projects to continue and broaden in order to cover a wide spectrum of the poor who are not covered by any of the existing social safety net programmes. In addition, several tasks were recommended for the government, which need to be undertaken immediately. The following issues and recommendations have been summarised both from the keynote paper and the discussion carried out during the course of the above mentioned session.

Open Floor Discussions

Efficiency in Fund Utilisation Mechanism

Dr Fahmida, in her presentation mentioned that total allocation for Phase-I of the 100-DEGP was Tk. 1,200 crore of which Tk. 915.47 crore was disbursed, and the rest (Tk. 284.53 crore) remains unutilised. She pointed out that it was not yet clear whether this leftover amount would be added to the Tk. 800 crore allocated for the Phase-II. She explained that if the remaining amount was to be added to the allocation for the second phase (equating to a Tk. 1,084.53 crore budget), effective utilisation of the amount will be a challenge; a number of discussants agreed with her in this regard. Former Chairman of Privatization Commission Bangladesh, *Mr Enam A Choudhury* noted that Tk. 827.13 crore will have to be used within the stipulated period in the second phase to maintain the utilisation rate of Phase-I (76.13 per cent of total allocation). He also insisted on the improvement of the efficiency of the programme both in terms of utilisation of funds and completion of projects. *Dr Atiur Rahman,* Chairman, Unnayan Shamannay, addressed the importance of training for the members of the implementing agencies such as the union parishad (UP) chairmen and members, and the Upazila Nirbahi Officer (UNO) in order to enhance the performance of the programme. Emphasising greatly on continuation of the programme, he mentioned that the second phase of the programme needs to make use of the unutilised money from the first phase. Regarding this, CPD's study team recommended the formation of a joint task force in order to advise on the proper utilisation and monitoring of the programme.

Planning and Preparation

According to the study presented, after the official declaration of the programme on 15 August 2008, the stakeholders had only two weeks in hand to prepare and plan for a programme of such magnitude. Along with other discussants, *Mr Shamsher Ali,* Deputy Manager, Action Aid Bangladesh, agreed that lack of planning and preparation resulted in the non-inclusion of targeted beneficiaries and the incompletion of many projects. He reported that such lack of time for preparation has hampered tasks for both the government and the implementing agencies. *Dr Gouranga Chandra Chanda,* Professor of Chittagong Veterinary & Animal Science University, also emphasised the need for allocation of more time and training for designing and planning. He pointed out, that if necessary, training could be initiated both for designing and implementation phases of the programme. Training for the implementing agencies such as the UP officials and the UNO can also be initiated for better performance of the programme, he added.

Dr Atiur Rahman recommended that the guideline be introduced in a simple booklet format and it should include a "Frequently Asked Questions" (FAQ) section. This would held clarify common doubts that may arise among the common people and field-level officials. The Guideline should be made available both in the print media and on the websites, he added.

Regarding the awareness building among the stakeholders, *Dr Badiul Alam Majumdar,* Country Director, The Hunger Project, came up with the idea of organising workshops or ward-shobha at the field level with the involvement of government officials to raise awareness among the mass population and to discuss implementation issues. He also recommended developing an institutional structure to formalise the effort and schedule official plans to operate.

Dr Atiur Rahman pointed out the importance of extensive use of MIS. The government may consider listing other social safty net programmes using the national ID card, he mentioned. In addition, they may take the help of the non-government organisations (NGOs) to list targeted beneficiaries of their programmes in the same way. A comprehensive MIS could facilitate the initiative. He also added that, initiatives regarding village information and communication technology (ICT) infrastructure facilities, such as the "Pallitathya Kendra" can facilitate this process and can reduce overlapping of the 100-DEGP with other social safety nets, and thereby help to create transparency and improve the monitoring system. He also emphasised the

importance of using mobile phones to inform the tag officials regarding the daily attendance sheet.

Conceptualising the Safety Net Programme

Revisiting the objective of the programme was discussed in order to ensure both employment generation and development works. The current programme does not guarantee employment for all and stands between employment generation and temporary relief. *Dr Badiul Alam Majumdar* proposed a revision of the conceptual understanding of what social safety net programmes should be.

Professor Barkat E Khuda, Department of Economics, Dhaka University, mentioned that programme objectives should be centred on a rights-based approach, and the methodology of selection process needs to be both bottom-up and top-down. *Dr Akbar Ali Khan,* Chairman of Regulatory Commission and former Advisor to the CTG explained that the beneficiaries need to know about the significance of the projects or development activities in their areas before availing the employment opportunity. Flexibility in choosing the type of activities should be incorporated in the Guideline so that projects can be undertaken on the basis of local needs, he also added.

Dr Syed Hashemi of BRAC asserted that the programme should not be treated as a tool for overcoming temporary crisis. For long-term benefit, a comprehensive approach is required so that the beneficiaries do not have to depend on the government social safety net programmes forever, and that they can rather generate productive assets to secure their livelihoods. *Professor Nasreen Khundker,* Department of Economics, Dhaka University also looked forward to the long-term impact of such programmes and suggested that this cannot be a substitute for public work.

Dr Qazi Kholiquzzaman Ahmad, Chairman of BUP, emphasised on mainstreaming the programme to derive productive asset for the economy. The employment generated under the 100-DEGP should be planned in a way that it continues creating assets that generate sustainable employment avenues in the mainstream economy for the labour force that demands work under the programme. Eventually, it will reduce demand for work under this programme. Otherwise, this programme will become a permanent drain on the public exchequer. Moreover, because of limited resources and a very large number of unemployed people, it will be very difficult to generate employment for those people who will seek work year after year.

Timing of the Programme

The study found some mismatch between timing of the programme and the working condition of some regions. The success of this programme mostly depends on its timely implementation as it was aimed to support the extreme poor during the lean periods. Problems regarding "timing" must be addressed during the future implementation of the programme. *Dr Atiur Rahman* recommended that the programme be introduced for the whole year, albeit at different times of the year for different regions, giving flexibility to address the needs of the local people. For example, *monga* does not prevail in the Chittagong Hill Tracts (CHT) in the same time as in the northern regions of Bangladesh. *Dr Fahmida* in her keynote presentation mentioned that the UNO, through consultation with the local people, could identify the time for work and inform the higher authorities.

Selection of Beneficiaries and Works

The study identified some beneficiaries who did not fall under the hardcore poverty line. It also focused on the mismatch between the number of the poor and the number of cards distributed. The success of social safety net programmes like 100-DEGP largely depends on properly making targets of areas, beneficiaries and projects undertaken. Participants of the dialogue envisaged the importance of an update list. They opined that list of the beneficiaries needs to be revisited incorporating the excluded and the deserved people. More people need to be covered under this programme. One of the beneficiaries of the 100-DEGP, *Ms Laily Begum* from Luxmichup union of Nilphamari district complained about the inconsistency between the objectives and the framework of the programme (through which the number of cards for beneficiary per district is allocated). Therefore, it was urged that the distribution of cards needs to be made transparent. The age level instructed by the programme Guideline was also not strictly followed. Many of the beneficiaries were of between 55 and 60 years of age (both male and female). However, the keynote speaker, in her recommendations mentioned that age limit should be increased to 65 years since a number of beneficiaries (beyond the officially fixed age of 50 years) actively participated in the aforesaid programme. *Dr Fahmida* suggested that the government revisit the beneficiary selection procedure, adopting self-selection method, where individuals would need to apply for the programme. In this process, the government would be able to exclude those who are ineligible, using the MIS.

Female Participation

CPD study reveals that on a number of occasions, female workers had to perform critical task like cleaning ponds. In more conservative areas, women were denied work alongside men. Participants observed that the programme should specifically target a certain number of women, and minimum quota (like one third of the beneficiaries) for women's participation could be introduced. The activities assigned for women may be revisited, and provision of certain facilities such as drinking water and shades for their children should be provided where necessary. *Ms Majeda Haq,* Programme Analyst, United Nations Development Programme (UNDP) pointed out that in spite of these constraints and without any gender target in the programme, 19.5 per cent of the beneficiaries in the first phase of the 100-DEGP turned out to be women which implies that there is strong demand by women to participated in such a programme. Consequently, she emphasised greater female participation in this programme.

NGO Participation

Mr Shariful Islam Khan, Programme Manager, Rangpur Dinajpur Rural Service (RDRS) mentioned that the programme Guideline refers to the NGO involvement in the selection process of beneficiaries and works. However, interface between the government and NGO/private sector of the country has not been followed through. Referring to the involvement of RDRS in the vulnerable group development (VGD) and employment generation programme run by the NGOs, he acknowledged the importance of NGOs in such programmes.

Selection of Areas as well as Work

Dr Atiur Rahman mentioned that a poverty mapping is necessary before targeting the regions under this programme. Referring to the implementation policy, he recommended that regions vulnerable to natural disasters and seasonal poverty should be the prime target, but that the selection of regions requires scientific and latest poverty and vulnerability mapping. *Dr Rahman* noted that the labour situation (surplus or shortage) needs to be taken into consideration when choosing regions. A number of participants urged that instead of all 64 districts, the programme may target areas comprising of large numbers of destitute people. The requirement of such programme is less significant in regions near urban centres and industrial areas, because of availability of jobs. However, participants opined that piloting of the programme can be initiated taking the urban poor into consideration. *Mr Enam*

Ahmed Chowdhury pointed out that approval of projects could be integrated with local development plans in order to create room for wider scope of works. *Dr Kholiquzzaman Ahmad* also put forward the importance of the integration of works with local development plans in order to increase the development impact. It could also be linked with other government sponsored programmes. *Dr Fahmida* in her key note presentation, raised concern over the environmental consequences of the work programmes carried out under the 100-DEGP. Designing and approval of the projects need to address environmental concerns, she noted.

Corruption and Irregularities

The study found a few deliberate corruption cases during the implementation of the programme. Mismanagement was found in the selection process. Necessary steps must be taken to eliminate these problems. The process of data management in this programme appeared to be quite cumbersome. Efficient data management is a pre-requisite for the successful implementation and continuation of the programme in future. Referring to the Indian experience of the NREGP scheme, *Dr Atiur Rahman* urged for implementation of the programme with full information technology (IT) support. A well established MIS can ensure transparency and reduce implementation time. Participants observed that a systematic method of grievance recording needs to be put in place. A weekly meeting (which may be called "Rojgar Dibosh") can be organised where beneficiaries and service providers will gather to share thoughts, ideas, place their complaints and resolve their problems.

Revisiting the Wage Rate

Setting of appropriate wage rate under 100-DEGP is another major challenge. The level of the wage rate is critical for determining distributional outcomes. *Dr Atiur Rahman* expressed his concern that a relatively high wage rate would attract the non-poor to the programme and reduce distributional gains. *Dr Kholiquzzaman Ahmad* mentioned that determination of wage under this programme must consider regional variations rather than assuming a uniform rate throughout the country. To ensure that the programme reaches the poorest, wages should not be higher than the ruling market wage for unskilled labour. Finance for the programme has to be assured in order to disburse the wages on time as stated in the Guideline. *Mr HT Imam,* Chief Guest of the session, mentioned that the wage payment structure could be remodelled in the next fiscal year, subject to fulfilment of other criteria.

Financing, Capacity Building and Resource Requirements

Given the scale of the programme, the system of daily payment of wages may be reconsidered. The CPD study reveals that tag officers, who are really important players in implementation and monitoring the programme, are reluctant to do their duties due to a serious lack of motivation. In other words, there are no incentives that would induce them to remain committed to their work. The same amount of administrative costs was allocated for all the unions despite the difference in magnitude between unions resulting in problems in management. *Dr Atiur Rahman* insisted that capacity building of the human resources related to the programme is essential for its success. Inexperienced and under-skilled human resource poses a major challenge for implementing the programme efficiently. Weekly or bi-weekly payment may be considered after ensuring that this satisfies the needs of the ultra-poor who would be able to buy food after receiving their wages. The CPD study suggested that payment provisions through the banking channel or the post office be explored. This will make the programme transparent and also empower the poor, especially women. *Mr Saiful Huq,* General Secretary, Workers Party of Bangladesh, asserted that resources may be allocated for the administration of the programme in order to compensate for the increase in work load. The administrative cost needs to be placed in line with the size of the union, and the government should seriously consider the possibilities of capacity building of the human resources related to this special programme.

Monitoring the Programme

Dr Badiul Alam Majumdar observed that there are scopes for improvement both in the contents of the monitoring information collected by the government and the effectiveness of the monitoring process. *Mr Mahfuzur Rahman,* UP Member of Kulkandi, Jamalpur, urged that instead of daily, a weekly achievement report be prepared. This would ease the monitoring system. Apart from the Ministry of Food and Disaster Management, which is the current concerned Ministry, monitoring could also be jointly done with the Ministry of Labour and Employment. A separate wing in the Ministry of Food and Disaster Management could be introduced in this regard. Greater collaboration at the Ministry level would minimise duplication of work and ensure greater transparency, the participants observed.

Other Cross-cutting Issues

Field observations (presented in the keynote presentation) revealed that the low productivity was due to the nature of the work. This may be also because

of the common consensus in recognising the 100-DEGP as a relief. The GoB could consider introducing piece-rate wage system in order to motivate the workers to earn more by working extra hours. In addition, to enhance the completion rate, *Dr Akbar Ali Khan,* Special Guest of the session mentioned that an award remuneration system can be introduced to motivate the districts/upazilas that have the highest (and best quality) completion rate in terms of number of projects and those that are least corrupt.

Doables for the Second Phase of the 100-DEGP

The keynote speaker mentioned a number of doables for the Second Phase of the 100-DEGP, keeping in view the importance of the programme along with the interests of the programme beneficiaries. *Mr AHM Nouman,* Secretary General, Development Organisation of the Rural Poor (DORP) emphasised on revisiting the listing of the beneficiaries, incorporating the excluded. The individuals from the richer quintiles need to be immediately excluded. *Dr Akbar Ali Khan* suggested the revision of ongoing projects to check whether those can be completed in time or not. Instead of initiating new projects, old ones need to be completed as soon as possible. Unfinished work days (10 days on average) of the first phase needs to be not only carried over, but more importantly completed in the second phase. This work could be completed using the weekends, suggested *Mr Shamsher Ali. Dr Hashemi* concurred with the suggestion of the CPD study with regards to maintaining a Visit Book for each project area. Voter ID numbers need to be incorporated on the list (at the UNO office) of the registered beneficiaries. *Dr Enam Ahmed Chowdhury* suggested that provision for additional human and financial resources be allocated with the primary objective of successfully implementing the remaining segments of the programme. *Dr Atiur Rahman* recommended that cards which have not been distributed among the beneficiaries be handed out immediately.

Resource Requirement

CPD study analysed that, Tk. 2,000 crore allocation for the 100-DEGP accounted to 2 per cent of total budget of FY2008-09, which intended to cover 20 lakh poor people. According to the Household Income and Expenditure Survey (HIES) (2005), the extreme poor constitutes 25 per cent of the total population, which is 3.47 crore. The number of extreme poor covered by all government sponsored social safety net programmes were 45.46 lakh (assuming that the beneficiaries of these programmes are from the poorest section of the population). Thus, total coverage by social safety net programmes and 100-DEGP is 65.46 lakh and the number of extreme poor

excluded from any kind of programme is 2.82 crore (3.47 crore-65.46 lakh), which is equivalent to 58.65 lakh households. Allocation required to cover 58.65 lakh people at a rate of Tk. 100 per day for 100 days amounted to Tk. 5,865.4 crore. Thus the total allocation stands at Tk. 7,865.4 (Tk. 2,000+ Tk. 5,865.4) crore which is 7.9 per cent of the budget allocation of FY2008-09. This implies a moderate cost to bring the large segment of people under the social safety net programmes. However, the government may not be able to provide this sum of money alone since it needs to meet up other fiscal burdens. Accordingly, probable sources of the required fund could be the various global funds such as Aid for Trade (AfT) and Climate Change. The private sector could also act as a catalyst to provide employment for the mass through public-private partnership (PPP).

Remarks by the Special Guests

Appreciating CPD's effort to assess the 100-DEGP, Special Guest of the session, *Dr Qazi Kholiquzzaman Ahmad* mentioned that since the inception of social safety net programmes in Bangladesh, loopholes similar to the ones observed for the 100-DEGP have been common. He stated that the loopholes were in part attributable to the characteristics and morality of the stakeholders and that the resurgence of similar loopholes pointed out that our morality has not improved much. Hence, he requested everyone's devotion to the growth and development of the country. He insisted that, for these kinds of programmes, local government plays a crucial role and recommended strengthening of the local government authority.

Regarding the wage rate of the 100-DEGP programme, he argued on the issues of low wage rate compared to the market rate and current inflation. He mentioned that the wage rate may be low, but it did not keep away the beneficiaries from joining the programme. He observed that to ensure sustainable employment generation, the programme must entail a long-term planning, keeping in consideration not only poverty, but also other socioeconomic factors in a holistic manner. He recommended the mainstreaming of the programme and the development of an economic framework.

The other Special Guest, *Dr Akbar Ali Khan* urged that the eligible but excluded people for the 100-DEGP be assessed and their needs be addressed. He recommended clarification of the objective of the programme: whether it should be a relief for crisis management or social safety net programmes. He also asked for the clarification of the nature of guarantee of the employment generation scheme.

Dr Khan put forward the issue of uniformity of the programme. He disagreed with the method of beneficiary selection, and pointed out that not all the regions are in the same socioeconomic condition or in similar poverty situations. He urged for a needs assessment throughout the country and an update of poverty mapping to formulate a way to meet the varying demands of the poor from different regions of the country. He suggested piloting the project to identify the loopholes and scopes to enhance the efficiency.

Regarding a question on the upward revision of the wage rate, he replied that an increased wage rate to a high level may increase the threat of corruption. He also mentioned of the need to address the issue of sick leave of the workers in the Guideline. *Dr Khan* suggested that if a worker falls sick, he should be replaced by another family member.

Remarks by the Chief Guest

Thanking every one for their special comments and CPD for putting this agenda forward, the Chief Guest *Mr HT Imam* mentioned that he had taken notes of all the issues discussed and will certainly convey them to his colleagues and attend to them. Based on the suggestions, the government would consider the clarification of whether the 100-DEGP should remain as a crisis management programme or a social safety net programme. He appreciated the fact that not a single stakeholder was against the programme and none had suggested a discontinuation. There certainly are a number of loopholes, but all those would be immediately revisited, and measures would be taken to enhance the effectiveness of the programme.

Mentioning the election mandate, he reported that the government has pledged to eradicate poverty through emphasising agriculture and rural development. Social safety nets would be expanded to support the hardcore poor to reduce poverty down to 15 per cent by 2013. Current situation of 6.5 crore people under the poverty line will be reduced to 4.5 crore by 2013, and to 2.2 crore by 2021.

He also notified that, to encounter unemployment, the government will formulate a "comprehensive employment policy" to facilitate rural employment, self employment (through credit and training), sub-contracting of large industries with small and medium enterprises (SMEs), and building capacity for exporting skilled manpower. And this will result in reduction of the 2.8 crore unemployed population down to 1.5 crore by 2021. However, he reported that the government has planned to pay through rice rather than money for the second phase of the 100-DEGP and 70,000 metric tonnes of

rice was allocated for the purpose. As the current rice stock of the country is overwhelming and the storage capacity is also limited there arose a need to make space for the upcoming Boro harvest. It is in this context that government has taken the decision of paying the beneficries of 100-DEGP in kind using rice from its stock.

Finally, he insisted that, the programme could be a good supplement to the *"ekti bari-ekti khamar"* project, creating infrastructural and productive assets, which will ultimately bring sustainability of the employment generation programmes.

Concluding Remarks by the Chair

Thanking all for the active and interactive participation in the dialogue and subsequent discussion, *Professor Rehman Sobhan* extended his special thanks to *Mr HT Imam* for his valuable remarks and his attempt to link the discussion with the broader perspective of the government's election manifesto. *Professor Sobhan* explained a "back of the envelope" calculation he made regarding the poverty situation and social safety net programmes of the country. He reported that these programmes have a higher employment generation capacity compared to the newly implemented 100-DEGP. Referring to the HIES, he mentioned that there are considerable gaps regarding the percentage of beneficiaries covered by different social safety net programmes. In Sylhet, social safety net programmes covered 22 per cent of the population and adding up the beneficiaries of the 100-DEGP, the impact covers a total of 29 per cent of the population. If the NGO activities, especially the microcredit programmes are included, a large number of people are covered by such programmes. However, 40 to 50 per cent of the households are still poor. Therefore, the government has to do a lot to fulfil its manifesto pledges.

Professor Sobhan expressed his disappointment that the social safety nets, employment generation programmes and other government and non-government microcredit programmes are not yet correlated and are often overlapping in terms of coverage. He urged for coherent planning and suggested the underemployed Ministry of Planning to act as a single agency to oversee all the programmes in a harmonious way. Referring to the government's *"ekti bari-ekti khamar"* project, *Professor Sobhan* appreciated the concept and mentioned that the programme would be fruitful if properly linked up with local asset creation, if beneficiaries are connected to markets, and if technological upgradation takes place. He recommended that poverty eradication and economic growth be merged as a shared agenda. This would then end the conflict regarding the emphasis on growth before poverty eradication or vice-versa.

Professor Sobhan urged the Chief Guest to draw proper attention of the government on the issues and recommendations discussed at the dialogue. He assured that to assist the government to act according to their election manifesto, CPD will provide necessary inputs whenever required.

ENERGY SECTOR

ADDRESSING CHALLENGES OF ADDING NEW CAPACITIES

M Fouzul Kabir Khan

4.1 INTRODUCTION

Energy is an absolutely contemporary but somehow perennial topic (Solow 1974). The continued wave of interests on economics of natural resources, particularly energy, emanates mainly from the exhaustible nature of important commercial energy resources resulting in antagonistic relationship between today's and tomorrow's production. Even before the publication of Harold Hotellings' seminal article *"The Economics of Exhaustible Resources,"* in 1931, Adam Smith, Ricardo, Henry Carey, JS Mill, WR Sorely, Marshall, Lewis Gray and Gustav Cassel made significant contributions to this literature. The recent spike in oil prices is a stark reminder of the famous Hotelling rule which states that the price of an exhaustible resource must grow at a rate equal to the rate of interest, both along an efficient extraction path and in competitive resource industry equilibrium (Hotelling 1931). However, the demand destruction subsequent to the recent spike in oil prices reminded us of the simplest lesson from microeconomics that even the monopolist can choose either a price or a quantity, but not both. If the prices are too high, consumers may choose to buy nothing at all.

The added dimension to the energy economics for developing countries is the resource curse exemplified by Nigeria (Auty 1993) reminding us that abundant resources are no guarantee, and in fact there could be a link between natural resource abundance and poor economic growth (Sachs and Warner 1995). In their paper they showed that economies with a high ratio of natural resource exports to gross domestic product (GDP) in 1970 (the base year) tended to grow slowly during the subsequent 20-year period 1970-1990. Nigeria, classified as the sixth largest exporter of oil, which was one of the 50 richest countries in the early 1970s, has retrogressed to becoming one of the 25 poorest countries at the threshold of the twenty first century. In the context of Bangladesh, the resource curse issue is important since from the notion of "floating on gas" and desire for "exporting gas," we have now moved on to severe gas shortage – interrupting power generation, hampering production, and causing discomfort to public life.

The energy sector in Bangladesh is capacity constrained both in terms of energy resources and energy commodities (Sweeny 2001). Energy resources such as crude oil, natural gas, coal, biomass, hydro, uranium, wind, sunlight, and geothermal deposits - can be harnessed to produce energy commodities such as petrol, diesel, natural gas, coal, and electricity. The energy commodities can be used to provide energy services such as lighting, space and water heating, cooking, motive power and electronic activity. Annex Table 4.1 provides a taxonomy of energy resources and commodities.

The purpose of the paper is to initiate an informed debate about the energy sector of Bangladesh and to prioritise a set of actions for implementation by the government. The paper begins with a summary of the National Energy Policy of Bangladesh, followed by an overview of the energy sector in Section 4.3; Section 4.4 reviews recent developments in the energy sector. Based on the review, key energy sector issues are highlighted in Section 4.5. Section 4.6 discusses challenges and opportunities for the new government and outlines some silver linings. The final section has conclusions and recommendations for the newly elected government of Bangladesh.

4.2 NATIONAL ENERGY POLICY OF BANGLADESH

The National Energy Policy adopted in 1996, identifies constraints in the development of energy sector including shortage of capital, lack of private participation, inefficient management of utilities, administered pricing of energy products, and inadequate attention to energy needs of rural areas. It also refers to constraints on the development of energy consuming sectors and lack of adequate human resources. Based on the identified constraints, National Energy Policy outlines the following objectives to remove the existing energy constraints on the development of economy: optimum development of all indigenous energy resources, satisfying energy needs of different geographic zones, improvements in performance of utilities and promoting private sector participations in the energy sector.

National Energy Policy lists currently available known energy resources and outlines present consumption patterns. It also estimates future demand scenarios for commercial energy under two sets of assumptions of economic growth rate. It also considers two alternative supply scenarios for meeting the projected demand. These are current option and reference option. The current option is basically a "business-as-usual" scenario. The reference option is quite similar with additional emphasis on intensified exploration of oil and natural gas, greater development of coal reserves, harnessing new renewable energy sources, and effective conservation of energy and biomass fuel.

National Energy Policy made a good beginning to address the issues that beset the energy sector of Bangladesh. The energy scenario in Bangladesh has undergone considerable changes since adoption of the policy. For example, significant progress has been made in the area of private participation[1], particularly in the area of electricity generation. Recent experience shows that

[1]If one includes small independent power producers (IPPs), short and long-term rental power plants, private sector accounts for about 30 per cent of the total installed capacity. Out of total 5,560 megawatts (MW) of installed capacity, private sector operates power plants of about 1,743 MW capacity.

lack of primarily fuel rather than capital has emerged as the binding constraint in the development of energy sector. For example, in 2007-08, 24 contracts were awarded for 1,125 MW of power plants. Out of which 735 MW is in the private sector. All the private sector projects achieved successful financial closure. On the other hand, 500-700 MW capacity electricity generation is stranded everyday due to lack of primary fuel, i.e. natural gas.

In addition to the National Energy Policy, the successive governments in Bangladesh have issued other policy documents at different times. These policy documents cover wide range of issues, including providing access to electricity to all citizens by 2020, participation of private sector in power generation, and policies for the promotion of renewable energy. A number of policies and laws are at draft stage, the most important one being the Bangladesh Coal Policy.

4.3 ENERGY SECTOR OVERVIEW

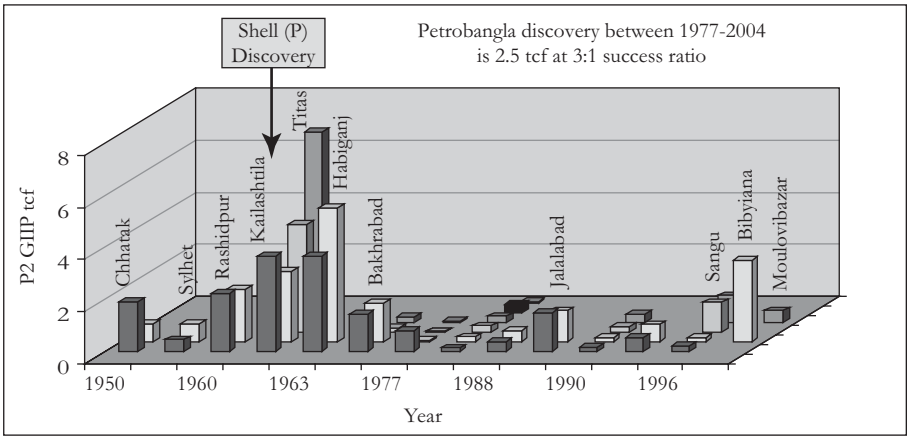
4.3.1 Energy Resources of Bangladesh

Natural Gas

The key natural resource of the country is natural gas, used for generation of electricity, production of fertiliser, and running vehicles. Natural gas has other domestic and industrial uses as well. Natural gas accounts for 76 per cent of the commercial energy used by the people. In addition, availability of domestic natural gas also insulates the economy from volatility of energy prices (see Table 4.1) in the world market.

Figure 4.1 shows the status of Bangladesh gas discoveries for the period 1950-2004. The first commercial gas discovery was made in Haripur in 1955. Ever since then, exploration efforts have resulted in discovery of 23 gas fields of which 16 are currently in production, 4 are non-producing and 2 are suspended as partially depleted. Most of the initial discoveries took place in the late fifties and early sixties when the Rashidpur, Kailashtila and Habiganj gas fields were discovered by Shell Oil Company during 1960-1963. At a smaller scale, a second spurt of discovery took place in the late nineties, Bibiyana with a proven reserve of 2.5 trillion cubic feet (tcf) gas being the most important. The latest discovery of gas took place in May 2006 with small discovery of 0.44 tcf of gas at Bangura. There has been no major gas exploration effort since 1998 and hence no major discovery of gas also happened thereafter.

Figure 4.1: Bangladesh Gas Discoveries



Source: Petrobangla.

Note: P2 refers to probable or with probability of 50 per cent exceeding; GIIP refers to Gas Initially in Place; tcf refers to trillion cubic feet.

Offshore Gas Exploration

Third round bidding for Bangladesh's gas exploration hit snags as, out of the 20 deep-sea blocks, international oil companies (IOCs) have submitted bids for only 8 deep-sea blocks which are not disputed by our neighbours. Myanmar and India influenced major oil companies not to participate in the bidding, warned them about the consequences of their investments, asked them not to sign production sharing contracts (PSC) in the disputed blocks, and asked Bangladesh not to award the offshore blocks without resolving the issue of Maritime boundary.[2] As a result, oil majors like Chevron, Exxon-Mobil or Shell shied away from submitting bids.

India offered 55 blocks for exploration to the IOCs in the Bay of Bengal in 2006. The map published by India clearly showed that blocks D-23 (8,706 sqkm) and D-22 (7,790 sqkm) overlapped Bangladesh's block 21 declared in 1991. Myanmar on the other hand made significant gas discovery in A1 and A3 gas fields/block, in the Rakhaine coast that lies in the Bay of Bengal, offshore from the Myanmar town of Sittwe and is only about 100 km from Teknaf coast of Bangladesh. Daewoo of Korea is the operator of A1 and A3 gas fields with gas reserves of around 5.0-6.0 tcf. India and Myanmar arbitrarily drew the

[2]Under the United Nations Convention on the Law of the Sea (UNCLOS) 1982, Bangladesh is entitled to claim 200 nautical miles of sea area as its Exclusive Economic Zones (EEZ) and all living and non-living resources within these areas are exclusively the property of Bangladesh. Out of this, the first 12 miles are called territorial sea and the next 188 miles are her EEZ. Bangladesh could also claim another 150 miles or more from the limit of the EEZ based on the geo-physical characteristics of the seabed as the extended continental shelf. However, to claim the continental shelf, Bangladesh has to complete various surveys as prescribed by the United Nations (UN) and submit her claim before 2011.

maritime boundary under equidistance principle, which in effect is allowed only up to 12 miles of territorial sea.

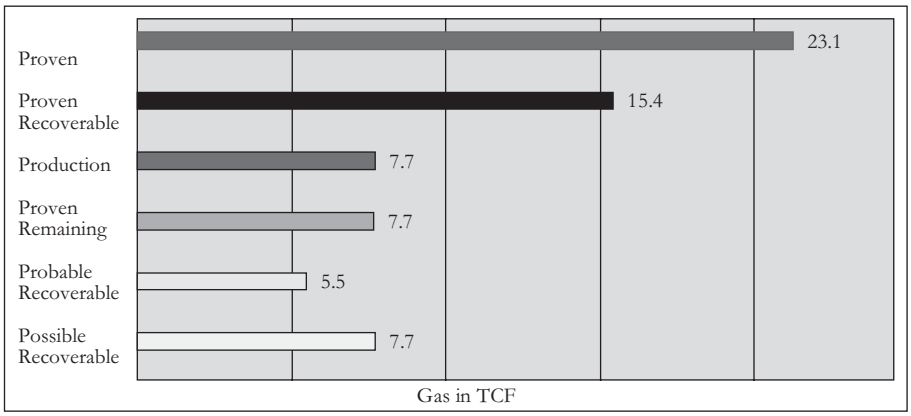
On the 1 November 2008, four drilling ships from Myanmar started exploration for oil and gas reserves within 50 nautical miles southwest of St. Martins Island of Bangladesh. A South Korean company was awarded the oil and gas exploration contract and two Myanmar naval ships escorted the drilling ships. Myanmar stopped oil and gas exploration in deep-sea blocks in disputed waters in the Bay of Bengal after Bangladesh reportedly asked China for help over the row.

The current Prime Minister raised the issue of the maritime boundary at her first meeting with officials from the Energy Ministry, and wanted to know the latest situation as well as what the surveys the Ministry had conducted in order to demarcate the boundary. She has plans to sit with Foreign Ministry and other relevant departments to discuss the issue of the country's maritime border so that Bangladesh can lodge its claims with the UN before 2011.

Gas Reserve

Figure 4.2 shows gas reserves as of June 2008. According to the Gas Initially in Place (GIIP) data below, Bangladesh has 23.1 tcf of proven gas (P1: proved or with probability of 90 per cent of greater or equal volume) out of which 15.4 tcf is recoverable and 7.7 tcf of gas has already been produced. Another 7.7 tcf gas is proven remaining. In addition, there is 5.5 tcf of gas as probable recoverable (P2: probable or with probability of 50 per cent exceeding) reserves. There is also 7.7 tcf of gas as possible recoverable (P3: possible or with probability of 10 per cent exceeding) reserves. Titas, Habiganj, Kailastila, Rashidpur, Bakhrabad, Jalalabad and Sangu are the major gas fields of Bangladesh.

Figure 4.2: Gas Reserve of Bangladesh (as of June 2008)

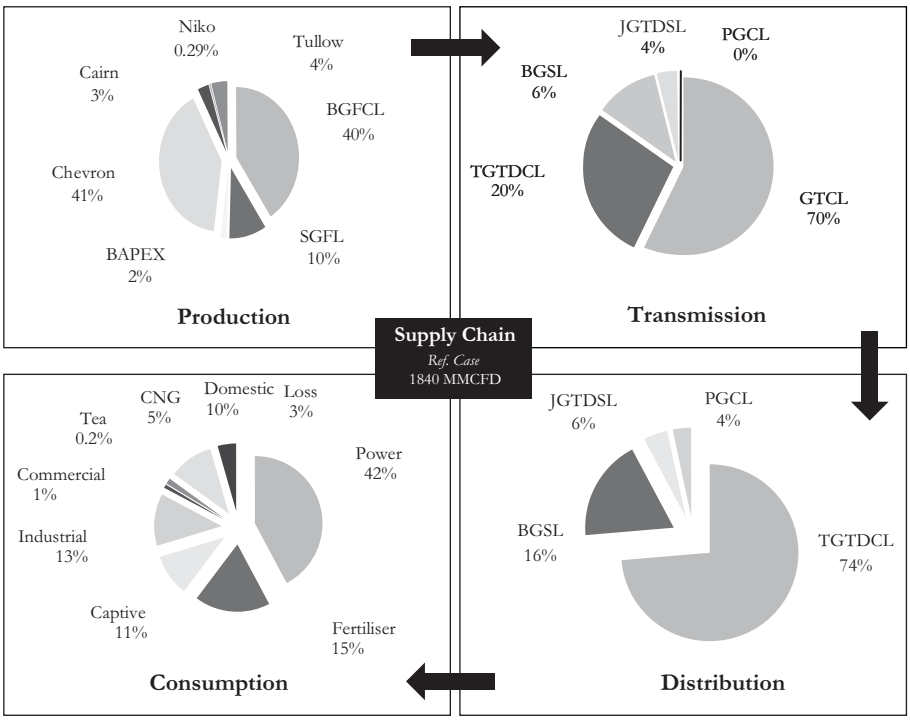


Source: Petrobangla.

Gas Production, Transmission and Distribution

The supply chain in Figure 4.3 shows production, transmission and distribution of gas on a day in October 2008. Chevron with 41 per cent of the share of the days' gas production is closely followed by Bangladesh Gas Fields Company Limited (BGFCL) (40 per cent). The other significant producer is Sylhet Gas Fields Company Limited (SGFCL) (10 per cent). Minor producers include Tullow (4 per cent), Cairn (3 per cent), Bangladesh Petroleum Exploration & Production Company Limited (BAPEX) (2 per cent) and Niko (0.29 per cent).

Figure 4.3: Gas Supply Chain



Source: Petrobangla.

On the transmission side, Gas Transmission Company Limited (GTCL) accounted for 70 per cent of gas transmission, Titas Gas Transmission and Distribution Company Limited (TGTDCL) carried 20 per cent. Other transmission companies' shares in gas transmission were: Bakhrabad Gas Systems Limited (BGSL) (6 per cent), and Jalalabad Gas Transmission and Distribution System Limited (JGTDSL) (4 per cent). Poshchimanchol Gas Company Limited (PGCL) was responsible for an insignificant amount.

On the distribution side, TGTDCL is the dominant player with 74 per cent of the market share; followed by BGSL (16 per cent), JGTDSL (6 per cent) and PGCL (4 per cent). Notably, 94 per cent of the gas is distributed by companies in the eastern region of the country.

On the consumption side, the leading consumer is the power sector (42 per cent). Consumption share of this sector would be higher if one includes gas consumed in captive power generation (11 per cent). The power sector is followed by fertiliser (15 per cent), industries (13 per cent), domestic consumers (10 per cent), and compressed natural gas (CNG) (5 per cent). Other minor consumer categories include commercial (1 per cent) and tea sector (0.22 per cent).

Petroleum Products

Petroleum products constitute about 23 per cent of the commercial energy used in the country. Bangladesh has insignificant domestic production of petroleum products. Petroleum products are imported by Bangladesh Petroleum Corporation (BPC), the designated authority for the purpose. Bangladesh imports about 1.2 million tonnes of crude and 2.5 million tonnes of refined oil each year. Total imports, including lubricants, vary from 3.2 to 3.7 million metric tonnes (MT) per annum. Annex Table 4.2 shows the quantity and value of imported petroleum products from FY2003-04 to FY2008-09.

Table 4.1 shows the sudden increase in the import prices of petroleum oil and lubricants (POL) products in recent years. The prices show increasing trend since 2004, but then increased very sharply, particularly since 2007. Failure to align domestic prices with the international market price has led to huge liabilities on the shoulder of BPC and created a severe liquidity crisis for the organisation. The current financial status of BPC is precarious. Against total receivables (on 30 November 2008) of Tk. 211 crore, BPC's payable (on 28 February 2009) was Tk. 14,270 crore on account of loans and deferred taxes.

Table 4.1: Average Import Price of Petroleum Products: FY2003-04 to FY2008-09

FY	Crude USD/bbl	Refined USD/bbl	Lube Oil USD/bbl
2003-04	33.41	39.32	67.47
2004-05	45.85	56.96	86.22
2005-06	59.04	75.92	140.43
2006-07	63.59	78.31	119.03
2007-08	95.70	141.10	122.16
2008-09 (upto Feb)	108.84	101.21	-

Source: Bangladesh Petroleum Corporation (BPC).

Coal

Coal Reserves of Bangladesh

The total coal reserves in 5 coal fields of Bangladesh are estimated to be 2.5 billion MT (Table 4.2). This is energy equivalent to 67 tcf of gas. However, recovery rate of coal from reserves varies with the choice of technology and method of mining. Assuming a modest recovery rate of 30 per cent coal, the available reserve will translate to about 20 tcf of natural gas equivalent.

Table 4.2: Coal Reserves in Bangladesh

No.	Place/ Field (Discovery Date)	Depth (Metre)	Area (Sq. km.)	Proven Reserve (Million Ton)
1.	Barapukuria, Dinajpur (1985)	119-506	6.68	390
2.	Khalishpur, Rangpur (1995)	257-483	12.00	143 (GSB), 685 (Hosaf)
3.	Phulbari, Dinajpur (1997)	150-240	30.00	572
4.	Jamalganj, Jaipurhat (1965)	900-1000	16.00	1050
5.	Dighirpar, Dinajpur (1995)	327	Yet to be known	200 (partly evaluated)

Source: Petrobangla.

The discovered fields differ in respect of depth ranging between 119-506 metres and 150-240 metres in Barapukuria and Phulbari respectively. The depth of the coal field discovered in Jamalganj is 900-1000 metres. The area covered by coal fields are rather limited and is about 70-80 square kilometres area.

Coal Mining in Bangladesh

Out of the five coal fields, production is ongoing at Barapukuria Coal Mines only. Table 4.3 shows quarterly coal production at the mine since its inception in 1995. A total of 1.73 million MT of coal has been extracted from the mine till December 2008.

Table 4.3: Production of Coal at Barapukuria Mines Limited

(in MT)

Period	Production	Cumulative Production
Sep-Dec 2005	77,444	77,444
Jan-Mar 2006	110,847	188,291
Apr-Jun 2006	114,725	303,016
Jul-Sep 2006	168,325	471,341
Oct-Dec 2006	56,637	527,978
Jan-Mar 2007	64,055	592,033
Apr-Jun 2007	99,359	691,392

(Table 4.3 Contd.)

(Table 4.3 Contd.)

Period	Production	Cumulative Production
Jul-Sep 2007	112,341	803,733
Oct-Dec 2007	85,088	888,821
Jan-Mar 2008	219,288	1,108,109
Apr-Jun 2008	185,375	1,293,484
Jul-Sep 2008	114,001	1,407,485
Oct-Dec 2008	320,864	1,728,349

Source: Barapukuria Coal Mines Limited.

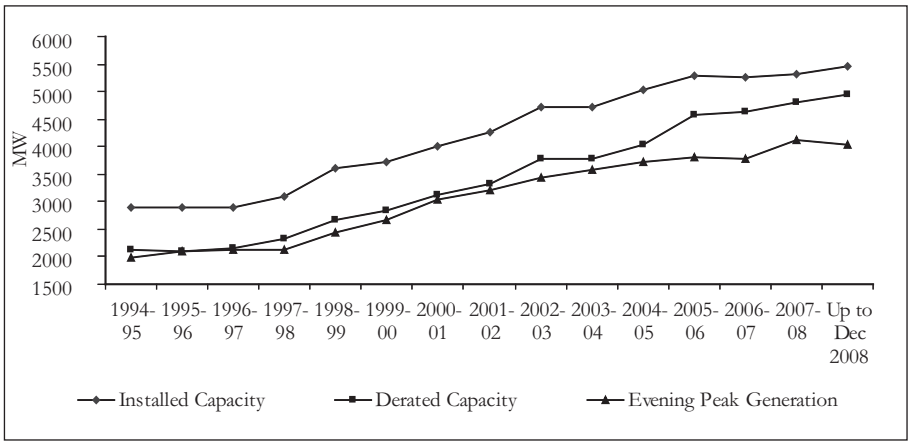
The Bureau of Mineral Development issued a license to BHP Australia in 1994 for exploration of Phulbari Mine. The license was transferred to Asia Energy in 1997. Asia Energy is yet to obtain mining license. However, the mining could not proceed due to alleged lack of transparency in award of the license and unrest in the area leading to death of 6 protesters in police and paramilitary troops firing. Coal mining at Phulbari and other coal fields now hinges on the Coal Policy under consideration of the government. Approval of the Coal Policy is pending for quite some time due to disagreements on three main issues: (a) open pit versus deep shaft mining; (b) sharing of extracted coal between Bangladesh and the mining company; and (c) compensation and rehabilitation of affected families.

4.3.2 Energy Commodities of Bangladesh

Electricity Generation

Installed, derated capacity and evening peak electricity generation have increased over the period 1994-2009. Compound annual growth rates (CAGR) during this period were 4.59 per cent, 6.17 per cent and 5.26 per cent respectively for installed capacity, derated capacity and evening peak generation respectively. From Figure 4.4 it can be seen that a yawning gap has been created between derated capacity and evening peak generation since FY2005-06. This is due to: (a) gas shortage (Table 4.4), (b) ageing of power plants, and most recently (c) due to lack of rainfall in Kaptai Lake, sending the rule curve estimate (80 feet above mean sea level (msl) instead of 90 feet above msl, standard for the month of March) to a historic low. The data relating to ageing of power plants are shown in Annex Table 4.3. From that Table it can be seen that 39 power plants with an installed capacity of 1,608 MW are more than 20 years old. Some of the power plants are more than 40 years old.

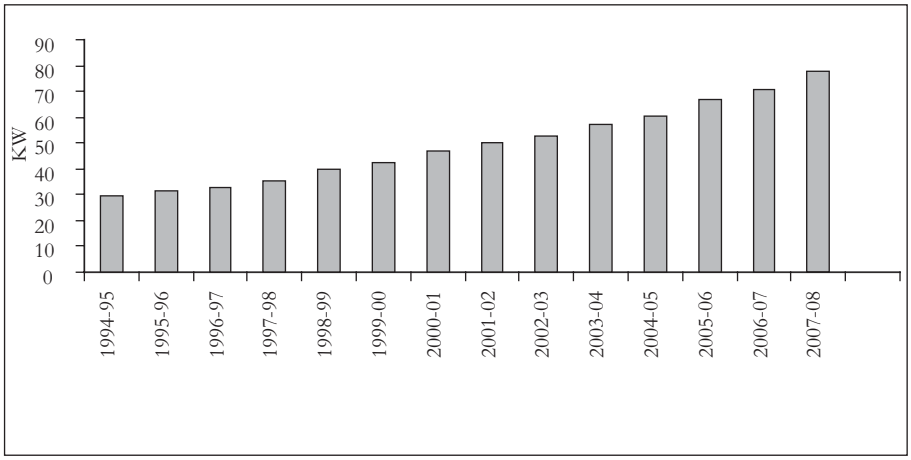
Figure 4.4: Installed, Derated Capacity and Evening Peak Generation: 1994-2004



Source: Power Cell, Power Division.

In line with the increase in generation capacity, average daily electricity generation has increased steadily from 29.61 MKWhr (million kilowatt hour) in FY1994-95 to 77.64 MKWhr in FY2007-08 as shown in Figure 4.5. This represents a CAGR of 7.70 per cent over the period.

Figure 4.5: Average of Daily Electricity Generation: 1994-2004

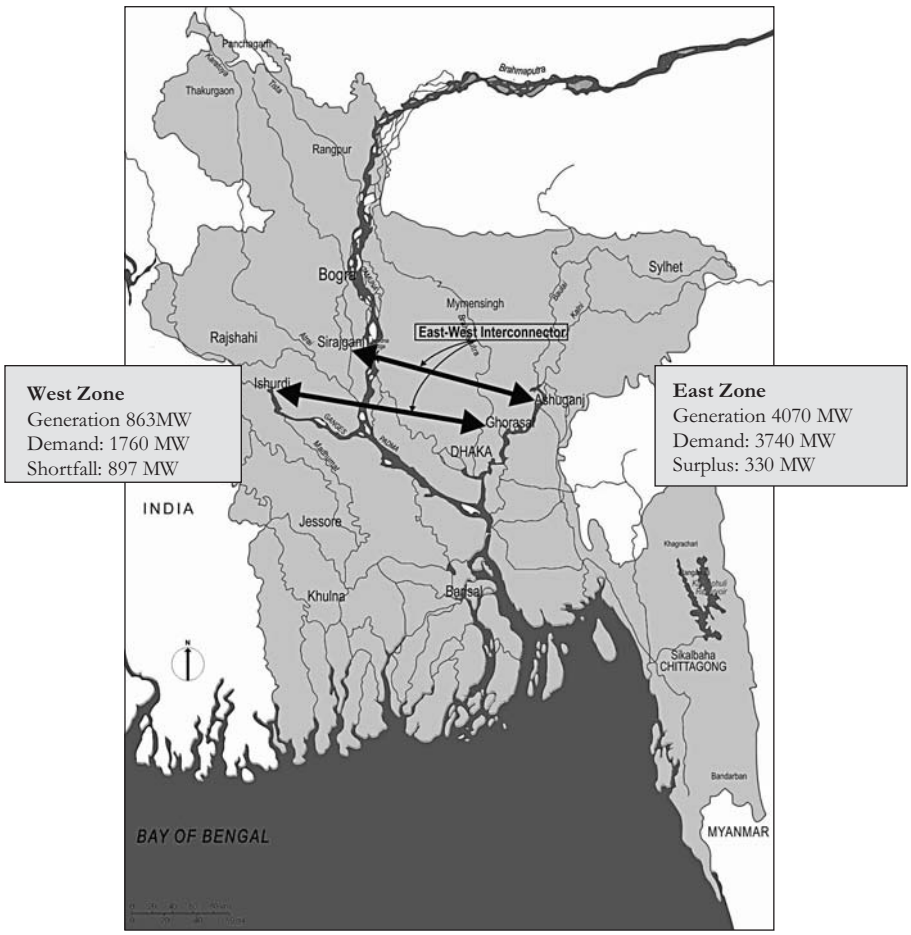


Source: Power Cell, Power Division.

East-West Divide

Most of the electricity generation capacity of the country is located in the eastern region, mainly due to availability of gas. Of the total generation capacity, 4,070 MW is located on the eastern side of Jamuna and the remaining 863 MW on the western side. Compared to the demand of 3,470 MW of electricity in the eastern region, it provides a small surplus of 330 MW of electricity. The western side with a demand of 1,760 MW has a shortfall of around 897 MW. The divide on the transmission side has recently been mitigated with the addition of second East-West interconnector of 1,000 MW capacity. Together with the old interconnector with a capacity of 400 MW, there is no transmission constraint in transferring surplus electricity from eastern region to the western region.

Figure 4.6: East-West Divide in Electricity Generation

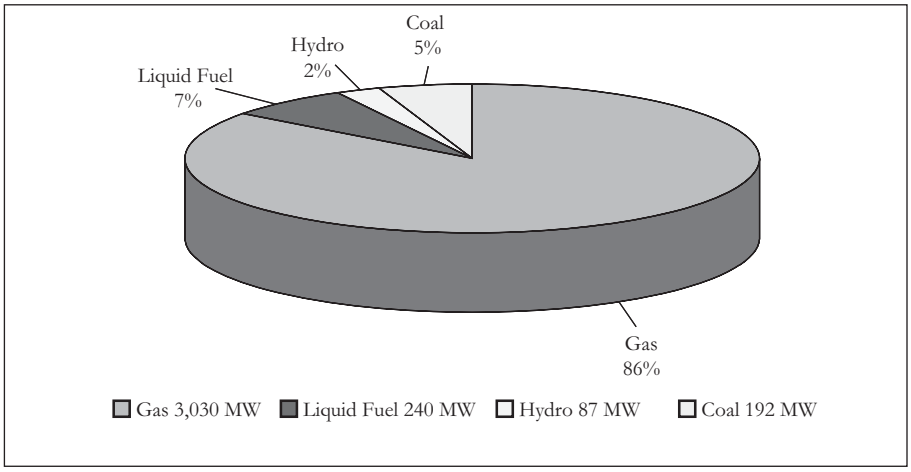


Source: Power Grid Company of Bangladesh Limited.
Note: Capacity of the East-West Interconnectors 1400 MW.

Fuel-mix of Electricity Generation

Electricity generation in Bangladesh is overwhelmingly natural gas based. More than 85 per cent of evening peak electricity is generated using natural gas (Figure 4.7). This is followed at a distant by liquid fuel and coal with generation shares of 6.76 per cent and 5.41 per cent respectively. Hydro accounts for paltry 2.45 per cent of generation. When the fuel mix using the derated generation capacity is recalculated, share of gas based generation reduces marginally to 83.45 percent; share of liquid fuel and hydro based generation increases to 7.55 per cent and 4.60 per cent respectively.

Figure 4.7: Fuel-mix of Power Generation (Based on Evening Peak Generation on 12 March 2009



Source: Power Cell, Power Division.

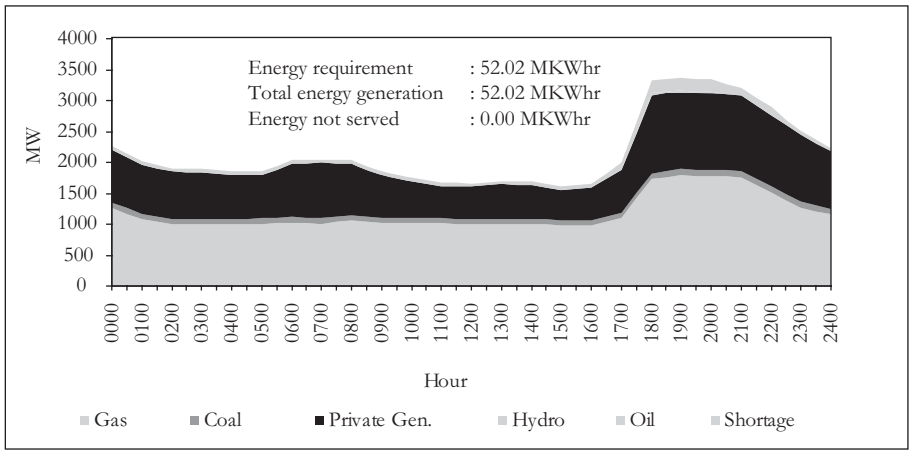
Load Pattern

Perennial shortage of electricity generally precludes depiction of daily load pattern. However, one such opportunity was offered on the National Election Day of 29 December 2008. Since most of the industrial and commercial load was absent on that day, the demand was low. Moreover, being a winter day there was no demand for air conditioning. There was no load shedding anywhere in the country on that day.

It can be seen from the Figure 4.8 that at 1600 hours, demand was 1,647MW, and the evening peak demand at 1900 hours was 3,366.6 MW- a difference of 1,720 MW. The difference is due to the lighting load plus TV programme watched by people in the evening to follow the election result. Note the valley and the peaks in the load curve. Peak clipping and valley filling remains the

major challenge for the power sector. We have also analysed the two other load curves shown in the Annex Figures 4.1 and 4.2 to determine air conditioning and fan load. The two load curves relate to 12 September 2008 (representative of a summer day) and 16 January 2009 (representative of a winter day). Electricity generation on 12 September 2008 at 1730 hours (one hour before sunset) was 3,487 MW in summer compared to electricity generation of 2,715 MW on 16 January 2009 at 1600 hours (one hour before sunset) in the winter season. The difference of around 800 MW is estimated to be air conditioning and fan load. These numbers are approximations since there are some processing plants that require continuous operation, irrespective of seasonal variations.

Figure 4.8: Daily Load Curve on 29 December 2008



Source: Load Dispatch Centre, Power Grid Company of Bangladesh (PGCB).

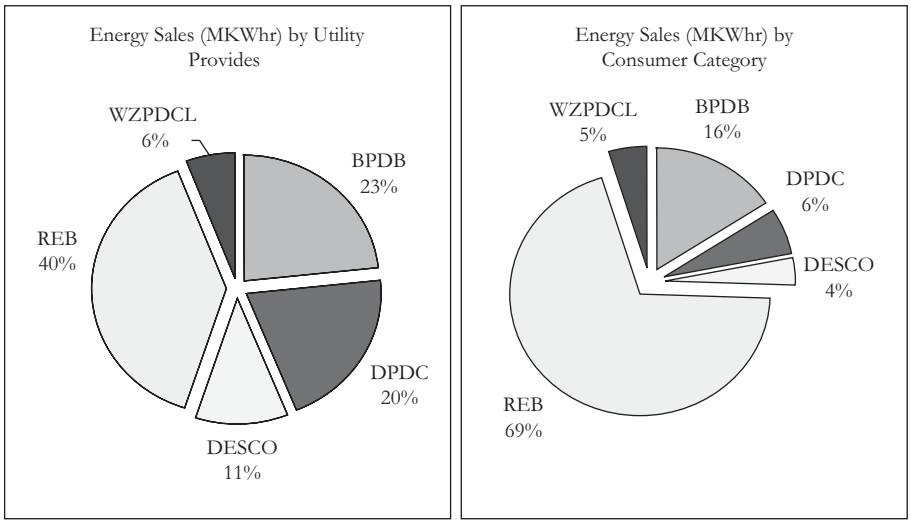
The load pattern noted above has important policy implications. If we want to decelerate the growth of demand for electricity, an imperative in view of the prevailing generation deficit, we have to reduce the lighting load. This can be done through use of energy efficient bulbs, electronic ballasts, etc. The issues relating to energy efficiency and conservation is discussed in Section 4. In addition, to decelerate the growth of air conditioning load, separate billing system for air conditioners and national standards for thermostat settings may be considered.

Electricity Consumers and Consumption

Domestic consumers overwhelmingly dominate the consumer categories (83 per cent), followed by commercial consumers (12 per cent), industrial and agricultural consumers constitute a paltry 2 per cent of consumer categories. From Figure 4.9, we can also see that Rural Electrification Board (REB) serves

69 per cent of the consumers, followed by Bangladesh Power Development Board (BPDB) (16 per cent), Dhaka Power Distribution Company Limited (DPDC) (6 per cent), West Zone Power Distribution Company Limited (WZPDCL) (5 per cent), and Dhaka Electric Supply Company Limited (DESCO) (4 per cent) respectively.

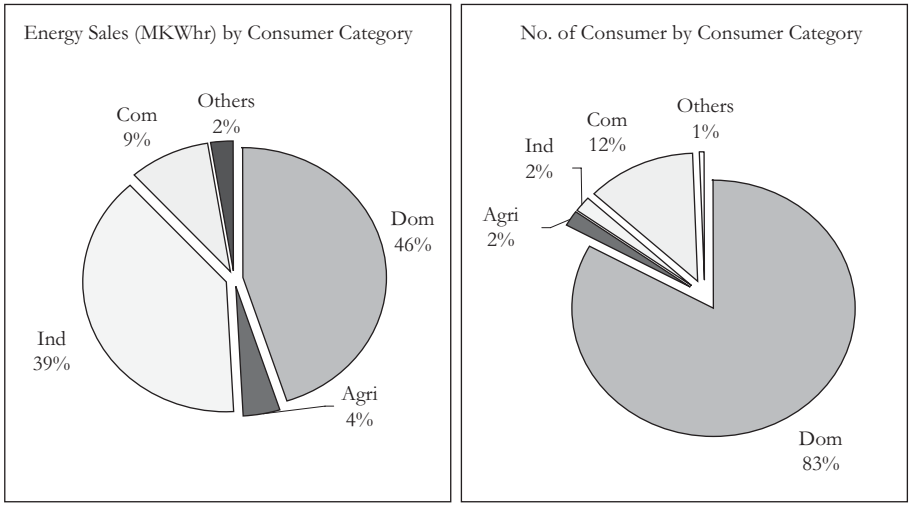
Figure 4.9: Number of Consumers by Utilities and Consumer Category



Source: Power Cell, Power Division.

This picture is somewhat changed when the energy sales data in Figure 4.10 is considered.

Figure 4.10: Energy Sales by Utilities and Consumer Category



Source: Power Cell, Power Division.

Domestic consumers, who are 83 per cent of all electricity consumers, use 46 per cent of electricity sales; 2 per cent industrial consumers purchase 39 per cent of electricity; and commercial and agricultural consumers use 12 per cent and 2 per cent respectively. Based on the energy sales, REB still dominates with 40 per cent of energy sales, followed by BPDB (23 per cent), DPDC (20 per cent), DESCO (11 per cent), and WZPDCL (6 per cent) respectively.

The figures also show the rural-urban difference in electricity use. Rural customers are located mainly in REB and WZPDCL areas. While together, they account for 74 per cent of the consumers; their share in energy consumption is limited to 46 per cent. Predominantly urban consumers of DESCO and DPDC, 10 per cent of the consumers, use 31 per cent of electricity.

The shares by consumer category, energy sales and utility have remained largely unchanged over the period 2006-2008, suggesting that there had not been much change in rural-urban distribution of electricity (Annex Tables 4.4 and 4.5).

Load-shedding

Load dispatch centre of the Power Grid Company of Bangladesh (PGCB) processes the data for load-shedding. Based on historical data, experience, weather condition, seasonal change, social and political activity and BPDB's long-term demand forecast, day-to-day demand is projected by the load dispatch centre. An addition of 8-10 per cent demand to the previous year's demand is made in practice. Load dispatch centre underestimates the extent of load-shedding. The press and the media on the other hand use Power System Master Plan (PSMP) demand forecasts to estimate the load-shedding. This comparison again overstates the extent of load-shedding because PSMP demand forecast estimates the highest demand (demand on a hot summer day). To illustrate, for FY2008-09, according to PSMP estimate peak demand is 6,066 MW based on the base case.

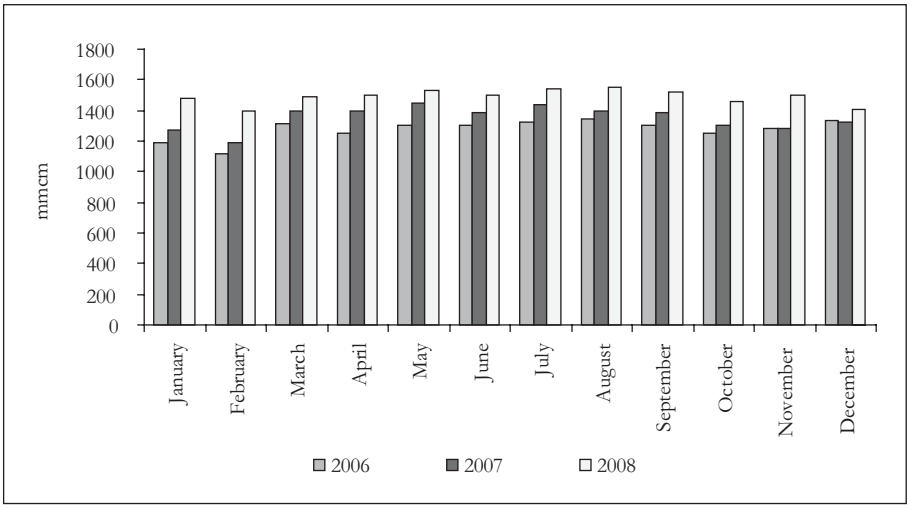
4.4 RECENT DEVELOPMENTS IN THE ENERGY SECTOR

4.4.1 Energy Sector

Natural Gas

The month-wise gas production data show steady increase in 2007-2008 over the production in 2006 (Figure 4.11), although short of demand was also persistent.

Figure 4.11: Month-wise Gas Production



Source: Petrobangla.

Coal

Coal production at Barapukuria has shown remarkable turnaround during 2007-2008. Out of total 1.73 million tonnes coal production from September 2005 to December 2008, 1.2 million tonnes (nearly 80 per cent) was achieved during the period.

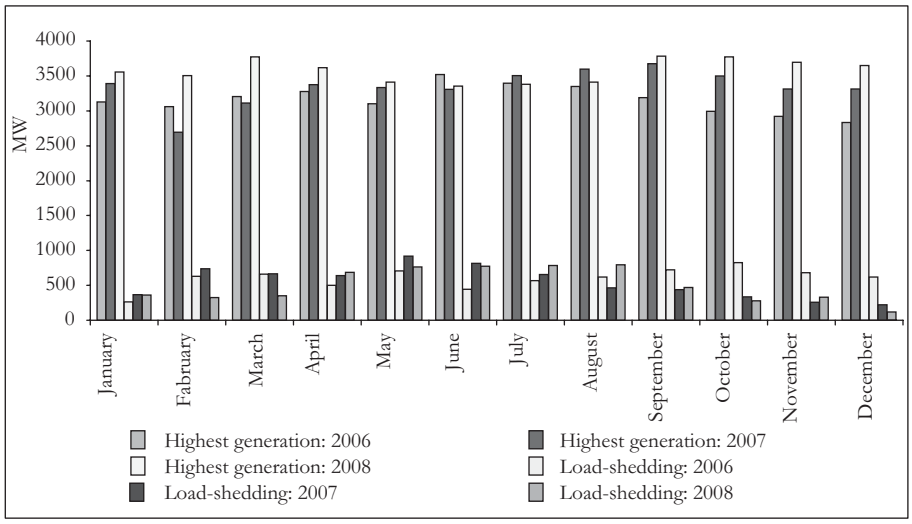
4.4.2 Power Sector

Electricity Generation

Electricity generation increased in both 2007 and 2008 compared to 2006. There are two measures of electricity generation that are relevant. Peak-hour generation is usually recorded at 7.30 pm in the evening, when the demand is at maximum and is measured in megawatts. Load-shedding is also measured at the same time. The data for peak generation and load-shedding is given in the Figure 4.12.

For example, in February 2007, average peak monthly power generation was 2,693 MW. Electricity generation increased to 3,647MW in December 2008 - an increase of 953 MW. This was achieved through a combination of addition to generation capacity (425 MW) and maintenance and rehabilitation of old and inefficient plants. These improvements were reflected in 11 per cent higher monthly average peak generation (MW). In spite of growth in demand, average

Figure 4.12: Daily Average Peak Electricity Generation and Load-Shedding: FY2005-06–2007-08



Source: Power Cell, Power Division.

peak hour load-shedding fell from 605 MW in 2006 to 540 MW in 2008. The full benefit of addition to installed and available capacity could not be realised due to shortage of primary energy, i.e. gas supply. Due to gas shortage, around 600 MW generation capacities remained stranded in the year 2008. Clearly, if supply of primary energy could be ensured, the power sector would be capable of meeting peak electricity demand in the country.

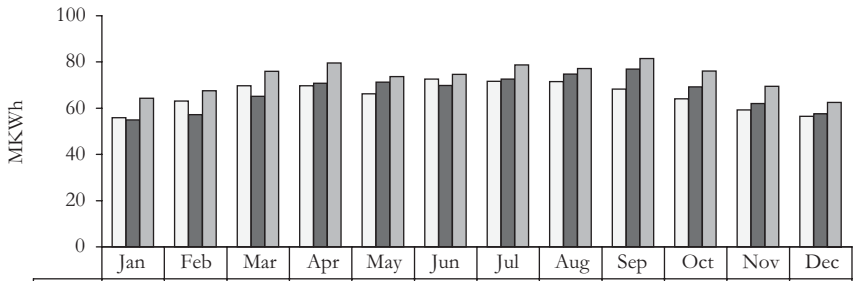
The other measure is average electricity generation during the day, measured in million kilowatt hours. Notably, such generation data also reflect the seasonal variation in demand as well as the factors such as increase in demand due to irrigation during the Boro season from January to April.

From Figure 4.13 it can be seen that 14 per cent higher average monthly total energy generation was achieved (MKWhr) in 2008 compared to 2006.

New generation contracts for a total of 1,125 MW were awarded in 2007-2008. Out of 24 public sector power plants, small IPPs and rental power plants (RPP) awarded in 2007-2008, 9 power plants have come into operation and the remaining 15 power plants are expected to be commissioned by June 2009. While awarding the contracts, lowest responsive bidders were selected through a transparent competitive process. The only notable disappointment was the outcome of procurement process of Bibiyana 450 MW IPP. The tender attracted a single bid (due to global economic turmoil) and was not approved

due to high tariff. Tenders have also been invited for 1,360 MW power generation in public and private sector. Besides, financing for six public sector power plants of total capacity of 1,470 MW have been confirmed.

Figure 4.13: Daily Average Electricity Generation: FY2005-06–FY2007-08



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2006	55.92	63.1	69.73	69.76	66.2	72.57	71.69	71.5	68.22	64.04	59.23	56.55
2007	54.88	57.22	65.16	70.79	71.33	69.83	72.65	74.71	76.9	69.21	61.96	57.53
2008	64.31	67.57	76	79.52	73.66	74.68	78.77	77.21	81.45	76.11	69.43	62.5

Months

Source: Power Cell, Power Division.

Transmission

During 2007-2008, around 1,061 kilometre transmission lines (230 KV and 132 KV), which is 13 per cent of the total transmission line length, was constructed. Sub-station capacity of 1,890 MVA was added in 2007 and 2008 which is 11 per cent of total sub-station capacity. The second East-West Interconnector, with a capacity to transfer 1,000 MW power, was completed in 2008 and it will play a vital role in the stability of high voltage grid network and remove the existing power divide between the east and western part of the country.

Distribution

In the years 2007 and 2008, a total of 14,654 kilometre new distribution lines (33 KV and below) were constructed by the power utilities and the number of new consumers connected to the system was 1,053,044. This somewhat lower performance in the expansion of distribution network and acquisition of new consumers is attributable to the embargo on line construction by REB, imposed following reports of corruption and politically influenced expansion of uneconomic REB lines. The embargo has been withdrawn and selective expansion of line, based on prudent economic rationale and technical feasibility is now underway.

Renewable Energy

To meet the challenges of electrification of remote rural areas, electricity shortage and climate change, renewable energy expansion was the government's priority agenda in 2007 and 2008. Installation of Solar Home System (SHS) in Bangladesh is one of the fastest in the world. More than 180,000 new households and small businesses in rural areas (mostly in non-grid areas) were provided electricity by SHS during this period.

Commercial Performance

Commercial performance of the sector improved significantly during 2007-2008. The average distribution loss of power utilities was reduced by 2 per cent, from 16 per cent in 2006 to 14 per cent in 2008. Collection of retail electricity bill in 2007 increased by Tk. 869 crore compared to the previous year. Reduction of bills outstanding from 3.95 equivalent months of dues in 2006 to 2.46 (in October 2008) was a significant achievement during this period.

Financial Performance

The financial performance of the power sector has also improved significantly. PGCB, DESCO and DPDC earned profit in 2008. BPDB's net loss remained static and net loss of REB decreased. The total aggregate net loss for the sector came down to about Tk. 431 crore in 2008 and Tk. 594 crore in 2007, compared to Tk. 816 crore in 2006. Recent tariff adjustment in October 2008 will help BPDB to reduce its loss in the coming years.

Policy Reforms

The caretaker government (CTG) has approved "Policy Guidelines for Enhancement of Private Participation in the Power Sector." The policy will enable the private sector to set up commercial power plants, sell electricity to bulk consumers at mutually agreed prices, rehabilitate power plants and set up power plants, along with power sector utilities on a joint venture basis. Due to this policy, private generators will have open access to transmission and distribution lines for wheeling the power generated.

The CTG also approved "Renewable Energy Policy" to accelerate the use of renewable energy through fiscal incentives, withdrawal of tax tariff for suppliers of renewable energy and institutional support through creation of Sustainable Energy Development Authority. In addition, the Power Division has also prepared a final draft of "Energy Conservation Act" for the consideration of the newly elected government.

Institutional Reforms

The process of unbundling the power sector is almost complete: three generation, one transmission and six distribution companies have been created. Unbundling of distribution sub-sector is fully complete. In the generation sub-sector, North-West Power Generation Company (NWPGC) was created in 2008.

The management of power sector companies have been reorganised through appointment of independent Chairmen and increased representation of stakeholders in Company boards, creation of Board committees for i) audit, ii) recruitment and promotion, and iii) procurement to ensure transparency and accountability.

The CTG has laid the foundations of sustained growth in the power sector through policy and institutional reforms. An addition to the generation capacity of over 1,000 MW should provide the new government with the breathing space to contract out large low-cost base load plants in a more conducive global procurement environment. Significant improvements in the transmission and distribution network achieved during this period would improve reliability of the system and provide quality power.

4.5 KEY ENERGY SECTOR ISSUES

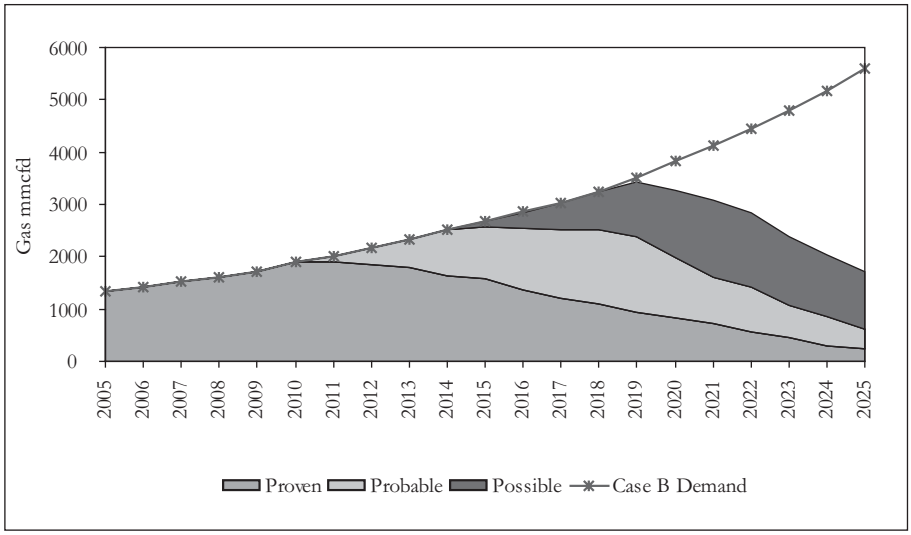
4.5.1 Allocation of Limited Gas between Current and Future Consumption

Against the estimates of gas reserves in Bangladesh, and based on the projected gas demand, according to Bangladesh Gas Sector Master Plan (Wood Mackenzie 2006), a shortfall would commence in 2011 against proven reserves. P2 reserves will meet demand until 2015 and P3 reserves will meet demand until 2019. The shortfalls in volume in 2025 for the P1, P2 and P3 reserves are 13.1 tcf, 8.5 tcf and 4.6 tcf respectively. The details are shown in Figure 4.14.

Hotelling's study mentioned earlier concluded that contrary to the concerns that the monopolist will restrict output and raise price, monopoly price path is flatter and rate of depletion is retarded (Devarajan and Fisher 1981). However, a substantial quantity of gas in Bangladesh is produced under the PSC. Early recovery of investments in exploration clause of PSC's[3] creates incentives for faster depletion of reserves. The inter-temporal choice of gas production is

[3]PSCs provide for 55 per cent cost recovery from production. The remaining 45 per cent is distributed between Petrobangla and IOCs.

Figure 4.14: Demand and Supply Balance



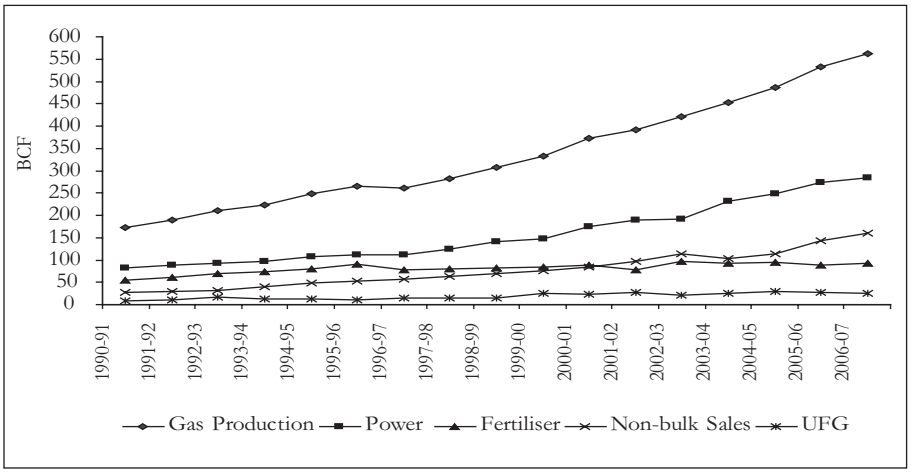
Source: Gas Sector Master Plan.

particularly important, since gas production at faster than the optimal rate may affect the reserve itself. This was noted in case of Sangu gas field operated by Cairn. Production of gas in excess of optimal rate has brought down average daily production of gas from about 150 mmscfd (million standard cubic feet per day) of gas in 2005 to 52 mmscfd of gas in 2008, creating severe gas shortage in Chittagong region under Bakhrabad Franchise area. There is also the problem of asymmetric information between IOCs and Petrobangla. Cairn energy reportedly has shown a higher reserve of one tcf gas for Sangu whereas the actual reserve was 0.5 tcf gas. Higher reserve estimates prompted Petrobangla to go for higher production.

4.5.2 Allocation of Limited Gas among Various Uses

Figure 4.15 below shows year-wise gas sales in billion cubic feet (bcf). The CAGR of gas production from 1990-91 to 2007-2008 was 7.14 per cent. Sector-wise CAGR were 7.52 per cent, 3.26 per cent, and 10.92 per cent respectively for power, fertiliser and non-bulk consumers. Notably, sales to non-bulk customers experienced the fastest growth during this period.

Figure 4.15: Category-wise Annual Gas Sales



Source: Petrobangla.
Note: UFG stands for unaccounted for gas.

4.5.3 Technical Interface between Gas and Power Infrastructure

Lack of coordination between the Energy and Power Division is a favourite subject for discussion in popular press. In fact, the human interface between Energy and Power Division officials is quite good. The technical interface on the other hand is rather weak, mainly because of undeveloped gas production, transmission and distribution infrastructure and its very limited storage capacity. The system allows for very limited line packing and is incapable of rapid increase in production to meet peak demand. The system also lacks flexibility in diverting gas from an area where demand has fallen to an area where demand remains strong. To illustrate, we can say a particular power station experiences a forced shut down, thereby lowering demand for gas. But such gas cannot be diverted to another power plant where there is unmet demand. On the other hand, similar limitations persist in case of electricity generation as well as there is no automatic control system. As a result, power plant managers cannot lower generation quickly in response to sudden shortage of gas supply, sometimes threatening the total generation and transmission infrastructure.

In the event of gas shortage, the transmission and distribution system cannot allocate the shortage among various consumer categories proportionally. Table 4.4 illustrates this point.

Out of the total shortage of 265 mmscfd of gas on a hypothetical day, nearly 82 per cent is borne by bulk purchasers such as power and fertiliser. While non-bulk consumers receive nearly 50 per cent of the total gas supply, their share is

Table 4.4: Present Demand and Supply Balance: 2008-09

(in mmscfd)

Sector	Customer Type	Demand	Supply Balance	Shortfall
Bulk	Power	830	680	150
	Fertiliser	289	235	54
	Non-grid power (SPP)	35	22	13
	Sub-total	1154	937	217
Non-bulk	Captive	280	270	10
	CNG	78	78	0
	Industry	297	273	24
	Domestic	260	250	10
	Commercial & others	26	22	4
	Sub-total	941	893	48
Grand Total		2095	1830	265

Source: Petrobangla.

less than 20 per cent of the shortage. This is contrary to the recommendations of several studies that the preferred method of recovering energy stored in gas is by converting it into electricity, which then opens a broad range of opportunities for improvements in home conditions; use of electric equipment in small manufacturing; climate control of buildings, hospitals and schools, and street lighting; and the manifest relationship between GDP growth and electricity generation in Bangladesh.

4.5.4 National Coal Policy

Given the prevailing shortage of natural gas, the National Coal Policy needs to be finalised. Several committees have worked on the policy and reviewed the draft policy. Given the strong electoral mandate, the new government is in a position to balance the concerns of various groups (e.g. affected persons, prospective investors, environmentalists, etc.). A coal mine will need about 5 years to be built and coal based power plant will take about three years to construct. Even if these two activities are carried out simultaneously, allowing about a year for procurement of contractors for coal mine and plant, Bangladesh is still six years behind from producing coal from new mines even if the Coal Policy is approved today.

4.5.5 Energy Pricing

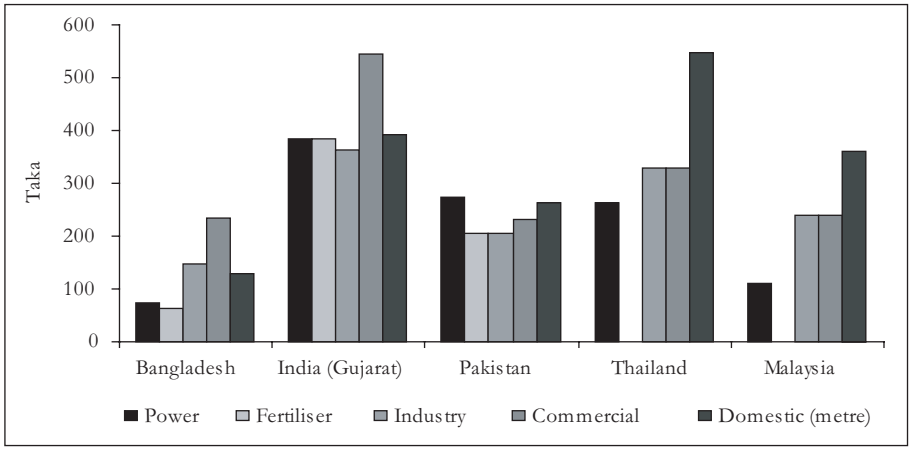
Gas Tariff

Natural gas prices (USD/mmbtu[4]) in the region are shown below in Figure

[4]mmbtu stands for million British thermal unit.

4.16. From the Figure it can bee seen that natural gas tariff in Bangladesh is the lowest for all consumer categories. Prices provide signal to the producers in deciding the amount of energy supply they would bring into the market, and facilitates consumers' choice of optimal fuel consumption mix. The current level of prices distorts both producer and consumer incentives. An artificially low price stimulates an increase in demand and encourages waste. However, given the differences in levels of development of other countries in Figure 4.16, the impact of gas prices on electricity and industrial production, a phased increase would be desirable. The Bangladesh Energy Regulatory Commission (BERC) has concluded hearings on gas prices but did not approve price increase sought by Petrobangla.

Figure 4.16: Regional Comparison in Gas Price



Source: Wood Mac., UK Study (2005).

Electricity Tariff

Clearly, as shown in Table 4.5, electricity tariff in Bangladesh is also the lowest in the region.

Table 4.5: Electricity Tariff in Selected South Asian Countries: 2006

(USD cents/kwh)

Country/ Consumer Category	Bangladesh	India (Delhi)	India (West Bengal)	Nepal	Pakistan	Sri Lanka
Households	4.16-8.33	6.03-9.45	4.75-8.02	5.40-13.40	2.33-12.35	2.89-16.64
Irrigation	3.06	N.A.	4.15	-	5.47	-
Commercial	8.40	10.04-11.42	7.89-13.01	10.00-10.40	7.65-12.68	7.70- 8.18
Industrial	3.53-6.38	11.9-12.19	9.62-10.91	6.20-8.90	5.25-9.37	7.70- 8.18
Other	3.41	11.25	9.87	-	9.48	-

Source: Potential and prospects for regional energy trade in the South Asia region, Energy Sector Management Assistance Programme (ESMAP) and South Asia Regional Cooperation Programme.
Note: In addition, typical power utilities have some fixed/demand charge per USD/kw/month.

The CTG activated BERC to implement its mandate to regulate gas, electricity and petroleum products. BERC has issued its first tariff order for bulk electricity supply tariff effective from 1 October 2008. Subsequently, it issued orders relating to petroleum products. It has received application from the power distribution utilities and completed hearing on DESCO's application. Decision on DESCO's application will be the most significant judgment to be delivered by BERC so far.

DESCO is one of the few profitable companies in the power sector. It's shares are listed in Dhaka Stock Exchange (DSE) (25 per cent of the shares are owned by the members of the public).

BERC will determine tariff for power distribution utilities according to draft Electricity Distribution Tariff Methodology (www.berc.org.bd). The methodology does not take into consideration electricity tariff of competing and different utilities. For example, according to the methodology, DESCO being profitable may not qualify for a tariff hike. On the other hand, other loss making utilities will be eligible for increase in their tariff under the methodology. DESCO customers comprise relatively well-off customers and the load is mainly lighting and air conditioning. Therefore, BERC may like to take the following additional factors into consideration in determining DESCO power tariff:

(a) Tariff in DESCO areas should not be less than tariff paid by less well-off customers residing within the jurisdiction of loss making utilities. In fact, it would be expected that customers paying Tk. 20,000 per sft. for commercial spaces or paying rent of Tk. 100 per sft or more in some DESCO covered areas, should be asked to pay tariff in line with the tariff paid by similar customers in other South Asian countries. This is necessary not only on equity grounds, but also to provide lower tariff for more productive industrial and agricultural use.

(b) The dilemma for BERC, however, would be that such tariff increase will result in a windfall profit for DESCO. This can be mitigated by lowering the tariff for lifeline customers (consuming less than 50/100 units of electricity) residing in DESCO areas. Moreover the government and/or BERC may require DESCO and other profitable urban utilities to contribute a percentage of their revenue to a common fund that would be dedicated for cross-subsidisation of less well-off consumers and productive industrial and agricultural activities in poor sub-urban and rural areas.

(c) BERC's tariff determination methodology should also take into account the demand management needs of the power sector. It should not send any

negative signals to private DESCO shareholders and discourage efficiency in operation of distribution utilities, by granting higher tariff to loss making utilities and denying reasonable tariff increase to well performing utilities.

4.5.6 Delays in Procurement

GTCL initiated the process of procurement for installation of compressor stations at Muchai, Ashuganj and Elenga in July 2005. After completion of first stage bid evaluation it was sent to Asian Development Bank (ADB). In September 2007, the Integrity Oversight Committee of ADB opined that technical specifications, prepared by an ADB approved consultant, favoured a particular manufacturer. Rebidding commenced in November 2007. The final status of the project as of 17 March 2009 is that Technical Evaluation Committee (TEC) reviewed the consultant's report and prepared a preliminary evaluation report recommending to seek clarifications from both bidders. This is a typical example of procurement in the energy sector using donor funded project. Annex Table 4.6 shows the timeline of procurement of the project. Such delays are attributable to: (a) weaknesses in the government's public procurement rules, (b) centralisation of donor decision making relating to procurement, and (c) lack of capacity in the energy sector to evaluate complicated projects.

4.5.7 Delays in Power Project Implementation

A serious constraint of development in the energy sector is the delay in implementation of projects in the public sector. A typical list of delayed power projects is shown in Annex Table 4.7. It can be seen from the Table that 210 MW Siddhirganj Power Plant implemented by Russian company TPE experienced a total delay of 6 years 9 months. Delay for Ghorasal 210 MW Power Plant (6th Unit) was by 2 years and 3 months; Tongi 80 MW Power Plant, implemented by a Chinese Company Harbin was delayed by nearly six months. Similar pattern of delay is emerging in cases of implementation of Sylhet 90 MW power plant by Harbin, and Siddhirganj 220 MW peaking Power Plant by Indian Company Bharat Heavy Electric Limited. The delays are attributable to near total reliance on foreign companies in public sector power project implementation; incomplete and/or ambiguous contracts; lax in the implementation of delay liquidated damage (DLD) or performance liquidated damage (PLD) related provisions; and delay in land acquisitions.

BPDB has set a good example of recovering DLDs and PLDs as per contract from short-term rental power companies. BPDB also needs to enhance its capacity to take over badly delayed power plants and complete the remaining

work by engaging third parties or on its own by deducting the expenses from the original contract value.

4.5.8 Governance of the Energy Sector

Outside interference, multiple authorities, undesirable fragmentation are perhaps the most important factors inhibiting the development of the energy sector. For unknown reasons, successive governments have kept Ministry of Power, Energy and Mineral Resources (MoPEMR) under the head of the government. Because of the large project costs involved, most of the procurements by the Ministry require approval of the Cabinet sub-committee on purchase and ultimately approval of the head of the government. Similarly, most of the development projects require consideration by the Executive Committee of National Economic Council (ECNEC), and thereby, approval by the head of the government. Any policy decisions of the Ministry requires approval of the Cabinet, which is again chaired by head of the government. In spite of all these checks and control levers available to the head of the government it is not clear why head of the government should remain in-charge of MoPEMR. Given the pre-occupations of the head of the government, in the past, persons having no knowledge or responsibility of the energy sector interfered in the decision making by invoking the authority of the head of the government.

The present government needs to be credited for placing both Power and Energy Divisions under the same State Minister. Given the interdependence of these Divisions, there is no justification of separating the functions at the Ministry level. Notably, both Energy and Power Divisions used to be headed by a single Secretary in the past.

The present government has introduced an unorthodox governance structure for the energy sector as follows: (a) the Prime Minister remains the Minister-in-Charge; (b) there is an Energy Advisor; (c) there is a State Minister; and (d) the Prime Minister also announced formation of a cell. In addition, there will be oversight by the Parliamentary Committee. There are some apprehensions that the new model may cause delay in decision making and result in bad compromises and diffuse the process of accountability. However, the remark made by German Prussian politician Otto Von Bismarck in 1867 can be noted here, that "Politics is the art of the possible." Encouraged by the remarkable turnaround of Indian Railway achieved under *Laloo Prashad Yadav,* we will look forward to the performance of the new governance model for the energy sector with keen interest.

4.5.9 Corporatisation of the Energy Sector

The energy sector of Bangladesh has been corporatised in different degrees. In the power sector, there are three power generation companies, one transmission company and six distribution companies. In addition, there is BPDB carrying out both power generation and distribution functions, and is the main bulk purchaser of electricity from IPPs. REB is carrying out distribution functions in rural areas, owns a power generation company, and also buying electricity from some small IPPs. Recently, autonomy of power sector companies was ensured by withdrawing Power Secretary as chairmen of these companies to avoid conflicts of interest. Persons of integrity and/or deep knowledge of the sector have been put in-charge of these companies. However, the corporatisation process remains incomplete in the way that– (i) BPDB needs to complete power purchase agreement with the newly created generation companies and transfer manpower, assets and liabilities to such companies; (ii) it also needs to complete the vendors agreements with distribution companies created out of BPDB and transfer manpower, assets and liabilities to such companies; and (iii) following completion of the process, corporatisation of the remaining BPDB should be undertaken. With introduction of independent management of power sector entities, technical coordination of the sector has emerged as an important issue.

The main factor inhibiting the performance of the energy sector was that the managers in the sector were not allowed to perform independently in the interest of the sector. Moreover, the sector managers were not provided with necessary support for their smooth functioning. The government, through the Ministry, should adopt appropriate policies, set targets, and strengthen its monitoring functions, but must leave day-to-day functions to the managers and hold them accountable for their deeds. Completing the corporatisation process and granting necessary autonomy to the energy sector managers will constitute the major challenges for the future development of the sector.

4.5.10 Energy Conservation: Negawatts and the Fifth Fuel

"Negawatt power" is a term coined and introduced by Amory Lovins in a 1989 speech which he deliverd in 1989. The term emphasises investment to reduce electricity demand instead of increasing electricity generation capacity. This "virtual generation" method can increase supply of electricity by improving the efficiency of existing electrical equipment rather than by building new power stations. For example, by setting thermostat to air conditioners to a higher level (say 22 degrees instead of 18 degrees) during the peak electrical load hours, e.g. summer afternoons, peak electricity consumption can be reduced, avoiding the

need to construct a new power station. This reduction in consumption is referred to as a negawatt.

While analysing the patterns of energy use in the world today, Amory Lovins (1989) also found that the typical rich country is almost three times as energy-efficient as the typical poor country. He believes that a typical poor country ought to be able to grow its economy roughly ten-fold without increasing its energy use at all, if it leap-frogs over mistakes of western nations and does it right the first time. Otherwise, poor countries will find itself in the dilemma of China, which decided some years ago that it was time for people to have refrigerators. So they built over 100 refrigerator factories. The fraction of Beijing households owning a refrigerator went from 2 to 62 per cent in six years. Unfortunately, without paying attention, China chose a very inefficient kind of refrigerator to build, and has therefore committed itself to spending several billion dollars to build power plants to run the refrigerators, thus creating power shortages in the name of development. According to Lovins, if countries gave away energy-efficient light bulbs in cities like Mumbai, one-third of peak load demand in the evenings could be reduced. One can achieve remarkable leverage for development by increasing the reliability of supply, and by avoiding heavy investments in expanded supply, through emphasising efficiency.

The "Fifth Fuel" on the other hand refers to energy efficiency as an alternative to four traditional fuels, namely coal, natural gas, hydropower and nuclear fuel. Bangladeshis are a frugal nation and recycle almost everything. However, this national trait does not extend to the area of energy use. Imitation of western lifestyle, turning on gas stove to save a match stick, using energy-inefficient bulbs, appliances, boilers, etc. are frequently persistent. These are some of the typical examples of waste of energy.

The Energy Audit Cell of the power division estimates that national annual natural gas savings due to 5 per cent improvement of efficiency of boilers would lead to a gas saving of 18.2 bcf, based on 2006-2007 gas production and use in boilers. Some of the options for natural gas savings proposed by the Energy Audit Cell include: insulations of bare steam lines, repair steam leaks, improvements in condensate recovery, generator operating efficiency, power factor, installation of intelligent motor controller, and installation of co-generation plant.

They also estimate national annual natural electricity savings of 1,059 gigawatt hour (GWh) through demand side management policies such as, installation of intelligent motor controller, use of compact fluorescent lamp (CFL), electronic ballast, daylight savings, reducing use of electricity during peak hour, closing

shopping malls by 7 pm, separate billing system for air conditioners, and setting standards for electrical appliances. Energy Cell estimates of national gas and electricity savings through energy efficiency improvement measures are shown in Annex Tables 4.8 and 4.9.

As already mentioned, Power Division has prepared final draft of "Energy Conservation Act" for consideration of the new government. Enactment of such an Act will institutionalise energy savings measures.

4.6. CHALLENGES AND OPPORTUNITIES FOR THE NEW GOVERNMENT

4.6.1 Power and Energy Sector in Awami League's Manifesto

The manifesto promises to adopt a comprehensive long-term policy on electricity and energy; ensure economic usage of oil, gas, coal, hydro power, wind power and solar energy; and give priority to big and small power generation stations, coal extraction, and oil and gas exploration. It proposes to undertake a three-year crash programme for quick implementation of the ongoing and under consideration power generation stations; import of electricity from neighbouring countries; arrange 100-150 MW gas turbine projects on urgent basis; and reactivate the past Awami League initiatives for constructing 10, 20 and 30 MW power stations. The manifesto promises to prepare a schedule for repair, maintenance and overhauling or salvaging of old power stations to increase and stabilise power production; increase supply of gas and liquefied petroleum gas (LPG); and implement the Rooppur Nuclear Power Project. Coming to specifics, the manifesto targets are: increase in power production to 5,000 MW by 2011, and to 7,000 MW by 2013.

The party will give priority to exploration and exploitation of oil and new gas, coal fields and other mineral resources, make arrangements for supply of gas in the north and western regions of the country, and significantly increase supply of gas and LPG. The party will formulate a Coal Policy safeguarding the national interest, take special initiatives to ensure economic use of the coal and also to develop coal-based power plants.

However, the power generation target in the manifesto is a bit ambiguous. It is not clear whether it targets additional generation of 5,000 MW of electricity by 2011 and 7,000 MW of electricity by 2013, or targets to increase the present electricity generation to 5,000 MW by 2011 and 7,000 MW by 2013. The arithmetic differences between the two positions are huge. In 2007 highest electricity generation was 4,130 MW. Contracts for additional 1,125 MW power

projects have also been awarded. Thus, implementation of the projects in the pipeline alone would result in total generation of 5,000 MW by 2009. Therefore, the promise is nothing significant. On the other hand if the target is to achieve additional generation of 5,000 MW by 2011, the target is not only ambitious but also not achievable given the gas supply constraint.

4.6.2 Gas and Electricity Generation Arithmetic

Table 4.6 shows the present electricity generation scenario based on gas supply on 12 March 2008.

Table 4.6: Maximum Possible Generation under Current Gas Availability Scenario

Fuel/Repair/Maintenance/Rehabilitation	Unit Used	Generation
Gas	675 mmscfd x 4	2700 MW
Combined cycle		415 MW
Non-gas		
Liquid fuel		377 MW
Coal		220 MW
Hydro		87 MW
Total		3799 MW
Routine repair and maintenance		380 MW
Plants under rehabilitation		140 MW
Net generation		3279 MW

Source: Power Grid Company of Bangladesh.
Note: The thumb rule is 1 mmscfd of gas is used to generate 4MW of electricity.

The Table simulates power generation scenarios by applying simple gas and electricity arithmetic. To generate additional 5,000 MW of electricity, even under the most efficient combination of base and peak load plants and best non-gas electricity production scenario, will require 750 mmscfd of additional gas, which is unlikely to be available even under the most optimistic gas supply scenario. Even to raise total generation to 5,000 MW under the current scenario will require 1,000 mmscfd of gas, more than 40 per cent increase over the current supply of 675 mmscfd.

4.6.3 Gas Supply to New Power Projects

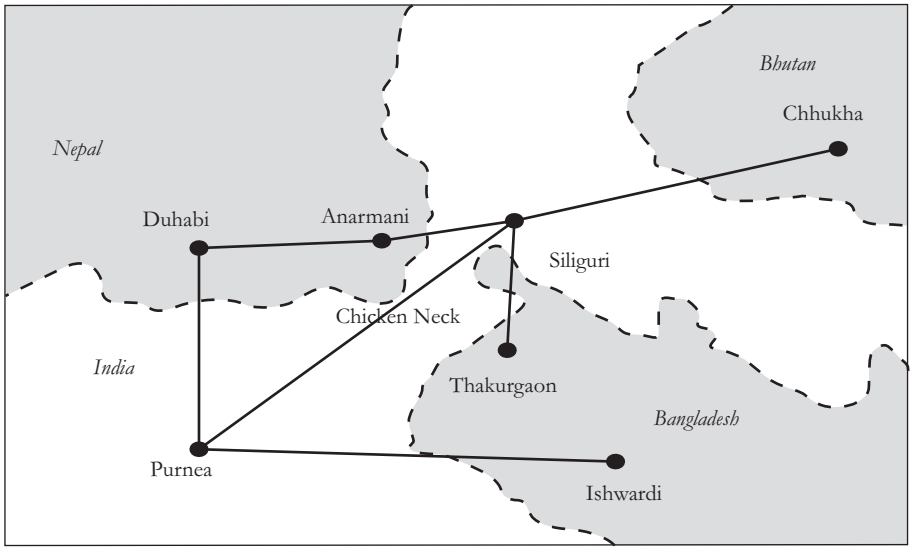
Annex Table 4.10 shows the status of gas supply to power plants proposed by BPDB and REB. Out of the 16 projects in the list with proposed capacity of 3,230 MW, Petrobangla has confirmed gas supply for 3 base load plants with a total capacity 750 MW and 2 peaking power plants of 240 MW capacities. It has indicated that, based on the proven gas reserve, gas supply will not be possible for five power plants with proposed capacity of 1,480 MW, and that

gas supply may be possible after the expected commissioning date planned by BPDB for six power plants with projected capacity of 1,260 MW.

4.6.4 Energy Trade through Grid

The Awami League manifesto also talks about the prospect of importing electricity from neighbouring countries. Technically this can be achieved by proposals as outlined in the South Asia Regional Initiative for Energy (SARI/E) programme of United States Agency for International Development (USAID) that suggested connecting Siliguri (India) to Anarmani (Nepal), and Thakurgaon (Bangladesh). Initially these would be 132 KV lines and will be upgraded to 220 KV as volume of inter-change increases. It also suggested the alternative of connecting Purnea (India) to Duhabi (Nepal) and Ishwardi (Bangladesh). Notably, the connections from Chhukha (Bhutan) to Siliguri and then to Purnea already exist (Figure 4.17).

Figure 4.17: Suggested Interconnections among India, Nepal, Bhutan and Bangladesh



Source: USAID SARI/E Programme Study carried out by Nexant (2002).

However, the prime constraint for electricity trade is that in spite of tremendous potential, none of the countries in the region have surplus electricity to offer at this time. All the countries except Bhutan are experiencing power shortage of magnitudes greater than Bangladesh. In addition, at the prevailing tariff, power utilities of Bangladesh may find it uneconomic to import electricity from neighbouring countries without receiving subsidy from the government.

Possibility of importing hydropower from Myanmar was also considered. Unfortunately, potentially larger hydro-electricity production sites, such as the one in Lemro is situated at a few hundred kilometres of difficult terrain away from Bangladesh. Sites nearer to our borders, such as Sittwe, have very limited hydro-electricity generation potential.

A similar attempt to import gas from Myanmar was also unsuccessful. As Myanmar had already committed supply to China and India. Therefore, in spite of the noted complementarities in the energy sector among the countries of the region (Murshid and Willig 2001) the immediate prospects for energy trade between Bangladesh and its neighbours do not appear to be bright.

4.6.5 Nuclear Power Plant

Bangladesh considered building a nuclear power plant for the first time in 1961. Since then, several feasibility studies have been carried out, affirming the practicability of the project. In 1963, the Rooppur site was selected for setting up a 600 MWe power plant. Successive governments have pledged that they would build a nuclear power plant to meet electricity shortages. With growth in demand and grid capacity since then, a much larger plant looked appropriate, and the government in 1999 expressed its firm commitment to build this Rooppur plant. In 2001, Bangladesh adopted a national Nuclear Power Action Plan, and in 2005 it signed a nuclear cooperation agreement with China. Bangladesh Atomic Energy Commission (BAEC) estimates setting up nuclear reactors for Rooppur by 2015 would cost USD 0.9-1.2 billion for a 600 MWe unit and USD 1.5-2.0 billion for 1,000 MWe. In April 2008, the CTG reiterated its intention to work with China in building the Rooppur plant and China reportedly offered funding for the project. Bangladesh's plan to install its first nuclear power plant by 2015 to meet the country's increasing electricity demand has been received positively by the International Atomic Energy Agency (IAEA). The IAEA has approved a Technical Assistance Project for Rooppur Nuclear Power Plant to be initiated between 2009 and 2011.

Russia and South Korea had earlier offered financial and technical help to establish nuclear power. Bangladesh has had a Triga 3 MW research reactor operational since 1986 and has necessary trained manpower for running a nuclear power plant.

Alongside setting up nuclear power plants, areas having prospects of uranium and thorium deposits need to be appraised, and studies may be conducted on the techno-economic viability of production at prospective sites.

4.6.6 Renewable Energy

The Awami League manifesto rightly emphasises the development of renewable energy. The government's recent decision to exempt solar equipment from all duties and taxes is a bold one. An earlier attempt, under the CTG, to obtain such tax exemption was only partially successful. However, mere exemption for duties and taxes will not be enough to achieve renewable energy targets mentioned in the Renewable Energy Policy adopted under the CTG. *Ms Matia Choudhury,* the Minister for Agriculture has hit the right button when she urged our scientists to develop solar powered irrigation pumps. Notably, the long-term average sunshine data indicates that the period of bright (i.e. more than 200 watts/square metre intensity) sunshine hours in the coastal region of Bangladesh vary from 3 to 11 hours daily. The global radiation varies from 3.8 to 6.4 kwh/square metre/day. These data indicate that there are good prospects for solar thermal and photovoltaic application in Bangladesh. With good to excellent solar resource available in the country throughout the year, there is a good potential for furthering Infrastructure Development Company Limited (IDCOL) successful photovoltaic programme in non-electrified villages. Already, nearly 300,000 solar home systems have been installed in remote rural areas under the programme. The World Bank has offered to provide additional USD 100 million for the solar programme. It is necessary that a part of the assistance be used for setting up of a solar panel manufacturing plant in the country to insulate the ongoing solar programme from rising prices and uncertainties of supply of these equipments in the international market.

The long-term wind flow of Bangladesh (specifically in the islands and the southern coastal belt of the country) indicates that the average wind speed remains between 3 to 4.5 m/s for the months of March to September and 1.7 to 2.3 m/s for the remaining period of the year. Given the danger from cyclones, it is important that the survivability of wind turbines be investigated. Therefore, further investigation of the potential wind power development is warranted.

For a long time, Dhaka City has been suffering from a tremendous environmental pollution caused by municipal solid waste, medical waste and various industrial wastes. Such wastes can be used for electricity generation. In addition to providing much needed electricity, such a project will save the city from environmental pollution.

4.6.7 The Silver Linings

There are a few silver linings in this rather lackluster energy sector scenario. We will cite four examples here.

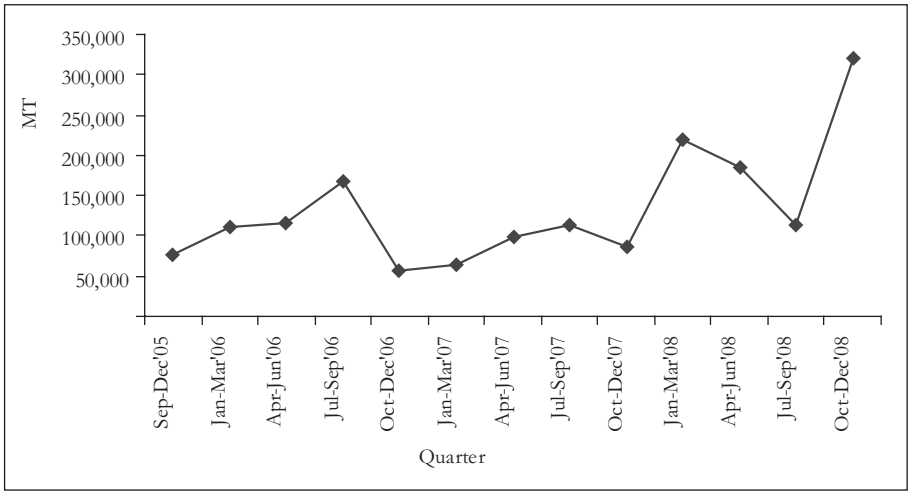
Restoration of Power after Cyclone Sidr

Cyclone Sidr wrecked havoc on the power system of the southern Bangladesh: the national grid failed and three major transmission lines were disrupted. 31 upazilas were disconnected and more than 50,000 poles were either broken or partially damaged. Several hundred towers including river crossing towers, sub-stations were damaged and power supply to 2,714 rice mills, 324 ice factories and 1,176 saw mills were interrupted. Nearly 3 million households and businesses were affected. Power connection with all the upazilas were restored within a month. The entire power system in the south-western zone was rehabilitated within three months. In fact, the USAID Mission Director remarked that restoration of power in the United States (US) following hurricane Katrina took much longer time (more than six months) and that the US could have learnt lessons from Bangladesh experience.

Turnaround of Barapukuria Coal Mine

In an aptly titled article *"A Wakeup Call for Politics: Once Graft-ridden Barapukuria Coal Mine Expects Record Production, Profit First Time this Fiscal Year,"* the Daily Star wrote how a white elephant for the government revitalised from January 2007 and was poised to hit operational profit. This was possible because the mine was performing well as the government in the last two years paid serious attention to the mine, the company's management performed professionally, mine's environment was less hazardous, and necessary adjustment was made in the price of coal. As can be seen from the Figure 4.18 below, the quarterly production of the mine shot up from an average of low 100,000 tonnes to about 300,000 tonnes in October-December 2008. The lessons from Barapukuria are rather simple. Without meddling, the government should support energy sector entities and let these be run by professional staff and hold the staff accountable for their performance.

Figure 4.18: Barapukuria Coal Production



Source: Petrobangla.

Power Entrepreneurs

Earlier, the power sector in Bangladesh was dominated by foreign contractors and their local agents. Except for Summit Power Limited, there was hardly any Bangladeshi entrepreneur in power generation. Now a number of Bangladeshi entrepreneurs have gained experience in implementation of small IPPs, short and long-term rental power plants of more than 800 MW. A list of Bangladeshi companies operating and implementing power plants is given in Table 4.7. Hopefully, these entrepreneurs will learn from their experience and compete with foreign companies to end the latter's total domination in the power sector. Clearly, Bangladesh needs a few more entrepreneurs to implement energy generation, transmission and distribution projects.

Water for Irrigation: Boro Season 2008

Finally, we will cite an example of combined efficiency of Energy and Power Divisions. Following the loss of crop in cyclone Sidr and the skyrocketing price of food crops and their unavailability in the world market, a bumper Boro crop became imperative. This required uninterrupted supply of fuel and electricity for irrigation. In a situation of electricity shortage and sharp increase in price of petroleum products in the world market, it was a difficult task. Both energy and power sector officials faced the challenge remarkably and there was hardly any complaint from the farmers. This together with timely supply of agricultural inputs ensured the desired bumper Boro production during the season.

Table 4.7: Small IPPs, Short and Long-term Rental Power Plants Implemented by Bangladeshi Companies

Power Company	Location and Capacity (MW) of Power Plant (s)	Total Capacity *(in MW)*
Summit Power	Ashulia (44), Madhobdi (33), Chandina (25), Maona (33) , Ullarpara (11), Jangalia (33), Rupgonj (33), Mohipal (11)	223.0
EnergyPrima	Kumargaon (50), Shahjibazar (50), Fenchuganj (50), Bogra (20)	170.0
Doreen Power	Tangail (22), Narsingdi (22), Feni (22), Shikolbaha (55), Mohipal (11)	132.0
Shahjibazar Power	Shajibazar	86.0
Venture/GBB Energy	Bogra (20), Bhola (34.5)	54.5
Regent Power Limited	Barobkundu (22)	22.0
Barkatullah Electrodynamics Limited	Fenchuganj (50)	50.0
Desh Energy	Kumargaon (11)	11.0
Precision Energy	Ashuganj (61)	61.0
Energypac	Habiganj	11.0
Total		820.5

Source: Power Cell, Power Division.
Note: Summit Group also owns 47 per cent share of 100 MW Khulna Power Company Limited (KPCL).

4.7 CONCLUSIONS AND RECOMMENDATIONS

We need a national catharsis to deal with major issues facing the nation, including energy sector development. We cannot afford to continue the blame game – each government blaming the previous government for problems of the sector. This tradition ought to be changed.

The other issues that we need to grapple with are corruption and terrorism. The trial and conviction of corrupt individuals and terrorists improve image of the country and encourage investors. However, we should be careful not to hype up corruption and terrorism as political rhetoric too much as it might affect the overall image of the country and deter serious investors from considering Bangladesh as a good place for doing business. It might hurt our prospects of acquiring nuclear power generation technology. We should strengthen institutions dealing with corruption and terrorism and upgrade our judicial system. To paraphrase Israeli politician *Shimon Peres,* we should economise on the politics of terrorism and corruption.

Bangladesh's National Energy Policy, adopted in 1996, made a good beginning to address the issues that beset the energy sector. However, the document is old and the energy scenario in Bangladesh has undergone considerable

changes. The policy therefore, needs updating. A draft dated May 2004 is available at Petrobangla website.

Gas and Coal are the main energy resources of Bangladesh. The country has modest reserves of natural gas. Availability of natural gas, in addition to meeting bulk of the country's commercial energy needs, insulates the economy from volatility of energy prices. Based on the currently available evidence, by no means the country is "floating on gas." With currently known reserves shortfall would commence in 2011 against proven reserves. P2 reserves will meet demand until 2015, and P3 reserves will meet demand until 2019. Therefore, the country cannot conceivably encourage foreign investments that would utilise gas resources (e.g. Tata's proposal) or think of exporting gas.

However, there are opportunities for expanding available gas resources by converting some of the possible and probable reserves into proven reserves by further exploration. Petrobangla has short, medium, and long-term production augmentation activities planned to bring additional 100 mmscfd, and 208 mmscfd of gas in the system in FY2008-09 and FY2009-11 respectively. Long-term production augmentation activity, if successful, would bring an additional 1,000 mmscfd of gas.

Future exploration of gas is constrained by disputes on maritime boundary with India and Myanmar. Bangladesh must amicably resolve maritime boundary issues with India and Myanmar. The country should immediately file claims, substantiated by surveys, with the UN regarding its EEZ and continental shelf.

Limited gas reserves of the country calls for rational policies covering both inter-temporal choice of gas production and allocation among various users. To meet the current gas shortage we should not resort to gas production at a rate faster than the optimal rate, as it might affect the reserve itself, to the peril of our future generation. We agree with the recommendations of several studies that the preferred method of recovering energy stored in gas is by converting it into electricity, which then opens a broad range of opportunities for improvements in home conditions and use of electric equipment in small manufacturing and the manifest relationship between GDP growth and electricity generation in Bangladesh. The prevailing asymmetric information between IOCs and Petrobangla may be narrowed down through training of Petrobangla, particularly BAPEX officials.

Allocation of limited gas would require upgradation of technical interface between gas and power infrastructure. This would require significant

investments in gas and power infrastructure, such as compressors at important gas transmission centres and automated generation control at power stations. Procurement and project implementation capacities in energy sector entities need to be improved. This will also require review of public procurement regulations. Power sector officials need to be trained in modern digital control system based newer power plants to be able to complete tasks left incomplete by delinquent contractors.

Bangladesh has significant coal reserves that remain to be exploited. The energy equivalent of these reserves is most likely to exceed the gas reserves of the country. The recovery rate of coal from these reserves will depend on choice of technology and method of mining, a contentious issue in Bangladesh. Open cast mining promises higher coal production and greater environmental impacts. Given the strong electoral mandate, the new government is in a better position to balance the concerns of various groups such as, affected persons, prospective investors, environmentalists, etc. Coal policy needs to be finalised immediately so that the country may proceed with mining.

Currently at second place as source of commercial energy, petroleum products are mostly imported and have been subject of sharp increase in prices in recent years. Failure to align domestic prices with the international market price has led to huge liabilities on the shoulder of BPC and created severe liquidity crisis for the organisation. The strategy to mitigate such crisis would include creation of strategic petroleum reserve, participation in commodities futures and option markets and most importantly gradual adjustment of domestic prices of petroleum products in line with international prices. Participation in commodities' futures and options market will require changes in our public procurement regulation. Allowing participation in commodities' futures and options market will also serve as a hedging tool in situations of rising prices of other products such as fertiliser and food grains.

Production of electricity, the most important energy commodity, has increased over the years but at a rate falling behind its growth in demand. Although both evening peak generation and average of daily electricity generation have increased, a yawning gap is opening up between derated capacity and evening peak generation since FY2005-06. This is due to: (a) gas shortage; (b) ageing of power plants; and most recently (c) due to lack of rainfall in Kaptai Lake.

There is a clear East-West divide in the country in respect of availability of electricity in two sides of the river Jamuna. The divide on the transmission side has recently been removed with the addition of second East-West interconnector of 1,000 MW capacity. The mitigation of this East-West divide

in electricity generation is imperative not only to realise the growth potential of the western region, but to achieve self-sufficiency in foodgrain production; since the granaries of the country are located in the western region. Given the increasing gas shortage in the eastern region, it is necessary that coal resources of the western region be developed urgently for use in electricity generation and meeting the shortfall in the region.

There exists significant rural-urban difference in energy use. For example, rural customers located mainly in REB and WZPDCL areas account for 75 per cent of the consumers; but their share in energy consumption is limited to 46 per cent. Predominantly urban consumers of DESCO and DPDC, 10 per cent of the consumers, use 31 per cent of electricity. This bias may be removed gradually by expanding electricity network in rural areas based on sound economic criteria.

Electricity generation in Bangladesh is overwhelmingly gas based. More than 85 per cent of evening peak electricity is generated by using natural gas. Diversification of fuel-mix for power generation is a must and can be achieved in the medium-term through coal-based generation and setting up of nuclear power plant. Given the long gestation period of these projects, the new government must act without further delay.

A review of load curves indicates that bulk of our load is lighting, air conditioning and fan load. Our national trait of being frugal with resource use (through recycling) does not extend to the use of scarce energy resources. In the short run, to meet the shortage we must decelerate the growth of demand for both energy resources and commodities through gradual increase in gas and electricity prices. The government and/or BERC may require DESCO and other profitable urban utilities to contribute a percentage of their revenue to a common fund that would be dedicated for cross-subsidisation of the less well-off consumers, and productive industrial and agricultural activities in poor sub-urban and rural areas. We recognise that with the ripples of global recession reaching Bangladesh shores, it will be a difficult yet necessary decision for BERC to announce a phased increase in gas and electricity prices.

A more direct approach would be to promote energy conservation and energy efficiency taking the negawatt and fifth fuel approach. This should start with the enactment of the Energy Conservation Act, a draft of which has been finalised by the Power Division. To provide necessary impetus to energy conservation, energy audit may start from the office and official residences of

the President, the Prime Minister, Speaker of the Parliament, Chief Justice, and high civil and military bureaucrats, Federation of Bangladesh Chambers of Commerce and Industry (FBCCI), Metropolitan Chamber of Commerce an Industry (MCCI), Centre for Policy Dialogue (CPD) and such similar offices. All available energy efficiency and conservation options need to be pursued vigorously by the relevant authorities.

There are important lessons that may be drawn from the experience of energy sector under the CTG. Electricity generation capacity was enhanced by 500-600 MW through better maintenance. Moreover 24 contracts with total generation capacity of 1,125 MW was awarded out of which 11 power plants of 344 MW have already been added to the grid, and the remaining 13 power plants will be added by June this year. This was possible because there was no political interference in the process of awarding contract and professional conduct of the sector managers. Inability to restrain the politically inclined officials, employees and the unions in the power sector could lower the availability of power by 500-600 MW and increase system loss by upto 2 per cent. Similarly, addition to new generation capacity hinges on setting up a transparent process and subjecting the politically inclined businessmen to play by the rules of the game. Energy sector should not be used for raising finances for political parties or building up private fortunes.

Awami League's manifesto covers a broad range of issues relating to the energy sector but is ambiguous in some areas. The present gas-electricity arithmetic would suggest that to achieve the target of generation of 5,000 MW electricity by 2011 would require 1,000 mmscfd gas, more than 40 per cent increase over the current supply of 675 mmscfd of gas. Generation of additional 5,000 MW of electricity will require 750 mmscfd of additional gas, unlikely to be available even under the most optimistic gas supply scenario.

Given the gas supply situation three projects for which Petrobangla has committed gas supply: Bibiyana 450 MW Combined Cycle IPP, Sylhet 150 MW Combined Cycle Power Plant, Bhola 150 MW Combined Cycle Power Plant may be implemented on a fast track basis. The government may provide bridge financing for Bhola 150 MW Combined Cycle Power Plant and negotiate with Islamic Development Bank (IDB) for retroactive financing and proceed with floating the tender of the project. This will require a waiver from present planning discipline. In addition, third unit of coal based power plant of 125 MW capacity may be set up at Barapukuria. Completion of procurement of these four power plants with the total capacity of 875 MW will constitute a significant achievement of the government.

Under the present gas supply situation, setting up of smaller gas-based plants may not be feasible. Liquid fuel prices have come down in the international market. Therefore, the government may consider setting up a few liquid fuel-based co-generation (e.g. HFO engine and steam turbine combined) power plants in the western region of about 200 MW which would be run only during peak hours and the irrigation season.

In the area of energy, we must keep all the options open. It is now globally recognised that diversity is the backbone of a robust, less vulnerable energy system, even if the optimum mix would vary according to the local conditions. It is now realised that an electric utility sells two types of products: electricity delivery services (transmission and distribution) and electricity. Although these two types of products traditionally are bundled together into price per KWh of electricity, in principle, these two types could be unbundled and sold by separate companies. Electricity delivery services are characterised by increasing returns to scale, but electricity itself is not. Thus, the possibility of competition in electricity generation has been recognised and the possibility is open for a competitive market structure to sell electricity to consumers, separately from electricity delivery services. With this principle in mind, "Policy Guidelines for Enhancement of Private Participation in the Power Sector" was issued in 2008. This will enable the private sector to set up commercial power plants, sell electricity to bulk consumers at mutually agreed price and rehabilitate and set up power plants along with power sector utilities on joint venture basis. Due to this policy, private generators will have open access to transmission and distribution lines for wheeling power. With the necessary government support, commercial power plants would be able to add about 500 MW of electricity within a very short period.

Given the limited prospects for energy trade between Bangladesh and its neighbours, we should be open to import of energy resources. Parallel to the development of local coal, we should also be open to importation of coal. In order to do this, the draft of channels at Chittagong and Mongla Ports need to be improved so that high tonnage vessel could berth in these ports. To facilitate setting up of port-mouth plants, land needs to be identified, coal unloading facilities such as conveyer belts, development of rail-tracks for internal movement and other arrangements needs to be made. Development of such infrastructure will also facilitate export of energy resources from Bangladesh, should situations permit.

Given the integrated nature of power sector operation, requiring seamless functioning of generation, transmission and distribution entities, it has become imperative to assign this critical coordination function to one of the power

sector entities. In a fully automated system, such function is carried out by the transmission company. However, until the system is fully automated, BPDB, the parent organisation of all power sector entities and companies, may be assigned with the responsibility of technical coordination. Gradually, with full automation of national load dispatch centre and introduction of automated generation controllers at power generating units, the responsibility may be transferred to PGCB.

To ensure smooth functioning of the energy sector companies, the Companies Act 1994 needs to be suitably amended to recognise the special nature of the government owned companies, specifying composition, qualification criteria, and tenure of the Board of Directors, appointment of Chief Executive and other key officials, remuneration of employees, and supervisory role of the Ministries. This is necessary to insulate the companies from vagaries of the change in government, top officials in the Ministry, and to bring some uniformity among energy sector companies.

To promote renewable energy and to provide momentum to the renewable energy programme in Bangladesh, Sustainable Energy Development Authority under the Renewable Energy Policy may be activated. In addition, use of solar energy may be made mandatory in large apartment buildings for lighting of common areas and water heating. As proposed by the Minister for Agriculture, research grants may be given to universities and research institutions for coming up with a solar based low lift pump for irrigation purpose.

ANNEX 4.1

Annex Table 4.1: Taxonomy of the Energy Resources and Commodities

	Depletable		Renewable	
Energy Resources				
Crude Oil		Non-storable		
Natural Gas		Non-storable		
Coal		Non-storable		
Trees/Biomass			Storable	
Wind				Non-storable
Hydro			Storable	
Geo-thermal		Non-storable		Non-storable
Uranium	Storable			
Solar Radiation				Non-storable
Energy Commodities				
Refined Petroleum Products	Storable			
Processed Natural Gas	Storable			
Coal	Storable			
Battery	Storable			
Electricity		Non-storable		

Source: Adapted from Economics of Energy, James Sweeney (2001).

Annex Table 4.2: Quantity and Value of Imported Petroleum Products: FY2003-04-FY2008- 09

FY	Crude Quantity ('000 MT)	Value (Cr. Tk.)	Refined Quantity ('000 MT)	Value (Cr. Tk.)	Lube Oil Quantity ('000 MT)	Value (Cr. Tk.)	Total Quantity ('000 MT)	Value (Cr. Tk.)
2003-04	1,252	1,848	2,262	4,016	7	18	3,521	5,882
2004-05	1,063	2,262	2,692	7,214	10	38	3,765	9,514
2005-06	1,253	3,751	2,381	9,383	5	36	3,639	13,170
2006-07	1,211	3,985	2,537	10,446	4	25	3,752	14,456
2007-08	1,140	5,660	2,136	16,821	9	51	3,285	22,532
2008-09 (Up to Feb'09)	386	2,172	1,427	7,467	0	0	1,813	9,639

Source: Bangladesh Petroleum Corporation.

Annex Table 4.3: Age of Power Plants in Bangladesh

Age Group (Year)	Number of Units	Capacity in MW
40+	5	84
31 - 40	11	395
21 - 30	23	1,129
11 - 20	19	1,563
1 - 10	69	2,098
Total	127	5,269

Source: Power Cell, Power Division.

Annex Table 4.4: Percentage of Consumer and Electricity Sales by Utilities: FY2005-06–FY2007-08

Utility	FY2005-06		FY2006-07		FY2007-08	
	Consumer Percentage	Percentage of Electricity Sales	Consumer Percentage	Percentage of Electricity Sales	Consumer Percentage	Percentage of Electricity Sales
BPDB	15.60	22.41	15.81	23.57	15.87	23.47
DPDC	6.18	21.15	5.86	20.85	6.08	20.32
DESCO	2.86	9.28	3.33	10.11	3.57	11.23
REB	70.57	40.84	70.27	39.64	69.65	39.11
WZPDCL	4.79	6.33	4.73	5.83	4.83	5.87

Source: Power Cell, Power Division.

Annex Table 4.5: Percentage of Consumer and Electricity Sales by Consumer Categories: FY2005-06-FY2007-08

Consumer Category	FY2005-06		FY2006-07		FY2007-08	
	Consumer Percentage	Percentage of Electricity Sales	Consumer Percentage	Percentage of Electricity Sales	Consumer Percentage	Percentage of Electricity Sales
Domestic	83.12	42.73	83.46	43.50	83.76	45.43
Agricultural	2.22	4.40	2.17	4.63	2.17	4.48
Industrial	1.90	43.33	1.83	33.98	1.82	38.90
Commercial	12.27	7.75	12.00	8.10	11.72	8.88
Others	0.48	1.78	0.54	9.79	0.53	2.32

Source: Power Cell, Power Division.

Annex Table 4.6: Timeline of Tendering of Compressor Stations at Muchai, Ashuganj and Elenga

FIRST BIDDING

- July to August 2005 : Data collection by the ADB's individual Consultant to draw technical specifications for compressor stations.
- September 2005 : Draft Bidding Document (without technical specifications) examined by ADB and was advised to follow two-stage bidding procedure.
- February 2006 : (i) Final Technical Specifications submitted by the ADB Consultant to GTCL.
  - Draft Bidding Document for Muchai and Ashuganj (south and west) sent to ADB for no-objection.
  - ADB's estimated cost was USD 41.00 million.
- March 2006 : ADB approved the Draft Bidding Document.
- April 2006 : Invitation for Bids issued.
- September 2006 : First Stage Bids opened. 3 (three) bids were received (Time extension up to 3 September 2006 given upon bidder's request).
- December 2006 : Project Consultant firm engaged (after loan became effective).
- June to July 2007 : First Stage Bid Evaluation completed; approved by GTCL Board; forwarded to ADB with the Modified Bid Document.
- September 2007 : Integrity Oversight Committee of ADB raised complaint against Bidding Documents in manipulation of technical specifications in favour of a particular manufacturer.

(Annex Table 4.6 contd.)

(Annex Table 4.6 contd.)

• October 2007	:	ADB advised for rebidding.
RE-BIDDING		
• November 2007	:	ADB provided no objection against incorporation of Elenga Compressor Station with Ashuganj and Muchai Compressor Station in a single package.
• December 2007	:	Final Rebidding Documents sent to ADB for approval. ADB's estimated cost was USD 55.00 million for all three compressor station locations.
• January 2008	:	(i) ADB approved Rebidding Documents and advised to follow two-stage, two-envelope bidding procedure. (ii) Invitation for Bids was issued accordingly.
• June 2008 (4 June 2008)	:	First Stage Technical and Price proposals were opened. 04 (Four) Bids were received.
• July to September 2008	:	Clarification Meeting was held with the two responsive bidders (ABB SpA, Italy and Hyundai Engineering Co. Ltd., Korea).
• October 2008	:	First Stage Technical Bid Evaluation Report completed and sent to ADB for approval along with Modified Bids.
• January 2009	:	Second Stage Bidding invited from the 2 (two) Responsive Bidders upon ADB's clearance.
February 2009		
• 9 February 2009	:	(i) Second Stage Bid with Price Proposals opened.
• 18 February 2009	:	(ii) Board was informed about estimated vs. quoted prices in the 243rd Meeting.
March 2009		
• 4 March 2009	:	Status Report was placed in the 244th Meeting for decision on additional fund requirement.
• 5 March 2009	:	Project Consultant submitted a Revised Clarification List recommending to obtain clarification from both the bidders.
• 9 March 2009	:	Status Report was sent to Energy and Mineral Resources Division through Petrobangla for allocation of additional fund.
• 16 March 2009	:	Project Consultant submitted Final Technical Evaluation Report of the Second Stage Bid.
• 17 March 2009	:	TEC reviewed the Consultant's Report and prepared a Preliminary Evaluation Report recommending to seek clarifications from both bidders subject to approval of GTCL Board.

Source: Petrobangla.

Annex Table 4.7: Delay in Commissioning of Power Plants

Sl. No.	Name of Power Station	Date of signing of Contract	Commissioning date as per Contract	Actual date of Commissioning	Delay in Commissioning
1.	Siddhirganj 210 MW Thermal Power Plant	(a) Supply of design and equipment/ materials Contract signed on: 26 June 1995	31 August 1998	30 June 2003	4 years 10 months
		(b) Technological Erection, Testing & Commissioning Contract signed on: 31 May 2000	28 September 2002	03 September 2004	1 year 11 months
2.	Ghorasal 210 MW Power Plant (6th Unit)	15 January 1992	Original: September 1996 Revised: 1998-99	30 January 1999	2 years 3 months
3.	Fenchuganj 90 MW Combined Cycle Power Plant (Unit-2)	12 September 2005	Gas Turbine 1&2, 3 May 2007 Steam Turbine 3 January 2008	Not commissioned yet	Not applicable
4.	Siddhirganj 2x120 MW Peaking Power Plant	31 January 2007	1st Unit October 2008 2nd Unit November 2008	Not yet commissioned. It is expected that 1st Unit will be commissioned in June 2009 and 2nd Unit in September 2009	1st Unit: 8 months 2nd Unit: 10 months
5.	Tongi 80 MW Power Plant	8 June 2003	15 October 2004 (450 days)	28 March 2005 (622 days)	172 days
6.	Barapukuria 2x125 MW Power Plant	12 July 2001	21 January 2006 (38 months)	1st Unit 1st March 2006 2nd Unit 10 June 2006	1st Unit 60 days 2nd Unit 140 days

Source: BPDB.

Annex Table 4.8: National Electricity Savings by Demand Side Management

Year	Total Electricity Generation (GWh)			Technical System Loss (GWh)	Net Total Sales (GWh)	National Annual Savings (5% of Total Sales) by DSM	
	By BPDB	By IPP	Total (BPDB+IPP)			Electricity Savings (GWh)	Financial Savings* (crore Tk.)
(1)	(2)	(3)	(4) = (2)+(3)	(5)	(6) = (4)-(5)	(7) = (6) x 0.05	(8) = 7x0.4
2006-07	14539.00	8244.54	22783.54	1601.95	21181.59	1059.08	423.63

Source: Energy Audit Cell, Power Division.

Note: * Considering average electricity price = Tk. 4.00/KWh = Tk. 0.4 crore/GWh

Annex Table 4.9: National Natural Gas Savings through Improvement of Boiler

Year	Total Gas Production in the Country (bcf)	Total Gas Used in Power Plant, Fertiliser Sector and Other Industries (bcf)	Total Gas Used in Boilers of Power Plants and All Industries (bcf)	National Annual Savings by 5% Improvement of Efficiency in Boilers of the Country	
				Gas Savings (bcf)	Financial Savings* (crore Tk.)
(1)	(2)	(3) = (2) x 0.80	(4) = (3) x 0.70	(5)	(6) = (5) x 9.5
2006-07	552.80	442.24	309.57	18.21	172.99

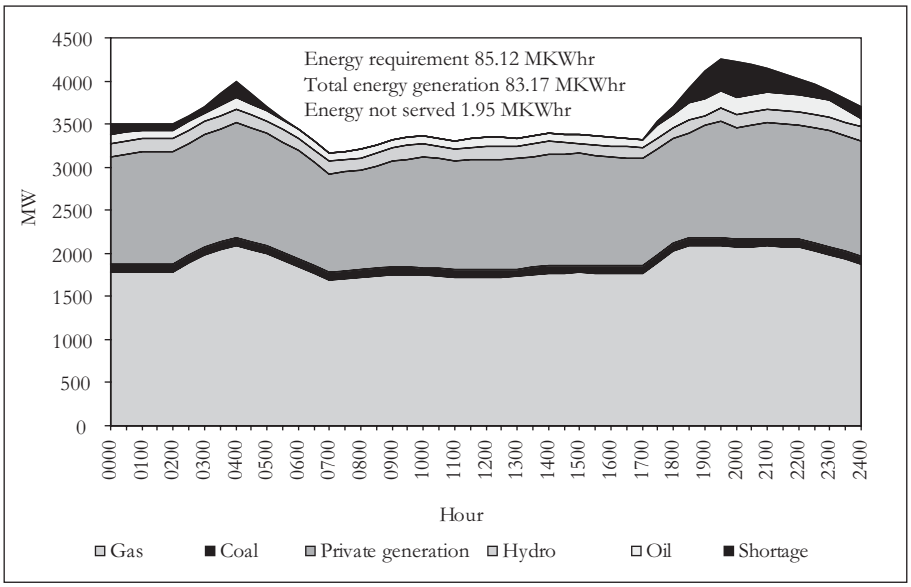
Source: Energy Audit Cell, Power Division
Note: *Considering natural gas price = Tk. 9.50 crore/bfc

Annex Table 4.10: Gas Supply to New Power Plants

Sl No	Name of the Project	Gas Demand (mmcfd)	Expected Date of Commissioning as per BPDB	Petrobangla's Position on Supply of Gas
1.	Siddhirganj 2x120 MW GT	20	December 2008	Gas Supply will be made on adjustment against existing power plants.
2.	Sylhet (Kumargaon) 150 MW CCPP	25	June 2010	Gas supply possible.
3.	Chandpur 150 MW CCPP	25	January 2011	Gas supply may be possible after June 2012.
4.	Bhola 150 MW GT	30	June 2012	Gas supply possible.
5.	Shikalbaha 150 MW GT	15	September 2009	Gas supply may be possible after June 2012.
6.	Sirajganj 150 MW GT	15	December 2010	Gas supply may be possible by June 2013.
7.	Khulna 150 MW GT	15	December 2010	Gas supply may be possible by June 2013.
8.	Siddhirganj 2x150 MW GT	30	December 2010	Gas supply will be made available in June 2011.
9.	Haripur 360 MW CCPP	50	October 2011	Gas supply may be possible by June 2014.
10.	Khulna 210 MW TPS	48	December 2011	Gas supply not possible based on proven gas reserve.
11.	Bheramara 450 MW CCPP	75	December 2012	Gas supply not possible based on proven gas reserve.
12.	Sirajganj 450 MW CCPP	75	December 2011	Supply of gas may be possible by June 2013.
13.	Bibiyana 450 MW CCPP	75	December 2011	Gas supply possible.
14.	Meghnaghat 450 MW CCPP (2nd unit)	75	December 2011	Gas supply not possible based on proven gas reserve.
15.	Konabari 350 MW (REB)	-	-	-
16.	Chandpur 20 MW (REB)	-	-	-

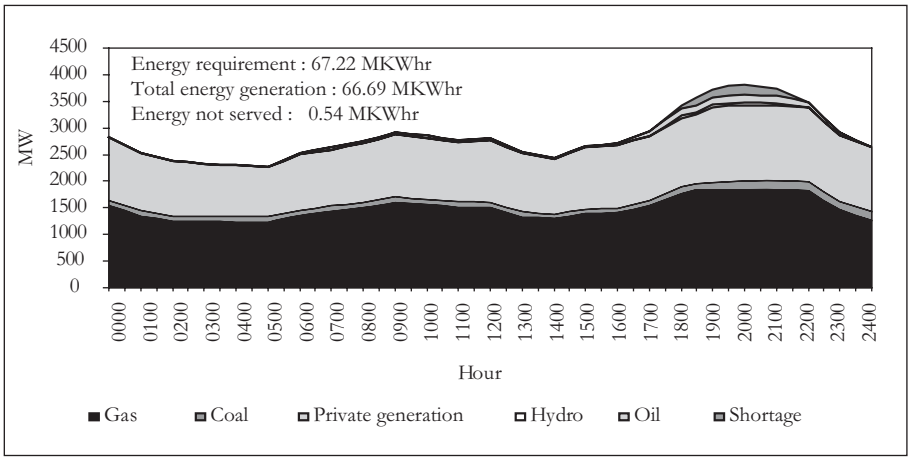
Source: Petrobangla.

Annex Figure 4.1: Daily Load Curve on 12 September 2008



Source: Load Dispatch Centre, PGCB.

Figure 4.2: Daily Load Curve on 16 January 2009



Source: Load Dispatch Centre, PGCB.

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REPORT ON THE DIALOGUE PROCEEDINGS

The Dialogue*

The plenary session title *Energy Sector: Challenges of Adding New Capacity* was held on 29 March 2009 Sunday at 9:30 am at the Bangladesh-China Friendship Conference Centre (Media Bazaar), Agargaon, Dhaka. The session was chaired by *Mr Syed Manzur Elahi,* Member, CPD Board of Trustees and Chairman, Apex Group. *Advocate Shamsul Hoque Tuku,* MP, Hon'ble State Minister for Power, Energy, and Mineral Resources, Government of Bangladesh attended the session as the Chief Guest, while *Mr Annisul Huq,* President, Federation of Bangladesh Chambers of Commerce and Industry (FBCCI) was present as the Special Guest. *Dr M Fouzul Kabir Khan,* Professor of Economics and Finance, School of Business at North South University and Former Secretary, Power Division, presented the keynote paper titled "Energy Sector: Challenges of Adding New Capacity." The designated discussants on the keynote paper were *Dr M Asaduzzaman,* Research Director, Bangladesh Institute of Development Studies (BIDS) and *Mr Nazrul Islam,* Executive Director and Chief Executive Officer (CEO), Infrastructure Investment Facilitation Center (IIFC). The session was attended by parliamentarians, policymakers, academicians, entrepreneurs, journalists, energy specialists, development partners and other professionals, many of whom participated in the open floor discussion. The list of participants is presented in the Annex B of this volume.

Welcome Address by the CPD Executive Director

Professor Mustafizur Rahman, Executive Director, CPD, in his welcome address delved on the importance of organising a plenary session on the state of the energy sector in Bangladesh. In view of the critical importance of development of current state of energy and power, *Professor Rahman* put emphasis on identification of challenges, prioritisation of projects to be implemented on a fast track basis, approving policies at hand, particularly a coal policy, and

*This dialogue report was jointly prepared by *Ms Nafisa Khaled,* Senior Research Associate, Centre for Policy Dialogue (CPD), *Ms Nahita Nishmin,* Programme Associate, CPD and *Dr Khondaker Golam Moazzem,* Senior Research Fellow, CPD.

implementing policy measures in order to enhance usage of various alternative sources of energy such as coal, renewable energy and nuclear energy.

Introductory Remarks by the Chair

Mr Syed Manzur Elahi, in his introductory remarks, emphasised on the availability of electricity and gas for various economic activities particularly for businesses and industries. *Mr Elahi* noted that the dialogue should bring out a set of actionable agendas for the new government based on the session's keynote presentation and follow-up discussion. He urged that the new government should take those suggestions into account while deciding on various measures to increase the generation of power and energy in the shortest possible time.

Highlights of the Keynote Presentation

The keynote presentation was divided broadly into three parts: the first part highlighted the overall performance of the energy sector in three sections, namely energy policy, overview of the energy sector, and the recent development in energy sector; second part elaborates key issues pertaining to the energy sector; and the third part explores challenges and opportunities for the new government.

Keynote presenter *Dr Fouzul Kabir Khan* reminded the dialogue participants that the National Energy Policy was adopted in 1996. The document identifies major constraints faced by the sector in case of generation, transmission and distribution of energy and it provides estimates on possible future demand for energy. In addition to the National Energy Policy, a number of other policies have been implemented by the successive governments aimed at providing access to electricity to all citizens by 2020, ensuring participation of private sector in the power generation, and promoting the usage of renewable energy. At present, several policies and laws are at draft stage, of which the most important one is the Draft Coal Policy.

According to *Dr Kabir Khan,* the major constraints of the energy sector are a dearth of gas reserves, lack of new discoveries of gas fields, dilemma in taking effective initiatives to resolve the maritime disputes, a successful resolution of which can expedite the exploration of gas in the offshore fields, institutional challenges faced by the Bangladesh Petroleum Commission (BPC), and long delays in the case of approval of the draft National Coal Policy.

In case of electricity generation, the speaker observed that there is a yawning gap between derated capacity and evening peak generation mainly because of shortages of gas supply in power plants, ageing of power plants, and most

recently, low level of generation of electricity in hydroelectric power plants due to lack of rainfall in Kaptai Lake. He informed the dialogue that although regional imbalance in electricity generation and distribution between eastern and western side was a long standing concern for the country, the establishment of second East-West inter-connector with a capacity of 1,000 MW, is expected to resolve this problem. Furthermore, because of better financial management in the power sector, net aggregate loss in the sector has decreased by 50 per cent. However, *Dr Kabir Khan* expressed his concern with regard to the rural-urban divide in energy consumption that still exists.

Key issues and challenges in improving the energy sector that have been identified in the paper include: poor balance in case of allocation of limited amount of gas between current and future consumption, finalisation of Coal Policy by resolving the unsettled issues, revision of gas and electricity tariff, delay in procurement, delay in case of implementation of power projects, corporatisation of the power sector, governance issues related with the power and energy sector, and lack of initiatives for energy conservation. In this regard, the government should put special attention to ensure adequate supply of gases from the new and ongoing projects, find possible scopes for importing energy, expedite the decision making processes dealing with nuclear power plants and increments in the usage of renewable energy.

The study put forward a set of suggestions for the up gradation of the energy situation of the country. This included: development of natural gas reserve, resolution of maritime disputes with neighbouring countries, maintenance of a balance between inter-temporal choice of gas production and allocation, improvement of technical interface between gas and power infrastructure, improvement of procurement procedure and project implementation capacity of various departments related with power and energy, readjustment of price of electricity and gas, reduction in the gap of electricity usage between rural and urban areas, finalisation of the Coal Policy, reduction in the level of corruption, and minimisation of political interference.

Floor Discussion

The key issues and challenges, and policy recommendations suggested in the session are presented below under four specific areas: a) issues and recommendations as regards to the energy resource base; b) challenges related to generation and distribution of electricity; c) reforms to be initiated in the energy sector; and d) opportunities for the newly elected government to deal with the energy crisis.

A. Issues Regarding Energy Resource Base

Limited Gas Reserve

Mr Nazrul Islam, CEO, IIFC mentioned two pillars of the energy sector in Bangladesh - first, availability of adequate amount of electricity and gas; and second, low tariff for electricity. Regarding increasing gas reserves, *Mr Md Emdadul Haque,* Member, Bangladesh Energy Regulatory Commission (BERC) opined that the government has to increase drilling operations in possible locations by applying 3D seismic surveys. There is a scope, in fact, for such drilling operation in three locations (Koilashtila, Habiganj and Titas). Simultaneously, government should take initiatives to start 3D reservoir simulation and gas network simulation. This will help to determine the quantity of field reserves and also to analyse the performance of existing wells.

Engineer Sheikh Mohammad Shahidullah, Convenor, National Committee for Saving Oil, Gas, Mineral Resources, Electricity, and Port mentioned that the short-term goal in case of development of the energy sector should be to add new capacity. Hence, the government could consider import of electricity, gas and coal from other countries if required. The long-term goal for energy security should be to strengthen the technical and operational capacity of public sector enterprises, particularly Bangladesh Petroleum Exploration & Production Company Limited (BAPEX) in order to harness natural resources available at domestic level. According to *Mr Emdadul Haque,* deep sea mining for hydrocarbon could ensure long-term energy security of the country.

Professor Hussain Monsur, Former Chairman, Petrobangla, discussed the issue of offshore exploration of gas, and mentioned that it is highly capital intensive and expensive. Hence, offshore explorations should be expedited through foreign investment, and if required, through the offloading of shares in the capital market. In this connection *Mr Philip Dolan,* Managing Director, Cairn Energy Exploration Bd Ltd. suggested that the government should take necessary initiatives to make the business environment competitive, particularly in the case of offshore exploration of gas considering faster development of this sector in the neighbouring countries.

Mr Nazrul Islam pointed out that the government needs to identify five major sectors where accelerated growth is urgently required and hence adequate electricity supply needs to be ensured. Referring to the example of Philippines, which has mitigated the negative effects of the electricity crisis by introducing special programmes, *Mr Nazrul Islam* suggested introduction of similar programmes in Bangladesh. He echoed with the proposal of the keynote presenter regarding setting priorities in case of energy sector reform, in terms of revising the

energy price and addition of new capacity. *Professor M Nurul Islam,* Institute of Appropriate Technology, Bangladesh University of Engineering and Technology (BUET) mentioned that an upward revision of gas prices, e.g. by about 12 per cent, may result in extra income of about Tk. 600 crores for the government.

Unused Coal Reserves

Mr Nazrul Islam raised the issue of unused coal reserve of the country and stressed on formulation of coal based policy as the mainstay for the future. In order to ensure extraction of coal in a well planned manner, *Mr Emdadul Haque* suggested for a mid-term plan of action that may include drilling wells and setting up horizontal wells in coal mines, which are equipped with adequate monitoring facilities.

According to *Engineer Shahidullah,* as per coal mining is concerned foreign companies should be engaged only to provide technical support. Their ownership of Bangladeshi mining is not acceptable. The mining should be targeted to meet the domestic demand on a priority basis and should not be encouraged for exporting. Use of open shaft mining technique, he said, is not advisable since there is lack of sufficient demand for coal that can be extracted by using that technique. Considering the less adverse environmental impact of underground mining, the government should seriously consider underground mining as the preferred form of extraction. *Professor Hussain Monsur* opposed this stance stating that underground mining results in only 20-25 per cent recovery of the total coal reserve, while in the open shaft mining the recovery is 80-90 per cent. Moreover, land used in open shaft mining is almost completely recoverable after several years. Hence, government should move towards open shaft mining as soon as possible. *Mr Kazi Tazul Islam Faruque,* Chairman, Noorpore Power Limited, pointed out that open shaft mining should be encouraged considering its huge benefits. Although this process may result in relocation of some people, payment of adequate compensation to these people could solve this problem. Government should encourage joint initiatives comprising of local and foreign companies in case of mining activities.

Professor Nurul Islam mentioned that each government has tried to pass the Coal Policy with an attempt to legitimise some misdeeds committed by some foreign companies. Hence, it is important to make all documents related to agreements with foreign companies public.

Mr Mohammad Ehsanullah, Former Director, Petrobangla pointed out that peat coal, available in the southern districts, can be considered as an indigenous alternative source of energy. Local power plants of 20-50 MW can be established in the vicinity of peat extraction areas. Peat bearing areas need to be

demarcated by Geological Survey of Bangladesh (GSB), and these areas can be leased out to the local miners who would extract coal and then supply coal to power plants.

Alternative Sources of Energy: Solar, Wind, Nuclear Power

Mr Imran Ahmed, MP remarked that the paper should have emphasised more on the issue of "adding new capacity." In this context, *Mr Nazrul Islam* noted that in Bangladesh, all academic research and debates delve on renewable energy but do not focus as much on power systems, boilers, turbines, etc. According to *Mr Nazrul Islam,* Bangladesh at present, has little capacity to generate more than 1-2 MW from wind turbines. Except hydropower, electricity generation from other sources of renewable energy is very limited. Hydropower generation is only 2.5 per cent of total power generated in the country and its generation depends on the velocity and the level of water. He felt that hydro projects should be stopped, and the reclaimed land from these projects could be used for other purposes, such as housing for people to be relocated due to open shaft coal mining.

Dr Sultana Shafee, Chairman, Department of Physics, Dhaka University, opposes the view of discontinuation of hydro electric project. She said, as a long-term strategy, renewable energy should be considered with proper importance because it might be the most useful form of energy for transmission of electricity to distant areas. India is a case in point where solar energy and wind energy are both used for power in rural areas. On this issue, *Mr Emdadul Haque* suggested that, the government should consistently provide adequate support to local entrepreneurs for generation and distribution of renewable energy.

Professor Muhammad Ibrahim, Professor, Department of Physics, University of Dhaka stressed on the improvement of the capacity of renewable energy and enhancement of the usage of biomass energy in rural areas. Poultry farms located in rural areas could be utlised in order to generate biomass electricity in large amounts.

Mr BD Rahmatullah, Former Director General, Power Cell, stated that out of the 18,000 MW being generated from various sources of renewable energy in India, 12,000 MW is generated from wind energy. He mentioned a study conducted by the Dhaka University and noted that 1,000 MW additional electricity could have been generated by using the wind energy available in Cox's Bazar.

Dr Shafiqul Islam Bhuiyan, Former Chairman of Bangladesh Atomic Energy Commission (BAEC) informed that 23 per cent of the electricity in Organisation for Economic Co-operation and Development (OECD) nations

is generated from nuclear energy, and within next 25 years, about 94 per cent of total electricity is expected to be produced by nuclear energy. He put forward examples of a number of countries (such as Germany and Sweden) which have implemented nuclear-based power generation policies. Out of 94 reactors in the world today, 74 are in the developing nations. 35 reactors are in the process of construction, of which 24 to be built in Asia. The probability of the occurrence of an accident in nuclear reactors now stands at once in one million years. For coal mines, the probability of an accident is once in a one thousand years.

B. Challenges Relating to Generation and Distribution of Electricity

Limited Supply of Electricity

Mr Nazrul Islam differed with the information provided on load shedding in the keynote paper. According to his experience, total time of load shedding is much higher than what is mentioned in the paper (4 hours a day). With regards to demand side management, he said saving of 5 per cent energy by improving efficiency of appliances, as mentioned by the Energy Audit Cell, seems quite unrealistic. *Mr Nazrul Islam* requested the government to determine sector-specific measures to improve the efficiency of the appliances. He suggested that there should be a "Power Crisis Management Team" within the government led by an additional/joint secretary. He stressed on the need to improve the efficiency of power stations such as Ashuganj and Ghorasal. The scope of improvement of thermal efficiency should also be taken into account.

Mr Shahedul Islam Helal, President, Bangladesh Chamber of Industries (BCI), provided some information on load shedding in September 2008 and January 2009. The number of times electricity outages took place in some selected factories during January 2009 was 76, while the corresponding number in September 2008 was as high as 207. There were only nine days in 2008 when the factories did not have to suffer from load shedding. According to *Mr Shahedul Islam,* factories had to incur losses in terms of damages of machineries because of lack of pre-scheduling of load shedding and frequent power outages. He requested authorities to ensure uninterrupted supply of electricity for five days in a week and the factory authorities should be informed about the dates well ahead of time.

Mr Shamsul Islam, Former Chairman, Bangladesh Power Development Board (BPDB) emphasised on increasing efficiency of energy use in industrial units. Industries comprise only 2 per cent of total clients of electricity consumption, but consume 39 per cent of the total generated electricity. Hence, enhancing efficiency in energy usage in industrial units would save considerable amount of electricity and would contribute to reduction of load shedding. *Mr Emdadul*

Haque suggested that use of solar energy for illuminating at least some parts of high-rise buildings in the metropolitan areas should be made mandatory. Active load management system needs to be properly maintained during peak hours. Office hours for businesses should be revised in order to improve overall load management. There should be incentives for efficient users of energy in all sectors, he said.

Mr Imran Ahmed pointed out that although industries have generated a major share of their required electricity through captive power plants, they are not rewarded for taking such initiatives. Instead, they have to pay a high charge every year for renewal of registration of these plants. It is imperative to withdraw this renewal registration fee, he opined.

C. Reforms in the Energy Sector

Enactment and Revision of Energy-related Policies

Mr BD Rahmatullah pointed out that the Ministry of Energy and Mineral Resources and its associated departments have suffered from serious bureaucratic red tapism. Although the National Energy Policy was enacted in 1996, very little progress has been made towards implementation of its various targets, mainly because of bureaucratic red tapism and lack of cooperation from technical personnel of the Ministry and its associated departments.

Governance in the Energy Sector

Dr Asaduzzaman, Research Director, BIDS addressed the issue of power sector rejuvenation. According to him, the division of responsibilities of three separate activities, i.e. generation, transmission and distribution, and handing over of those activities to the private sector could not ensure any noticeable benefits. Rather, such division of responsibilities has increased transaction costs. Dhaka Electricity Supply Company's (DESCO) claim concerning its receiving limited share of electricity needs to be examined, and discrepancies in various information (if any) needs to be identified.

Mr Shamsul Islam suggested that power and energy sector should be developed as a competitive corporate sector, and that there should be transparency and accountability in all departments in case of taking decisions. Appointments of important posts in various departments should be on a competitive basis. *Dr Sultana Shafee* stressed on a strong civil society to monitor the operation of various departments that deal with power and energy sector.

Corruption in the Energy Sector

Professor AKMA Quader, Department of Chemical Engineering, BUET, observed that there is lack of proper vision and statesmanship in the country to solve the energy-related problems. In this regard, transparency and accountability of policymakers need to be ensured. Bureaucrats are partly responsible for the problem since they do not attach adequate importance to the issue.

Professor Ali Ashraf, MP, opined that there is a strong demand from the citizens towards improvement of accountability and transparency in the power sector. Addressing the issue of corruption in the Rural Electrification Board (REB), *Brigadier General (Retd) Mohammad Enamul Huq,* MP, mentioned that although in last 15 years 50,000 km distribution lines have been extended to rural areas under the REB, there has not been considerable improvement in the supply of electricity mainly because of rampant corruption.

D. Challenges and Opportunities for Newly Elected Government

Mr Shafiqul Islam Bhuiyan pointed out that the new government is currently working on setting up nuclear power plants in the country with the support of some friendly nations such as Russia and others. However, any agreement with a country will have to be signed on the basis of assessment of submitted proposals.

Mr BD Rahmatullah stated that in order to meet the energy needs, prospect of importing coal from different sources and gas from Myanmar need to be examined. *Mr Imran Ahmed* requested the government to shorten the procurement process.

Remarks of the Special Guest

Mr Annisul Huq, President, FBCCI, initiated his presentation by providing some anecdotes on the condition of load shedding in five garment factories. The amount of load shedding in these factories ranged between 22.5 per cent and 32 per cent of total working time in a week. He pointed out that about 10 per cent productivity was lost due to load shedding in the industrial units. 20-25 per cent loss in working time of industrial units which is equivalent to a financial loss of USD 1.5 billion. This is equivalent to 1.75 per cent of country's gross domestic product (GDP), *Mr Huq* informed. According to him, out of 64 power plants in the country, 18 are over 30-years old. Therefore, replacement of these outdated power plants is urgently required. Besides, the government should take a concrete decision as to whether more rental plants should be established in the country.

Mr Huq urged the government to set objectives dealing with the development of the power and energy sector, and to maintain time line in case of achieving the targets. He also asked for immediate approval of the draft Coal Policy. He thought that additional allocation of fund by the immediate past caretaker government (CTG) to strengthen BAPEX as well as to explore new gas fields were welcome initiatives. However, efficient use of these funds needs to be ensured. The government should also explore various sources to generate funds for implementing various projects in the sector, he suggested.

Remarks from the Chief Guest

Hon'ble State Minister, *Advocate Shamsul Hoque Tuku* thanked CPD for organising a dialogue on such an important topic. He accepted the accusation that there exists a diversity of opinions regarding the processes and means for the development of power and energy sector of the country. However, the Minister stressed on the need to arrive at a unique position from a set of possible solutions.

Taking note of rampant corruption in the power and energy sector, Hon'ble State Minister vowed to take action against corrupt practices and ensure justice for the citizens. The Minister assured the attendees that relevant departments will take necessary actions on the basis of various suggestions that were put forward by the keynote paper and the discussants in the session.

Sharing his experience of visiting Barapukuria coal mine, Hon'ble State Minister stated that the extraction of coal from the coal mine should be as per the finalised Coal Policy. However, in order to address the issues and concerns related to coal extraction in the Barapukuria coal mine, the government has formed a committee to take necessary decisions, the Minister added. Referring to the Prime Minister, the Minister mentioned that the extraction of coal from Barapukuria and other five extraction sites is the top priority of the government.

Concluding Remarks by the Chain

In his concluding remarks, *Mr Manzur Elahi* requested CPD to prepare a set of policy recommendations based on the discussion in the session. The respective policy brief can then provide guidelines to the new government to set strategies and action plans that can and should be implemented within the next five years.

INFORMATION AND COMMUNICATION TECHNOLOGY FOR DEVELOPMENT

IMMEDIATE DOABLES

Ananya Raihan

5.1 BACKGROUND

The success of Awami League in 9th parliamentary election was largely attributed to two factors: the pledge to try war criminals and announcement of economic programme leading towards Digital Bangladesh by 2021. The economic and social programme coined in the manifesto focuses on reduction of poverty rapidly by achieving a two digit gross domestic product (GDP) growth. The economic and social programme described in the manifesto is an ambition to become a digital nation.

Various policy documents, both national and global, mentioned about the government's commitments towards information and communication technology (ICT) for development. Those commitments have been reaffirmed by the announcement of becoming a digital nation by 2021. In the first phase of World Summit on the Information Society (WSIS) in 2003 the Government of Bangladesh (GoB) pledged to build an equal information society. Bangladesh was one of the recommending countries to establish the Global Digital Solidarity Fund. As the national five-year planning process was abandoned, the poverty reduction strategy paper (PRSP) identified a set of agenda for becoming a knowledge-based society, which included establishment of telecentres in all upazila by 2006. The ICT Policy 2002 announced to become a knowledge-based society by 2006; but, the ambition was not supported by deeds. The ICT Policy has been revised in 2008 and proposed by the Review Committee for adoption by the government. However, it was not adopted during the caretaker government (CTG). The ICT Policy has now been adopted by the new government in April 2009. The National ICT Policy 2009 reviews progress since adoption of the first ICT Policy 2002, and proposes a comprehensive agenda based on the recent technological developments and socioeconomic reality. The policy document for the first time incorporates a methodological framework of the policy formulation and a comprehensive list of action items for implementation. In 2008, Bangladesh Computer Council (BCC) also developed two important documents: ICT Roadmap and E-governance Roadmap. Theoretically, a significant volume of work has already been done, which can feed the process of building a master plan for Digital Bangladesh for a period upto 2021.

This paper has touched upon only the master plan and the five-year plan, and elaborated only on immediate doables of the government for moving towards Digital Bangladesh. As the implementable action items are more or less appropriately identified in three documents mentioned above, the present paper focuses mainly on institutional reforms required for setting the base for proper implementation of plan for Digital Bangladesh, and has identified a few

priority action items, carefully chosen from the policy documents. The short term agenda is preceded by analysis of state-of-the-art of ICT for development in Bangladesh.

5.2 STATE OF THE ICT AND DEVELOPMENT

5.2.1 Technology Infrastructure

Telecommunications sector in Bangladesh experienced robust growth during last one decade. While mobile teledensity had been predicted to reach 10 per cent by 2010 (Raihan 2007), actual teledensity by end of 2008 stood at 31.21 per cent, more than thrice the target (BTRC 2009). There are 46 million mobile phone subscriptions by the end of 2008. Competition policy and deregulation account for this phenomenal growth in the mobile sector. In contrast, the fixed/public switched telephone network (PSTN) market observed modest growth, only 17.82 per cent, 1.19 million PSTN subscribers at the end of 2008 from 1.01 million in June 2006. Although, the reason behind such sluggish growth was initially identified as lack of competition in the major market of Dhaka city, the actual reason is issuance of too many licenses and uneven competition with mobile telecom industry. All PSTN operators are choking now in competing with the mobile phone operators. The fierce competition among the mobile telecom operators led to a nosedive in call rates within the domestic market. Some operators offer calls for only 0.4 US cents per minute, the floor rate fixed by the regulator. Among South Asian countries, Bangladesh offers the lowest mobile phone call rates (Samarajiva and Zainudeen 2008).

In contrast to mobile service uptake, Internet adoption was slow, mainly due to the high price of Internet connectivity. The expectation was that after Bangladesh got connected to the information super highway via the South East Asia-Middle East-West Europe 4 (SEA-ME-WE 4) submarine cable, the quality of Internet connectivity would improve, and the cost would be reduced. Indeed, data transfer capacity went up to 14.78 gigabytes per second, 64 times higher than total capacity at the time of installation in May 2006. By June 2007 the utilisation was up to 3.28 gigabytes. But the state-owned telco, Bangladesh Telecommunications Company Limited (BTCL) (former Bangladesh Telegraph and Telephone Board (BTTB)), and subsequently Bangladesh Submarine Cable Limited (BSCL), kept the bandwidth price exorbitantly high. In response to lobbying by various stakeholders, BTCL reduced Internet tariff charges by 20-40 per cent in February 2008. Charges for monthly office use came down to about USD 10 from about USD 14.3, and the annual cost of leased Internet access up to 2 Mbps came down to about USD 20,571 from about USD 27,428. There is a special 75 per cent discount for research organisations, and

primary schools will get 64 kbps Internet connections free-of-charge. However, it is not how primary schools would avail the benefit. But industrial stakeholders consider the revised rate to be still high compared to the rates in neighbouring countries. The reduced rate is 10 times higher than the price for the same bandwidth in India. It also bears mentioning that the USD 35.1 million investment cost of the existing submarine cable has already been recovered, which is a strong argument for further reducing Internet access rates to make them at par with the rates in other countries in the region.

Total bandwidth demand is expected to reach at least 15 gbps in 2011, saturating the current capacity of the submarine cable. To prepare for this eventuality, BSCL signed a deal with the Power Grid Company of Bangladesh (PGCB) for backup fibre-optic connectivity. There are also offers for establishment of redundant fibre-optic lines from various private sector companies or consortiums, including Mahanagar Telephone Nigam Limited (MTNL), Videsh Sanchar Nigam Limited (VSNL), Bharti, Bharat Sanchar Nigam Limited (BSNL), Reliance Communications, VSNL International, Asia America Gateway Cable, SEA-ME-WE-3, SEA-ME-WE-5 and South Asia Subregional Economic Cooperation (SASEC).

BSCL is allowed to own the only submarine cable network in spite of a provision in the telecom law that states:

"If an operator provides more than one service, but there exists competition in the market in providing one of such services and no competition in case of another service provided by him, then subsidy from the earnings of the service which is subject to competition shall not be allowed for the other service which is not subject to competition." (Section 49, Sub-section C, Bangladesh Telecommunications Act 2001).

Exclusive ownership of the submarine cable's landing station has extended BSCL's monopoly to data connectivity and the Internet market. This monopoly is the primary reason for sluggish growth in the use of the available bandwidth. In May 2008, the government decided to allow the private sector to install and operate a submarine cable, which was expected to reduce the price of Internet connectivity. However, the private sector submarine cable has not been materialised yet.

The government has implemented International Long Distance Telecommunication Services Policy (ILDTSP) in the second half of 2008. However, illegal Voice over Internet Protocol (VoIP) services continued due to inappropriate pricing policy of internal and local call termination. The

difference between international call termination rate (4 US cents/minute) and local call termination (less than 1 US cent/minute) provides incentives to illegal VoIP operators. The only way to resolve the situation is to reduce this difference. Sri Lanka is a bright example in this regard. Despite reduction of the international call termination rate total revenue of Sri Lankan Telecom Authority increased. Because, more people use Internet Protocol (IP) telephony for calling abroad and receiving calls from abroad.

Dismal power supply situation in the country impacts negatively the growth of the ICT sector. Many domestic and international agencies are working to find solutions, with some focusing on alternative and cheaper power sources and others focusing on low-power ICT equipment.

5.2.2 Key Institutions Dealing with ICTs

In 1997, the government formed an ICT Task Force under the Prime Minister's Office to foster mainstreaming ICT in development process. A Support to the ICT Task-force (SICT) programme was launched in 2001 to identify and implement e-government projects. The SICT Programme was hosted in Planning Division, Ministry of Planning. Five years later, in May 2006, an "E-governance Cell" under the Prime Minister's office was formed. In each Ministry, a mid-level government official (at the level of Joint Secretary or Additional Secretary) was appointed to act as the ICT focal point to coordinate e-governance activities and priorities within the Ministry.

Although Ministry of Science and Technology was renamed as Ministry of Science and Information & Communication Technology (MoSICT) in 2001, the mandate of the Ministry is not changed during last 8 years. As a result the Ministry could not play any role in promotion of ICT sector in the country. Basically, this Ministry should be primarily responsible for mainstreaming ICT utilisation in economic growth and development.

The BCC under the MoSICT is the main institution for promoting ICTs. It provides ICT training to government officials and citizens, incubates software companies, provides advisory support to government institutions regarding ICT-related project implementation, provides connectivity to Internet Service Providers (ISPs), and works for standardisation through such projects as the development of a local language keyboard.

The Ministry of Posts and Telecommunication is responsible for building and maintaining telecommunication infrastructure. The Ministry of Education develops the curriculum for ICT education and spearheads the computerisation of schools.

The Bangladesh Telecommunication Regulatory Commission (BTRC) is the licensing authority and regulates telecom service providers, while the Ministry of Law, Justice and Parliamentary Affairs reviews ICT-related laws.

In the private sector, the Bangladesh Computer Society (BCS) and Bangladesh Association for Software and Information Services (BASIS) play key role in promoting the ICT industry. The ISP Association, Bangladesh also facilitates the growth of ICT in the country. Both BCS and BASIS organise annual exposition of software and applications, and hardware. BCS played a key role in the elimination of import duties on computers in the early 1990s, which facilitated personal computer (PC) penetration in the country.

Public and private universities and institutes lead human resource development by offering advanced courses on ICTs. However, for various reasons ICT economy managed to attract only a few talented young people for job, as a result, foreign experts fill in the vacuum on the various nodes of value chain of ICT products and services. Quality of intake in tertiary education fell in general, due to poor quality of produce from primary and secondary education. Furthermore, fewer students take science and mathematics in schools and colleges, which is not very good trend. ICT education and e-learning is absent both in general schools and so called "English medium" schools. The pervasive spread of "tuition" business is mainly responsible as to why education does not take place within classrooms. Poor compensation, involvement of teachers in numerous government tasks, inadequate teachers' training programme, poor quality of textbook, corruption, are a few factors that hamper building quality human resource. Lack of attention to rural-urban divide of facilities for teachers and students creates a sub-optimal army of human resources, which cannot compete for global job market.

Several institutions work in the area of ICT for poverty alleviation. Amader Gram and Development Research Network (D.Net) are two prominent institutions working for ICTs in the rural areas. D.Net is aiming to bring ICTs to the doorstep of poor people in the rural areas. It has developed a comprehensive volume of local language content on livelihood, making the Internet relevant to the common people *(www.jeeon.com.bd)*.

ICT-related endeavours have so far been focused only on ICT economy and ICT education at tertiary level. To bridge digital divide and make an inclusive use of ICTs for development, a movement for building an inclusive ICT-based information and knowledge system for all citizens has been gathering momentum since 2006. The Bangladesh Telecentre Network (BTN), a coalition of organisations emerged in 2007, is spearheading the movement to

promote the telecentres in Bangladesh. It launched "Mission 2011" *(www.mission2011.net.bd),* a movement to build a sustainable information and knowledge system for the poor and the marginalised by 2011, the 40th anniversary of Bangladesh. As of January 2009, 2,102 telecentres have been established in Bangladesh. *Mission 2011* has already been quite successful in attracting the support of the government and the international community.

5.2.3 ICT and Education

ICT education in Bangladesh is generally concentrated at the tertiary level. Although there is an optional course on computer in the secondary schools, the course curriculum is outdated and there is little opportunity for hands-on practice. Only 10 per cent schools have computer facilities and few teachers are trained and/or willing to teach computer literacy classes.

There are a number of private initiatives to extend ICT education in secondary schools. The most noteworthy is the "Computer Learning Programme" sponsored by the Volunteers' Association for Bangladesh New Jersey Chapter *(www.vabonlilne/vabnj),* a group of non-resident Bangladeshis (NRBs). The initiative, which is being implemented in collaboration with D.Net, aims to establish 1,000 school-based learning centres by 2010. To date, 100 centres have been set up. The learning guide "Esho Computer Shikhi" developed by D.Net is a popular courseware and 10,000 copies have been distributed among school children at a minimum price. Another private sector initiative is the School Online Program of Relief International, which has set up 27 Internet learning centres. British American Tobacco's (BAT) "Disharee" is also noteworthy. This programme trains the children of tobacco farmers with ICT skills and provides job counselling service.

The lack of local educational content is a barrier to increased use of ICT in schools. To address this gap, the Institute of Education and Development at BRAC University (BU-IED), in collaboration with Foundation of Education Research and Invention (FERI) and D.Net, is developing interactive digital content in science and mathematics for Grades 6-10 students. BRAC University has also developed a CD-ROM for English language learning, based on the national curriculum. D.Net has developed "Computer Teaches Everyday English," an English language learning CD-ROM for secondary school students. This programme has become very popular among the school children.

ICT in non-formal education (NFE) in Bangladesh is more vibrant. A study commissioned by the United Nations Educational, Scientific and Cultural Organization (UNESCO), Bangladesh (Raihan 2007a) identified 23

organisations that are involved in developing various kinds of ICT-based learning materials for the NFE sector. The study found 195 such materials developed since 2004. Over 60 per cent of the materials are video, animation or a combination of the two. Video CD (VCD) is the most common format used since there is a higher degree of penetration of VCD technology in the rural areas. Over 60 per cent of the materials are intended for children, students and youth groups and 18 per cent are for the disabled. There are no materials for the aged and indigenous people.

The institutions involved in developing educational content, identified the following constraints to hamper their progress: lack of a ready market, inadequate and irregular funding, lack of proper facilities for developing high-quality ICT-based materials, lack of skilled professionals, inadequate experience of educationists in ICT-based materials development, low penetration of ICT, and power supply interruptions.

Non-government organisation (NGOs) generally develop materials for their own outlets. Some also supply other NGOs either for free or for a nominal charge. A few NGOs sell their products through retail chains. The Bangladesh Centre for Communication Programs (BCCP) outsources marketing and sale of their "Nijeke Jano" (Know Yourself) package to a commercial outfit.

D.Net and BCCP are piloting revenue models for ICT-based materials. Studies show that there is a demand for quality ICT-based materials and organisations are ready to pay for them. Although the current market size is relatively small and the number of developers is limited, there is a big opportunity in this segment of the market with approximately 150,000 groups and organisations running NFE programmes of diverse types. Moreover, the plan to establish a network of telecentres by 2011 implies a significant expansion of the potential market for ICT-based literacy and skill training materials.

5.2.4 Digital Content Initiatives

Digital content has become a major issue as PC penetration and Internet access have increased across the country. Without locally relevant content, ICTs are of no use to people. Content development is now a priority not only of the private sector and civil society organisations (CSOs), but also of government. The content issue has been highlighted in the draft Broadband Policy.

The most noteworthy government initiative is that currently *www.bangladesh.gov.bd,* is gradually bringing out its content in Bangla language along with English. The website of the Bangladesh Government Press or BG

Press *(www.bgpress.gov.bd)* is facilitating access to government information. BG Press is the single point of publication of all gazettes and documents related to the functioning of the government and state. Initially, the website will publish gazettes released in 2008 and 2007. An earlier digital content initiative by the government made different government forms more accessible to citizens via the website *www.forms.gov.bd*. Many people access the forms through telecentres which charge a minimal fee for downloading and printing the forms. The downloadable forms include passport application, visa application, citizenship form, pension form, Internet connection (BTTB), birth registration, income tax return and driving license. The availability of these forms online helps citizens access government services in less time and minimises opportunities to bribe government officials. The website is bilingual and can thus be used by any literate person. Those who are not able to read can get the forms from telecentres, which are now becoming popular in rural Bangladesh.

In 2003, D.Net started research on content development targeting the rural poor. Since then, a huge content base in Bangla has been developed. D.Net initially focused on the CD-ROM version of the content since Internet connectivity was not available in the rural areas at that time. But with the availability of access to the Internet through Enhanced Data rate for GSM Evolution (EDGE) or General Packet Radio Service (GPRS) from almost anywhere in Bangladesh, the web version (www.jeeon.com.bd) is also available. The second largest Bangla website at present is *www.abolombon.org*. The website is dedicated to human rights issues and provides legal practitioners with access to the full text of laws, explanation of laws, addresses of legal institutions, and the like. Another local language website is *www.gunijan.org,* which features eminent citizens of Bangladesh for the young to get to know them. Local digital livelihood content generation by NGOs gained further momentum in 2007. A new portal, *www.ruralinfobd.com,* emerged in late 2007 following the path of www.jeeon.com.bd. It was developed for telecentre operators by a private sector entity named WinBD, with financial support from a donor consortium. United Nations Development Programme (UNDP) has also sponsored the development of animated content in three areas: livelihood, indigenous knowledge, and conversion of content for visually impaired citizens. Bangla wikipedia *(bn.wikipedia.com)* is also getting richer with participation of large number of volunteers. Two Bangla blogs namely *www.somewhereinblog.net* and *www.prothom-aloblog.com* have become very popular among youth and professionals as well.

5.2.5 Online Services

Both government and non-government institutions offer online services, which range from information services to e-commerce. The government's SICT

programme initiated and in some cases completed over 40 e-governance projects of varying sizes across many government agencies. The SICT programme ended in 2006.

One of the early successful e-government projects is the innovative Ministry of Religious Affairs website *(www.bdhajjinfo.org),* which provides information-based services to pilgrims, their relatives and friends, agents and government officials. The interactive website, which was launched in 2002, can be used for searching information about individual pilgrims, including their current location and status, for sending and receiving messages from individual pilgrims, and for accessing various information regarding rules and regulations. Another successful e-government project is the Rajshahi City Corporation's (RCC) Electronic Birth Registration System (EBRS) which provides citizens with a unique identity card that they can be used for various services, such as education and health care. Since the card helps them get certain social services and benefits, citizens are now encouraged to register births, which was previously considered by many to be a worthless hassle. The electronic ID is used for immunisation purposes and also for getting admission to government primary schools in Rajshahi. The EBRS helps to keep track of each child registered through the system, starting from immunisation requirements to school enrolment status.

Another laudable e-government initiative is the publication of the salary status of school teachers *(http://www.dshe.gov.bd/search.php).* School teachers can now check online whether their salary has been sent to the bank by the Directorate of Secondary and Higher Secondary Education.

As part of efforts to ensure free and fair national elections, the CTG developed a new voter list that included photographs and finger prints of all eligible citizens. This was a response to the Election Commission's findings that there were 12.2 million fake voters in the old voter list.[1] The new voter list of some 80 million voters was prepared over a period of 18 months by the Bangladesh Army with the support of UNDP, using 8,000 laptop PCs. This was the largest ICT project in the country with a successful accomplishment with fully national level expertise (Raihan and Habib 2007).

Private sector online services perform better. An example is *www.bdjobs.com,* which was established in 2001. This has now a monthly page view volume of 800,000 and 14,000 daily unique visitors. More than 140,000 resumes are posted on the portal, which has over 2,500 corporate clients. More than 2,500

[1] http://www.bangladeshnews.com.bd/2008/06/01/voters-number-to-fall-by-1cr/

employers in Bangladesh have recruited more than 35,000 professionals at different levels through the bdjobs.com service.

The most popular online information service provider is *www.bangladeshinfo.com. www.bdresearch.org.bd* is a web portal for researchers, academics, and policymakers. It currently hosts more than 2,000 papers, articles and book chapters on Bangladesh and South Asia published by prominent research and publication houses. The website has incorporated an innovative mechanism of selling research online through pre-paid cards.

A number of helplines are now offering consultation and counselling on various issues. GrameenPhone's 789 and Bangla Link's 789 for health, and Bangla Link's 7676 for agriculture offer consultation with experts. D.Net's Teletathya *(www.teletathya.com)* is the oldest helpline in the country leveraging the mobile phone penetration since 2004. This helpline offers counselling on agriculture, health, education, human rights and information government services. It also offers directory services. Bangladesh Institute of ICT in Development (BIID) offers networking among farmers though its "e-krishok" initiative *(http://biid.org.bd/ekrishok.html)*. Most significant e-health initiative till date is Amader Gram Breast Cancer Initiative *(http://www.amadergramonline.net/publications/KT4D-BreastCancer.pdf),* which offers free of cost diagnosis and treatment of breast cancer for women.

5.2.6 Open Source/Open Content Initiatives

The open source and open content movement is gaining momentum in Bangladesh through the efforts of the Bangladesh Open Source Network (BdOSN). One of the organisation's major programmes is the Open Source Camp, which provides users with hands-on experience with GNU Linux, Open Office, Mozilla, LAMP/WAMP and Wikipedia. BdOSN also established the Open Source Support Centre in Dhaka in 2007. The centre, which is run by volunteers and is the first of its kind in Bangladesh, distributes CDs, books and other materials on open source and open content, and provides hands-on support to users. In addition, the BTN and BdOSN are working together to provide software and training to grassroots telecentre operators. BdOSN is also providing training on open source technology to 740 government officials.

Table 5.1 depicts an overall status of reach and usage of ICT in Bangladesh.

Table 5.1 Basic ICT Indicators

Total population	140.6 million (2001 Census, updated in 2007)
Literacy rate	47.9 per cent (Male = 54 per cent; Female = 41.4 per cent)
Gross natinal product (GNP) per capita	USD 599 (FY2007-08)
Computers per 100 inhabitants	1.2 (2006)
Fixed line telephones per 100 inhabitants	2.63 (2007)
Mobile phone subscribers per 100 inhabitants	31.12 (2008)
Computer owner per 100 inhabitants	1.9 (2007)
Internet users per 100 inhabitants	16.9 (2007)
Domain names registered under .bd	5987 (December 2007)
Broadband subscribers per 100 inhabitants	…
Internet domestic bandwidth	…
Internet international bandwidth	24.78 Gbps (December 2007)

Sources: Mof (2008); BTRC (2008); and ITU (2007).

5.3 CONCEPTUALISING DIGITAL BANGLADESH

The term Digital Bangladesh was coined by Mustafa Jabbar, President of BCS who is known for his popular Bangla typing software "Bijoy" and keyboard layout. Subsequently, the term was captured in the national election manifesto of Bangladesh Awami League. He defined Digital Bangladesh as digital government, digital education and digital business. As "digital government" does not cover the citizen services through ICTs, it has proposed to add one more component to Mustafa Jabbar's definition. The Digital Bangladesh thus has four inter-related components:

- Digital Government
- Digital Education
- Digital Business, and
- Digital Citizen.

Digital government means the government work flow is fully integrated with ICTs. The decision making process is efficient as a result of government's business process reengineering. The government can take informed and timely decisions on various policy matters, as the data generation system is fully automated from grassroots to the national level. Digital government also means a transparent government through full implementation of "Right to Information" legislation, which also ensures participation of citizens in decision making process. The participation of citizen does not limit to decision making by citizens' representation in the parliament, rather a mechanism is to be

developed to capture opinions of various citizens groups and individuals through ICT and non-ICT tools. The transparency in operation ensures upholding human rights for all citizens including women, poor, marginalised and indigenous groups.

Digital education means the education system is restructured to ensure equity in terms of access to quality education. The quality of education is ensured through regeneration of dignity of teaching profession with appropriate skill development and upgradation system, where ICT plays a vital role. The education system produces quality human resources for meeting the demand of domestic knowledge-based economy and also global demand for quality human resources. ICT plays a crucial role in ensuring quality education both for urban and rural people and ICT skill gap does pose a divide within the country. The government does not hesitate to allocate appropriate resources in building robust and modern education system.

Digital business means general economic activities are reengineered through integration of ICTs and ICT business can unleash its true potential with appropriate human capital created through digital education. Businesses irrespective of their size can avail ICTs for production and access to market domestically and internationally. Businesses also can transact and make payment offline and online internally and globally.

Finally, digital citizen mean all citizens of the country irrespective of their residence, age, economic condition, race, ethnicity, have access to ICT for accessing information and knowledge required to perform their day-to-day activities. A robust ICT network and public access point are the key factors to make citizen digital. The digital citizens are not anymore poor, because access to information, knowledge and education enables them to make informed choices for selection of their representatives, exercise their rights and entitlement, increase economic opportunities and protect themselves from exploitation.

Digital Bangladesh is thus another name of knowledge-based Bangladeshi society. The new government has promised to get Bangladeshi citizens towards a Digital Bangladesh by 2021, which is free from poverty. The paper focuses on only immediate doables of the government for moving towards that destination. The paths may be different to reach the destination, but the goal is firmly determined.

5.4 MOVING TOWARDS A KNOWLEDGE SOCIETY

Digital Bangladesh is a promise of the current government, and there is no way that it can back track from the commitment. And it is also important to take the fist step - move from the rhetoric to some concrete action plan. The action plan should have three components: a comprehensive master plan (FY2010-2021), a five-year detailed plan (FY2010-2014), and a short-term plan (FY2010-2011).

5.4.1 A Comprehensive Master Plan

The Master Plan can be developed for 12 years period (FY2010-FY2021). The Master Plan should be developed on the basis of existing works done by the ICT stakeholders in the country. The ICT Policy 2009 should be taken as a starting point for the development of the Master Plan. A lot of effort was put in to develope the revised ICT policy by stakeholders from all four segments of Digital Bangladesh concept. The revised policy is also not a product from the vacuum. It captures works and recommendations from people of all walks of life during last 20 years. The Master Plan should be designed in a way so that the plan is incorporated in five-year planning process and annual national budget preparation process. Otherwise, the Master Plan will remain in paper only, which happened with the PRSP plans related to ICTs. The National ICT Task Force should be involved in the process of development of the Master Plan.

5.4.2 A Five-Year Plan towards Digital Bangladesh

A five-year plan would be very useful with detail work plans and financial requirements. This would enable the government to mobilise resources for implementation ahead of time and annual budgeting would be convenient.

5.4.3 Immediate Doables

Immediate doables should be focused for the period of FY2009-10 – FY2010-11. There are two important things to do. One is to develop a comprehensive master plan with a timeframe of 2021, a five-year plan with proper resource planning for the duration of the government, and a list of immediate doables for 18 months. The other one is to restructure the current institutional set-up, so that plan can be implemented without any lack of coordination or hiccup. Which one should be done first - is difficult to say. Probably, both should go side by side. The time up to June 2009 can be used for development of the plan for next two fiscal years with adequate provisioning in the national budget.

5.4.4 Restructuring Institutional Mechanism

A number of government entities are involved in the process of policymaking, monitoring, capacity building and implementing ICT-related activities, even though very seldom interlinked and coordinated. However, for implementation of a master plan or road map for making Bangladesh ICT-based knowledge society, which is a pre-requisite to building Digital Bangladesh.

There are currently at least two Ministries - Ministry of Posts and Telecommunication and Ministry of Information, which are involved in dealing with ICT-related infrastructure - along with BTRC. The Ministry of Posts and Telecommunication deals with telecommunications including Internet, and the Ministry of Information deals with broadcasting - both radio and television. However, the technology trends dictate convergence of regulation of these two technologies. For example, IPTV (Internet Protocol Television) or IP radio is a reality across the world, which in Bangladesh under the current regulatory regime would fall under the jurisdiction of both the Ministries and BTRC.

Although there is the MoSICT, its activities and terms of references do not explicitly include ICT as a whole. The Ministry of Science was just renamed in 2002, and did not get much attention during the last BNP regime. Currently, this Ministry works for promoting ICT business sector through the BCC and has some activities related to capacity building of the government officials. The only ICT incubator in the country located in Karwan Bazaar is set and managed by the BCC. The BCC is also trying to implement the High-tech Park since last 12 years in Kaliakoir, which is also meant for the ICT business. The ICT infrastructure, e-governance, ICT for development is beyond the scope of the Ministry. On the other hand, the Ministry of Commerce (MoC) is also trying to promote ICT business through ICT Business Promotion Council (IBPC).

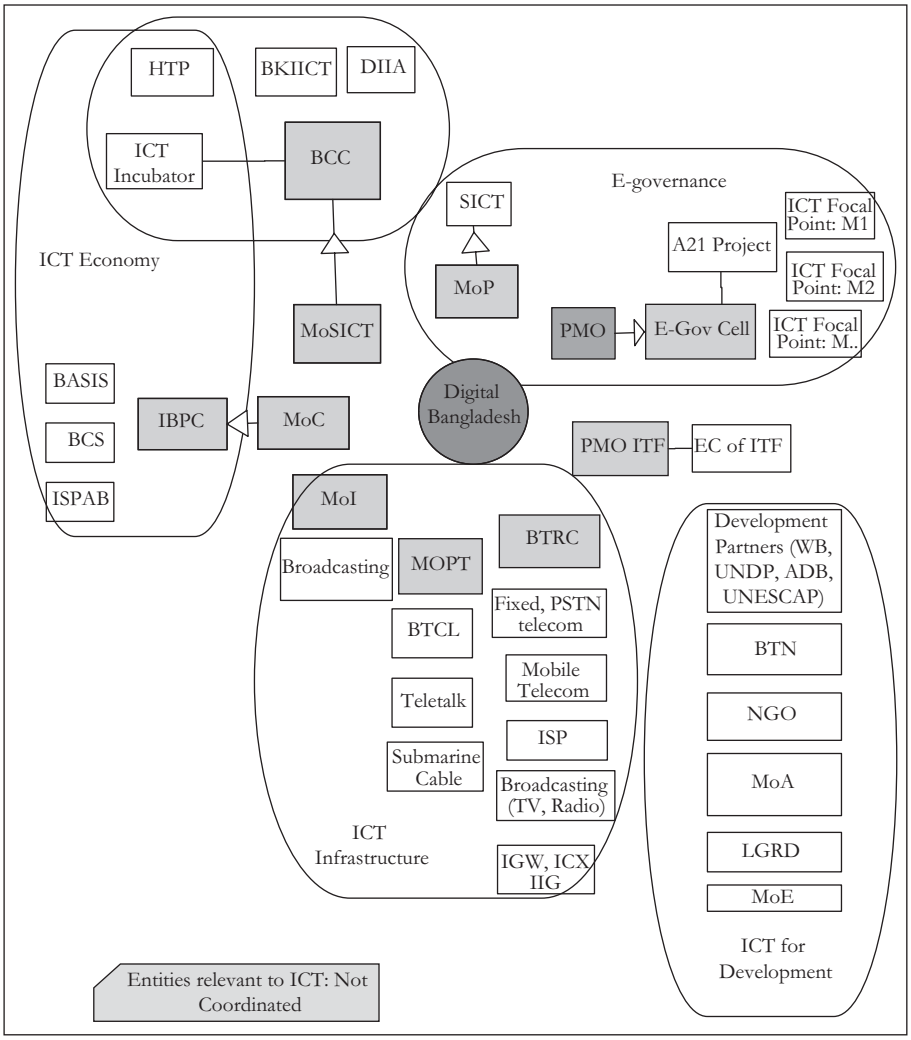
For taking care of e-governance-related activities there are two separate government entities - one is E-government Cell, created in the Prime Minister's Office. The Cell is implementing "Access to Information" programme. Under the programme, each Ministry has an ICT focal point for taking care of e-government-related activities. The second entity is SICT programme under the Ministry of Planning. The creation of SICT under the Ministry of Planning is the result of a tug of war between MoSICT and Ministry of Planning, and the latter one won the battle. Although the SICT was under the ICT Taskforce, the SICT was not bound to report to the Taskforce. Moreover, during last 7 years, only two meetings were held, which also shows the level of priority conferred to build a knowledge-based society by 2006.

First of all, there was not need to create SICT under the Ministry of Planning; it could be conveniently handled by the MoSICT's BCC. However, it did not happen as it was perceived that BCC did not have required capacity to do so. The creation of E-government Cell under the Prime Minister's Office, also took place for the same reason. Additionally, it was thought that if the e-governance-related activities come under direct supervision of the Prime Minister's Office, its implementation would be faster.

ICT for Development was totally not in the focus of the previous governments. Although first PRSP planned to create telecentre in each upazila by 2006, not a single one was created by the government. D.Net established first telecentre in union parishad (UP) in 2005, subsequently another two were created by UNDP in 2007. Solving a set of other important issues including Unicode for Bangla computing, interoperability, and connectivity for the rural areas remained out of focus. Recently, Ministry of Agriculture (MoA) and Ministry of Local Government and Rural Development (LGRD) have taken initiative to build telecentres in the UP level, with support from UNDP and technical assistance of BTN. Ministry of Education distributed 10,000 computers in secondary schools without any holistic approach, and the result was a disaster, not a single student could benefit from those computers - either they remained packed in the rooms of Head Masters, or they were just used by a few teachers.

As a whole, there is a total chaos in ICT sector in the country, be it for ICT for development, for e-governance, education or for health. Only ICT business sector received some coordinated support from MoSCIT and MoC. The institutions and agencies involved in ICT sector are presented in Figure 5.1.

Figure 5.1 Current Institutional Architecture Related to ICT



Source: Author's own generation.

Note: HTP: High Tech Park; BKIICT: Bangladesh-Korea Institute of ICT; DIIA: Danish Institute of International Affairs; MoP: Ministry of Planning; PMO: Prime Minister's Office; EC: Election Commission; ITF: ICT Task force; ISPAB: Internet Service Providers Association of Bangladesh; MoI: Ministry of Information; MoPT: Ministry of Posts and Telecommunication; IGW: International Gateway; ICX: Interconnection Exchange; IIG: International Internet Gateway; WB: World Bank; ADB: Asian Development Bank; UNESCAP: United Nations Economic and Social Commission for Asia and the Pacific; MoE: Ministry of Education.

5.4.5 What to Do?

Institutional restructuring is the key to realise the expectation of the citizens. A tentative outline for institutional restructuring is presented below.

Creation of a "Digital Bangladesh Secretariat" under the Prime Minister's Office

During the last tenure of Awami League Government (1996-2001) a National ICT Taskforce was formed to ensure accelerated ICT development in the country. Although the Taskforce was not abolished during the tenure of subsequent governments, the Taskforce remained dysfunctional. For undertaking a comprehensive plan and ensuring its smooth implementation, an executive wing of the Taskforce can be created. The executive wing may be titled as "Digital Bangladesh Secretariat." The secretariat will have four distinctive wings in line with the conceptualisation of "Digital Bangladesh." The BCC may be abolished and merged with the DBS. The activities related to ICT business promotion may be transferred to the MoC under IBPC, which also may be renamed as "E-business Cell".

Single Point for ICT Infrastructure

A strong Ministry of ICT may be the first step towards institutional reform. This Ministry will be the key focal point in supporting the Master Plan through ensuring robust ICT infrastructure. The formation of a strong ICT Ministry may take place in the following manner:

a. Merging of MoSICT and Ministry of Posts and Telecommunication, because ICT means telecommunications and Internet. The convergence of technology dictates that these two should be together.

b. Taking "Science" part out of MoSICT and merge with the Ministry of Education, which will take care of science and technology in general. The Ministry of Education, Science and Technology would be able to take care of science education and scientific innovations in general better, because there is a strong linkage between academia and scientific innovation. On the other hand, the "ICT' is more applied in the context of growth and socioeconomic development.

c. Taking "Broadcasting" part out of the Ministry of Information and merge it with the Ministry of ICT. Again, to tackle the convergence of technology one single authority would do better. This would avoid potential turf war among the Ministries with the converged technology and services.

d. Bringing in BTRC under the jurisdiction of the Ministry of ICT. BTRC will also deal with the matters related to broadcasting.

Single Point for All E-government Activities

Being one of the four executive wings of the "Digital Bangladesh Secretariat," the existing E-governance Cell may be renamed as the "E-government Cell," and will remain the focal point of all e-government-related activities. The ICT focal points in all Ministries will be converted into "e-government focal point," which will be the coordinating point of all e-government-related initiatives taken in each of the Ministries and Digital Bangladesh Secretariat. The SICT under the Ministry of Planning should be abolished and all e-government-related activities should be coordinated by E-government Cell under the Prime Minister's Office.

Creation of an "E-citizen Cell" under the Prime Minister's Office

A new cell titled "E-citizen Cell" under the Digital Bangladesh Secretariat will take care of access to ICTs by all citizens, particularly poor and marginalised population both in urban and rural areas. The cell will coordinate with "E-citizen Focal Points" in all line Ministries, which will be created under this reform programme.

Single Point for Coordinating ICT in Education

Another new cell under the Digital Bangladesh Secretariat can be created for coordinating ICTs in education system to be at par with the global demand for quality human resources. This cell will coordinate with focal points of the relevant Ministries.

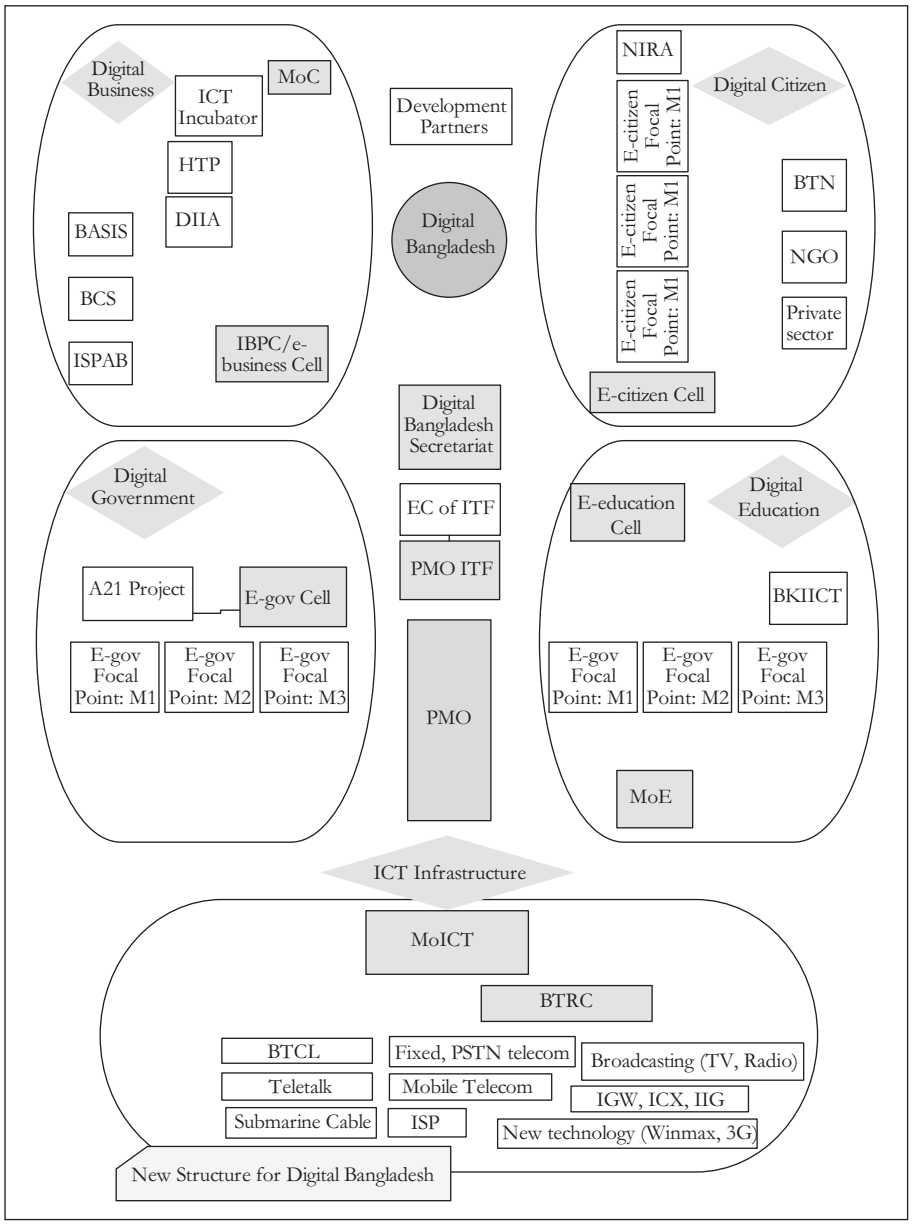
Single Point for ICT Business Coordination

The IBPC can be converted into "E-business Cell." The ICT Incubator and High-tech Park should be placed under the MoC instead of BCC, may be under the IBPC. In this way, IBPC may find its role to promote private sector in a comprehensive manner.

The Digital Bangladesh Secretariat will take regular guidance from the ICT Taskforce and place the proposals to the Cabinet of Ministers.

The Figure 5.2 shows the new architecture of government machinery to implement Master Plan for Digital Bangladesh.

Figure 5.2: New Architecture for the Implementation of the Digital Bangladesh Master Plan



Source: Author's own generation.

5.5 RECOMMENDATIONS AND CONCLUSION

The immediate doables in this paper is based on the ICT Policy 2008 and the government's election manifesto. Such doables would be more realistic, because consensus building is already done for them. The task zero of the government should be adoption of the revised ICT Policy.

Task 1: Project related to E-citizen

Integration of National ID Database

Bangladesh holds now the world's largest database created within a short time during the CTG side by side creation of a voter list with photograph. A free and fair national election was held using the database and the country received a pledge for Digital Bangladesh. Basically, Bangladesh Election Commission undertook the voter ID project to address the requirement of many stakeholders including political parties for improved voter identification through either voter ID cards or a voter list incorporating photographs. The BEC considered options for national ID card, voter ID card, and Electoral Roll with photograph, and finally it was decided to prepare an Electoral Roll with photograph as the initial step towards a future national ID card system.

Now, a project for building institutional mechanism for providing national ID card to all citizens, touching the age of 18 on a continuous basis, can be the most important ICT project to be taken by the new government, which has far-reaching implications. Such database will ensure a readymade voter list for any election to be organised by the Bangladesh Election Commission.

A few uses of the national ID system are presented below:

Birth Registration

If the nationwide system of national ID system is in place, then the government can launch a programme of compulsory birth registration for all citizens. For citizens under age of 5 years, the national ID system will issue a birth certificate, which will be compulsory for getting passport, getting entry into educational institutions, health care facilities, facilities under various safety net programmes of the government, etc. At the age of 5 years, every citizen will get first national ID, which will have to be renewed every 5 years. Within five years of introduction of the system of birth registration, data of most of the citizens will be in the national ID system.

Implementing Subsidy Programmes

The government faces a challenge in distribution of subsidies to various economic groups including farmers every year. The national ID database can be supplemented by a database of eligible people for getting various subsidies. If the primary database identifies a person as a farmer in primary or secondary occupation, the supplementary database can be built on that information with additional information (e.g. land registration and deed of transfer of land for cultivation).

Implementing Social Safety Net Programme

There are a number of social safety net programmes launched by the government and implemented by the local governments and other institutions. However, distribution of the social safety net remains a problem mostly due to corruption and lack of coordination. Eligible people often remain outside of the programme. Identification of the beneficiaries of the social safety net programme will be easier using the national ID database.

Immunisation Programme

Identification of target groups for immunisation programmes will be very easy as the national ID database will provide list of citizens, for whom such immunisation is required.

Expansion of Tax Base

As the domestic resource mobilisation is getting important in the national macroeconomic context, such national ID database will be useful for tracing the tax evaders. The success of the project will ensure a solid ground for equitable and participatory development needed for the country.

How to build such a system

Bangladesh's national ICT industry is capable of implementing such project. If necessary, government agencies in other countries can help our local experts, not the opposite. For ensuring security, a number of redundancies will have to be deployed. Telecentres in local government institutions (zila parishad, city corporations, municipalities, upazila parishad, UP) can be used for regular update of the database. Telecentres in village level can also be used to decentralise the system. Community-based committees must be involved to

ensure accuracy of such database. For data entry, volunteers groups will need to be involved. Public-private-NGO partnership will be very effective to ensure smooth implementation of such database.

Risk factors: Compatibility of inter-operability of the database must be ensured for integration of various national databases and enhancing data fields.

Duration: Initially 2 years will be adequate for development of a complete national ID database.

Online Tax Filing

Mobilising domestic resources has become more important for the current government in the backdrop of the global financial crisis. In a country of 150 million, individual tax payers are 2.2 millions. Estimates are there that if all tax eligible citizens pay due taxes, Bangladesh does not need external financial resources for its national budget. However, citizens are reluctant to pay taxes for various reasons, including harassment and rent seeking behaviour of tax authorities. An individual citizen through this system can file tax return and pay online. If the National Board of Revenue (NBR) has doubt about any tax payer, it can investigate and take appropriate measures. This could be the first e-citizen project which will have significant visibility, and at the same time will bring the largest benefit to the government.

Duration: Implementing online tax payment system will take around six months to one year.

Building a Network of Telecentres as Access Point of Government Services

A network of telecentres in all local government institutions and public libraries will allow government to offer gradually all government services through Internet. It will also allow to inform citizens about various government schemes, so that people can access them without scope of favouritism. A public-private-NGO partnership will ensure proper functioning of the telecentres. It is to be ensured that all citizens, particularly poor and marginalised people have access to services independent of their ability to pay. As telecentres are public institutions, commercial operation will exclude common people from their services. Income from a few services may cover cost of operation partially and the rest will be covered from annual budget of the local government institutions. Establishment of telecentres will

create opportunities for educated rural youth for ICT-based jobs, which will facilitate the government to implement its "one family-one employment" programme. Furthermore, scope of ICT training will create users, which will eventually play a positive role in creating skilled manpower for export from rural areas. The government can partner with BTN to roll out telecentres.

The telecentres will be the first step towards the Digital Bangladesh as it will be an infrastructure to offer many services. It will be truly a part of an inclusive information and knowledge system for the poor and marginalised.

Duration: A roll out plan of telecentres within first two years of the current government will create visible impact.

Internet Connectivity Across the Country

The first two years should also be spent for building a country-wide network of reliable broadband Internet connectivity. The following steps can be taken in this direction:

Introduction of Differential Pricing

As the EDGE/GPRS/code division multiple access (CDMA) network is already available across the country, although not very robust, the BTRC can introduce differential pricing, e.g. cheaper connectivity for rural areas, and relatively costlier pricing for urban areas. As the urban-rural average per capita income ratio is 1:3, the price of Internet connectivity in rural areas should be one-third of urban areas. This can be done immediately through directive of BTRC. When 3G and Worldwide Interoperability for Microwave Access (WiMAX) technology will be available, the offer should be applicable also for those technologies.

Free Internet Connectivity for Educational Institutions and Libraries

The CTG announced that primary educational institutions will have free Internet connections, secondary educational institutions will have connections at 75 per cent concession, and other educational institutions at 50 per cent discount; although the total plan was not clear as to who will provide this connectivity, and how it will be ensured. The BTRC should give clear directive in this regard mentioning ISPs and procedure to avail such offer. The offer should also be extended to the libraries.

Free Internet Connections for Telecentres

The BTRC should offer free Internet connections from all telcos for all telecentres, irrespective of their locations. A clear directive in this regard makes the telecentres more financially sustainable. This is along standing demand of the telecentre operators in the country. The government should create universal service obligation fund to support the ISPs, which will offer the free connections.

Licensing

The licensing policy of the BTRC was on a wrong footing, which created scope for sky-rocketing of license fees for WiMAX. As a result, the licensees are facing problem in rolling out the network. Furthermore, such high price for license will make the WiMax connectivity unaffordable for rural people. The BTRC should review the license fee and call for fresh bidding for WiMax licensing. Similarly, the license fee for 3G should be limited so that operators can offer cheap connectivity. The BTRC's task is not to earn money rather than creating a vibrant connectivity network across the country so that economic, educational and other developmental activities create values for earning money for the government. The BTRC should also go for class licensing, which would ease the life of technology providers.

IP Telephony

IP Telephony is still illegal in the country, prohibiting people to connect with their relatives and business partners at an affordable price. It is ridiculous that potential of new technologies is barred in the context of market discipline. Such bar does not match with the philosophy of Digital Bangladesh.

Duration: All the above mentioned tasks can be implemented within six months and does not have significant financial implications on the part of the government.

Content Development

All government research institutions produce contents in a printed form, which comes out on soft version. The government can easily publish all those contents on the web for various target groups. Such publication of contents can be made mandatory for all institutions. Internet will be more relevant for the common people if such contents are widely available online, preferably free of cost.

Duration: Immediate with quarterly review of the progress by the E-citizen Cell.

Market Price Information

The market price information is the single most important ICT initiatives for agriculture producers and consumers. The Department of Agricultural Marketing (DAM) of MoA maintains a website in English which publishes market prices of agricultural produces. However, data are not up-to-dated and in many cases not reliable. In most of the cases, data field is empty when a search is conducted. The telecentres can be assigned for collection of data on a prescribed format, which can be monitored by the UP. The data will be updated directly from the telecentres and viewers can see it in Bangla. A system of reward and punishment may be applicable to ensure quality and timely data entry.

Duration: This can also be done immediately after establishment of telecentres in all UPs.

Digitisation of Land Record and Transaction

The project can be taken by all upazilas at the initial stage and gradually it can go up to union level. The experience of Demra project can be taken into consideration.

Duration: Two years from FY2009-2010.

Task 2: Projects Related to E-business

Implementation of ICT Act 2006 and E-payment

The ICT Act 2006 was a long standing demand of Bangladeshi business community and citizens. The Act was placed to the Cabinet in 2002 and dust piled upon it for four years. At the very fag end of 2006 the law was enacted. However, till date no action has been taken for its operationalisation. According to the law, digital signature will be acceptable as evidence for transaction. However, for implementation of the law, a public key infrastructure authority needs to be formed. Furthermore, online payment system through Internet should be implemented. Bangladesh remains outside of the e-commerce due to failure in implementation of the Act.

Bangladesh's export earnings would enhance through online trading system not only for traditional products, but also for new products and services. The online payment system would facilitate small businesses to participate in global trading system. IT-enabled services (ITES) would also boost up if online payment system is in place. Domestic business would also boost up through online payment system. A number of new financial products would ease the business for the large trading houses. At the time of global recession, the domestic trade boost would play a positive role.

Duration: It would take six months to one year for implementation of the ICT Act 2006 including introduction of e-payment.

Task 3: Digital Government

Online Government Procurement

There are two reasons, for people not be corrupt. One is, high standard of ethics and moral values, and the other is lack of scope to practice corruption. ICTs cannot make a citizen incorrupt, but can build a system that eliminates or reduces the scope of corrupt practices. Online government procurement is such a system. One of the largest sources of corruption is government procurement. An online procurement system can reduce the scope of malpractices at a number of stages:

Procurement of Tender Document

Online procurement of tender documents reduces scope for prohibiting parties from bidding process. If e-payment system is in place, then the document can be procured online.

Submission of Tender Document

Online submission of tender documents also reduces scope for prohibiting parties from bidding process. The earnest money can also be submitted online through online payment system. As online payment system is not in place immediately, both payment of tender documents and earnest money can be paid through banking channel. The scanned acknowledgement receipt can also be submitted online.

Evaluation of Tender

Online evaluation of tender will reduce scope for providing preferential treatments to any specific bidder.

Task 4: Tasks Related to E-education

E-learning as an Intermediate Solution to Quality Education

Quality of education is now the prime concern for the future of the country. The Vision 2021 will remain in paper if quality of education is not addressed. The core problems of education are less related to ICTs; rather ICTs can be an intermediate solution to core problems. The core problems are:

Quality of Teaching

The quality of teaching is shocking in primary and secondary educational institutions. Qualified graduates from tertiary education do not want to join the primary or secondary educational institutions due to poor compensation package and lack of dignity. The teachers in primary and secondary educational institutions are busy with government assignments, including conducting various elections, immunisation and other programmes. The solution lies in overhauling the system of compensation on a priority basis in a way that would encourage qualified graduates to join the primary and secondary educational institutions.

Skill Upgradation of Teachers

The teachers do not have adequate facilities to upgrade their skills along with the upgradation of curriculum. ICTs may be helpful for teachers to improve their skills.

Poverty and Malnutrition

Poverty and malnutrition push children out of the school. Mid-day meal may be a solution, where community can also participate.

Unattractive Teaching Approach

Children do not find schools interesting due to lack of appropriate and modern teaching method.

Teaching Infrastructure

Infrastructure in terms of building has been improved during last one decade; however, in-class equipment and facilities are not available, which are essential for quality teaching. Increase in investment in this area is the only alternative. While finding quality teachers and providing them appropriate compensation are essential, for skill upgradation of teachers and making learning attractive, ICTs may be an intermediate solution. E-learning at the initial stage should focus on teachers and subsequently students.

E-content for Education

The crisis of textbook every year creates demotivation among the young learners. This is another reason for the poor quality of education. While, the concerned authorities will sort out how to revolve the issue, an immediate and low cost solution is to publish all text books on the website of the National Curriculum and Text Book Board (NCTB). This initiative would allow schools to start classes at the right time by taking print out of initial chapters of the relevant textbooks from the website. This would also create pressure on the book publishers to print and distribute the books within schedule. The books may be published online on a pre-scheduled date, which will allow the book printers to print and distribute before the dates. The online availability of books in Unicode fonts will allow various entities to create e-learning portals. The online publication will allow NCTB to publish the books with colourful and attractive designs.

Duration: This can be done every year without any significant financial burden on the government ex-chequer.

Model ICT-in-Education Schools at All Upazilas

During the first two years, the government can undertake a project to launch model ICT-in-education schools at all upazilas, based on existing experience in development sector. The schools will have a full-fledged Internet lab for students and multimedia projectors in each classroom with a PC, so that teachers and students can use ICTs for their learning in the classroom and beyond the classroom. NRBs and development partners may be invited for contribution to implement such programme.

Duration: Two years will be adequate to set up the ICT facilities, develop relevant content and training of teachers.

It is to be mentioned that the commitment of the government will be reflected through its announcement of the national budget for FY2009-10. It is expected that the government will take appropriate measures through the national budget so that people's confidence increases and they also take part in building a poverty free Digital Bangladesh. This year's budget should also transform the commitment of Digital Bangladesh from Awami League's election pledge to the government's plan of action.

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REPORT ON THE DIALOGUE PROCEEDINGS

The Dialogue*

The session titled *ICT for Development: The Immediate Doables* was held in the afternoon on 29 March 2009, where *Dr Ananya Raihan,* Executive Director of D.Net and Secretary General of Bangladesh Telecentre Network (BTN) presented the keynote paper. *Mr Mustafa Jabbar,* President, Bangladesh Computer Samity (BCS), and *Mr Habibullah N Karim,* President, Bangladesh Association of Software and Information Services (BASIS) were present as designated discussants. The session, moderated by *Mr Fazle Hasan Abed,* Member of CPD Board of Trustees and Chairperson, BRAC, was attended by *Architect Yeafesh Osman,* MP, Hon'ble State Minister for the Ministry of Science and Information and Communication Technology (MoSICT) as the Chief Guest, and *Professor Jamilur Reza Chowdhury,* Vice Chancellor, BRAC University and Former Advisor to the caretaker government (CTG) as the Special Guest.

Keynote Presentation

Upon invitation by the moderator, *Dr Raihan* made his keynote presentation with the underlying objective of underscoring the important role of information and communication technology (ICT) in future development of the Bangladesh economy. In this context, he hailed the present government for adopting the vision of creating a Digital Bangladesh by 2021. *Dr Raihan* identified Digital Government, Digital Education, Digital Business, and Digital Citizen as the four key components of Digital Bangladesh, and urged that the government should set up dedicated monitoring cells under the Prime Minister's Office to design, implement and oversee various projects to be initiated under each of these components. Apart from outlining 12 issue-specific tasks for implementation under the four key components, the keynote presentation also articulated a number of immediate doables by the new government. These were developing a Comprehensive Master Plan for 12-years (FY2010-2021), designing a 5-years Plan, and Restructuring Institutional Mechanism including setting up a Digital Bangladesh Secretariat under the Prime Minister's Office.

*The dialogue report was prepared by *Mr Syed Saifuddin Hossain,* Senior Research Associate, Centre for Policy Dialogue (CPD).

Open Floor Discussion

The keynote presentation was followed by comments from designated discussants and participants. A full list of the dialogue participants is provided in the Annex B of the volume. Discussions during the session concentrated on the four components of Digital Bangladesh as highlighted in the keynote presentation. In addition to general comments, discussants also put forward a number of policy recommendations pertinent to development of ICT sector in Bangladesh. A summary of the proceedings from the floor discussion is presented below.

Digital Bangladesh by 2021: A Vision Awaiting Rigorous Policy Initiatives

Mr Mustafa Jabbar, President, BCS, informed the audience that the idea of Digital Bangladesh was not new. Rather, it was in September 2008 when the term was first coined by him when the ICT Policy was revised by the government. Unfortunately though, the idea was not taken into cognisance by the then policymakers. However, now that the government itself has focused on this issue, he believed that things will now get proper attention. He further mentioned that the proposed ICT Policy 2008 needs further revision due to the fact that state of ICT and governance in March 2009 was different from what it was in September 2008. In particular, the present Policy has to be relevant to the concept of Digital Bangladesh. *Mr Jabbar* was also concerned that the current ICT Policy only talks about short, medium and long-term initiatives, but no priority areas have been identified. This is particularly important due to the fact that now the target is fixed upto 2021 to create a Digital Bangladesh. Hence, there is a need to go beyond the concept of short, medium and long-term measures and adopt immediate doables targeting priority areas. In this regard, he strongly believed that year-wise target, focusing on relevant Ministries and budget, should be fixed with a view to leading Bangladesh on an achievable path. His thoughts were supported by a number of other participants including *Mr Wonder Wang,* COO of Huawei Technologies, who also urged for immediate reviewing of the ICT Policy to pave the way towards building a National Information Highway which will play crucial role in integrating Bangladesh into the geographic information system (GIS). Another important issue that came up during the discussion was the process of consultation with relevant stakeholders before revising the ICT Policy. To this end, it was opined that consultation with various groups within and outside Dhaka will be quite significant.

Mr Jabbar also noted that it is not possible to address the different issues of ICT separately. Rather, we need to address ICT in a holistic manner. Fortunately, we now have both vision and policy to address the issue. This includes the government's commitment towards building a Digital Bangladesh, and the draft

ICT Policy. It is a matter of checking the balance among the 12 issues highlighted in the keynote paper and reprioritising them (if needed) to start implementation at the ground level.

Since the present government came into power, there had been significant discussions on the issue of Digital Bangladesh including the declaration by the Prime Minister on 25 March 2009 and three Round Table discussions on ICT in the subsequent period. The three priority areas highlighted in those discussions were: (i) digital government, (ii) digital education, and (iii) connectivity. In view of this, *Mr Jabbar* emphasised that the government needs to be more proactive than common people. It implies that when the government talks of Digital Bangladesh, it is up to the government to draw the road map and explain the measures that need to be taken. This is further important because Digital Bangladesh is not only about ICT, but goes beyond that with the goal of creating a happy and self-sufficient Bangladesh. Therefore, ICT-based education should not be seen as the sole component of Digital Bangladesh, rather a means to achieving the goal of digitalising Bangladesh.

Mr Jabbar, however, expressed his frustration with regard to functionality of initiatives taken for development of the ICT sector between 2001 and 2007. He was particularly critical of the fact that the ICT road map and various action plans were there only in papers. It is not known whether various projects under such initiatives will still survive or not. Nevertheless, he was agreeable on the issue that we need a proper guideline to move ahead, and that a road map is required to implement the guideline. He, emphasised on the need for specifying the action plans and the road map.

Similar views were expressed by *Mr Habibullah N Karim,* President, BASIS, with regard to development of ICT in Bangladesh. He also informed the house that recently the Government of India has allocated 3.0 per cent of the budget for ICT development. Since 2000, stakeholders in Bangladesh have been seeking at least 1.0 per cent of the national budget to be allocated for ICT development. The ICT Policy 2002 proposed for 2.0 per cent of the budget for the ICT sector. However, no proactive step has ever been seen from the government. Even if the 2.0 per cent demand is met, it will be a major step forward in ensuring development of the ICT sector in Bangladesh.

Digital Citizen: Ensuring Better Access to Information

Mr Jabbar thanked *Dr Raihan* for bringing in the issue of e-citizen in the context of Digital Bangladesh. He, however, noted that once the concept of e-government is firmly realised, it will automatically cover all aspects of e-citizen.

One of the issues highlighted by participants with regard to Digital Citizen was the concept of e-content. In this context, *Mr Jabbar* emphasised on the use of *Bangla* in disseminating digital information to common people. To this end, he urged that the government must adhere to Article 3 of the Bangladesh Constitution, or take other relevant measures to ensure use of *Bangla* as the primary language in disseminating information through web pages. He also expressed his frustration on the fact that almost all our government and non-government websites use English as the only language. He suggested that the government needs to revisit its policy on use of language when it comes to ICT. If not, then the concept of Digital Bangladesh will have no significance for about 96 per cent of our population. He called upon the government to seriously take account of this concern.

Another important aspect that was discussed in the context of e-content was the issue of "standard." *Mr Jabbar* noted that although we use *Bangla* in some aspects of ICT, unfortunately there is an absence of a unified standard. It should be taken into account that there is a gulf of difference between present Unicode and the BDS15202000. Overcoming this complexity depends on the decision to be taken by a technical committee. He criticised the Bangladesh Computer Council (BCC) for being quite reluctant on this matter even after several requests from the BCS. Similar problem lies with the use of *Bangla* font in mobile phones. Different mobile phone operators use different standards. This problem can be solved by forming a four to five-member committee which will design guidelines with regard to use of a common standard for use of *Bangla* font by mobile phone operators. This requires proper attention of the Bangladesh Telecommunication Regulatory Commission (BTRC), MoSICT, and the Ministry of Posts and Telecommunication.

Mr Manjur Murshed Talukder, Former Managing Director, Gas Transmission Company Limited (GTCL), also shared the view and mentioned that *Bangla* unicode softwares are not harmonised. This is a problem for using harmonised unicode by all mobile operators. He further informed that use of local language in mobile phones in Bangladesh is proportionately too low when compared to other countries. Importance of use of *Bangla* in Internet and cell phones was also emphasised by *Mr Oddvar Hesjedal,* Managing Director of Grameen Phone.

Internet pricing was another issue that was discussed at length in the meeting. In this regard, *Mr Shameem Ahsan,* Vice President of BASIS, noted that Internet pricing needs to go down. To this end, the government should come up with concrete policy measures with regard to designing proper guidelines and offering adequate incentives for Internet Service Providers (ISPs). Besides, Bangladesh does not have a single IT Park. The government has to play a proactive and expeditious role in this regard.

Mr Hesjedal was of similar opinion. He mentioned that affordability of people in rural and urban areas in terms of use of mobile phones is not same. Therefore, mobile phone operators should be allowed to differentiate in prices in rural and urban areas. Similar provision should be put in place for the ISPs.

Mr Mohammad Abdur Rab, Chief Executive Officer, BRAC.Net brought in the issue of pubic-private partnership (PPP) in ensuring the role of all stakeholders in the development of ICT in Bangladesh. He suggested that PPP in ICT has to be encouraged and ensured as this will create a large number of employment opportunities. *Mr Hesjedal* shared the same view and mentioned that PPP is an important factor in developing the ICT system in Bangladesh. Grameen Phone has Community Information Services which not only is a service, but also a business. Therefore, it is profitable for both users and operators.

Other policy recommendations from discussants with regard to Digital Citizen included:

- PPP will ensure proper functioning of the telecentres. A minimum fee can be charged for certain services such as printing forms. These, along with budgetary allocations for local government institutions, could cover the operational and maintenance cost of the telecentres.

- Scope of ICT training will create users, which will eventually play a positive role in creating skilled manpower for export from rural areas.

- Introduction of different pricing by BTRC for the rural and urban areas will ensure access to Internet by the resource-poor people living in the rural areas. This should be done keeping in view the rural-urban average per capita income ratio of 1:3. When 3G and WiMAX technology becomes available, the offer should be applicable also for those technologies.

- The ban on Internet Protocal (IP) Telephony does not match with the concept of Digital Bangladesh. Government needs to take necessary action in this regard.

- All government research institutions produce content in printed form, which comes out from soft version. The government can easily publish all those content on the web for various target groups. Such publication of contents can be made mandatory for all institutions. Internet will be more relevant for the common people if such contents are widely available online, preferably free of cost. This should be done immediately with quarterly review by the e-citizen Cell.

- Setting up telecentres at least in each upazila will expand the opportunity for common people, particularly those with no or very limited access to personal

computers and Internet connections, to download relevant government forms for various purposes including applying for passport, birth registration, income tax return and driving license.

Digital Business: Creating Better Opportunities for E-commerce

Underscoring the importance of ICT in creating a Digital Business community in Bangladesh, various aspects of the issue were discussed by the participants. One such issue was related to enactment of the ICT Act. It was mentioned that although the ICT Act was approved in the National Parliament by the end of 2006 and an amendment took place between 2006 and 2008, it is yet to come into force even in 2009. Discussants were of the opinion that if this is not done immediately, implementation of the concept of e-business or e-commerce will remain a far cry. To this end, the Bangladesh Bank needs to put in proper policy measures to implement e-payment.

Mr Rab informed the house that data communication in Bangladesh costs about 35 times higher than the comparable price in Europe. In view of the current state of affairs in the cell phone industry in Bangladesh, ICT can be termed "Information and Cell Phone Technology." So first, it is essential to distinguish between voice communication and data communication. Although cost of voice communication is much lower in Bangladesh, the situation is completely opposite for data communication. In fact, ICT in Bangladesh mostly refers to data communication. Last year, India exported software worth about USD 60 billion. So, we are clearly lagging behind our neighbour by a great margin. However, before trying to achieve something, focus needs to be placed on the current stand point. Given Bangladesh's state of economy vis-à-vis that of India, Bangladesh earning of at least USD 6 billion would be making her par with India. But, figures for last year show that only USD 30 million was earned from software export. Implementation of e-commerce does not need a long time. All that is needed is enthusiasm, commitment and support from the government.

With regard to the concept of Digital Business, *Mr Karim* urged that first we need to understand where the country stands and where she needs to go regarding the ICT development. He mentioned that one of the often asked questions about ICT in Bangladesh relates to the state of the software industry of Bangladesh, and why is it not being able to perform better. He pointed out four reasons why our ICT is lagging behind in terms of capturing sizable share of global information technology (IT) services market. The number one is the issue of marketing. Although many other countries have succeeded in capturing the market, Bangladesh needs to put more emphasis on aggressive marketing. To this end, proper awareness needs to be ensured among the users, stakeholders and policymakers.

On a different note, *Mr Rab* suggested that the government should, in the short-term, take measures to ensure wide use of online payment system. Gradually this may be extended to online tax payment system.

Other policy recommendations from discussants with regard to Digital Business were:

- The ICT Act 2006 needs to be put into effect immediately.
- Online payment system through Internet should be implemented within the shortest possible time frame.
- Government must encourage investment in the sector by putting in place various policy support mechanisms.

Digital Government: Revitalising Performance of Public Institutions

While *Dr Raihan* emphasised on e-citizen as the major component, *Mr Jabbar* looked at e-government as the core issue. He particularly referred to the age old procedure through which the government runs the administration and maintains communication. In view of this, he underscored the need for effective e-government mechanism to be the first priority to change the way the government works. In this context, he suggested that there needs to be efficient use of ICT with regard to the government's communication within and outside its institution. If a certain Ministry wants to send a proposal to the Prime Minister's Office, or if an organisation intends to send a proposal to a certain Ministry, one should use e-mail for expeditious completion of the procedure. Therefore, the first and foremost step by the government should be digitalising its decision making mechanism. If such measures are kept aside, and all the Ministries come up with individual web pages, that would not suffice the requirement for a Digital Bangladesh. Besides, if web pages are meant to be of use for the common people, the government should convert all the past information in digital format and post on the websites, and continue the effort with respect to present and future works. The level of digital interaction has to be ensured from the Secretariat to upazila level. Such a network has to be created within the shortest possible time frame. When these steps to digitalise the government are implemented, it is only then that the government will be able to provide digital services to the citizens of the country. This is where the concept of e-citizen comes into play.

With the concept of Digital Bangladesh now in discussions, the perception about digitalising the society also requires change. Government should take rational decisions as regards spending money on providing ICT training to

government officials. *Mr Jabbar* informed that recently a project has been undertaken to train government officials in computer use. This seems to be a waste of public money as these educated government officials need nothing more than a one-day workshop to get the basic knowledge about computer applications such as MSWord, MSExcel, Internet use and browsing. He expressed his frustration over the issue by saying that these people do not require a training to learn how to use a mobile phone, then why do they need training to understand the basics of computer application?

Our political culture needs a revamp to come out of the practice of disowning the initiatives taken by the previous government. Coordination not only within the government agencies, but also between the government and the parties in opposition is a pre-requisite towards ensuring proper designing of a healthy ICT plan and its effective implementation.

Other policy recommendations from discussants with regard to Digital Government contained:

- For a digital government, the age old traditional administrative practice has to be abandoned. The first step should be making the governments' decision making process digital. Old records have to be digitally archived and new ones to be digitalised. Therefore, in order to provide digital service to people the government itself has to be digitalised.

- Government should immediately adopt online procurement system to reduce scope of malpractices at a number of stages including procurement, submission and evaluation of tenders.

- Role of women in ICT development needs to be addressed. To this end, government may come up with various support mechanisms to encourage women, particularly those with academic and professional IT knowledge to get involved in ICT-related businesses.

- Government's stance with regard to ICT should be very clear. There should also be the provision of knowledge transfer in the national policy.

Digital Education: Opening Doors to Information and Technology

According to a large number of speakers, e-education is the key strategy towards achieving the target of Digital Bangladesh. To this end, they urged that it is vital to ensure that every school has at least one computer in each room. While this may not be possible at once, we can think of proactive strategies to at least gradually advance to such a goal. It is a common perception that if the

government talks of e-Education, then it should be the government's sole responsibility to provide schools with all the computers needed. This should not be the case. The government may put in place a provision that where the government provides one computer to a school, it would be the school's responsibility to arrange at least another computer from its own fund. To this end, schools may collect necessary funds from local community, UP members, chairmen, businessmen, etc.

Mr Jabbar noted that with Tk. 150 crore, we can procure 1 lakh computers. When a personal computer (PC) is given to a school, there could be a clause that the school will repay the money to the government exchequer in installments. This will pave the way for establishing a computer lab in each school within five years, if not immediately. The government can also invite the private sector to play contributory role in providing PCs to schools, particularly in rural areas.

On the role of ICT in simplifying and modernising the education system, *Mr Jabbar* mentioned that reluctance in adapting to ICT culture is one of our major setbacks. The National Curriculum and Textbook Board (NCTB) is reluctant to provide digital versions of the textbooks on the Internet just to secure the 15 per cent commission that it receives on publication and sales of textbooks. He urged the NCTB to come out of such mentality and upload digital version of textbooks on the Internet so that students can download them and start classes within the scheduled time frame. Besides, course curriculum on computer education particularly for Higher Secondary Certificate (HSC) level needs revision on an urgent basis.

A large number of speakers mentioned that it is a misconception that there is a lack of teachers to teach computer education at the school level. Now-a-days, a graduate from any discipline is able to teach the lessons designed for the primary and secondary school students. The government may also think of taking out software programming lessons from school curriculum. Such courses could be undertaken by students later at higher levels of education.

Dr Narayan Chandra Nath, Research Fellow, Bangladesh Institute of Development Dtudies (BIDS), also emphasised on the issue of e-education. He noted that there is a digital divide in Bangladesh, where about 70 per cent of the people are incompetent with state-of-art technologies, whereas the rest 30 per cent are frequent users of technology. Without addressing this concern, it will not be possible to build a Digital Bangladesh the objective of which is seen as ensuring equitable opportunities for all to have access to knowledge and technology. To this end, it is a pre-condition to reduce inequality between rural and urban areas in terms of both regional disparity and educational system. So to meet the commitment regarding education policy and development

framework, we have to look at the education system which needs to be reformed and diversified beyond textbooks. At the primary education level, computer literacy should be given higher priority. The objective ought to be to operate at a global framework level. Without this vision for the digitalisation, it is least likely to have development to proper extent. *Mr SM Al-Husainy,* Former Chairman, Public Service Commission (PSC), suggested that ICT education should be made mandatory at all levels of education. *Mr KM Ali Samrat,* Executive Director, Participatory Advancement Social Service (PASS), urged that knowledge of ICT has to be spread among children from early stages of education. There should be adequate discussion in both primary and secondary school curricula. With regard to studying ICT at tertiary level, *Mr Samrat* mentioned that apart from some private universities such as Eastern University, BRAC University and North South University, there is no comprehensive syllabus at tertiary level.

ICT training was pointed out as another important aspect of e-education. *Mr Karim* explained that only Computer Science graduates are not enough. We need to have professionally trained IT graduates to serve the ICT industry. This calls for redesigning the structure of ICT education. He also urged on establishing adequate support infrastructure for ICT, especially power and Internet facility. The final essential ingredient, highlighted by *Mr Karim,* was access to finance. Referring to this as the common and chronic problem in this sector, he urged that the government should have adequate budgetary allocation to assure investors and professionals of availability of fund from the government. Supporting the keynote presenter, he mentioned that without proper financial allocation from the government, problems of the ICT sector cannot be overcome.

Other policy recommendations from discussants with regard to Digital Education included:

- Government may provide PCs to schools on credit. The schools will repay the cost in monthly installments. Most of the schools in our country will be in a position to do so.

- There should be adequate discussion on Computer in school curriculum.

- ICT training for teachers has to be promoted seriously for advancing education to children with no or limited opportunity.

- In order to avoid the complexities with regard distribution of text books to children in time, NCTB can publish all the textbooks on the web. This initiative would allow schools to start classes at the right time by taking print out of initial chapters of the relevant textbooks from the website. This would also create pressure on the book publishers to print and distribute the books

within schedule. This can be done every year without any significant financial burden to the government exchequer.

- Government, through BTRC, should take measure to provide Internet connection for educational institutions and libraries for free of cost or at subsidised prices where applicable. ISPs should be given proper directives in this regard.

- Government should take proactive measures towards establishing model ICT in education schools in all upazilas. Each of these schools will have a full-fledged Internet lab for students and multimedia projectors in each classroom with a desktop computer, so that teachers and student can use the technology in the classroom. Non-resident Bangladeshis (NRBs) and development partners may be invited for contribution to implement such programme.

Remarks by the Special Guest

Professor Jamilur Reza Chowdhury, Vice Chancellor, BRAC University, informed the participants that the government has set up an ICT Task Force (ITF) which held its first meeting in January 2001. Unfortunately though, progress with regard to the mandate has been very slow. This particularly owes to the sluggish decision making process and limitation in project implementation capacity. One of the proposals put forward by the Task Force was making all government forms available online. Although some progress has been made in this regard, full implementation is yet to be done. Another proposal of the Task Force was to digitally publish government gazettes. However, it took till January 2008 for the government to implement that decision.

Despite the aforesaid limitations, a number commendable steps have so far been taken towards ensuring use of ICT in various government agencies. This includes development of the government's own web portal. As many as 42 Ministries and divisions now have their own websites. However, this is a small step and a lot is still to be achieved. Besides, 200 government departments and agencies, and nine out of 64 district commissioner (DC) offices have developed their own websites. However, it needs to be noted here that most of these are yet to be interactive at full length. In this context, *Professor Chowdhury* mentioned that proper dissemination of electronic information will have to be ensured within short time. This is particularly important because enactment of the Right to Information (RTI) Act within the foreseeable future will put government officials under strict accountability.

There are now a total of 2,500 telecentres throughout the country. Proposals are on the table to set up more such telecentres in all the post offices. If so happens, this will no doubt be a big jump towards realising the goal of Digital Bangladesh.

On a different note, *Professor Chowdhury* cited the case of Chittagong Customs House Automation as a success story of PPP in the context of Bangladesh. He was also in unison with the keynote speaker with regard to updating the National ID database. Involvement of the private sector in implementing the project was also seen by him as an important factor.

With regard to the role of ICT in human resource development, *Professor Chowdhury* urged the employers to create opportunity for on-job training for fresh graduates. In this context, he mentioned that the government has a fund for firms offering internships to graduates. This opportunity should be explored and taken advantage of. In this way, not only the new recruits will be professionally benefitted, but the employers will also play a proactive role by taking part in the government initiative.

Remarks by the Chief Guest

The Chief Guest, *Architect Yeafesh Osman,* MP Hon'ble State Minister for the MoSICT expressed his concern over the issue that government agencies in Bangladesh run in their own pace and that there is a clear lack of harmonisation among these. However, he was optimistic that the present government, in line with its election pledge, will put in place pragmatic policy measures to ensure better coordination among government agencies to move ahead with the goal of creating a Digital Bangladesh by 2021. He also informed the audience that the government is determined to revise the ICT Policy and necessary measures will be taken within the shortest possible time in this regard.

Concluding Remarks by the Chair

Mr Fazle Hasan Abed, Member, CPD Board of Trustees and Chairperson, BRAC, stated that he has always aspired to contribute to ICT development in Bangladesh, particularly in the education sector. In this context, he mentioned about BRAC. Net's application for obtaining WiMAX license. He believed that, this would create opportunities not only for our children to use ICT in education, but teachers' training will also be easier. In this regard, he hoped that the current government will play its role in ensuring the use of ICT in the development of Bangladesh. He then concluded the session by thanking the keynote presenter and the participants for their valuable contribution during the dialogue.

HIGHER BORO PRODUCTION FOR FOOD SECURITY

AN INTEGRATED STRATEGY

Uttam Deb
Nafisa Khaled
Subir Kanti Bairagi
Muhammad Al Amin
Ashiqun Nabi

6.1 INTRODUCTION

Achieving self-sufficiency in foodgrain production by 2012, reduction of prices of essential commodities, and poverty reduction were amongst the most important election pledges of the new government. These commitments are of complementary nature. Attainment of food security at the national and household level can contribute towards fulfilling the above mentioned three commitments. Attaining food security at the national level depends on the availability of food from domestic production and imports from the international markets, whereas food security at the household level depends not only on availability of food, but also on the ability to purchase food by the household. Households with adequate income can buy food from the market if it is available, but low-income households face problems to buy food when food prices are high. For such low-income groups, government distributes food through priced channels such as Open Market Sale (OMS), and non-priced channels like Vulnerable Group Development (VGD), Vulnerable Group Feeding (VGF), Food for Works (FFW), etc. Therefore, a major challenge of the government is to balance the interest of producers and consumers through government procurement and Public Food Distribution System (PFDS).

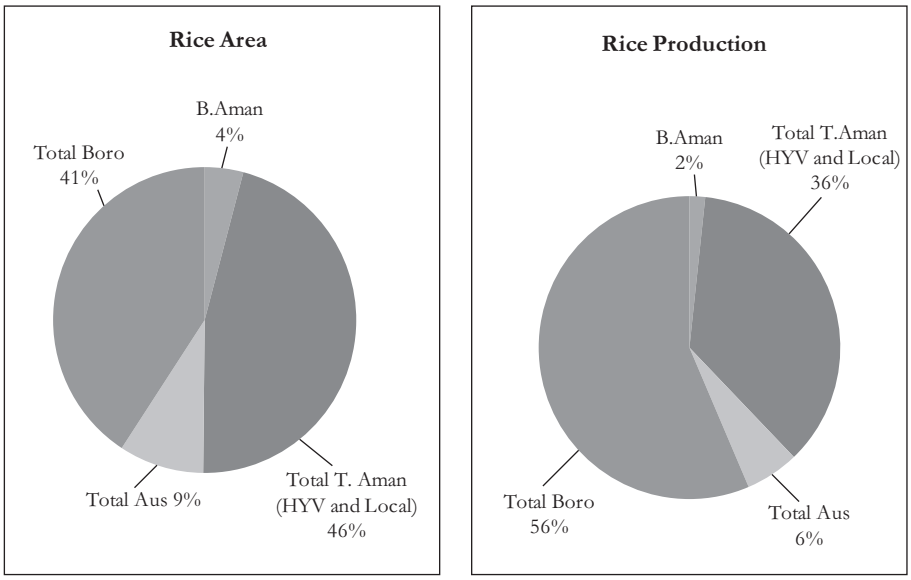
Bangladesh has made remarkable progress in achieving its food security. Since independence in 1971, production and consumption of foodgrains grew over time. Even though there were some ups and downs, production of foodgrains generally experienced an upward trend. However, price hike for agricultural commodities, particularly rice and wheat in 2007 and 2008 has posed a major challenge to food security in Bangladesh. Imports from international market was a very difficult task in these years due to restrictions on rice exports by major rice exporting countries such as India, Vietnam, Cambodia and Egypt. An all time high production of Boro rice in FY2007-08 (to the tune of 17.76 million tones) was very helpful to meet the challenge.

During the time of independence, Aman was the major food crop, which was the dominant source of total rice production. Structure of rice production in Bangladesh has remarkably changed over time. With the development of rice cultivars for Boro season and expansion of irrigation system, both area and production of Boro rice increased over time. Since 1999-00, Boro contributes more than half of the total rice production in Bangladesh. Average area under Boro rice in TE2007-08[1] was 4.31 million hectares which produced about 15.56 million metric tones (MT) of rice. Currently Boro occupies about 41 per cent

[1]TE stands for "triennium ending". Thus, the data for TE2007-08 represents the average for the three years 2005-06, 2006-07 and 2007-08.

of total rice area and contributes 56 per cent of total rice production in Bangladesh (Figure 6.1). On the other hand, Aman occupies 50 per cent of total rice area and contributes 38 per cent of total production. Aus contributes about 9 per cent of total rice area and 6 per cent of rice production. Structural change in rice production in Bangladesh and more dependence on Boro season has made rice production a function of input supply, policies and prices, rather than vagaries of nature. This structural change has made attainment and sustenance of food security more of a matter of governance and management. It has also posed serious challenges for the government and development agencies particularly for ensuring availability of inputs at a reasonable price, and also to find an appropriate balance between the interest of the producers and the consumers.

Figure 6.1: Distribution of Rice Area and Production across Rice Growing Seasons



Source: Authors' calculation, based on data from Bangladesh Bureau of Statistic (BBS).

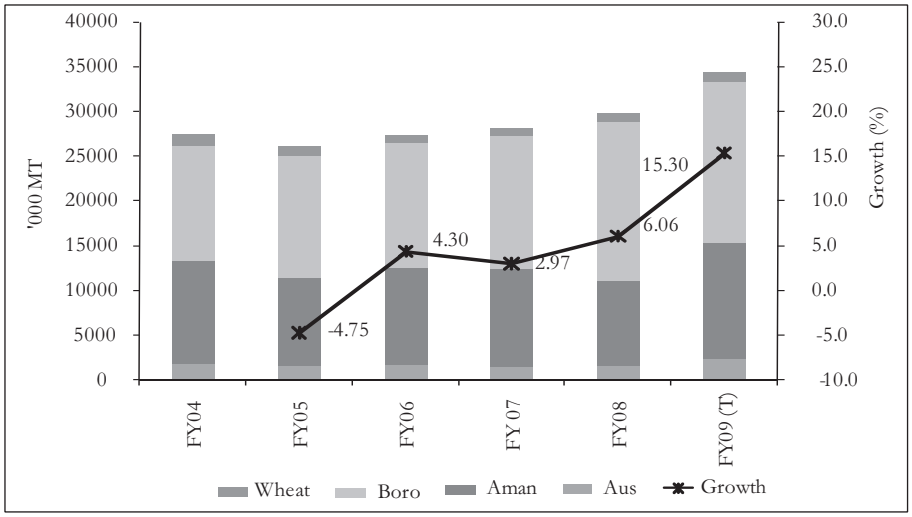
This paper attempts to arouse interest for an integrated strategy for food security through higher Boro production. It discusses input delivery strategy needed for higher Boro production as well as a mechanism for public procurement and distribution of foodgrains to ensure social protection and social safety net.

6.2 BORO PRODUCTION TARGET: IS IT REALISTIC?

The Department of Agricultural Extension (DAE) has set the operational target (revised) for foodgrains production in FY2008-09 at 34.33 million MT; if achieved, this will register a 15.30 per cent annual growth over FY2007-08

(Figure 6.2). Preliminary estimates of Aus production reveal a 25.7 per cent annual growth in FY2008-09, though the 1.90 million MT of production fell short of the production target by 18.0 per cent (BBS 2008). Farmers have already harvested Aman rice; however, BBS and the DAE are yet to come up with any estimation of Aman production. Despite the fact that some of the Aman areas were affected by flood in 2008, and there were reports of insect attacks in some pockets of production, field level information is indicative of an overall satisfactory Aman production in FY2008-09.

Figure 6.2: Foodgrain Production Target in FY2008-09



Source: BBS and DAE.

Ministry of Agriculture (MoA) has set a target of the current Boro season to cultivate Boro rice in 46.75 lakh ha of land comprising of 10.00 lakh ha Hybrid rice, 35.50 lakh ha of high yielding variety (HYV) rice and 1.25 lakh ha of local Boro rice. According to the Bangladesh Bureau of Statistic (BBS), total area under Boro rice in FY2007-08 was 46.08 lakh ha which was comprised of 7.91 lakh ha of hybrid rice, 36.96 lakh ha of HYV rice and 1.26 lakh ha of local Boro rice. In other words, targeted total Boro area is 1.5 per cent higher than actual Boro area in the last year (FY2007-08). In case of hybrid rice, this year's target is 26.37 per cent higher than last year while it is 3.8 per cent lower for HYV Boro rice. In case of production of Boro rice, target is set at 1.80 crore MT which is 1.4 per cent higher than actual production in FY2007-08. Is this a realistic and achievable target? If so, what interventions are required?

6.2.1 Reality Check for Target in Boro

An alalysis of area and production of Boro rice during FY1980-81 to FY2007-08 revealed that both area and production of Boro rice has increased (Figure

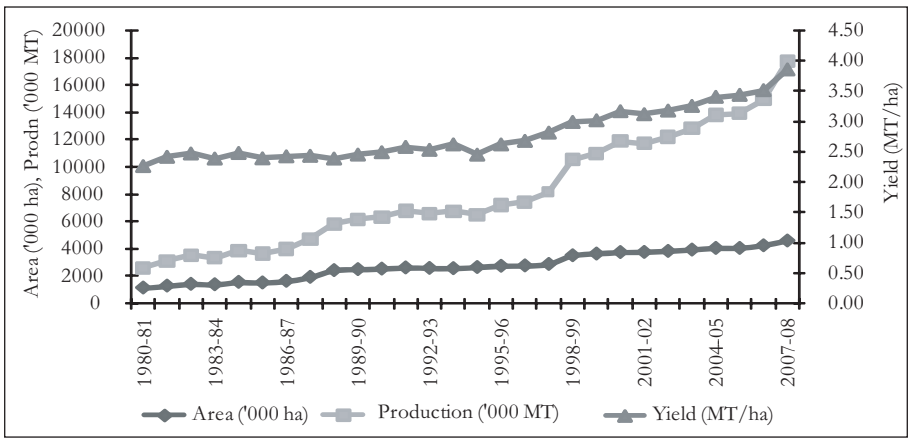
6.3). Area under Boro cultivation has increased from 11.6 lakh ha in FY1980-81 to 46.0 lakh ha in FY2007-08. On the other hand, production of Boro rice increased from 26.3 lakh tonnes to 1 crore 77.6 lakh tonnes (Table 6.1), while yield of Boro rice increased from 2.27 ton/ha to 3.86 ton/ha. During this period, annual compound rate of growth in area, production and yield of Boro rice was 4.82, 6.49 and 1.68 per cent, respectively. Thus, increase in yield was the major determinant for increased Boro production in Bangladesh. Increase in Boro yield was the ultimate outcome of research, extension and overall development efforts. Investment for irrigation and water resources development also played an important role.

Table 6.1: Targeted Boro Area and Production in FY2008-09 against Actual Area and Production in FY2007-08

Description	Hybrid	HYV	Local	Total
AREA				
Targeted area in FY2008-09 (lakh ha)	10.00	35.50	1.25	46.75
Actual Boro area (in FY2007-08 (lakh ha)	7.91	36.90	1.26	46.07
Target of FY2008-09 as % of actual Boro area in FY2007-08	126.40	96.20	99.20	101.50
PRODUCTION				
Targeted production in FY2008-09 (lakh MT)	47.00	131.00	2.12	180.12
Actual production in FY2007-08 (lakh MT)	35.52	139.84	2.26	177.62
Target production in FY2008-09 as % of actual production in FY2007-08	32.30	93.70	94.20	101.40

Source: BBS and DAE.

Figure 6.3: Trends in Area, Production and Yield of Boro Rice: 1980-81-2007-08



Source: Bangladesh Bureau of Statistics (BBS).

Boro is a crop produced in the dry season. Therefore, availability of irrigation is a necessary precondition for growing Boro rice. According to the Minor Irrigation Survey Report 2007-08, irrigated area in the Rabi season was 62.95

lakh ha which includes Boro rice, potato and other Rabi season crops. Available information also revealed that there is adequate number of irrigation equipments in good operating conditions. As is known, currently a total of 1.475 millioin irrigation equipments, comprising 31,302 deep tube-wells (electricity operated: 28.288; diesel operated: 3,014), 1.305 million shallow tube-wells, (electricity-operated: 181,454; diesel-operated: 1,123,519) and 138.6 thousand low lift pumps are in operation. This information indicates that the necessary infrastructure or the hardware aspect of irrigation supports to achieve the Boro production target is available.

Aggregate level situation may not be prevailing at the district and upazila level. Therefore, an analysis of the upazila level irrigated area under modern irrigation in FY2007-08 was carried out. Data available in the Minor Irrigation Survey Report 2007-08 was used for this purpose. In FY2007-08, out of the 464 upazilas, coverage of modern irrigation was very high (more than 25,000 ha) in 70 upazilas; high (10,001 to 25,000 ha) in 181 upazilas; medium (2,001 to 10,000 ha) in 135 upazilas; low (501 to 2000 ha) in 39 upazilas; and negligible (up to 500 ha) in another 36 upazilas (Figure 6.8 and Annex Table 6.1). Modern irrigation system was not used for irrigation in three upazilas (Hatia, Manpura and Mongla). So, upazila-level analysis also pointed out that the necessary infrastructure for irrigation is available to achieve the targeted Boro area.

Production of Boro rice also depends on other inputs like seed, fertiliser, pesticide and availability of agricultural credit. But these inputs are not binding constraints like irrigation infrastructure. Since the existing irrigation infrastructure is capable of supporting the target, therefore it is justified to state that the target set for Boro area and production is a realistic one.

6.2.2: Targets at the District Level

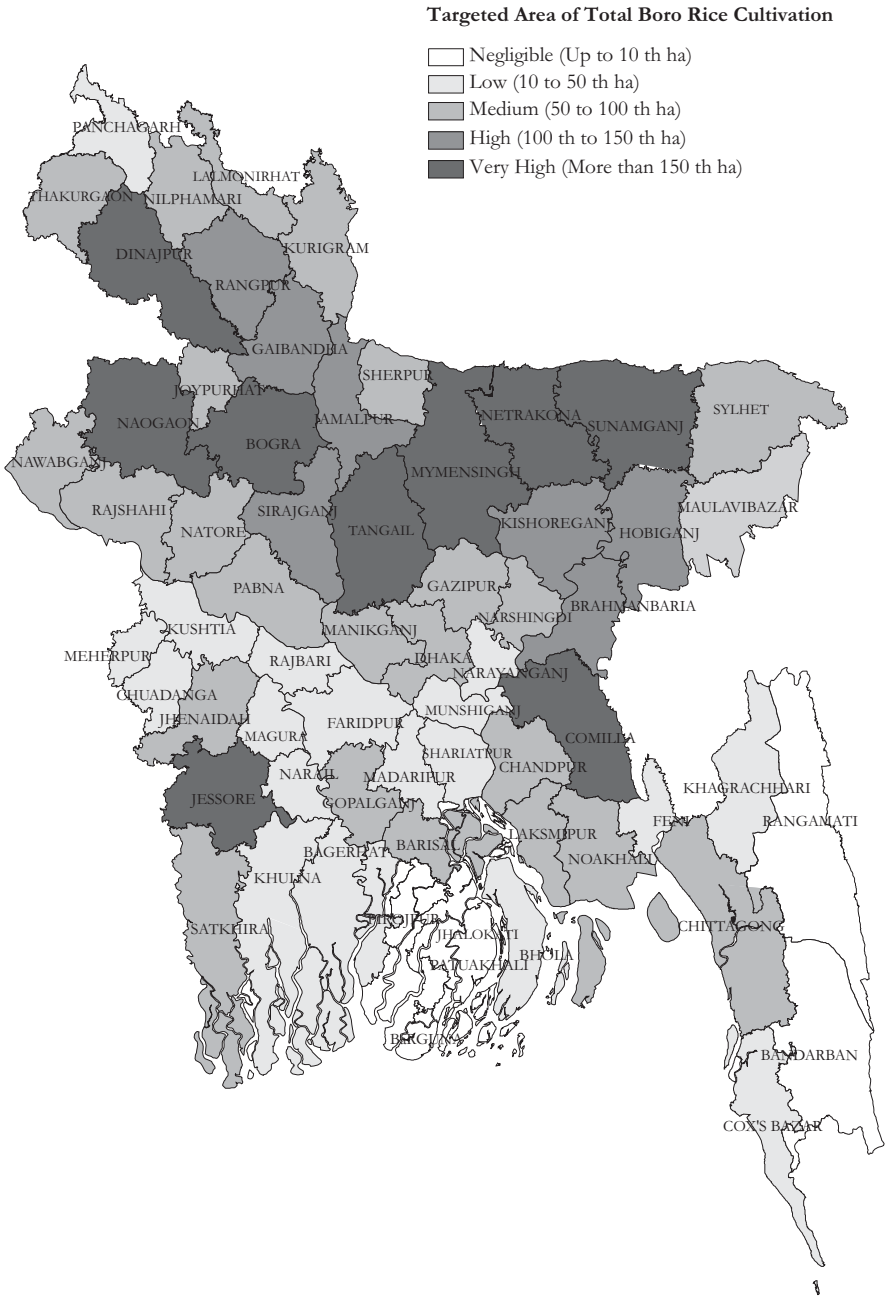
In FY2008-09, target area for total Boro rice cultivation is very high (more than 150 thousand ha) in nine districts (Dinajpur, Naogaon, Bogra, Tangail, Mymensingh, Netrokona, Sunamganj, Comilla and Jessore); high (100 to 150 thousand ha) in seven districts (Rangpur, Gaibandha, Jamalpur, Kishoreganj, Sirajganj, Brahmanbaria and Habiganj); medium (50 to 100 thousand ha) in 24 districts (Thakurgaon, Nilphamari, Lalmonirhat, Kurigram, Joypurhat, Sherpur, Natore, Pabna, Rajshahi, Jhenaidaha, Satkhira, Barisal, Gopalganj, Chandpur, Dhaka, Narsingdi, Manikganj, Gazipur, Sylhet, Chittagong, Panchagarh, Nawabganj, Feni and Noakhali); low (10 to 50 thousand ha) in 19 districts (Kushtia, Khagrachhari, Meherpur, Chuadanga, Rajbari, Magura, Faridpur, Narail, Khulna, Bagerhat, Bhola, Pirojpur, Lakshmipur, Cox's Bazar, Madaripur, Shariatpur, Munshiganj, Narayanganj and Moulovibazar); and negligible (up to 10 thousand ha) in another five districts (Barguna, Bandarban, Rangamati, Jhalokathi and Patuakhali) (Figure 6.4).

Targeted Boro area in FY2008-09, is substantially higher compared to cultivatied in FY2007-08 (more than 5,000 ha) in seven districts (Kurigram, Gaibandha, Naogaon, Netrokona, Moulovibazar, Madaripur and Satkhira); higher (0 to 5,000 ha) in 37 districts (Bogra, Tangail, Comilla, Jessore, Jamalpur, Habiganj, Thakurgaon, Nilphamari, Lalmonirhat, Sherpur, Natore, Rajshahi, Jhenaidaha, Barisal, Gopalganj, Chandpur, Narsingdi, Manikganj, Gazipur, Sylhet, Panchagarh, Kushtia, Khagrachhari, Meherpur, Rajbari, Magura, Faridpur, Narail, Khulna, Bagerhat, Lakshmipur, Shariatpur, Narayanganj, Barguna, Bandarban, Rangamati and Patukhali) (Figure 6.5). On the other hand, targeted Boro area is lower (up to -5,000 ha) in 16 districts (Rangpur, Joypurhat, Nawabganj, Sirajganj, Pabna, Chuadanga, Dhaka, Munshiganj, Brahmanbaria, Sunamganj, Pirojpur, Jhalokathi, Bhola, Feni, Chittagong and Noakhali); and substantially lower (up to -5,000 ha) in another four districts (Cox's Bazar, Mymensingh, Kishoreganj and Dinajpur) (Figure 6.5).

In case of production target for Boro rice in FY2008-09, it is very high (more than 500 thousand MT) in 10 districts (Dinajpur, Naogaon, Bogra, Tangail, Mymensingh, Netrokona, Kishoreganj, Sunamganj, Comilla and Jessore); high (200 to 500 thousand MT) in 27 districts (Thakurgaon, Nilphamari, Lalmonirhat, Rangpur, Kurigram, Gaibandha, Joypurhat, Sherpur, Jamalpur, Sirajganj, Natore, Pabna, Rajshahi, Jhenaidaha, Satkhira, Barisal, Gopalganj, Chandpur, Noakhali, Dhaka, Narsingdi, Manikganj, Gazipur, Brahmanbaria, Habiganj, Sylhet and Chittagong); medium (100 to 200 thousand MT) in 17 districts (Panchagarh, Nawabganj, Moulovibazar, Narayanganj, Kushtia, Chuadanga, Faridpur, Magura, Narail, Madaripur, Shariatpur, Khulna, Bagerhat, Bhola, Feni, Lakshmipur and Cox's Bazar); low (50 to 100 thousand MT) in four districts (Meherpur, Rajbari, Pirojpur, Munshiganj); and negligible (up to 50 thousand MT) in another six districts (Barguna, Khagrachhari, Bandarban, Rangamati, Jhalokathi and Patuakhali) (Figure 6.6).

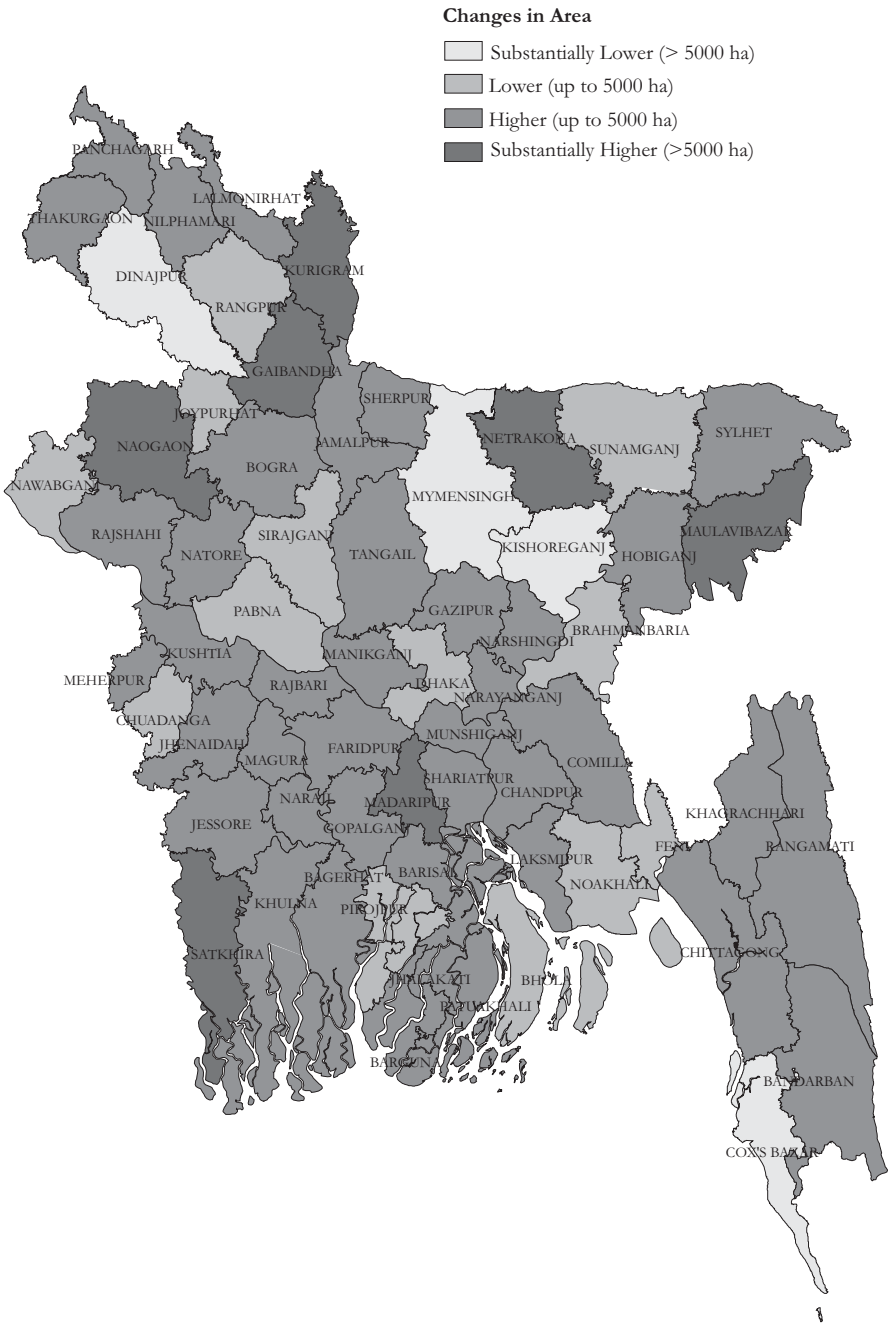
Compared to FY2007-08, targeted Boro production in FY2008-09 is substantially higher (more than 25,000 MT) in 11 districts (Kurigram, Mymensingh, Netrokona, Sunamganj, Sylhet, Moulovibazar; Jhenaidah, Jessore, Magura, Satkhira and Bagerhat); higher (0 to 25,000 MT) in 26 districts (Comilla, Habiganj, Nilphamari, Lalmonirhat, Sherpur, Gaibandha, Madaripur, Chittagong, Pirojpur, Jhalokathi, Bhola, Barisal, Chandpur, Narsingdi, Gazipur, Rangpur, Panchagarh, Kushtia, Khagrachhari, Khulna, Lakshmipur, Shariatpur, Barguna, Bandarban, Rangamati and Patuakhali); lower (0 to-25,000 MT) in 16 districts (Joypurhat, Nawabganj, Jamalpur, Bogra, Meherpur, Chuadanga, Rajbari, Faridpur, Narail, Munshiganj, Manikganj, Brahmanbaria, Narayanganj, Feni, Noakhali and Cox's Bazar); and substantially lower (up to-25,000 MT) in 11 districts (Thakurgaon, Shirajganj, Pabna, Tangail, Natore, Naogaon, Dinajpur, Rajshahi, Dhaka, Gopalganj and Kishoreganj) (Figure 6.7).

Figure 6.4: Targeted Area under Boro Rice Cultivation in Different Districts: 2008-09



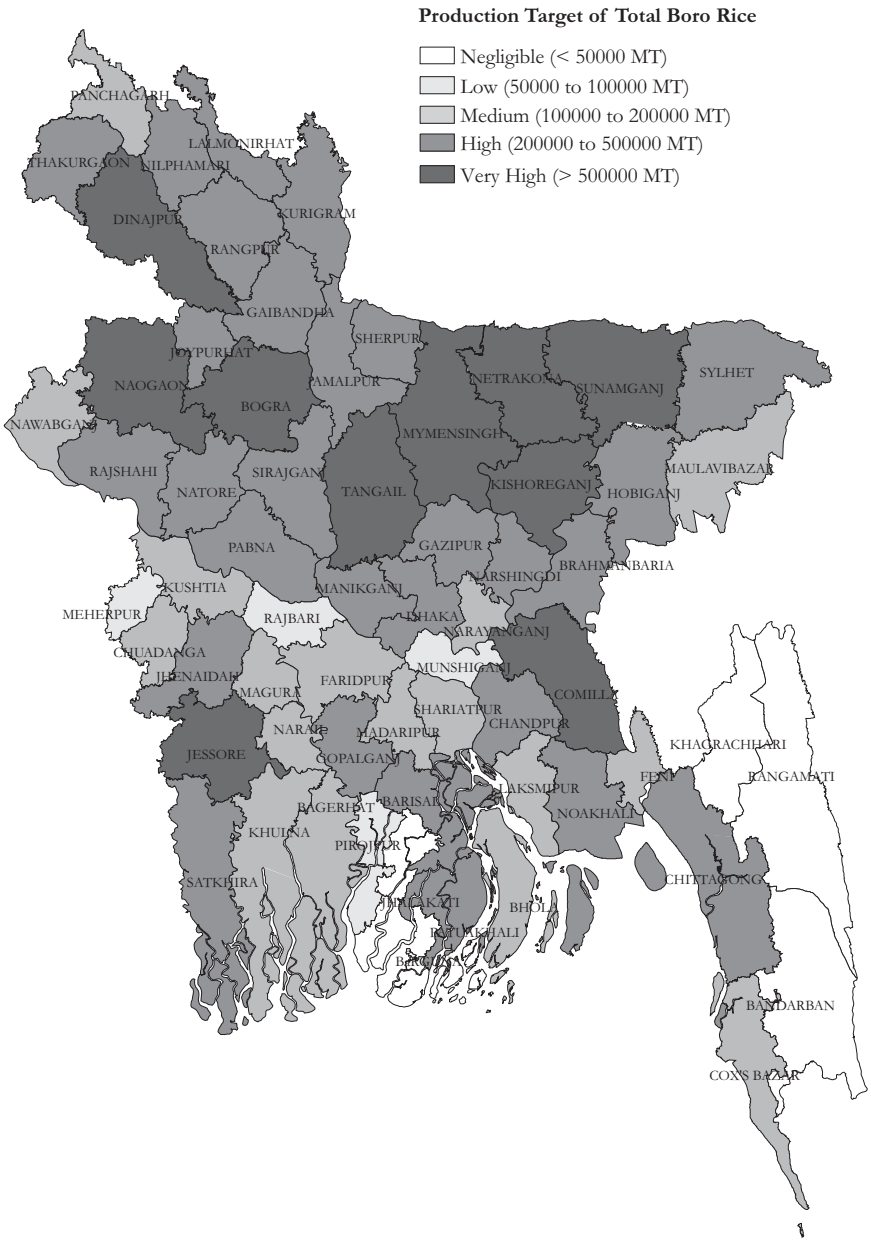
Source: Prepared by CPD, based on the data from DAE.

Figure 6.5: Changes in Target Area in FY2008-09 Compared to Achieved Area in FY2007-08



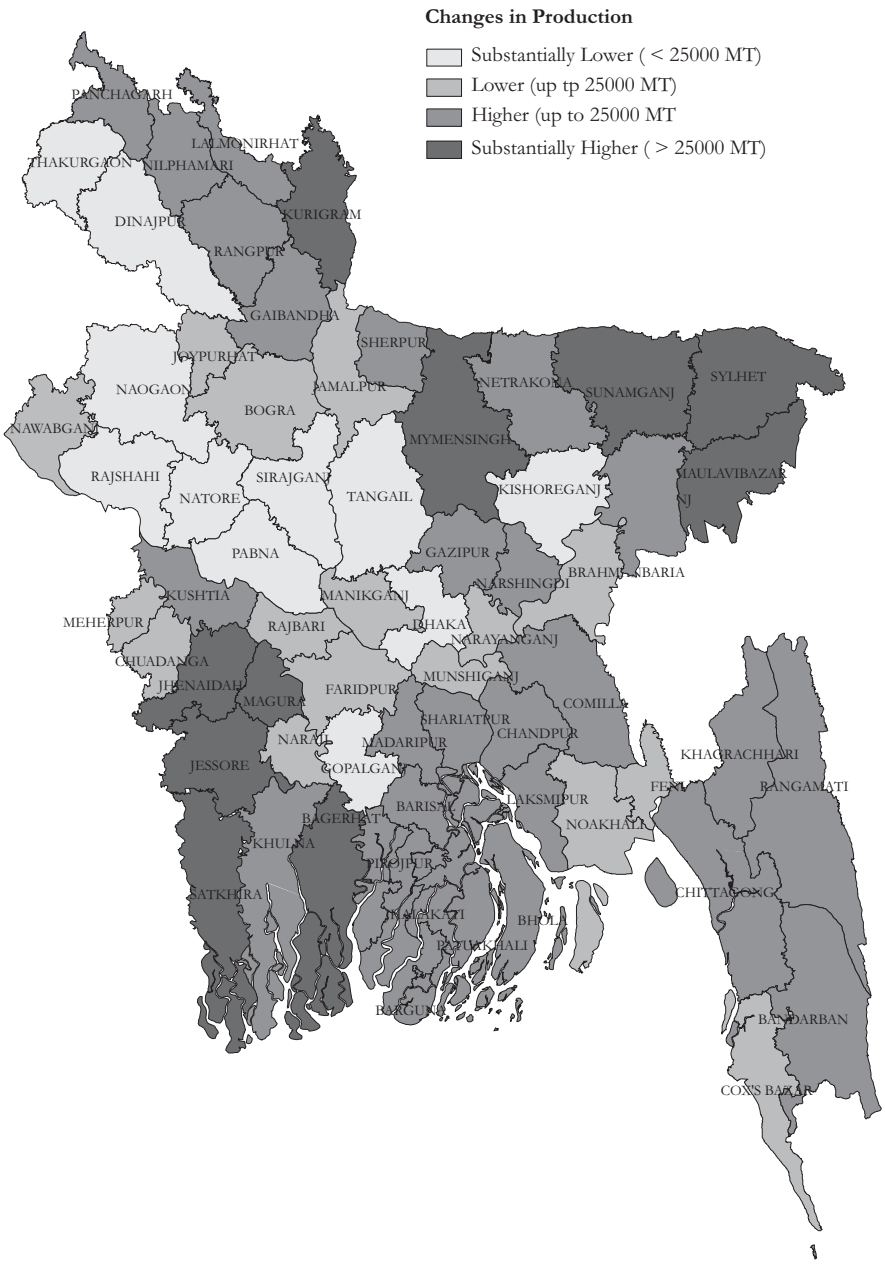
Source: Prepared by CPD, based on the data from DAE and BBS.

Figure 6.6: Targeted Boro Rice Production in FY2008-09



Source: Prepared by CPD, based on the data from DAE.

Figure 6.7: Changes in Production Target in FY2008-09 Compared to Achieved Production in FY2007-08



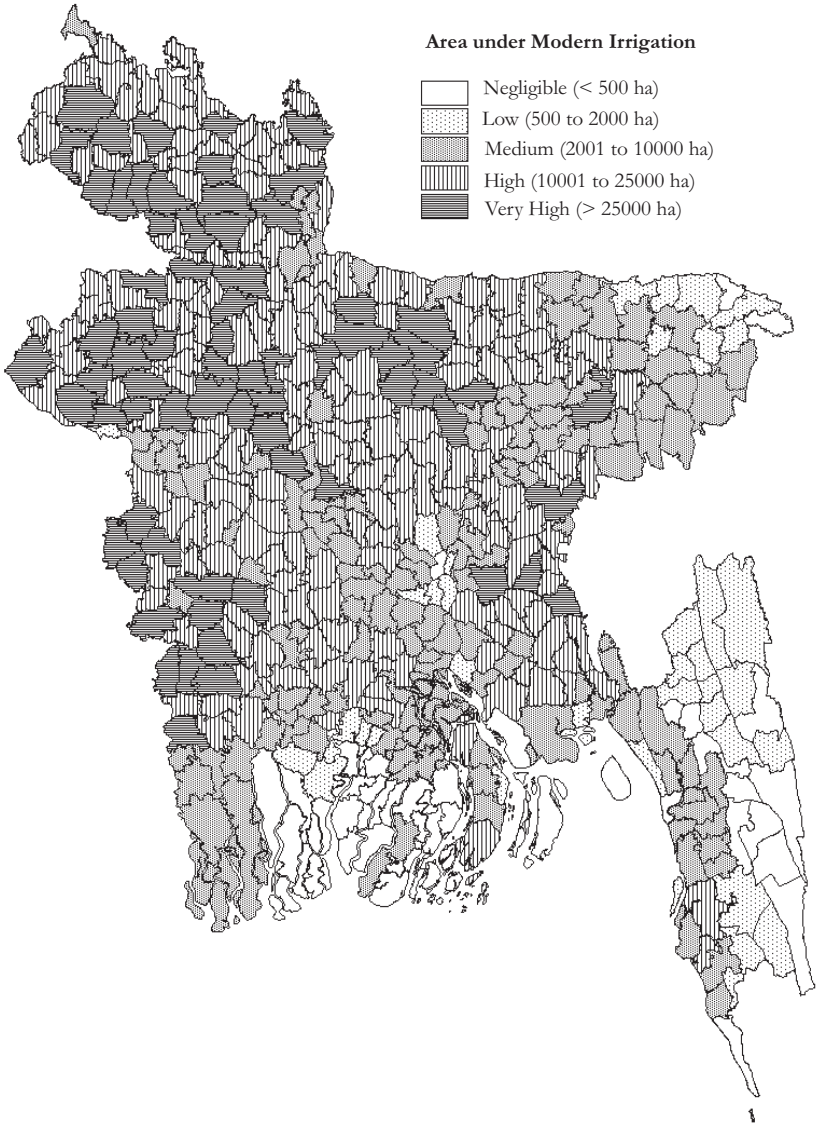
Source: Prepared by CPD, based on the data from DAE and BBS.

Table 6.2: District wise Targeted Boro Rice Area (ha) in FY2008-09 as Percentage of Boro Rice Area in FY2007-08

Districts	Total Target Area in FY 2008-09	Achieved Area in FY 2007-08	Target Area as % of Achieved Area	Name of the Districts	Total Target Area in FY 2008-09	Achieved Area in FY 2007-08	Target Area as % of Achieved Area
Bagerhat	37601	35559	105.74	Madaripur	46690	38489	121.31
Bandarban	5328	4107	129.72	Magura	40800	36118	112.96
Barguna	567	330	171.92	Manikganj	54627	52416	104.22
Barisal	63750	61976	102.86	Meherpur	25000	24724	101.12
Bhola	48540	49049	98.96	Moulovibazar	48900	39750	123.02
Bogra	190650	189869	100.41	Munshiganj	23316	25031	93.15
Brahmanbaria	104290	105208	99.13	Mymensingh	232500	240444	96.70
Chandpur	69040	68160	101.29	Narail	34275	33386	102.66
Chittagong	73010	76545	95.38	Narayanganj	33951	33600	101.04
Chuadanga	35230	35818	98.36	Narsingdi	57940	53606	108.09
Comilla	162280	160344	101.21	Natore	68800	66555	103.37
Cox's Bazar	45469	51900	87.61	Netrokona	167620	162389	103.22
Dhaka	52735	52764	99.95	Nilphamari	79163	74483	106.28
Dinajpur	161622	168882	95.70	Naogaon	190635	184920	103.09
Faridpur	36975	36166	102.24	Noakhali	53205	54486	97.65
Feni	31680	34564	91.66	Nawabganj	50940	51499	98.91
Gaibandha	112645	105390	106.88	Pabna	68700	69740	98.51
Gazipur	60555	58630	103.28	Panchagarh	43380	39715	109.23
Gopalganj	75075	74430	100.87	Patuakhali	5155	3407	151.29
Hobiganj	105836	102323	103.43	Pirojpur	16735	17035	98.24
Jamalpur	113130	112371	100.68	Rajbari	20900	20740	100.77
Jessore	153185	151378	101.19	Rajshahi	80500	78451	102.61
Jhalokati	8416	8634	97.48	Rangamati	7150	6635	107.77
Jhenaidaha	89514	86563	103.41	Rangpur	120640	121134	99.59
Joypurhat	67304	68662	98.02	Satkhira	71140	64042	111.08
Khagrachhari	10905	9370	116.38	Shariatpur	36935	32848	112.44
Khulna	43755	38782	112.82	Sherpur	79550	77929	102.08
Kishoreganj	149215	161758	92.25	Sirajganj	128180	130416	98.29
Kurigram	96420	87607	110.06	Sunamganj	181550	184066	98.63
Kushtia	34200	32779	104.34	Sylhet	66084	64020	103.22
Lakshmipur	27205	26079	104.32	Tangail	164197	162369	101.13
Lalmonirhat	52515	50815	103.34	Thakurgaon	57200	56376	101.46
				BANGLADESH	4675000	4607630.1	101.46

Source: DAE and BBS.

Figure 6.8: Area under Modern Irrigation in the Rabi Season, by Upazila: FY2007-08



Source: Prepared by CPD, based on the data from Minor Irrigation Survey Report 2007-08 (BADC).

6.3 INPUT DELIVERY STRATEGY

Achieving the targets in production requires smooth delivery of inputs such as seed, fertiliser, irrigation, pesticides, and agricultural credit to purchase the inputs. A brief review of the input requirement and supply situation is reported below.

6.3.1 Seed

Supply of quality seed is very important to ensure rice production. Hossain *et al.* (2002) have shown that Bangladesh can increase its rice production to the tune of 20 lakh tonnes alone by ensuring supply of quality seeds of the same varieties to the farmers. Several modern rice varities are available for cultivation in the Boro season. Farmers can grow BRRI Dhan 28, BRRI Dhan 29, BRRI

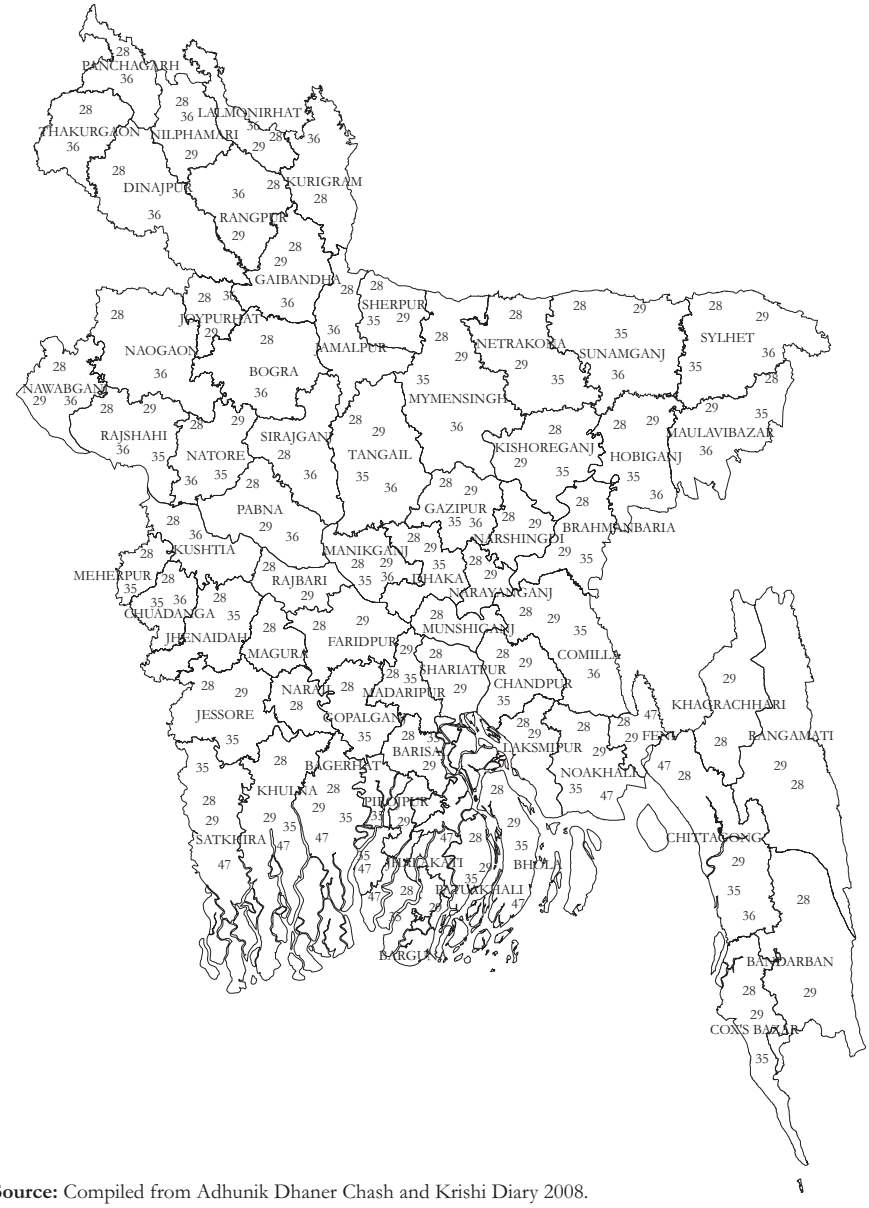
Table 6.3: HYVs Suitable for Cultivation in the Boro Season

Boro Variety	Districts
BRRI Dhan 28	Bagerhat, Bandarban, Barguna, Barisal, Bhola, Bogra, Brahmanbaria, Chandpur, Chittagong, Chuadanga, Comilla, Cox's Bazar, Dhaka, Dinajpur, Faridpur, Feni, Gaibandha, Gazipur, Gopalganj, Habiganj, Jamalpur, Jessore, Jhalakathi, Jhenidaha, Joypurhat, Khagrachhari, Khulna, Kishoreganj, Kurigram, Kushtia, Lakshmipur, Lalmonirhat, Madaripur, Magura, Manikganj, Meherpur, Moulovibazar, Munshiganj, Mymensingh, Narail, Narayanganj, Narsingdi, Natore, Nawabganj, Netrokona, Nilphamari, Naogaon, Noakhali, Pabna, Panchagarh, Patuakhali, Pirojpur, Rajbari, Rajshahi, Rangamati, Rangpur, Iatkhira, Shariatpur, Sherpur, Sirajganj, Sylhet, Tangail, Thakurgaon.
BRRI Dhan 29	Bagerhat, Bandarban, Barguna, Barisal, Bhola, Brahmanbaria, Chandpur, Chittagong, Comilla, Cox's Bazar, Dhaka, Faridpur, Feni, Gaibandha, Gazipur, Habiganj, Jamalpur, Jessore, Jhalakathi, Joypurhat, Khagrachhari, Khulna, Kishoreganj, Lakshmipur, Lalmonirhat, Madaripur, Manikganj, Moulovibazar, Mymensingh, Narayanganj, Narsingdi, Natore, Nawabganj, Netrokona, Nilphamari, Noakhali, Pabna, Patuakhali, Pirojpur, Rajbari, Rajshahi, Rangamati, Rangpur, Satkhira, Shriatpur, Sherpur, Sirajganj, Sylhet, Tangail.
BRRI Dhan 35	Bagerhat, Barguna, Barisal, Bhola, Brahmanbaria, Chandpur, Chittagong, Chuadanga, Comilla, Cox's Bazar, Dhaka, Gazipur, Gopalganj, Habiganj, Jamalpur, Jessore, Jhalakathi, Jhenidaha, Khulna, Kishoreganj, Madaripur, Manikganj, Meherpur, Moulovibazar, Mymensingh, Narail, Natore, Netrokona, Noakhali, Patuakhali, Pirojpur, Rajshahi, Satkhira, Sherpur, Sirajganj, Sylhet, Tangail.
BRRI Dhan 36	Bogra, Chittagong, Chuadanga, Comilla, Dinajpur, Gaibandha, Gazipur, Habiganj, Joypurhat, Kurigram, Kushtia, Lalmonirhat, Manikganj, Moulovibazar, Mymensingh, Natore, Nawabganj, Nilphamari, Naogaon, Pabna, Panchagarh, Rajshahi, Rangpur, Sirajganj, Sylhet, Tangail, Thakurgaon.
BRRI Dhan 47	Bagerhat, Barguna, Barisal, Bhola, Chittagong, Cox's Bazar, Jhalakathi, Khulna, Lakshmipur, Noakhali, Patuakhali, Pirojpur, Satkhira.

Source: Compiled from Adhunik Dhaner Chash and Krishi Diary 2008.

Dhan 25, BRRI Dhan 36 and BRRI Dhan 47 in the Boro season. BRRI Dhan-47 has been developed for cultivation in the salinity-affected southern coastal region. A list of the districts, where these varieties are suitable for cultivation is given in Table 6.3 and Figure 6.9. Among the HYVs, BRRI Dhan 28 and BRRI Dhan 29 are the most popular. These two varieties cover approximately 60 per cent of the area under HYV.

Figure 6.9: HYVs Suitable for Cultivation in Boro Season



Source: Compiled from Adhunik Dhaner Chash and Krishi Diary 2008.

Farmers have registered about 40 hybrids with the National Seed Board for cultivation. However, only few hybrids are popular. Popular rice hybrids cultivated in Bangladesh include Heera, Aloron, Jagoron, Shakti, Sonar Bangla, Aftab, ACI Hybrid, Lal Teer, etc. A list of all hybrids approved for cultivation in Bangladesh in the Boro season is given in Table 6.4.

Table 6.4: Rice Hybrids Registered for Cultivation by National Seed Board from 1998 to 2006-07

Name of the Hybrid	Name of the Company	Year of Release	Released for Cultivation Area
AALOK-6201	ACI Ltd.	1998	All areas
Loknath-505	Macdonald	1998	All areas
Amarsri-1	Ganges D.Co.	1998	All areas
CNSGC-6	Mollika Seed Co.	1998	All areas
IAHS-100001	Aftab Multipurpose Farm Ltd.	2000	All areas
IR69690	BRRI	2001	Jessore, Barisal
ZF-31	Aftab Multipurpose Farm Ltd.	2001	Dhaka, Rajshahi, Rangpur
ZF-37	Aftab Multipurpose Farm Ltd.	2001	Mymensingh, Jessore
Hybrid Rice No. 99-5	Supreme Seed Company Ltd.	2001, 2003	Mymensingh, Jessore, Comilla, Rajshahi, Rangpur
RICER-101	Chinese Crop Science Bangladesh Ltd	2005	All areas
GB-4 (Jagoron)	BRAC	2003	All areas
LP-50	Aftab Multipurpose Farm Ltd.	2002, 2004, 2005	Mymensingh, Jessore, Comilla, Rajshahi, Rangpur
HS-273	Supreme Seed Company	2003, 2005	Comilla, Rajshahi, Dhaka, Mymensingh
AALOK 93024	ACI Ltd.	2003	Comilla, Rajshahi
HB-8	BRAC	2005	All areas
TINPATA-40	Tinpata Quality Seed Bangladesh Ltd	2005, 2006	Dhaka, Mymensingh, Comilla, Jessore, Rajshahi
TAJ-1(GRA-2)	National Seed Company Ltd.	2006	Mymensingh, Comilla, Rangpur
TAJ-2 (GRA-3)	National Seed Company Ltd.	2006	Mymensingh, Comilla
HTM-4 (Sonar Bangla-6)	Mollika Seed Co.	2006	Dhaka, Mymensingh, Comilla, Jessore
HTM-606	North South Seed Ltd.	2006	Mymensingh, Comilla
HTM-707	North South Seed Ltd.	2006	Mymensingh, Comilla
HTM-202	East West Seed Bangladesh Limited	2006	Mymensingh, Comilla
HTM-303	East West Seed Bangladesh Limited	2006	Dhaka, Mymensingh, Comilla, Rajshahi
LP-108	Sea Trade Fertiliser Limited	2006	Mymensingh, Comilla, Rajshahi
LU You-2 (Surma-1)	Sinzenta Bangladesh Limited	2006	Dhaka, Mymensingh, Comilla
LU You-3 (Surma-2)	Sinzenta Bangladesh Limited	2006	Mymensingh, Comilla, Jessore, Rajshahi
TINPATA-10	Tinpata Quality Seed Bangladesh Ltd.	2006	Mymensingh, Comilla, Rajshahi
TINPATA SUPER	Tinpata Quality Seed Bangladesh Ltd.	2006	Mymensingh, Comilla
LP-70	Aftab Multipurpose Farm Ltd.	2006	Mymensingh, Comilla, Jessore
ACI-1	ACI Ltd .	2006	Mymensingh, Comilla, Jessore
ACI-2	ACI Ltd.	2006	Mymensingh, Comilla, Jessore, Rajshahi
BW001(Jagoron-3)	BRAC	2006	Mymensingh, Comilla, Jessore
S-2B (Krishan-2)		2006	Mymensingh, Comilla, Rajshahi
HRM-01 (Agrani-7)		2006	Mymensingh, Comilla
HRM-02 (Sarothi-14)		2006	Mymensingh, Comilla
Rupasi Bangla-1		2006	Mymensingh, Comilla
HB-9 (Aloron-2)		2006	Mymensingh, Comilla, Rajshahi
Supreme Hybrid-5 (Hira-5)		2006	Mymensingh, Comilla
WBR-2 (Modhumati-2)		2006	Mymensingh, Comilla
WBR-5 (Modhumati-5)		2006	Mymensingh, Comilla, Jessore

Source: National Seed Board, Bangladesh.

According to an estimate of MoA (2008), total demand for rice seed in FY2008-09 is 107.5 thousand metric tonnes, which is 2.65 per cent higher than that of FY2007-08 (Table 6.5). Bangladesh Agricultural Development Corporation (BADC) is expected to supply one-third of total seed demand. About one-fifth of the demand for seed would be met up from farmer's own seed. Private sector and non-government organisations (NGOs) are expected to supply 9.3 per cent of total seed demand. About 10.7 per cent of total seed demand would be met through import by private sector. Major seed importing companies of Bangladesh are BRAC, Supreme, ACI, Aftab, Mollika constituting about more than 90 per cent of total import in Bangaldesh. Private sector companies will supply 2.6 per cent of total seed requirement from their own seed production.

Table 6.5: Demand and Supply of Boro Seed in Bangladesh *(in MT)*

	FY2007-08 (Actual)				FY2008-09 (Target)			
	Local	HYV	Hybrid	Total	Local	HYV	Hybrid	Total
Demand	3780	88450	12500	104730	3780	88725	15000	107505
Supply								
BADC		32654 (36.92)		32654 (31.18)		36525 (41.17)		36525 (33.98)
DAE		22500 (25.44)		22500 (21.48)		22500 (25.36)		22500 (20.93)
Private and NGO		8000 (9.04)		8000 (7.64)		10000 (11.27)		10000 (9.30)
Private sector import			10500 (84.00)	10500 (10.03)			11500 (76.67)	11500 (10.70)
Private sector production			1200 (9.60)	1200 (1.15)			2800 (18.67)	2800 (2.60)
Unsold in the last year			800 (6.40)	800 (0.76)			700 (4.67)	700 (0.65)
Farmers	3780 (100.00)	25296 (28.60)		29076 (27.76)	3780 (100.00)	19700 (22.20)		23480 (21.84)
Total	3780 (100.00)	88450 (100.00)	12500 (100.00)	104730 (100.00)	3780 (100.00)	88725 (100.00)	15000 (100.00)	107505 (100.00)

Source: Seed wing (2008), MoA.

6.3.2 Fertiliser

Supply of adequate level of fertiliser is essential to ensure production. Trends in fertiliser supply during the last five years are reported in Table 6.6. Total supply of fertiliser in FY2007-08 was 37.80 lakh tonnes comprising 26.68 lakh tonnes of urea, 4.61 lakh tonnes of triple super phosphate (TSP), 2.50 lakh tonnes of diammonium phosphate (DAP) and 4.01 lakh tonnes of muriate of potash (MoP). The MoA has estimated total demand for fertiliser in FY2008-09 as 39.50 lakh tonnes comprising 28.50 lakh tonnes of urea, 5.0 lakh tonnes of TSP, 2.0 lakh tonnes of DAP and 4.0 lakh tonnes of MoP.

Table 6.6: Supply of Fertiliser in Bangladesh

(in Lakh MT)

Fertiliser	FY2004-05	FY2005-06	FY2006-2007	FY2007-08	FY2008-09 (Demand)
Urea	25.23	24.61	25.27	26.68	28.50
TSP	4.20	4.36	3.40	4.61	5.00
DAP	1.71	1.30	1.15	2.50	2.00
MoP	2.60	2.91	2.30	4.01	4.00
Total	33.74	33.18	32.12	37.80	39.50

Source: DAE, MoA.

Estimated fertiliser demand in FY2008-09, compared to the last year is 6.82 per cent higher for urea and 8.51 per cent higher for TSP (Table 6.7), but for MoP it came to slightly lower than previous year. In case of DAP and single super phosphate (SSP), estimated demand is more than 20 per cent and about 7.5 per cent lower than last year's actual supply. Considering higher targeted area for Boro rice and other crops, fertiliser requirement seems to be under estimated.

Table 6.7: Demand for Chemical Fertiliser in Bangladesh

Demand and Distribution	Urea	TSP	MoP	DAP	SSP
Targeted demand for fertiliser (lakh ton) in FY2008-09	28.50	5.00	4.00	2.00	1.00
Actual distribution of fertiliser (lakh ton) in the FY2007-08	26.68	4.61	4.01	2.50	1.08
Target of FY2008-09 as % of actual in FY2007-08	106.82	108.51	99.80	79.92	92.45

Source: DAE, MoA.

In this backdrop, it is pertinent to report here the level of recommended fertilisers for achieving different levels of yield goals in various crops (Table 6.8). Considering prices of agricultural commodities and need for increased production with a view to reduce market price, a pragmatic plan should aim for high yield goals. High yield goals may be attained in some fertile soils without applying the recommended dose. Factoring out for such exceptions, estimated

Table 6.8: Fertiliser Recommendation Dose for High Yield Goal

Crops	High Yield Goal (ton/ha)	Fertiliser Recommendation Dose (Kg/ha)			
		Urea	TSP	MoP	Total
Aus	3.5 ± 0.35	130.2	30.0	30.0	190.2
Aman	5 ± 0.5	227.9	35.0	48.0	310.9
Boro	6.0 ± 0.6	342.9	90.0	76.0	508.9
Wheat	4.0	256.1	110.0	197.0	563.1
Maize	8.0	347.2	145.0	268.0	760.2
Potato	30.0	284.3	100.0	386.0	770.3
Onion	35.0	260.4	110.0	266.0	636.4
Lentil	1.0	123.7	32.5	36.0	192.2
Jute	3.0	212.7	100.0	400.0	712.7
Chili	1.5 ± 0.5	173.6	125.0	120.0	418.6

Source: Fertiliser Recommendation Guide, 2005.

fertiliser requirement in FY2008-09 is 35.0 lakh metric tonnes of urea, 5.9 lakh MT of TSP, 5.0 lakh MT of MoP, and 3.2 lakh MT of DAP (Table 6.9). In other words, there is a gap of 6.5 lakh MT for urea, 0.9 lakh MT for TSP, 1.0 lakh MT for MoP, and 1.2 lakh MT for DAP. This implies that an upward revision of the demand estimated by the concerned agencies of the government is urgently needed. In fact underestimation of required fertiliser in earlier years by MoA was also pointed out by noted soil scientist *Dr Z Karim,* and by the Centre for Policy Dialogue (CPD) in its earlier report (CPD 2008; Karim 2008), after visiting farmers' field in many areas of the country, opined that supply of fertiliser was able to cater the need of medium yield goals in FY2007-08. The report added that for achieving high yield goals, there was a gap between fertiliser requirement and fertiliser demand/supply estimates by MoA. According to Karim (2008), this gap in FY2007-08 was 7.0 lakh MT for Urea, 1.2 lakh MT for TSP, 1.0 lakh MT for MoP and 0.7 lakh MT for DAP.

Table 6.9: Fertiliser Demand to Attain High Yield Goal: FY 2008-09

(in Lakh MT)

Fertiliser	MoA Estimated Demand in	Fertiliser Required to Attain High Yield Goal		Gaps in FY2008-09
	FY 2008-09	FY 2008-09	FY 2008-09 (Rabi Season)	
Urea	28.50	35.00	15.00	6.50
TSP	5.00	5.90	4.00	0.90
MoP	4.00	5.00	3.50	1.00
DAP	2.00	3.20	2.50	1.20
Total	39.50	49.40	25.00	9.60

Source: Author's calculation.

Water Management and Crop Husbandry Practices

Efficiency of water used for irrigation is low in Bangladesh. Scientists have already proved that adoption of alternate wet and dry (AWD) irrigation technology for Boro rice cultivation can save 25 per cent irrigation water, as well as energy (electricity, diesel) without reducing the yield level. Therefore, special efforts should be made to promote AWD instead of current practice of constant irrigation with standing water in the field. This will reduce per unit production cost of rice. Introduction of System of Rice Intensification (SRI) has also the potential for reducing cost and increasing yield. Special efforts should be made to promote SRI technology.

Agricultural Research and Extension Service

Adequate support for agricultural research and extension service would be required to achieve higher production. To this end, training and research supports for frontier rice science particularly for biotechnology and hybrid should get priority. Training for the extension workers, particularly for

agricultural officers and assistant officers working at the upazila and block level, are essential. Use of information and communication technology (ICT) and electronic media for dissemination of agricultural technologies should be promoted.

6.3.3 Irrigation

Irrigation is a major challenge for farmers growing crops in the dry season. Majority of the farmers purchase water from pump owners. Three modes of payment of water charge are currently in place. These are crop sharing arrangement, fixed charge on per acre basis, and machine rental system where the farmers directly supply diesel. The fixed water charge has increased to Tk. 2,000 to Tk. 2,400 per bigha for Boro paddy, from Tk. 1,200 to 1,500 a few years ago. The water charge is paid in installments and must be paid fully by the time of flowering of the plant. In case of crop sharing arrangement, currently one-fourth of the produce is paid to the shallow tube-well owner, and the crop is shared in the field at the time of the harvest. Two types of engines - electricity-operated and diesel-driven–are used for irrigation in Bangladesh. About three-fourth of the total irrigated area is under diesel-operated engines, while rest of the area is under electricity-operated engines. Prices of diesel in the current Boro season are higher than that of last year. It is a concern for both the pump owners and Boro farmers.

Given that more than 70 per cent of the total irrigation in Bangladesh depends on diesel-driven engines, adjustment of petroleum price has always been a contentious issue, particularly during the Boro season. In response to the declining international price of petroleum products (including diesel), the new government have reduced price of diesel by Tk. 2.00 per litre. It is pertinent to mention here that irrigation cost in Bangladesh is two to three times higher than in India, Thailand and Vietnam, because Bangladeshi farmers have to use diesel for irrigation, while farmers of other countries have the scope to irrigate through subsidised electricity and large-scale irrigation projects.

Electricity for Irrigation

Generally, farmers experienced a shortfall in electricity supply in the Boro season. In FY2007-08, the government paid special attention to the electricify supply to irrigation pumps during the Boro season. As a result, the consumption of electricity by irrigation pumps during November-March of FY2007-08 (72.99 mkwh) was 24.6 per cent higher than the comparable months in FY2006-07. The government subsidy on account of electricity for irrigation was about Tk. 75 crore in FY2007-08. A similar support along with

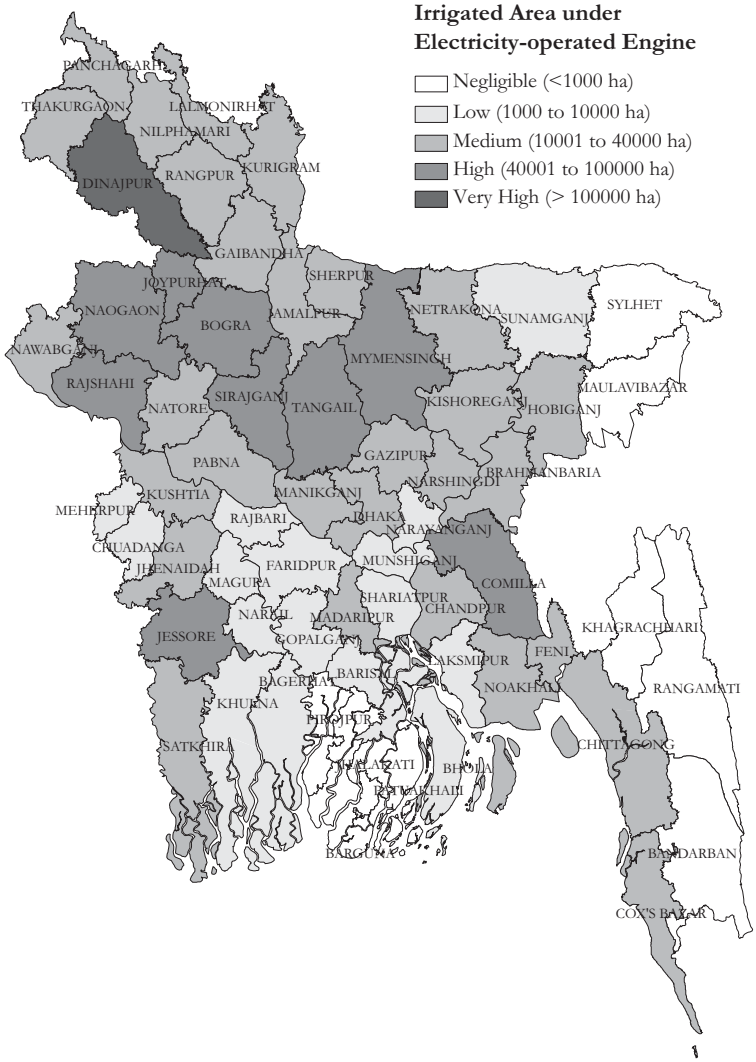
uninterrupted supply of electricity will be needed for another bumper Boro production. Government carried out some special measures to ensure supply of required electricity for irrigation. It strictly enforced the rule of closing all shops and shopping malls (except pharmacies, food stores and restaurants) by 8:00 pm. Thus, it was able to divert the electricity for irrigation. An analysis of irrigated area data of FY2007-08 Rabi season revealed that total area under electricity-operated engines in Bangladesh was 14 lakh ha (i.e. 29 per cent of total irrigated area under modern method). There was differential distribution of irrigated area under electricity (Figures 6.10-6.13). In FY2007-08 Rabi season, area irrigated under electricity in the Dhaka district was 18,554 ha (50 per cent of the irrigated area in the district); Chittagong district 18,924 ha (45 per cent of the irrigated area in the district); Rajshahi district 79,387 ha (46 per cent of the irrigated area in the district); Comilla district 97,679 ha (59 per cent of the irrigated area in the district); Narayanganj district 9,227 ha (71 per cent of the irrigated area in the district); Considering this reality, we think that the decision taken by the concerned authority in FY2007-08 as regards closure of shops after 8:00 pm may also be implemented this year. In such case, priority should be given to those districts where absolute area and relative share is high (Figure 6.10 and 6.11).

An analysis of the distribution of irrigated area under electricity in FY2007-08 revealed that in two districts (Jhalakathi and Patuakhali), there is no electricity-operated engines. Seven districts (Bandarban, Barguna, Khagrachhari, Moulovibazar, Pirojpur, Rangamati and Sylhet) have negligible (upto 1,000 ha) area under electricity-operated irrigation system; 16 districts (Bagerhat, Barisal, Bhola, Chuadanga, Faridpur, Gopalganj, Khulna, Lakshmipur, Magura, Meherpur, Munshiganj, Narail, Narayanganj, Rajbari, Shariatpur and Sunamganj) have medium area (10,001-40,000 ha) under electricity-operated engines; and eight districts have high area (40,001 to 100,000 ha) under irrigation (Tangail, Sirajganj, Rajshahi, Naogaon, Mymensingh, Jessore, Comilla and Bogra). Only one district (Dinajpur) has very high area under electricity-operated engine (more than 100,000).

In case of per cent of irrigated area under electricity in FY2007-08, two districts (Jhalakathi and Patuakhali) do not have any electricity-operated engines. Ten districts (Bagerhat, Barguna, Khagrachhari, Khulna, Moulovibazar, Narail, Pirojpur, Rangamati, Sunamganj and Sylhet) have negligible (0-5 per cent area) area under electricity-operated engines; 19 districts (Bandarban, Barisal, Bhola, Chuadanga, Faridpur, Gaibandha, Gopalganj, Jhenidaha, Kishoreganj, Kurigram, Kushtia, Lalmonirhat, Magura, Meherpur, Natore, Netrokona, Panchagarh, Rajbari, Satkhira) have low (5.01-20 per cent area) area under electricity-operated engines. 20 districts (Bogra, Brahmanbaria,

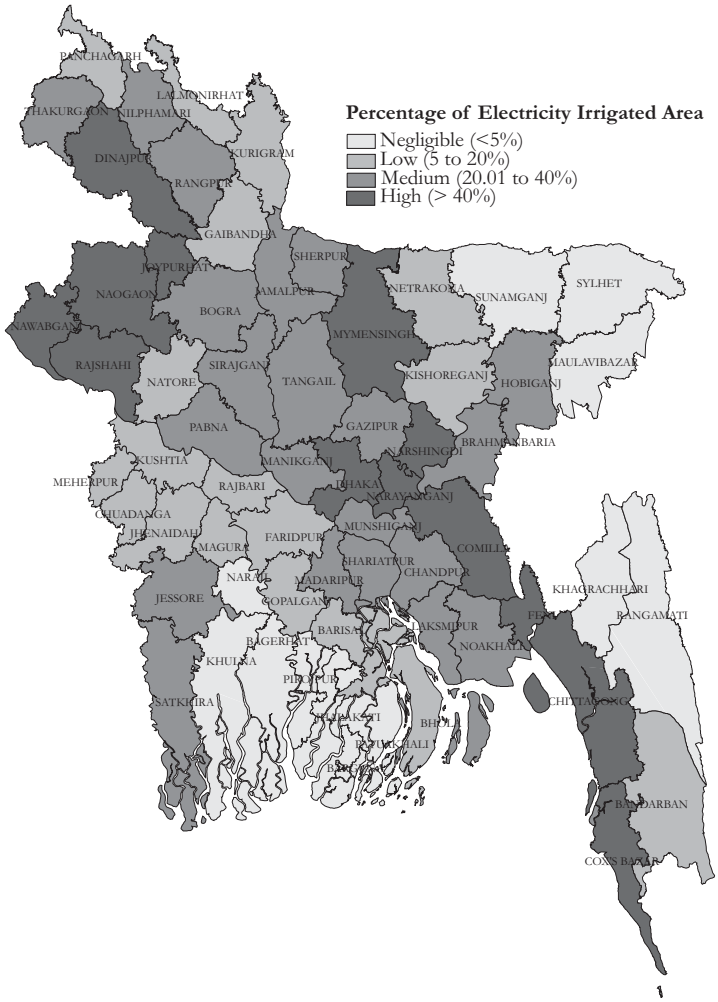
Chandpur, Gazipur, Habiganj, Jamalpur, Jessore, Lakshmipur, Madaripur, Manikganj, Munshiganj, Nilphamari, Noakhali, Pabna, Rangpur, Shariatpur, Sherpur, Sirajganj, Tangail and Thakurgaon) have medium (20.01-40.00 per cent area) under electricity-operated irrigation and 13 districts (Nawabganj, Chittagong, Comilla, Cox's Bazar, Dhaka, Dinajpur, Feni, Joypurhat, Mymensingh, Naogaon, Narayanganj, Narsingdi and Rajshahi) have high (more than 40 per cent) area under electricity-operated irrigation system.

Figure 6.10: Irrigated Area under Electricity-operated Engines in the Rabi Season, by Districts: FY2007-08



Source: Prepared by CPD, based on the data from Minor Irrigation Survey Report 2007-08 (BADC).

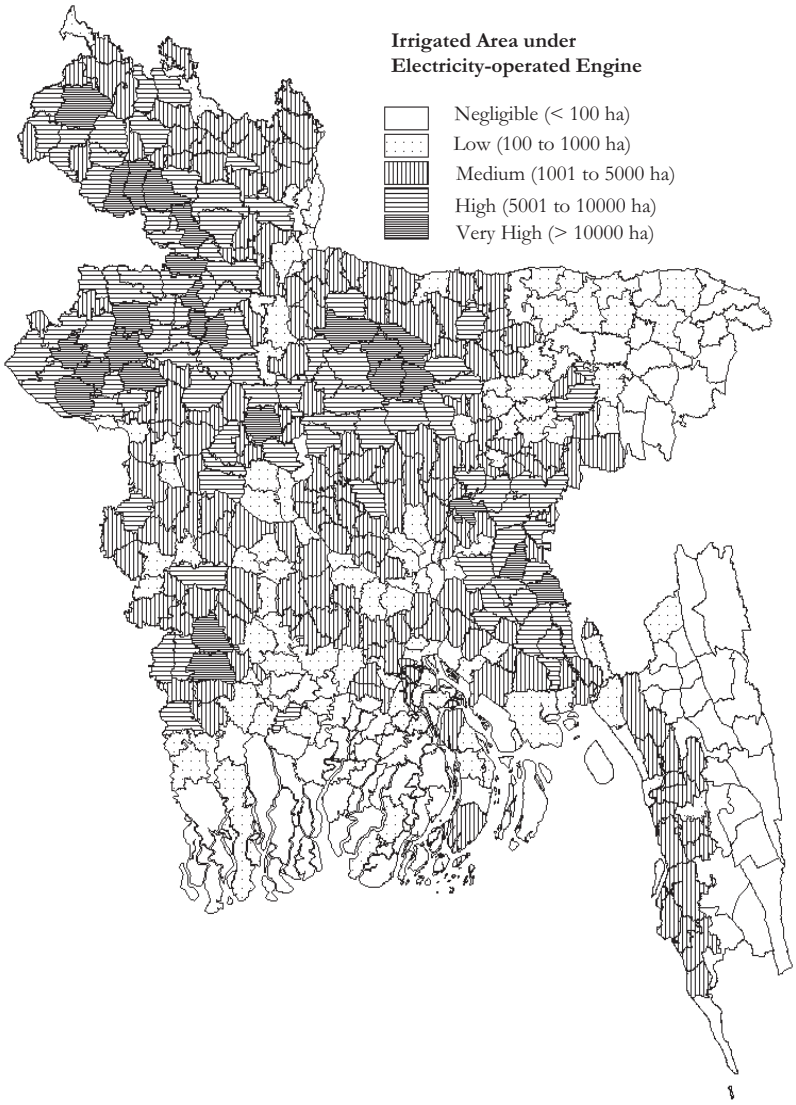
Figure 6.11: Share of Irrigated Area under Electricity-operated Engines in the Rabi Season, by Districts: FY2007-08



Source: Prepared by CPD, based on the data from Minor Irrigation Survey Report 2007-08 (BADC).

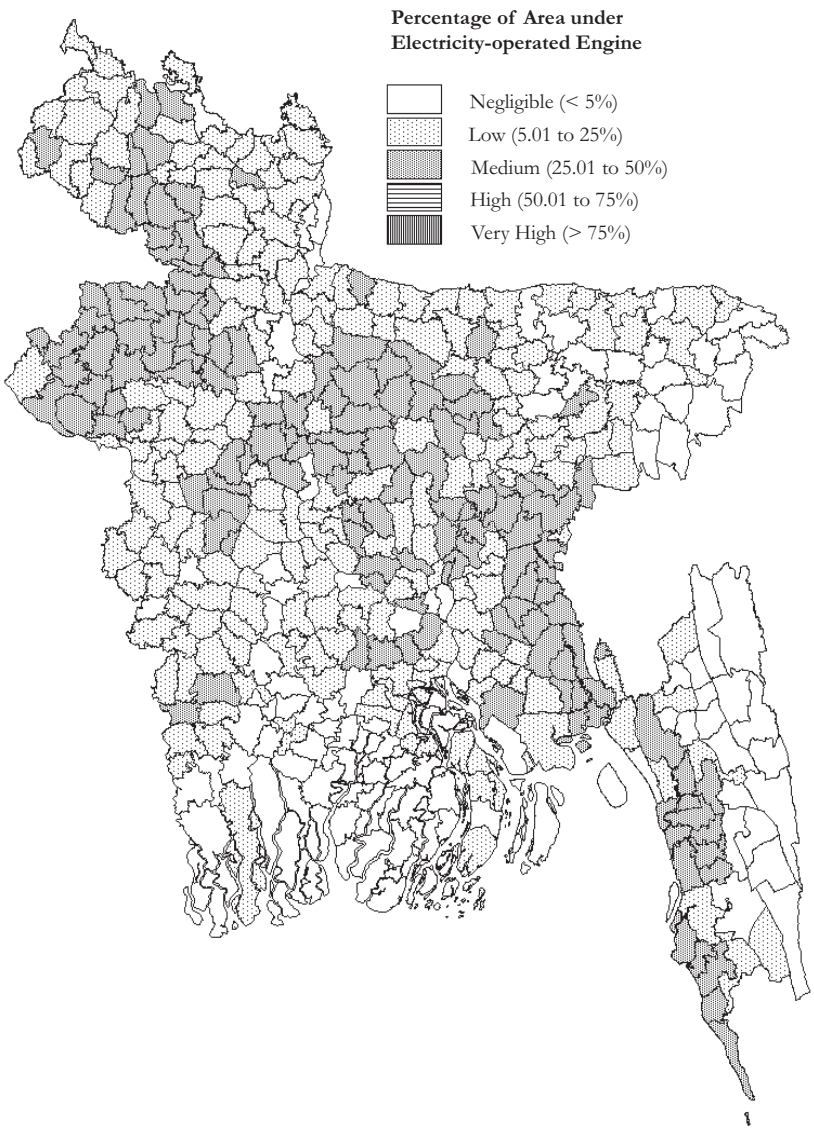
Upazila-level analysis of electricity-operated irrigation system is presented in Figures 6.12 and 6.13 and Annex Tables 6.2 and 6.3. MoA particularly those who are responsible to monitor supply situation, may like to use these. Based on the level of usage of electricity operated irrigation system and relative dependence on electricity for irrigation, all upazilas were grouped into five categories: (i) no electricity-operated irrigation; (ii) negligible; (iii) low; (iv) medium; (v) high; and (vi) very high. The MoA may look into the electricity supply situation in the upazilas under the categories of medium, high and very high.

Figure 6.12: Irrigated Area under Electricity-operated Engines in the Rabi Season, by Upazila: FY2007-08



Source: Prepared by CPD, based on the data from Minor Irrigation Survey Report 2007-08 (BADC).

Figure 6.13: Percentage of Irrigated Area under Electricity-operated Engines in the Rabi Season, by Upazila: FY2007-08



Source: Prepared by CPD, based on the data from Minor Irrigation Survey Report 2007-08 (BADC).

Diesel Subsidy for Irrigation

Price of diesel has been adjusted five times since April 2007 to January 2009 in order to cope up with international market. The highest change was brought out in July 2008, when diesel price was increased to Tk. 55 per litre to adjust with rising international price of USD 133 per barrel. In view of decline in international price of diesel, it was fixed at Tk. 48 in October 2008 and then to Tk. 46 per litre in December 2008. International market price began to fall from USD 133 in July 2008 to USD 73 in October, and USD 43 in December 2008. Finally, it has been fixed at Tk. 44 per litre in January 2009 (to adjust with drastically low international price of USD 39 per barrel) (Table 6.10 and Figure 6.14). However, it is pertinent to mention here that the price of diesel during the last Boro season was Tk. 40 per litre, and after reduction of diesel prices on 13 January 2009, it is currently sold at Tk. 44 per litre. In the Boro season, about 12 lakh MT of diesel is used for irrigation. Thus, farmers will have to bear about additional Tk. 480 crore in the current Boro season. This implies that the government will have to distribute Tk. 540 crore, allocated as diesel subsidies in the present budget through proper channels. In distributing diesel

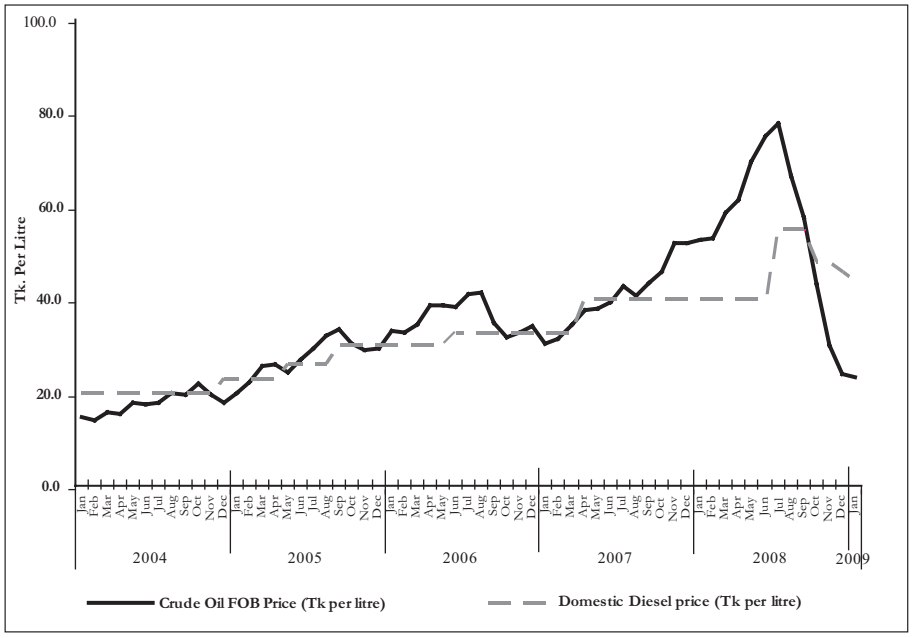
Table 6.10: Comparison of Administered Price of Diesel in Bangladesh and International Price of Crude Oil: May 2004 - January 2009

Period	Domestic Diesel Price (Tk. per Litre)	Price in International Market (Tk. per Litre)	Price in International Market (USD per Barrel)
May 2004	20	18	35
Dec 2004	23	18	35
May 2005	26	24	45
Sep 2005	30	34	60
Jun 2006	33	38	64
Apr 2007	40	38	64
Jul 2008	55	78	133
Oct 2008	48	43	73
Dec 2008	46	24	40
Jan 2009	44	23	39

Source: Energy Information Administration (EIA), USA Bangladesh Petroleum Corporation (BPC) and CPD-IRBD database.

subsidy, widespread banking channels can be utilised, local government organisation can prepare the list of eligible farmers along with citizenship number provided in their national ID card. Districts and upzilas with high concentration of diesel-operated irrigation system should get priority attention for an effective implementation of the diesel subsidy programme. Concerned officials may take help of Figures 6.15 - 6.18, Annex Tables 6.4 and 6.5.

Figure 6.14: International vs Domestic Crude Oil/Diesel Price



Source: EIA; USA-BPC and CPD-IRBD database.

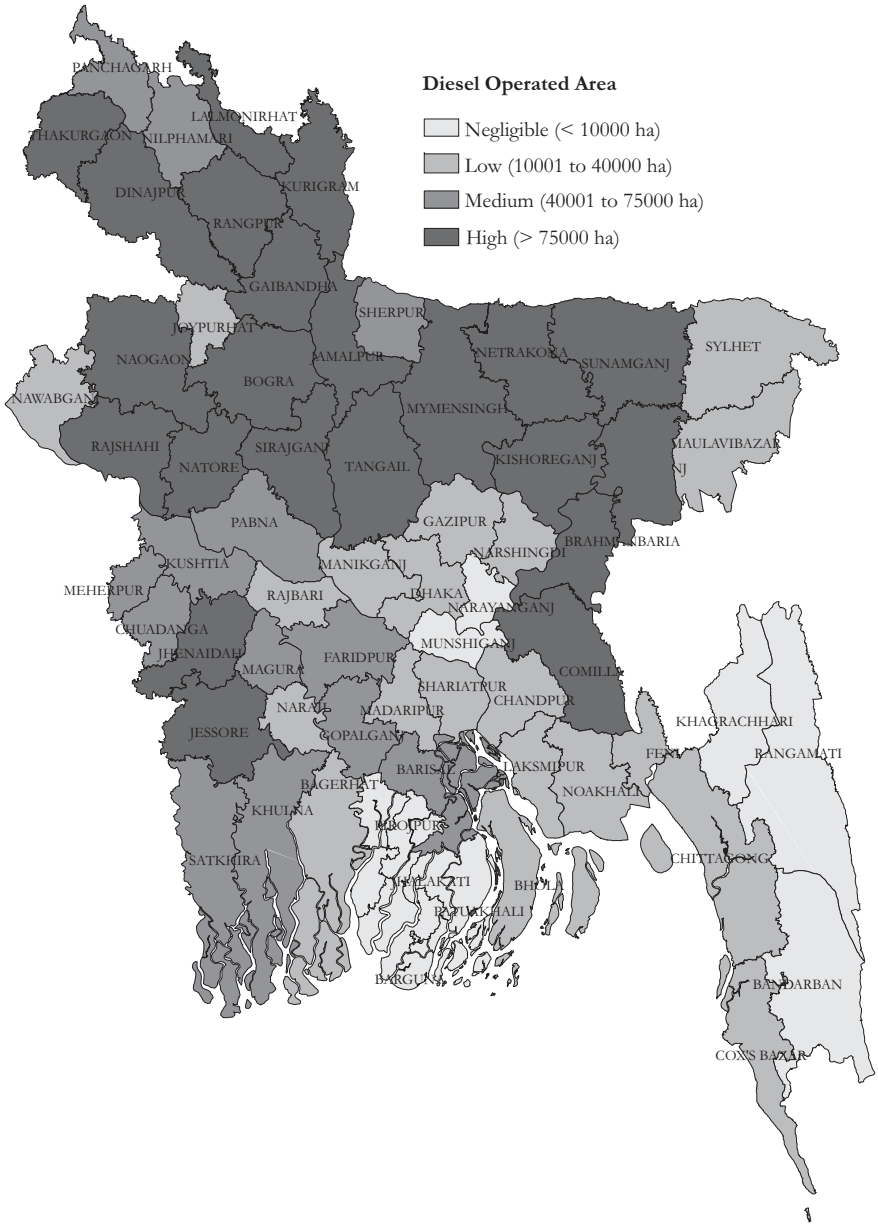
District and upazila-level analysis of diesel-driven irrigation system (Figures 6.15 - 6.18; Annex Table 6.4 and 6.5) reveals that, based on the level of diesel-driven irrigation, all upazilas can be grouped into five categories: (i) negligible; (ii) low; (iii) medium; (iv) high; and (v) very high. The MoA may look into the diesel supply situation in the upazilas under medium, high and very high category.

An analysis of distribution of irrigated area under diesel-operated system in FY2007-08 revealed nine districts (Bandarban, Barguna, Jhalokathi, Khagrachhari, Munshiganj, Narayanganj, Patuakhali, Pirojpur and Rangamati) have negligible (less than 10,000 ha) area under diesel-operated irrigation system; 20 districts (Bagerhat, Bhola, Chandpur, Nawabganj, Chittagong, Cox's Bazar, Dhaka, Feni, Gazipur, Joypurhat, Lakshmipur, Moulovibazar, Madaripur, Manikganj, Narail, Narsingdi, Noakhali, Rajbari, Shariatpur and Sylhet) have low area (10,001-40,000 ha) under diesel-operated engines; 17 districts (Barisal, Brahmanbaria, Chuadanga, Comilla, Faridpur, Gopalganj, Habiganj, Khulna, Kishoreganj, Kushtia, Magura, Meherpur, Nilphamari, Pabna, Panchagarh, Satkhira and Sherpur) have high area (40,001 to 75,000 ha) under diesel-irrigated system. The rest 18 districts (Bogra, Dinajpur, Gaibandha, Jamalpur, Jessore, Jhenidaha, Kurigram, Lalmonirhat, Mymensingh, Naogaon, Natore, Netrokona, Rajshahi, Rangpur, Sirajganj,

Sunamganj, Tangail and Thakurgaon) have very high area (more than 75,000 ha) under diesel-irrigated system.

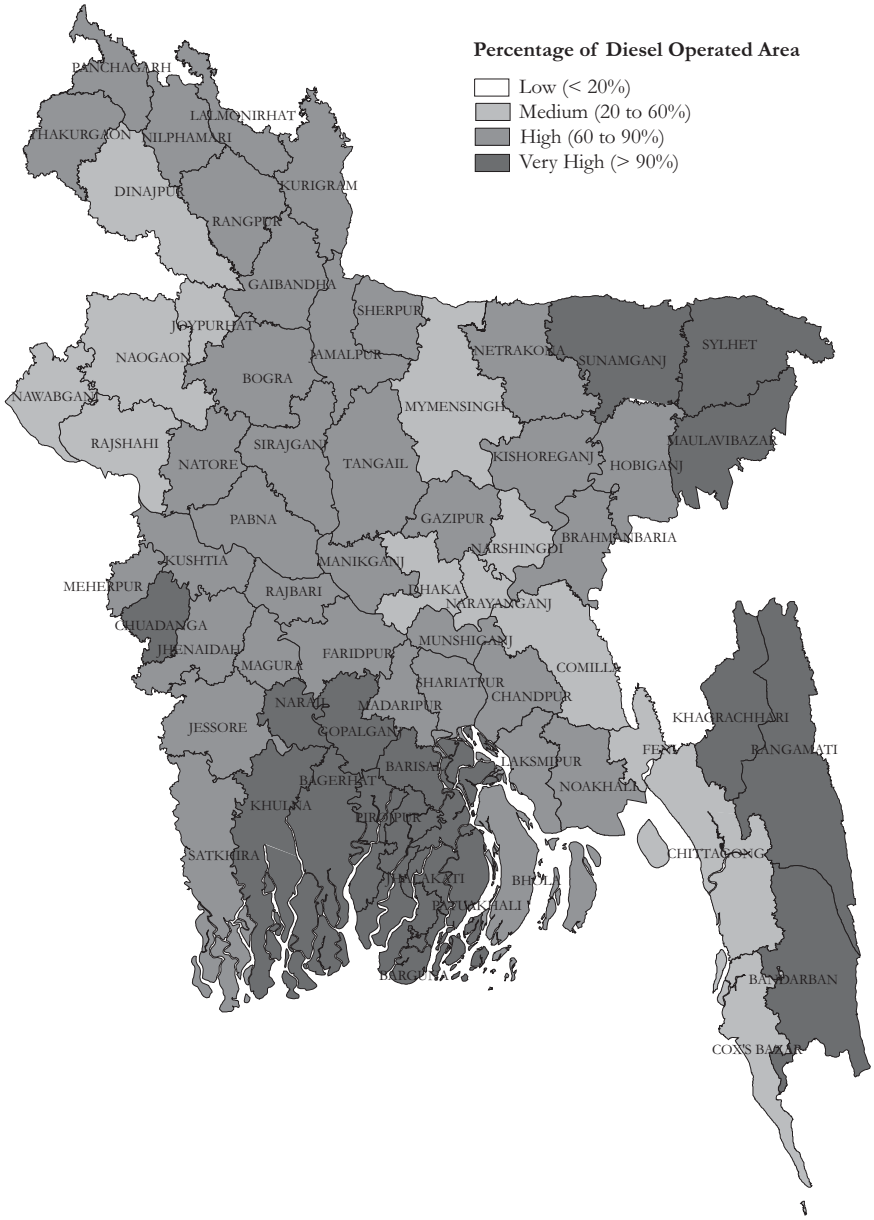
In case of per cent of irrigated area under diesel in FY2007-08, no district was under low (less than 20 per cent) category of diesel-operated engine usage. 13 districts (Nawabganj, Chittagong, Comilla, Cox's Bazar, Dhaka, Dinajpur, Feni, Joypurhat, Mymensingh, Naogaon, Narayanganj, Narsingdi and Rajshahi) have medium (20.01-60 per cent) area under diesel-driven engines; 35 districts (Bhola, Bogra, Brahmanbaria, Chandpur, Faridpur, Gaibandha, Gazipur, Habiganj, Jamalpur, Jessore, Jhenidaha, Kishoreganj, Kurigram, Kushtia, Lakshmipur, Lalmonirhat, Madaripur, Magura, Manikganj, Meherpur, Munshiganj, Natore, Netrokona, Nilphamari, Noakhali, Pabna, Panchagarh, Rajbari, Rangpur, Satkhira, Shariatpur, Sherpur, Sirajganj, Tangail and Thakurgaon) have high (60.01-90 per cent) area under diesel-operated engines. 16 districts (Bagerhat, Bandarban, Barisal, Barguna, Chuadanga, Gopalganj, Jhalokathi, Khagrachhari, Khulna, Moulovibazar, Narail, Patuakhali, Pirojpur, Rangamati, Sunamganj and Sylhet) have high (more than 90 per cent) area under diesel-driven irrigation system.

Figure 6.15: Irrigated Area under Diesel-operated Engines in the Rabi Season, by District: FY2007-08



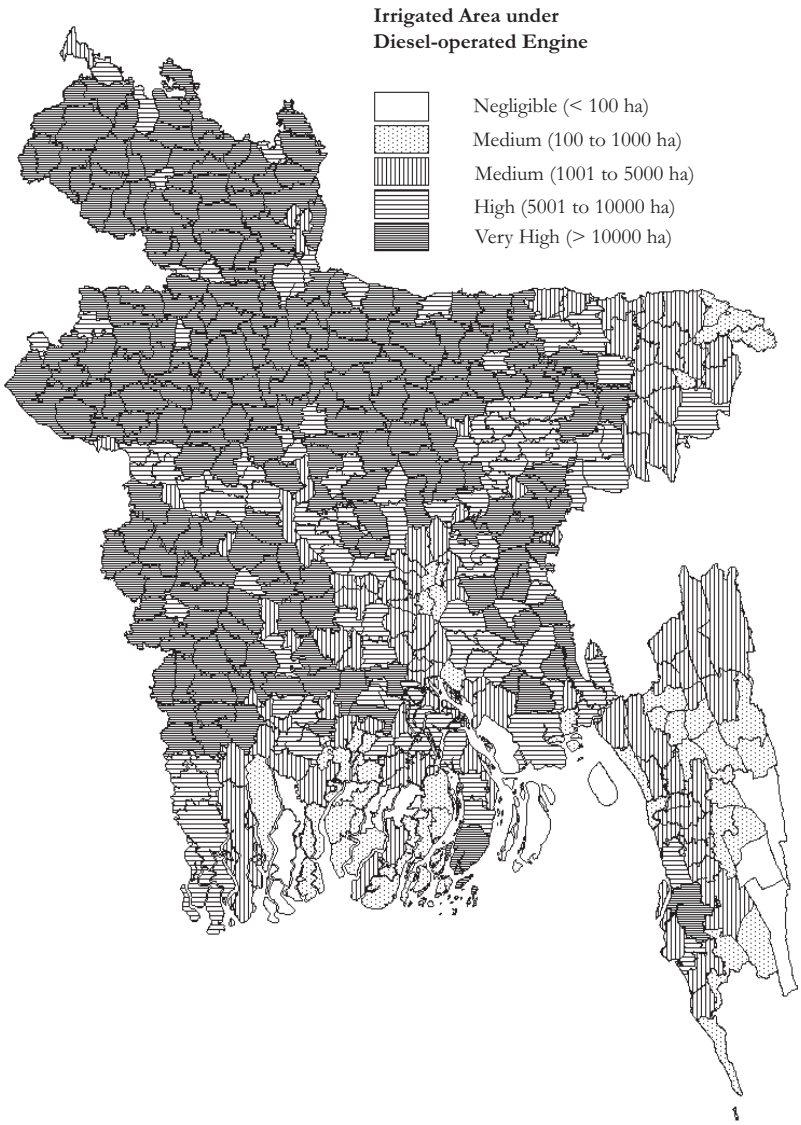
Source: Prepared by CPD, based on the data from Minor Irrigation Survey Report 2007-08 (BADC).

Figure 6.16: Percentage of Irrigated Area under Diesel-operated Engines in the Rabi Season, by District: FY2007-08



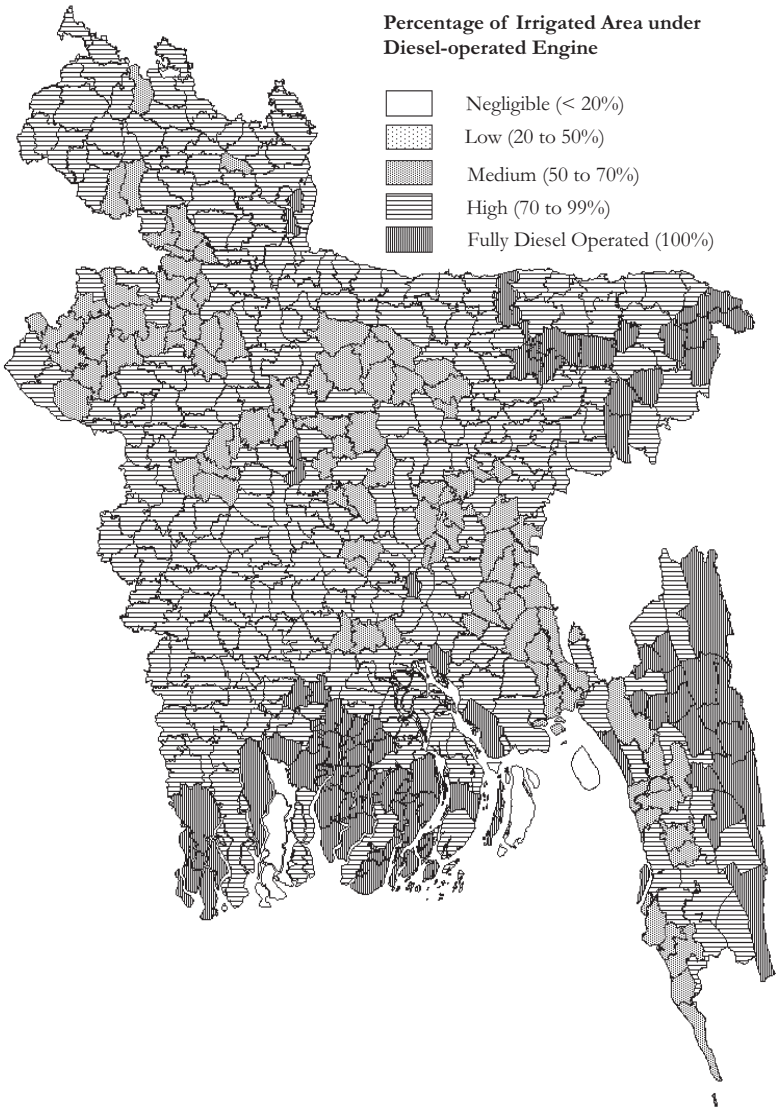
Source: Prepared by CPD, based on the data from Minor Irrigation Survey Report 2007-08 (BADC).

Figure 6.17: Irrigated Area under Diesel-operated Engines in the Rabi Season, by Upazila: FY2007-08



Source: Prepared by CPD, based on the data from Minor Irrigation Survey Report 2007-08 (BADC).

Figure 6.18: Percentage of Irrigated Area under Diesel-operated Engines in the Rabi Season, by Upazila: FY2007-08



Source: Prepared by CPD, based on the data from Minor Irrigation Survey Report 2007-08 (BADC).

6.3.4 Agricultural Credit

Availability of working capital for agriculture is needed to ensure timely purchase of inputs. The government should have a coordinated initiative, particularly involving the private sector banks, along with the specialised government banks, to enhance inflow of credit to rural areas. The NGOs providing microcredit could play an effective role in this area. But the usual practice of recovering microcredit in weekly installments immediately after disbursement will not work for the supply of agricultural loans. There is a need for devising appropriate delivery and recovery mechanism for agricultural credit operations to be effective. Farmers would need Tk. 6,000 to 12,000 per acre as cash for cultivation of Boro, depending on the mode of payment of the irrigation charge.

In the national budget for the FY2008-09, Tk. 9,379.23 crore for agricultural credit has been proposed, which is 9.31 per cent higher than that of actual distribution in the FY2007-08. During July-November period, total disbursement of agricultural credit stood at Tk. 3,378.56 crore, which was 27.22 per cent (Tk. 2,655.62 crore) higher than the disbursement during the comparable period of FY2007-08. Conversely, recovery remained 3.68 per cent lower than the corresponding figure of the previous fiscal year. Thus, in net terms, credit flow to the agriculture sector registered a positive rise (Tk. 392.6 crore), recovering from a negative trend during the previous fiscal. The maximum rise took place in areas of crop and agricultural equipment.

6.4 PRICING OF INPUTS, OUTPUT AND SUBSIDY

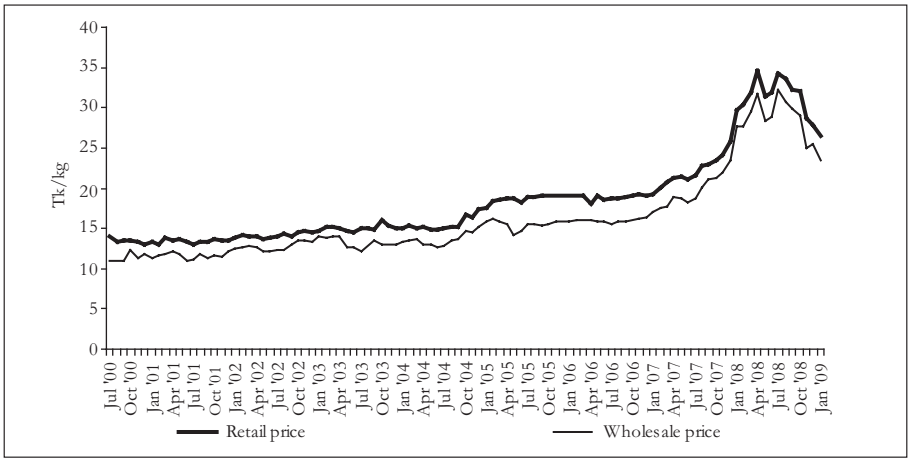
6.4.1 Prices of Rice

An analysis of domestic prices (both for wholesale and retail) of coarse rice (Figures 6.19 and 6.20) revealed that price of rice has increased exponentially during February 2007 to April 2008. On the other hand, rice prices increased at a high rate during February 2003 to January 2007. Prices started to decline since May 2008 after starting of Boro harvest. However, there were some fluctuations in prices. Finally, substantial decline in rice was observed in late December 2008 and early January 2009. Though there is an apparent correlation between retail and wholesale price, the response of the former is usually quicker to an increasing wholesale price, and conversely, slower to a decline in price. As a result, the consumers have to pay higher price immediately when there is a price rise in the wholesale market, but they do not get the benefit to the same extent when price declines. The new government will need to resolve this tension. The incentive for growers will need to be

maintained, whilst the consumers will need to be given the benefit of lower prices at a time of declining purchasing power due to high inflation. To this end, input prices and the attendant subsidies are important.

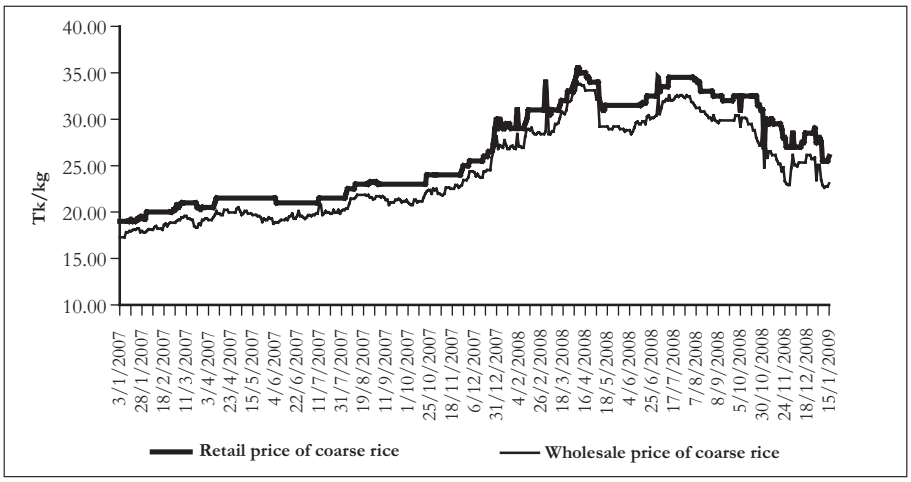
A comparison of rice prices in Bangladesh, India and Thailand revealed that rice price in Bangladesh was lower than that of Thailand (Figure 6.21). On the other hand, rice price in Bangladesh was generally higher than in India with some exceptions.

Figure 6.19: Monthly Wholesale and Retail Price of Rice (Coarse): July 2000 - 15 January 2009



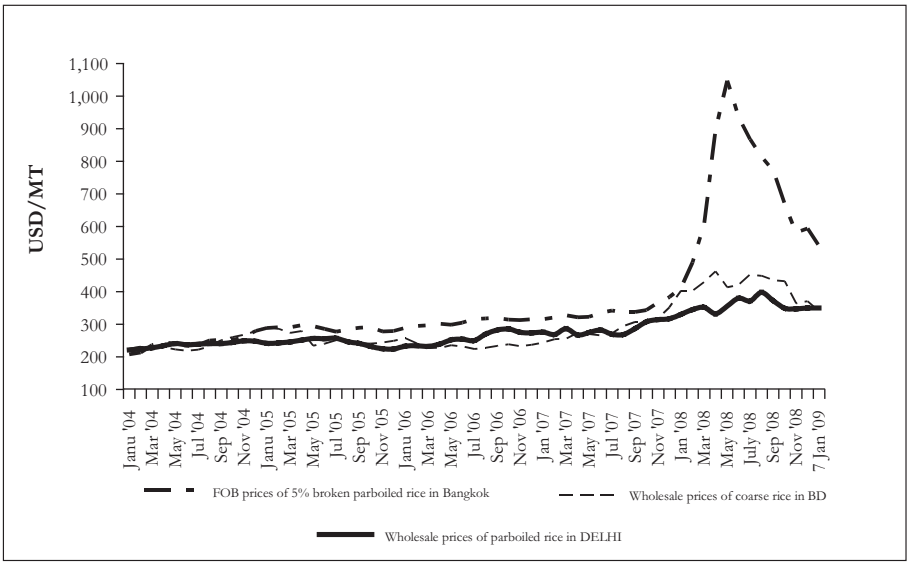
Source: DAM.
Note: Data for January 2009 indicates first 15 days average.

Figure 6.20: Daily Retail and Wholesale Price of the Coarse Rice (BR-8, BR-11, Swarna): January 2007-January 2009



Source: DAM.

Figure 6.21: Comparison of Domestic Rice Prices among Bangladesh, India and Thailand: January 2004 to December 2008



Source: DAM, Bangladesh; Thai Rice Exporters' Association, Thailand and Ministry of Consumer Affairs, Food and Public Distribution, Government of India.

Table 6.11: Average Daily Rice Wage of Agricultural Labour (without food) in Bangladesh: 1990-91 - 2006-07

Year	Wholesale Price of Coarse rice (Tk./kg)	Wage Rate	
		(Tk./day)	Rice Wage (Kg/day)
1990-91	10.59	37.13	3.51
1991-92	11.08	40.00	3.61
1992-93	9.42	41.50	4.41
1993-94	9.60	42.75	4.45
1994-95	12.28	44.20	3.60
1995-96	12.58	46.00	3.66
1996-97	10.87	47.00	4.32
1997-98	12.09	49.00	4.05
1998-99	13.98	52.00	3.72
1999-00	12.36	55.00	4.45
2000-01	11.62	57.81	4.98
2001-02	12.71	61.08	4.81
2002-03	13.31	74.56	5.60
2003-04	13.07	75.42	5.77
2004-05	14.74	78.67	5.34
2005-06	15.80	89.83	5.69
2006-07	17.00	100.00	5.88
2007-08	25.00	115.00	4.60

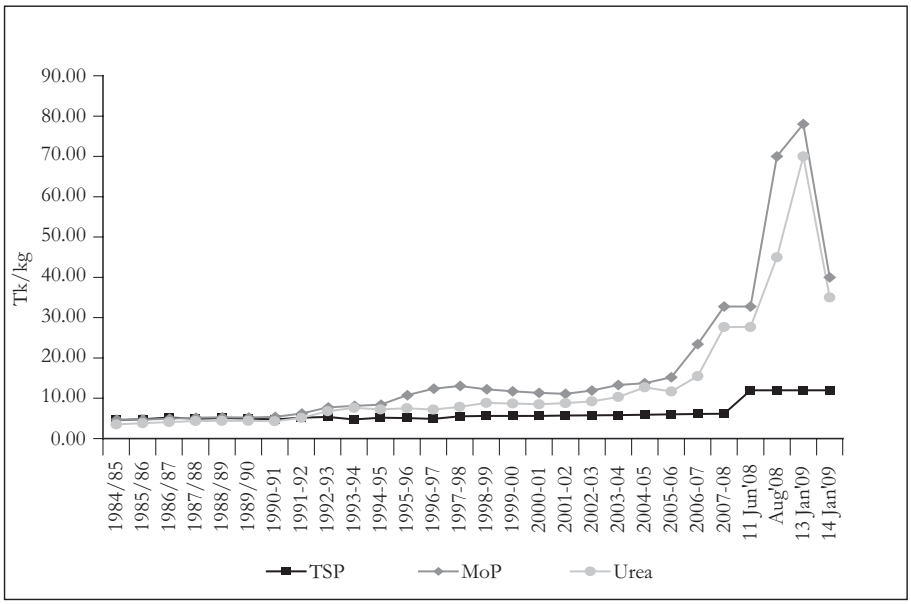
Source: BBS, Monthly Statistical Bulletin (various issues).

Trends in real wage for agricultural labourers are reported in Table 6.11, and it is evident that real wage declined with rise in rice price particularly in FY2007-08. On the other hand, it was steadily increasing in late 1990s and early 2000s.

6.4.2 Prices of Fertiliser

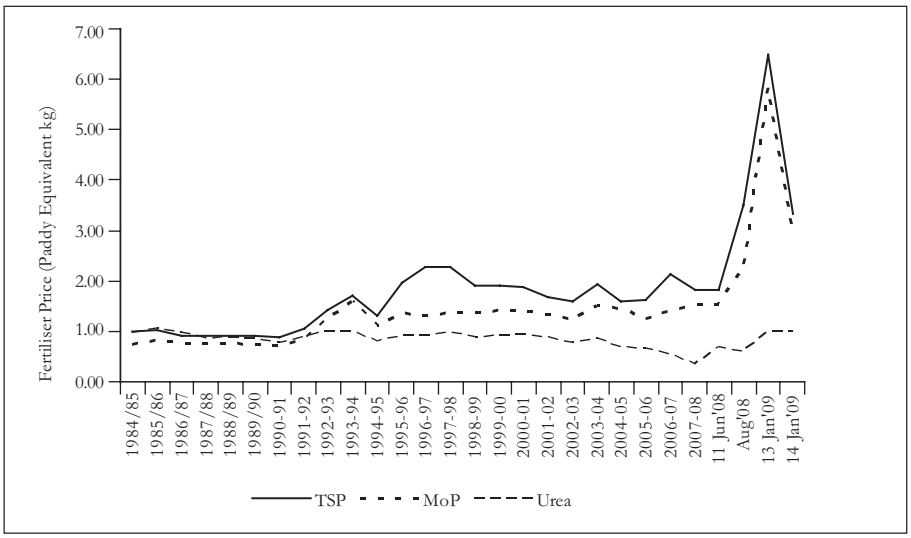
Following the global price trend, farm-level prices of all types of fertiliser in Bangladesh have increased significantly over the years, but without any decrease in domestic price when there is a decline in international price of fertilisers. A comparison of farm level prices of fertilisers during the last seven months (May-December 2008) revealed that price of urea and TSP fertiliser has more than doubled. In December 2008, compared to May 2008, price of urea fertiliser at the farm-level increased from Tk. 6/kg to Tk. 14/kg; price of TSP from Tk. 34 to Tk. 75-80/kg, and price of MoP from Tk. 30/kg to Tk. 45-48 per kg (Figure 6.22). In other words, to buy a kg of urea farmers were required to sell 0.34 kg of paddy in May 2008, but they have to sell 1.00 kg paddy in December 2008 (Figure 6.23). To buy a kg of TSP, farmers needed to sell 1.82 kg of paddy in May 2008 but they had to sell 6.50 kg paddy in December 2008. In case of MoP, it increased from 1.54 kg paddy in May 2008 to 5.85 kg in December 2008.

Figure 6.22: Trends in Fertiliser Price (Tk./kg) in Bangladesh: 1984-85 - 2008-09



Source: CPD-IRBD database.

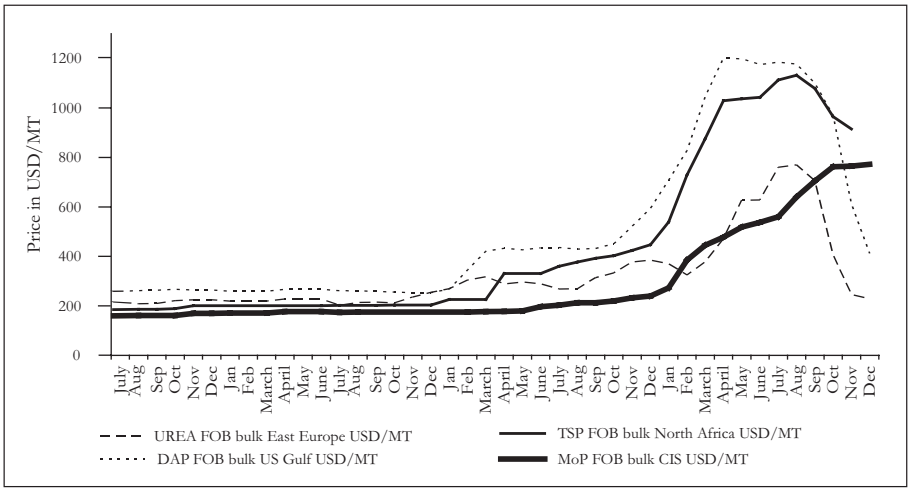
Figure 6.23: Trends in Fertiliser Price (in terms of Paddy Equivalent kg): 1984-85 - 2008-09



Source: CPD-IRBD database.

On the other hand, international price of all types of fertilisers, except MoP, has decreased substantially between August and December 2008 (Figure 6.24). Between August and December 2008, international price of urea decreased from USD 770 to USD 248 per MT (i.e. 70 per cent decrease), while that of DAP decreased from USD 1,177 to USD 413 per MT (64 per cent decrease).

Figure 6.24: International Price of Fertiliser (Urea, DAP, TSP and MoP): July 2005 - November 2008



Source: Commodity market review, World Bank.

During this period, price of TSP decreased from USD 1,132 to USD 915 per MT (around 19 per cent decrease), but price of MoP increased from USD 640 to USD 772 per MT (about 21 per cent increase). However, the recent fall of fertiliser prices in the international markets (except for MoP) was not reflected in our local markets. High price of fertilisers, particularly TSP and MoP has already created imbalanced use of fertiliser and this problem might be aggravated in the Boro season. The new government has made a timely decision to provide subsidy on non-Urea fertiliser to promote balanced fertiliser use and reduction in cost of production. On 13 January 2009, government fixed the price of TSP, MoP and DAP at Tk. 40, Tk. 35 and Tk. 45 per kg, respectively. The government was able to implement the decision at the farm-level and farmers were able to obtain fertilisers at the declared prices.

6.4.3 Cost of Boro Rice Production during the April-June 2009 Harvesting Season

Estimated cost of Boro rice production during the current Boro season is provided in Table 6.12.

Production Cost per Acre

- Per acre production cost of diesel-irrigated HYV Boro rice: Tk. 29,185
- Per acre production cost of electricity-operated HYV Boro rice: Tk. 26,035
- Per acre production cost of diesel-irrigated Hybrid Boro rice: Tk. 32,191
- Per acre production cost of electricity-operated Hybrid Boro rice: Tk. 29,041

Production Cost per kg

- Per kg production cost of HYV Boro paddy: Tk. 12.16 for diesel-irrigated production, and Tk. 10.85 for electricity-irrigated production.
- Per kg production cost of Hybrid Boro paddy: Tk. 11.92 for diesel-irrigated production, and Tk. 10.76 for electricity-irrigated production.
- Per kg production cost of HYV Boro rice: Tk. 19.33 for diesel-irrigated production, and Tk. 17.35 for electricity-irrigated production
- Per kg production cost of Hybrid Boro rice: Tk. 18.97 for diesel-irrigated production, and Tk. 17.21 for electricity-irrigated production
- Weighted average cost of production of Boro paddy: Tk. 11.83 per kg; and Boro rice: Tk. 18.84 per kg.

Proposed Minimum Support Price (MSP)

- Paddy: Tk. 13.00 per kg, and Rice: Tk. 21.00 per kg

Table 6.12: Projected per Acre Production Cost of Boro Rice in Bangladesh during the April-June 2009 Harvesting Season

		HYV Boro Rice (2008-09)					Hybrid Rice (2008-09)			
	Input Use	Unit	Unit Price (Tk.)	Quantity per Acre	Diesel-Irrigated (Tk.)	Electricity Driven (Tk.)	Unit Price (Tk.)	Quantity per Acre	Diesel-Irrigated (Tk.)	Electricity (Tk.)
1	Seed	kg	25.00	25	625.00	625.00	200.00	6	1200.00	1200.00
2	Fertiliser	kg								
	2.1 Urea		12.00	100	1200.00	1200.00	12.00	110	1320.00	1320.00
	2.2 TSP		40.00	35	1400.00	1400.00	40.00	40	1600.00	1600.00
	2.3 MoP		35.00	30	1050.00	1050.00	35.00	40	1400.00	1400.00
	2.4 Gypsum (S)		6.00	22	132.00	132.00	6.00	25	150.00	150.00
	2.5 Zinc									
	2.6 Manure		1.75	200	350.00	350.00	1.75	200	350.00	350.00
3	Pesticide Tk				500.00	500.00			1000.00	1000.00
4	Human labour	Man-days	140.00	70	9800.00	9800.00	140.00	80	11200.00	11200.00
5	Land cultivation (bullock/PT)	Tk.			2500.00	2500.00			2200.00	2200.00
6	Irrigation	Tk.			5000.00	2000.00			5000.00	2000.00
7	Interest on operating capital	Tk.			1127.85	977.85			1271.00	1121.00
8	Land rent				5500.00	5500.00			5500.00	5500.00
9	**Per acre total production cost**				**29184.85**	**26034.85**			**32191.00**	**29041.00**
10	Paddy Production per acre	kg		2400				2700		
11	**Per kg production cost: Paddy**				**12.16**	**10.85**			**11.92**	**10.76**
12	Rice (clean) production per acre				1584.00	1584.00			1782.00	1782.00
13	Milling cost (including parboiling)	kg		0.60	1440.00	1440.00	0.60		1620.00	1620.00
14	**Per kg production cost: Rice**				**19.33**	**17.35**			**18.97**	**17.21**

Note: Weighted average cost of production of Boro paddy: Tk. 11.83/ kg, and Boro Rice: Tk. 18.84/kg.
Source: Authors' estimation

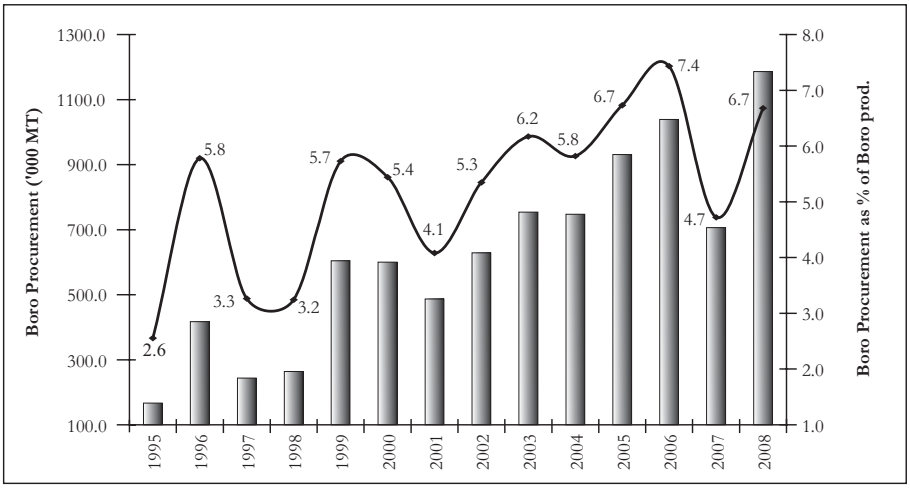
6.5 PROCUREMENT AND PUBLIC DISTRIBUTION

6.5.1 Procurement Strategy

Government needs to design its Boro procurement programme considering the following issues: (1) cost of Boro production; (2) adequate incentives for the Boro rice growers; (3) market price at the time of fixation of price; (4) consumers interest as regards affordable price for rice; and (5) increased public stock of rice.

Trends in procurement of Boro rice during the last 13 years (1995-2008) is shown in Figure 6.25. It is evident from the Figure that total Boro rice procured (in terms of rice equivalent) in 2005, 2006 and 2007 were 9.31 lakh MT, 10.39 lakh MT and 7.06 lakh MT, respectively. In terms of Boro, rice procured as per cent of total Boro production was 6.7 per cent, 7.4 per cent and 4.7 per cent in 2005, 2006 and 2007, respectively. In 2008, amount of Boro rice procured by the government was 11.68 lakh MT, which was 6.7 per cent of production of Boro rice.

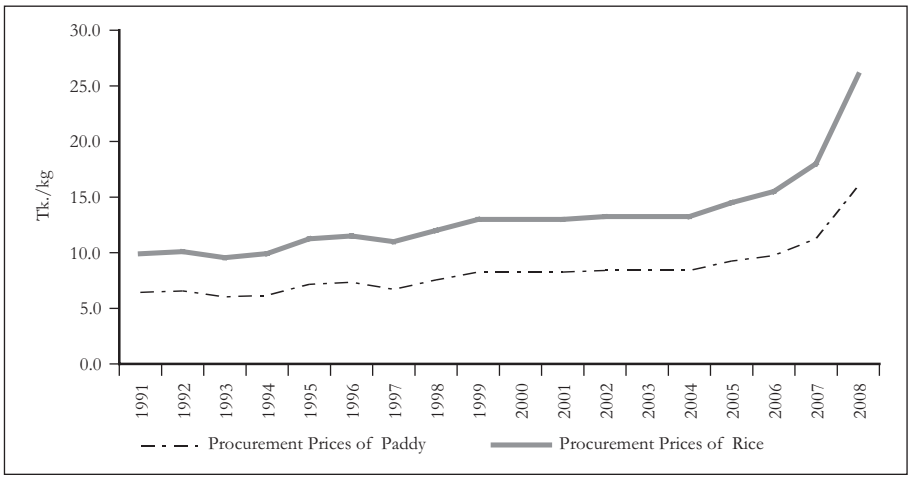
Figure 6.25: Government Internal Procurement of Boro Rice: 1995-2008



Source: Based on data collected from FPMU, Ministry of Food and Disaster Management.

It is pertinent to mention here that procurement prices of both Boro paddy and Boro rice has increased over time (Figure 6.26). Procurement price of Boro paddy has increased from Tk. 6.40 per kg in 1991 to Tk. 18.00 per kg in 2008. During this period, procurement price of Boro rice has increased form Tk. 9.90 per kg to Tk. 28.00 per kg.

Figure 6.26: Procurement Prices of Boro Paddy and Rice in Bangladesh: 1991-2008



Source: FPMU, Ministry of Food and Disaster Management

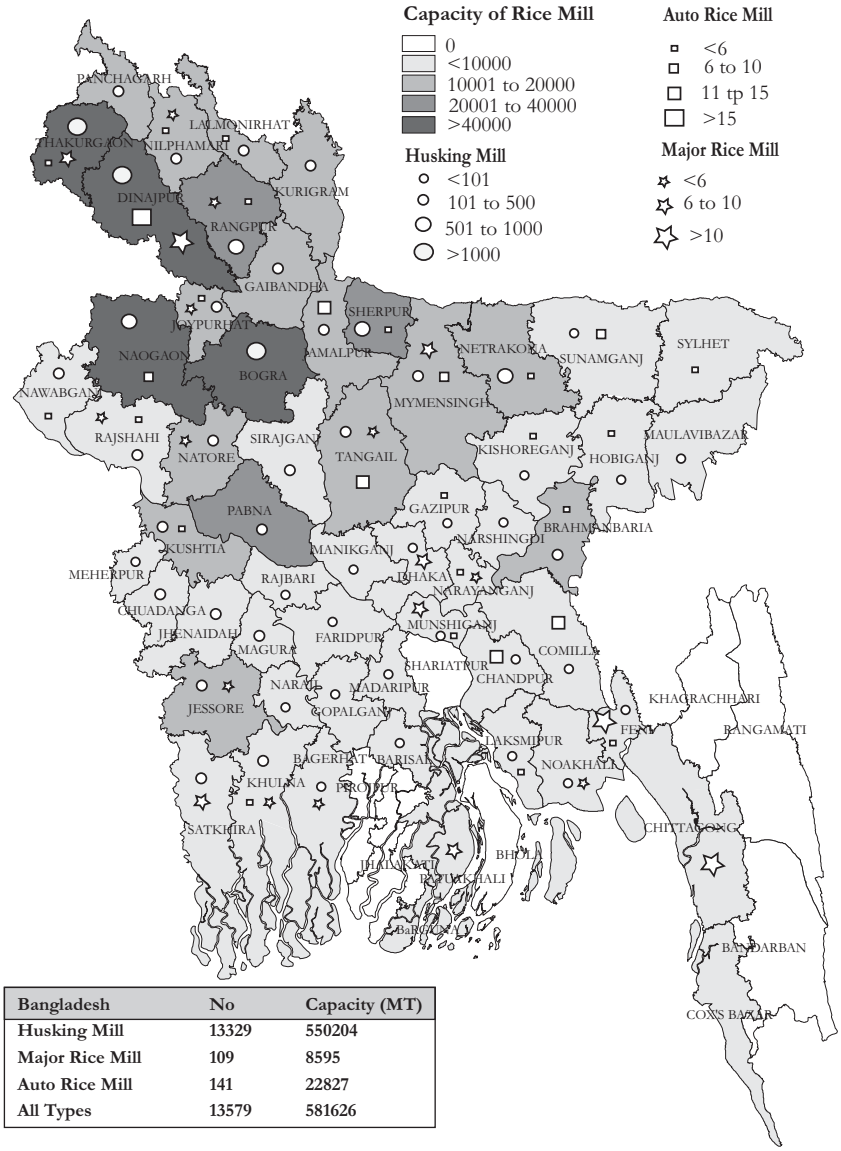
To provide adequate incentive for the produces the government may declare minimum price of Boro rice. Considering the likely average production cost of Boro paddy (Tk. 11.88 per kg) and Boro rice (Tk. 18.84 per kg), MSP for Boro paddy (Tk. 14.00 per kg) and Boro rice (Tk. 22.00 per kg) could be declared to protect the farmers interest. If market price goes below to this, then farmers will have the option to sell to the government at this price.

To achieve the targets of Boro rice procurement a few specific districts should get priority. During the last Boro season (in 2007), the government procured Rice and Boro paddy equivalent to 7.06 million MT of clean rice from 42 districts. About 53 per cent of the procured Boro rice was from six districts (Dinajpur, Bogra, Thakurgaon, Naogaon, Rangpur and Joypurhat), while about 27 per cent of the total Boro rice procurement was from eight districts (Kurigram, Gaibandha, Sherpur, Natore, Pabna, Mymensingh, Jamalpur and Netrokona). These districts may also be the major sources of Boro procurement this year.

Procurement strategy needs to consider the rice milling capacity and the storage capacity of the government. Figure 6.27 shows the number and capacity of rice mills in Bangladesh. Total number of rice mills in Bangladesh is 13,579 with a total capacity of 5.8 lakh MT. Among the rice mills, 98 per cent are husking mills. Number of "Major Rice Mills" is 109 and number of automatic rice mills are 141. Husking mills are more concentrated in Dinajpur, Bogra and Thakurgaon districts.

In case of grain storage facility, the government has 649 storage facilities with a total capacity of 17 lakh MT for rice and wheat (Figure 6.28). Out of these, 632 LSD (local storage depot) have the capacity to store 11 lakh MT while rests of the storage facilities are in CSD (central storage depot) and Silo. About 28 perc ent of the total storage capacity of LSD is in eight districts (Dinajpur, Bogra, Mymensingh, Naogaon, Patuakhali, Chittagong, Comilla and Sylhet).

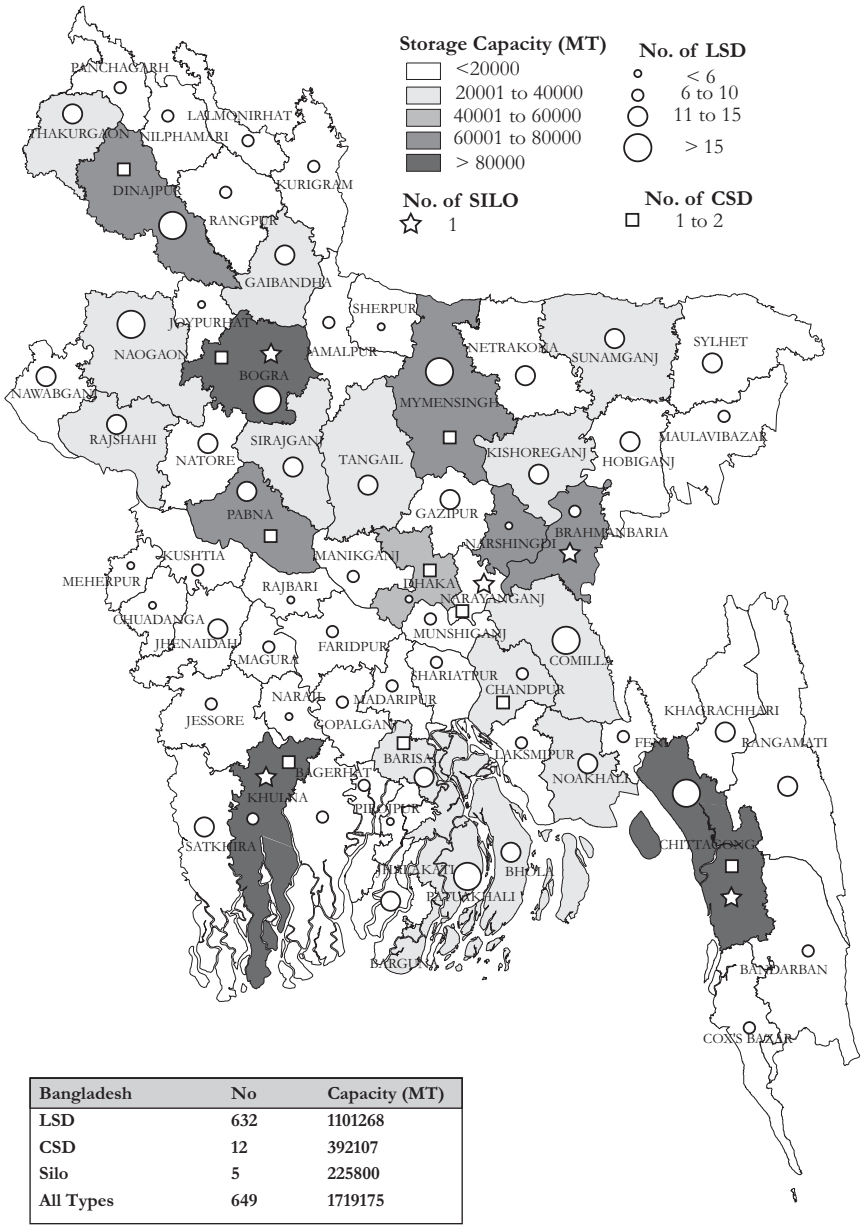
Figure 6.27: Number and Capacity of Rice Mills in Bangladesh



Bangladesh	No	Capacity (MT)
Husking Mill	13329	550204
Major Rice Mill	109	8595
Auto Rice Mill	141	22827
All Types	13579	581626

Source: Prepared by CPD, based on data collected from FPMU, Ministry of Food and Disaster Management.

Figure 6.28: Foodgrain Storage Capacity in Bangladesh



Bangladesh	No	Capacity (MT)
LSD	**632**	**1101268**
CSD	**12**	**392107**
Silo	**5**	**225800**
All Types	**649**	**1719175**

Source: Prepared by CPD, based on data from FPMU, Ministry of Food and Disaster Management.

6.5.2 Food Aid and Commercial Import

In conjunction with the satisfactory domestic production, the total food availability in FY2007-08 was complemented by a 43.4 per cent annual growth in total food aid and import (32 per cent growth in commercial import). Though food aid and public commercial import also registered significant growth rates of 187.8 per cent and 144.6 per cent respectively, the external source of food supply has been mainly featured by the private sector, which imports more than 80 per cent of the total available supply. Total import of foodgrains in FY 2007-08 was 3.47 million MT (rice: 2.06 million MT and wheat: 1.41 million MT), compared to 2.42 million MT (rice: 0.72 milion MT and wheat: 1.70 million MT) in FY2006-07 (Table 6.13).

Table 6.13: Import of Foodgrains by Bangladesh in FY2007-08

(in '000 MT)

Category of Import	FY2006-07			FY2007-08		
	Rice	Wheat	Total Foodgrains	Rice	Wheat	Total Foodgrains
Food aid	25	65	90	82	177	259
Public commercial import	-	121	121	296	-	296
Private import	695	1514	2209	1681	1235	2916
Total	720	1700	2420	2059	1412	3471

Source: FPMU, Ministry of Food and Disaster Management

Following the prospect of a better domestic production and rise in the rice price in the international market, both food aid and commercial food import slowed down during the first five months of FY 2008-09. However, commercial import by the public sector (mainly from India) increased extensively (Table 6.14) which are part of the 0.5 million MT of rice contracts for purchase from India, signed in FY 2007-08.

Table 6.14: Food Import to Bangladesh in FY2008-09 (July- 24 December)

Category of Import	FY 2007-08			FY 2008-09		
	Rice	Wheat	Total Foodgrains	Rice	Wheat	Total Foodgrains
Food aid	16.0	101.8	117.8	22.7	26.7	49.4
Public commercial import	101.2	0.0	101.2	385.1	201.4	586.5
Private import	518.8	825.1	1343.9	48.1	475.2	523.3
Total	636.0	926.9	1562.9	455.8	703.4	1159.2

Source: FPMU, Ministry of Food and Disaster Management

In response to the global food crisis, exporting countries have been implementing restrictions by imposing export quotas, export duties, minimum export prices (MEP), and even imposing export bans on certain commodities. Currently, India has a ban on export of rice and wheat. Total rice and wheat production in India (174.80 million tonnes comprising 96.40 million tonnes of rice and 78.40 million tonnes of wheat) in FY2007-08 was 3.33 per cent

higher than that of FY2006-07. India is projecting an additional production of 20 million tonnes of rice this year, which is likely to lead to a withdrawal of the ban on rice export. As rice price is also declining globally, private sector import of rice might increase in the coming days, raising a concern for the domestic growers.

6.5.3: Designing Social Safety Net Programmes

Increased production alone would not be sufficient to ensure food security for the lower income group. Social safety net programmes needs to be designed in such a way so that hardcore poor families can be covered.

Total outlay for social safety net in FY2008-09 is Tk. 16,932 crore, which is 2.8 per cent of the GDP. Allocation for social safety net is projected to be increased by 48 per cent and number of beneficiaries from such programmes will be increased by 45.8 per cent. It is planned that 257.14 lakh man-month equivalent employment will be created through these programmes in FY2008-09, compared to 235.75 lakh man-month in FY2007-08 (that is, 9.0 per cent increase in employment generation). In FY2008-09, the government has planned to distribute 2,974,000 MT of foograins through the monetised and non-monietised channels under the PFDS.

Total foodgrains distribution in FY2008-09 (1 July-20 November) through PFDS was 697.89 thousand MT, which was 78.72 per cent higher than that distributed during 1 July-22 November 2007 (390.48 thousand MT) (Table 6.15).

It is notable that allocation of foodgrains for OMS and FFW in FY2008-09 was respectively 86.72 per cent and 111.86 per cent higher than those allocated in FY2007-08. On the other hand, foodgrains allocation for VGF in FY2008-09 was reduced by 44 per cent as against FY2007-08 allocation. However, VGF distribution during 1 July-20 November of FY2008-09 was 235.63 thousand MT while the allocation for the full fiscal was 225 thousand MT. The comparable figures for FY2007-08 were 79.25 thousand MT and 400 thousand MT respectively.

In view of surpassing of the allocated quantity before the halfway mark of FY2008-09, it will be needed to implement the VGF programme for resource-poor people, in coordination with other safety net programmes.

As part of the 100-day employment generation programme, government spent Tk. 123.70 crore in the 7 *monga*-affected districts of the northern part. This spending accounted for 15.6 per cent of the expenditure for the rest 57 districts and 13.5 per cent of the total spent amount.

On an average, the government equally distributed the amount between *monga* affected districts and others regions. However, given the vulnerability of the northern districts, a larger share of the allocation should have been targeted to these poverty-prone areas. In this context, it needs to be seen as to how the second phase of the project (i.e. remaining 40 days) is implemented.

Table 6.15: Channel wise Distribution of Foodgrains under PFDS in Bangladesh: FY 2007-08 (1 July- 22 November) and FY 2008-09 (1 July - 20 November)

(In '000MT)

Channel	Allocation FY 2007-08	Distribution (1 July - 22 Nov, FY 2007-08)		Allocation FY 2008-09	Distribution (1 July - 20 Nov, FY 2008-09)	
		Total	%		Total	%
Priced						
Essential Priorities	255.37	84.27	33.00	256.00	83.69	32.69
Other Priorities	27.00	7.15	26.48	27.00	7.64	28.30
Large Employers	18.00	5.38	29.89	12.00	3.58	29.83
OMS	723.00	62.88	8.70	1350.00	185.56	13.75
Flour Mill	-	-	-	-	-	-
Fair Price Campaign (FPC)	-	-	-	-	-	-
Chittagong Hill Tracts (CHT)/Others	50.00	3.02	6.04	-	-	-
Sub-total	1073.37	162.70	15.16	1645.00	280.47	17.05
Non-priced						
FFW*	236.00	1.03	0.44	500.00	7.38	1.48
Test Relief (TR)	150.00	0.75	0.50	200.00	17.02	8.51
VGD	200.00	99.3	49.65	265.00	103.38	39.01
VGF	400.00	79.25	19.81	225.00	235.63	104.72
Gratuitous Relief (GR)	64.00	22.07	34.48	64.00	6.18	9.66
VGF (Relief)	-	-	-	-	31.29	-
CHT/Others	75.00	25.37	33.83	75.00	16.53	22.04
Sub-total	1125.00	227.77	20.25	1329.00	417.41	31.41
Total	**2198.37**	**390.48**	**17.76**	**2974.00**	**697.88**	**23.47**

Source: FPMU, Ministry of Food and Disaster Management.

Note: * includes direct distribution of wheat by World Vision International.

- No available data.

The recent initiative of 5-years guaranteed employment for the destitute women of *monga*-prone Panchagarh and Rangpur districts is certainly praiseworthy. It is hoped that the new government will put in place adequate policy and institutional measures to ensure successful implementation of the programme.

In brief, production, safety net programmes and poverty reduction programmes must be implemented and integrated in a coordinated manner. Regular monitoring, feedback and adjustment will be helpful to make these programmes effective.

6.6 POLICY IMPLICATIONS

To ensure higher Boro production in the current season as like last year and keep it up for the upcoming years, government will have to prepare an integrated strategy regarding input delivery mechanism, output pricing and procurement policy. In this perspective, following recommendations need proper attention for immediate implementation:

Seed Supply

In view of the importance of quality seed supply for higher Boro production, government should increase seed production through expanding the capacity of BADC and esatablishing a special seed production zone with public-private partnership (PPP). To increase domestic production of hybrid seed, research allocation should be increased. Besides, the farmers who have rich indigenous knowledge and expertise in quality seed production should be provided with proper incentives.

Fertiliser delivery

In case of fertiliser, an upward revision of the peak period (January-March) demand by the concerned agencies of the government is urgently needed. Besides, establishing an efficient delivery mechanism, and preparing a policy regarding alternate use of chemical fertiliser in industrial sectors, i.e. in dying, and melamine production require immediate fixation. Any kind of delay in fertiliser distribution at announced subsidised price, whether due to dealers syndicate attempting to create artificial shortage or selling at higher prices will have to be handled strictly by the government. A Citizen Committee comprising farmers, dealers, member of local governments and government officials can be formed to monitor and ensure fertiliser delivery. In the previous Boro season, phosphorus-based fertiliser use (TSP and MoP) was very low which should increase to ensure sufficient nutrition for the plants and sustainable future production. As phosphorus-based fertilisers has become scarce in international market, DAP (di-ammonium phosphate), which is the source of phosphorus and nitrogen nutrients, needs to be used intensively. Besides, the use of biofertiliser and "guti urea" should be encourageed. Government may build up a buffer stock of fertiliser and make firm decision on whether the form and norms of usage needs immediate fixation.

Electricity for Irrigation and Subsidy for Diesel

Ensuring electricity and diesel supply for irrigation is another challenge for higher Boro production. To confirm uninterupted electricity supply,

government can continue the decision taken in FY 2007-08 as regards closure of shops after 8:00 pm in the urban areas. Priority may be given to those districts where absolute area and relative share of electricity-driven irrigation is higher. For diesel driven-pumps, ensuring diesel supply at subsidised price will have to confirm for expected Boro harvest. Government may set up diesel price even at much lower level and compensate it through making profit from comparatively higher petrol or octane price. In order to implement diesel subsidy, exploring the best method of disbursement and identifying eligible farmers is an important issue. Coupon system, cash disbursement and disbursement through banking channels using national ID cards may be potential alternatives for diesel subsidy.

Procurement Strategy

To keep up the spirit and endeavour of Boro farmers, government should ensure logical price of paddy so that they get incentive to produce Boro in the next year. To do this government may provide price incentive to the farmers through declaring high procurement price now. Considering the likely average cost of production of Boro paddy (Tk. 11.88 per kg) and Boro rice (Tk. 18.84 per kg), MSP for Boro paddy (Tk. 13.00 per kg) and Boro rice (Tk. 21.00 per kg) may be decladered to protect the farmers. If market price goes below to this, then farmers will have the option to sell to the government at this price. Any kind of delay in determining procurement price, amount and storing system will adversely affect the food security. Government procurement centres can be established so that farmers can directly sell their product at these points. Storage capacity of agricultural input and output should be enhanced. A decentralised storage chain among rural areas needs to be constructed immediately. Regarding this, construction of store houses at union level can be a useful option.

Social Safety Net

The range and coverage of social safety net programmes to ensure food security need to be widened. In this regard, government can introduce target rationing system incorporating ultra and marginal poor, *monga*-affected people, garment and transport labourer and slum dwellers. Beside this, efficiency and effective implementation of the declared 100-days employment generation programme should be ensured in the current budget.

Agricultural Credit

There remains intense shortage of working capital in agricultural sector which is hindering the achievement of Boro production. A well coordinated initiative

of the government is necessary to enhance credit inflow in an indiscriminant manner through specialised government banks along with more involvement of the private sector banks. NGOs providing microcredit can also play significant role by disbursing season-wise harvest loan at minimum interest rate.

Others

- A taskforce and/or a central monitoring committee should be formed to supervise Boro production which would implement decisions at the field level quickly. Besides, MoA can also open Boro Production Monitoring Cell in every district to provide instant support to the farmers regarding complains about input delivery and advice about production technique. Decisions taken by the higher authority should reach the field level instantly. Short Message Service (SMS) may be used for this purpose.

- A realistic, rational and feasible production target needs to be put forward on the basis of available input endowment. A feasibility study can be conducted by MoA to estimate required inputs and available supply of seeds, fertiliser and irrigation facilities in every season.

- Allocation and incentives for technological innovation and agricultural research should be intensified.

- Agricultural forecast system should be modernised and easily accessible to the farmers, so that they can take the best cultivation strategy for higher production. In this regard, government should revive Bangladesh Space Research and Remote Sensing Organisation (SPARRSO) to get effective forecast support.

- Protection against smuggling of agricultural inputs, especially fertiliser and diesel in neighbouring countries should be ensured.

- Telecommunication and media can play important role in raising agricultural production through providing instructions on efficient use of seeds and fertiliser, time and technique of cultivation, procedure of irrigation, preventing diseases and preventing huge harvest loss by catastrophic events through appropriate weather forecasting.

ANNEX 6.1

Annex Table 6.1: Total Irrigated Area under Modern System FY2007-08

No modern irrigation
Hatiya, Manpura, Mongla **(3 upazilas)**
Negligible (upto 500 ha)
Bamna, Bandarban Sadar, Barguna Sadar, Barkal, Bauphal, Belai Chhari, Betagi, Bhandaria, Chittagong City, Dacope, Dashmina, Galachipa, Jaintiapur, Kala Para, Kanthalia, Kaptai, Kawkhali, Lakshmichhari, Manikchhari, Manpura, Mathbaria, Mirzaganj, Narayanganj Sadar, Patharghata, Patuakhali Sadar, Pirojpur Sadar, Rajapur, Rajasthali, Ramgati, Rangamati, Kawkhali, Rowangchhari, Ruma, Sarankhola, Teknaf, Thanchi, Zakiganj **(36 upazilas)**
Low (501-2000 ha)
Alikadam, Baghai Chhari, Bandar, Beani Bazar, Bishwanath, Boalia, Companjganj, Dhaka City, Dighinala, Dowarabazar, Fenchuganj, Golabganj, Gowainghat, Haim Char, Jurai Chhari, Kachua, Kanaighat, Khagrachhari Sadar, Khulna Sadar, Kutubdia, Lama, Langadu, Lohajang, Mahalchhari, Matiranga, Morrelganj, Munshiganj Sadar, Naikhongchhari, Nanner Char, Nazirpur, Nesarabad, Swarup, Panchhari, Ramgarh, Rampal, Rangamati Sadar, Sitakunda, Taiumuddin, Tongibari **(39 upazilas)**
Medium (2001 - 10000 ha)
Ajmiriganj, Akhaura, Alfadanga, Amtali, Anowara, Araihazar, Assasuni, Austagram, Babuganj, Bagati Para, Bagerhat Sadar, Bagha, Bahubal, Bajitpur, Bakerganj, Balaganj, Banari Para, Banshkhali, Barisal Sadar, Barlekha, Batiaghata, Belabo, Bera, Bhairab, Bhanga, Bhedarganj, Bheramara, Bhuapur, Bishwambarpur, Boalkhali, Burhanuddin, Chandanaish, Chandpur Sadar, Char Bhadrasan, Char Rajibpur, Charghat, Chauhali, Chhagalnaiya, Chhatak, Chilmari, Chunarughat, Daganbhuiyan, Damudya, Daulatkhan, Daulatpur, Debhata, Dewanganj, Dhobaura, Dighalia, Dohar, Fakirhat, Faridpur, Fatikchhari, Fulchhari, Gaurnadi, Gazaria, Ghior, Goalandaghat, Gosairhat, Habiganj Sadar, Harirampur, Hathazari, Hizla, Homna, Hossainpur, Ishwardi, Itna, Jagannathpur, Jamalganj, Jhalakahi Sadar, Jhenaigati, Kaliganj, Kamalganj, Karimganj, Keraniganj, Khoksa, Kishoreganj Sadar, Kotchandpur, Koyra, Kulaura, Kuliar Char, Lakhai, Lalmohan, Lalpur, Lohagara, Maheshkhali, Moulovibazar Sada, Mehendiganj, Mirsharai, Mithamain, Mollahat, Muladi, Nalchity, Naria, Nikli, Noakhali Sadar, Paikgachha, Pakundia, Palash, Palong, Parshuram, Patiya, Phultala, , Rajnagar, Rajoir, Ramganj, Ramu, Rangunia, Raozan, Roypur, Rupganj, Rupsa, Sadarpur, Satkania, Saturia, Serajdikhan, Shahrasti, Shib Char, Shibalaya, Shyamnagar, Sonagazi, Sonargaon, Sreemangal, Sreenagar, Sreepur, Sunamganj Sadar, Sylhet Sadar, Tahirpur, Tarail, Tentulia, Terokhada, Tungi Para, Ukhia, Zanjira **(135 upazilas)**
High (10001 - 25000 ha)
Abhaynagar, Adamdighi, Aditmari, Agailjhara, Akkelpur, Atgharia, Atpara, Atrai, Atwari, Badalgachhi, Badarganj, Bagher Para, Bakshiganj, Baliakandi, Baliadangi, Banchharampur, Baraigram, Barhatta, Barura, Basail, Begumganj, Belkuchi, Bhaluka, Bhangura, Bhola Sadar, Bholahat, Bhurungamari, Birampur, Boalmari, Bochaganj, Boda, Bogra Sadar, Brahman Para, Burichang, Chakaria, Chandina, Char Fasson, Chatkhil, Chatmohar, Chauddagram, Chaugachha, Chitalmari, Chuadanga Sadar, Daulatpur, Debiganj, Delduar, Derai, Dhamrai, Dharampasha, Dhupchanchia, Dimla, Domar, Dumuria, Durgapur, Faridganj, Faridpur Sadar, Feni Sadar, Gabtali, Gaibandha Sadar, Gangachara, Gauripur, Gazipur Sadar, Ghatail, Ghoraghat, Gomastapur, Gopalganj Sadar, Gopalpur, Gurudaspur, Hajiganj, Hakimpur, Haluaghat, Harinakunda, Haripur, Hatibandha, Ishwarganj, Islampur, Jaldhaka, Jiban Nagar,

(Annex Table 6.1 contd.)

(Annex Table 6.1 contd.)

Joypurhat Sadar, Kachua, Kaharole, Kalai, Kalaroa, Kalia, Kaliakair, Kaliganj, Kalihati, Kalkini, Kalmakanda, Kamarkhanda, Kapasia, Kasba, Kashiani, Katiadi, Kaunia, Kazipur, Kendua, Keshabpur, Khaliajuri, Khansama, Khetlal, Kishoreganj, Kotali Para, Kumarkhali, Kurigram Sadar, Kushtia Sadar, Laksam, Lakshmipur Sadar, Lalmonirhat Sadar, Madan, Madarganj, Madaripur Sadar, Madhabpur, Madhukhali, Madhupur, Manikganj Sadar, Manohardi, Matlab,Melandaha, Mirpur, Mirzapur, Mohammadpur, Mohanganj, Mohanpur, Muksudpur, Muradnagar, Nabiganj, Nabinagar, Nachole, Nagarkanda, Nakla, Nalitabari, Nangalkot, Narail Sadar, Narsingdi Sadar, Nasirnagar, Nawabganj, Nawabganj Sadar, Netrokona Sadar, Pabna Sadar, Palashbari, Panchagarh Sadar, Pangsha, Patgram, Patnitala, Phulbari, Pirgachha, Porsha, Purbadhala, Puthia, Rajarhat, Rajbari Sadar, Raninagar, Ranisankail, Raumari, Roypura, Cox's Bazar Sadar, Sadullapur, Saghatta, Saidpur, Sakhipur, Santhia, Sapahar, Sarail, Sariakandi, Savar, Senbagh, Shailkupa, Shalikha, Shibpur, Singair, Sirajganj Sadar, Sonatola, Sreebardi, Sreepur, Sujanagar, Sulla, Tala, Tangail Sadar, Taraganj, Wazirpur **(181 upazilas)**
Very high (More than 25,000 ha)
Alamdanga, Baghmara, Baniachong, Biral, Birganj, Brahmanbaria Sadar, Chirirbandar, Comilla Sadar, Damurhuda, Daudkandi, Debidwar, Dhamoirhat, Dhunat, Dinajpur Sadar, Durgapur, Fulbari, Fulbaria, Gaffargaon, Gangni, Gobindaganj, Godagari, Jamalpur Sadar, Jessore Kotwali, Jhenaidaha Sadar, Jhikargachha, Kahaloo, Kaliganj, Madhupur, Magura Sadar, Mahadebpur, Maheshpur, Manda, Manirampur, Meherpur Sadar, Mitha Pukur, Muktagachha, Mymensingh Sadar, Nageshwari, Nandail, Nandigram, Naogaon Sadar, Natore Sadar, Nawabganj, Niamatpur, Nilphamari Sadar, Paba, Panchbibi, Parbatipur, Phulpur, Pirganj, Rangpur Sadar, Royganj, Sarishabari, Satkhira Sadar, Shahjadpur, Sharsha, Sherpur, Sherpur Sadar, Shibganj, Singra, Sundarganj, Tanore, Tarash, Thakurgaon Sadar, Trishal, Ulipur, Ullah Para **(70 upazila)**

Source: Authors' calculation, based on the data from Minor Irrigation Survey Report 2007-08.

Annex Table 6.2: Upazilas Irrigated under Electricity in FY 2007-08

No electricity-operated irrigation
Baghai Chhari, Bamna, Barguna Sadar, Barkal, Bauphal, Beani Bazar, Belai Chhari, Betagi, Bhandaria, Bishwanath, Dacope, Dashmina, Galachipa, Hatiya, Jhalakathi Sadar, Jurai Chhari, Kachua, Kala Para, Kanthalia, Kawkhali, Kutubdia, Lakshmichhari, Langadu, Mahalchhari, Manikchhari, Manpura, Mathbaria, Moulovibazar Sadar, Mirzaganj, Mongla, Morrelganj, Nalchity, Nanner Char, Nesarabad, Patharghata, Patuakhali Sadar, Pirojpur Sadar, Rajapur, Rajasthali, Ramgati, Rangamati Sadar, Rowangchhari, Sandwip, Sitakunda, Sreemangal, Thanchi, Tongibari, Zakiganj **(48 upazila)**
Negligible (< 100 ha)
Alikadam, Balaganj, Banari Para, Bandarban Sadar, Barlekha, Boalia, Char , Rajibpur, Chauhali, Companiganj, Derai, Dharampasha, Dighinala, Fenchuganj, Golabganj, Haim Char, Jagannathpur, Jaintiapur, Kamalganj, Kanaighat, Kaptai, Kawkhali (Betbunia), Khagrachhari Sadar, Khulna Sadar, Kulaura, Lalmohan, Lama, Matiranga, Mollahat, Munshiganj Sadar, Naikhongchhari, Narayanganj Sadar, Nazirpur, Rajnagar, Ramgarh, Rampal, Ruma, Sarankhola, Shyamnagar, Teknaf, Terokhada, Tungi Para **(41 upazilas)**
Low (100-1,000 ha)
Amtali, Assasuni, Austagram, Babuganj, Bagerhat Sadar, Bahubal, Bakerganj, Balia Kandi, Bandar, Barisal Sadar, Batiaghata, Bera, Bheramara, Bishwambarpur, Burhanuddin, Chandanaish, Char Bhadrasan, Charghat, Chhagalnaiya, Chhatak, Chilmari, Chitalmari,

(Annex Table 6.2 contd.)

(Annex Table 6.2 contd.)

Chittagong City, Chuadanga Sadar, Companyganj, Damudya, Daulatkhan, Debhata, Dewanganj, Dhaka City, Dhobaura, Dhunat, Dighalia, Dowarabazar, Dumuria, Fakirhat, Fulchhari, Gaurnadi, Gazaria, Goalandaghat, Gopalganj Sadar, Gosairhat, Gowainghat, Harinakunda, Hatibandha, Hizla, Homna, Itna, Jamalganj, Jiban Nagar, Kalia, Kaliganj, Karimganj, Keraniganj, Khaliajuri, Kotali Para, Koyra, Kuliar Char, Lakhai, Lalpur, Lohagara, Lohajang, Madhukhali, Mehendiganj, Mirsharai, Mithamain, Mohammadpur, Nabiganj, Narail Sadar, Nikli, Noakhali Sadar, Paikgachha, Pakundia, Panchhari, Phultala, Ramganj, Raumari, Roypur, Rupsa, Sadarpur, Santhia, Sariakandi, Serajdikhan, Shib Char, Sonatola, Sreepur, Sujanagar, Sulla, Sunamganj Sadar, Sylhet Sadar, Tahirpur, Tarail, Tazumuddin, Tentulia, Zanjira **(95 upazilas)**
Medium (1,001-5,000 ha)
Abhaynagar, Aditmari, Agailjhara, Ajmiriganj, Akhaura, Alamdanga, Alfadanga, Anowara, Araihazar, Atpara, Atrai, Atwari, Bagati Para, Bagha, Bagher Para, Bajitpur, Bakshiganj, Banchharampur, Banshkhali, Baraigram, Barhatta, Basail, Begumganj, Belabo, Belkuchi, Bhairab, Bhanga, Bhangura, Bhedarganj, Bhola Sadar, Bholahat, Bhuapur, Bhurungamari, Boalkhali, Boalmari, Bochaganj, Boda, Brahman Para, Chakaria, Chandpur Sadar, Char Fasson, Chatkhil, Chaugachha, Chunarughat, Daganbhuiyan, Damurhuda, Daulatpur, Debiganj, Delduar, Dohar, Durgapur, Faridganj, Faridpur, Faridpur Sadar, Fatikchhari, Feni Sadar, Gabtali, Gaibandha Sadar, Gangachara, Gauripur, Gazipur Sadar, Ghior, Gurudaspur, Habiganj Sadar, Haluaghat, Haripur, Harirampur, Hathazari, Hossainpur, Ishwardi, Islampur, Jaldhaka, Jhenaigati, Kalaroa, Kaliakair, Kaliganj, Kaliganj (Jhenaidah), Kaliganj (Satkhira), Kalkini, Kalmakanda, Kamarkhanda, Kapasia, Kashiani, Katiadi, Kazipur, Kendua, Keshabpur, Khansama, Khoksa, Kishoreganj, Kishoreganj Sadar, Kotchandpur, Kumarkhali, Kurigram Sadar, Kushtia Sadar, Lakshmipur Sadar, Lalmonirhat Sadar, Lohagara, Madan, Madarganj, Madaripur Sadar, Madhabpur, Madhupur, Magura Sadar, Maheshkhali, Maheshpur, Manikganj Sadar, Manohardi, Matlab, Meherpur Sadar, Melandaha, Mirpur, Mirzapur, Mohanganj, Muksudpur, Muladi, Nagarkanda, Nageshwari, Nakla, Nalitabari, Naria, Nasirnagar, Natore Sadar, Nawabganj, Palash, Palashbari, Palong, Panchagarh Sadar, Pangsha, Parshuram, Patgram, Patiya, Phulbari, Phulpur, Pirgachha, Porsha, Purbadhala, Puthia, Rajarhat, Rajbari Sadar, Rajoir, Ramu, Rangpur Sadar, Rangunia, Raozan, Rupganj, Sadullapur, Saghatta, Saidpur, Sarail, Satkania, Saturia, Savar, Shahrasti, Shailkupa, Shalikha, Shibalaya, Singair, Sonagazi, Sonargaon, Sreebardi, Sreenagar, Sreepur, Tala, Taraganj, Tarash, Ukhia, Ulipur, Wazirpur **(171 upazilas)**
High (5,001-10,000 ha)
Adamdighi, Akkelpur, Atgharia, Badalgachhi, Badarganj, Baliadangi, Baniachong, Barura, Bhaluka, Biral, Birampur, Birganj, Bogra Sadar, Brahmanbaria Sadar, Burichang, Chandina, Chatmohar, Chauddagram, Daudkandi, Dhamoirhat, Dhamrai, Dimla, Domar, Durgapur, Fulbari, Gaffargaon, Gangni, Ghatail, Ghoraghat, Gobindaganj, Gomastapur, Gopalpur, Hajiganj, Hakimpur, Ishwarganj, Jhenaidaha Sadar, Jhikargachha, Joypurhat Sadar, Kachua, Kaharole, Kalai, Kalihati, Kasba, Kaunia, Laksam, Madhupur, Mitha Pukur, Mohanpur, Muradnagar, Nabinagar, Nandail, Nandigram, Nangalkot, Naogaon Sadar, Nawabganj Sadar, Netrokona Sadar, Niamatpur, Nilphamari Sadar, Paba, Pabna Sadar, Patnitala, Pirganj, Pirganj (Rangpur), Raninagar, Ranisankail, Royganj, Roypura, Sakhipur, Sapahar, Sarishabari, Satkhira Sadar, Senbagh, Shahjadpur, Sharsha, Sherpur, Sherpur Sadar, Shibganj, Shibganj (Bogra), Shibpur, Singra, Sirajganj Sadar, Sundarganj, Tangail Sadar **(83 upazilas)**
Very high (>10,000 ha)
Baghmara, Chirirbandar, Comilla Sadar, Debidwar, Dhupchachia, Dinajpur Sadar, Fulbaria, Godagari, Jamalpur Sadar, Kahaloo, Khetlal, Kotwali, Mahadebpur, Manda, Manirampur, Muktagachha, Mymensingh Sadar, Nachole, Narsingdi Sadar, Nawabganj, Panchbibi, Parbatipur, Tanore, Thakurgaon Sadar, Trishal, Ullah Para **(26 upazilas)**

Source: Authors' calculation, based on the data from Minor Irrigation Survey Report 2007-08.

Annex Table 6.3: Percentage of Area under Electricity in FY2007-08

No electricity-operated irrigation
Baghai Chhari, Bamna, Barguna Sadar, Barkal, Bauphal, Beani Bazar, Belai Chhari, Betagi, Bhandaria, Bishwanath, Dacope, Dashmina, Galachipa, Hatiya, Jhalakathi Sadar, Jurai Chhari, Kachua, Kala Para, Kanthalia, Kawkhali, Kutubdia, Lakshmichhari, Langadu, Mahalchhari, Manikchhari, Manpura, Mathbaria, Moulovibazar Sadar, Mirzaganj, Mongla, Morrelganj, Nalchity, Nanner Char, Nesarabad, Swarup, Patharghata, Patuakhali Sadar, Pirojpur Sadar, Rajapur, Rajasthali, Ramgati, Rangamati Sadar, Rowangchhari, Sandwip, Sitakunda, Sreemangal, Thanchi, Tongibari, Zakiganj **(48 upazilas)**
Negligible (0-5 per cent)
Amtali, Assasuni, Bagerhat Sadar, Bakerganj, Balaganj, Baliakandi, Banari Para, Bandarban Sadar, Barlekha, Batiaghata, Char Bhadrasan, Char Rajibpur , Chauhali, Chitalmari, Companyganj, Derai, Dewanganj, Dharampasha, Dhunat, Dighalia, Dighinala, Dumuria, Golabganj, Haim Char, Harinakunda, Hatibandha, Hizla, Itna, Jagannathpur, Jamalganj, Jiban Nagar, Kalia, Kaliganj, Kamalganj, Kanaighat, Khagrachhari Sadar, Khaliajuri, Khulna Sadar, Kotali Para , Kulaura, Lalmohan, Lama, Madhukhali, Matiranga, Mehendiganj, Mohammadpur, Mollahat, Munshiganj Sadar, Narail Sadar, Nazirpur, Paikgachha, Phultala, Rajnagar, Rampal, Raumari, Ruma, Sarankhola, Sariakandi, Shyamnagar, Sonatola, Sulla, Terokhada, Tungi Para, Zanjira **(64 upazilas)**
Low (5.01-25 per cent)
Abhaynagar, Aditmari, Agailjhara, Akhaura, Alamdanga, Alfadanga, Alikadam, Atpara, Atrai, Atwari, Austagram, Babuganj, Bagati Para, Bagha, Bagher Para, Baghmara, Bahubal, Bajitpur, Bakshiganj, Baliadangi, Banchharampur, Baniachong, Baraigram, Barhatta , Barisal Sadar, Begumganj, Bera, Bhaluka, Bhanga, Bhedarganj, Bheramara, Bhola Sadar, Bhuapur, Bhurungamari, Biral, Birganj, Bishwambarpur, Boalia, Boalmari, Bochaganj, Boda, Burhanuddin, Chakaria, Chandpur Sadar, Char Fasson, Charghat, Chatkhil, Chaugachha, Chhagalnaiya, Chhatak, Chilmari ,Chuadanga Sadar, Chunarughat, Damudya, Damurhuda, Daudkandi, Daulatkhan, Daulatpur, Debhata, Debiganj, Dhaka City (Tejgon), Dhobaura, Dowarabazar, Durgapur, Fakirhat, Faridganj, Faridpur, Faridpur Sadar, Fenchuganj, Fulchhari, Gabtali, Gaibandha Sadar, Gangachara, Gangni, Gauripur, Gaurnadi, Gazaria, Gazipur Sadar, Ghior, Goalandaghat, Gobindaganj, Gopalganj Sadar, Gosairhat, Gowainghat, Gurudaspur, Habiganj Sadar, Haluaghat, Haripur, Harirampur, Hathazari, Homna, Islampur, Jaintiapur, Jaldhaka, Jessore Kotwali, Jhenaidaha Sadar, Jhikargachha, Kaliganj (Jhenaidaha), Kaliganj (Lalmonirhat), Kalkini, Kalmakanda, Kapasia, Kaptai, Karimganj, Kashiani, Katiadi, Kawkhali (Betbunia), Kazipur, Kendua, Keshabpur, Kishoreganj, Kotchandpur, Koyra, Kuliar Char, Kurigram Sadar, Kushtia Sadar, Lakhai, Lalmonirhat Sadar, Lalpur, Lohagara, Madan, Madarganj, Madhupur, Magura Sadar, Maheshpur, Manohardi, Matlab, Meherpur Sadar, Melandaha, Mirpur, Mirsharai, Mirzapur, Mitha Pukur, Mithamain, Mohanganj, Muksudpur, Muladi, Nabiganj, Nagarkanda, Nageshwari, Naikhongchhari, Nakla, Nalitabari, Narayanganj Sadar, Nasirnagar, Natore Sadar, Nikli, Noakhali Sadar, Pakundia, Palashbari, Panchagarh Sadar, Panchhari, Pangsha, Patgram, Phulbari, Phulpur, Pirgachha, Pirganj, Purbadhala, Puthia, Rajarhat, Rajbari Sadar, Ramganj, Ramgarh, Rangpur Sadar, Roypur, Rupsa, Sadarpur, Sadullapur, Saghatta, Saidpur, Santhia, Satkhira Sadar, Savar, Serajdikhan, Shahrasti, Shailkupa, Shalikha, Sharsha, Sherpur, Sherpur Sadar, Shib Char, Shibalaya, Shibganj, Singair, Singra, Sreebardi, Sreenagar, Sreepur, Sujanagar, Sunamganj Sadar, Sundarganj, Sylhet Sadar, Tahirpur, Tala, Taraganj, Tarail, Tarash, Tazumuddin, Tentulia, Thakurgaon Sadar, Ulipur, Wazirpur **(206 upazilas)**

Annex Table 6.3 contd.)

Annex Table 6.3 contd.)

Medium (25.01-50 per cent)
Adamdighi, Ajmiriganj, Akkelpur, Anowara, Araihazar, Atgharia, Badalgachhi, Badarganj, Bandar, Banshkhali, Barura, Basail, Belabo, Belkuchi, Bhairab, Bhangura, Bholahat, Birampur, Boalkhali, Bogra Sadar, Brahmanbaria Sadar, Brahman Para, Burichang, Chandanaish, Chandina, Chatmohar, Chauddagram, Chirirbandar, Chittagong City, Comilla Sadar, Companyganj, Cox's Bazar Sadar, Daganbhuiyan, Debidwar, Delduar, Dhamoirhat, Dhamrai, Dhupchanchia, Dimla, Dinajpur Sadar, Dohar, Domar, Durgapur, Fatikchhari, Feni Sadar, Fulbari, Fulbaria, Gaffargaon, Ghatail, Ghoraghat, Godagari, Gomastapur, Gopalpur, Hajiganj, Hakimpur, Hossainpur, Ishwardi, Ishwarganj, Jamalpur Sadar, Jhenaigati, Joypurhat Sadar, Kachua, Kahaloo, Kaharole, Kalai, Kalaroa, Kaliakair, Kaliganj, Kalihati, Kamarkhanda, Kasba, Kaunia, Keraniganj, Khansama, Khetlal, Khoksa, Kishoreganj Sadar, Kumarkhali, Laksam, Lakshmipur Sadar, Lohagara, Lohajang, Madaripur Sadar, Madhabpur, Madhupur, Mahadebpur, Maheshkhali, Manda, Manikganj Sadar, Manirampur, Mohanpur, Muktagachha, Muradnagar, Mymensingh Sadar, Nabinagar, Nachole, Nandail, Nandigram, Nangalkot, Naogaon Sadar, Naria, Narsingdi Sadar, Nawabganj, Nawabganj Sadar, Netrokona Sadar, Niamatpur, Nilphamari Sadar, Paba, Pabna Sadar, Palash, Palong, Panchbibi, Parbatipur, Parshuram, Patiya, Patnitala, Porsha, Rajoir, Ramu, Rangunia, Raninagar, Ranisankail, Raozan, Royganj, Roypura, Rupganj, Sakhipur, Sapahar, Sarail, Sarishabari, Satkania, Saturia, Senbagh, Shahjadpur, Shibpur, Sirajganj Sadar, Sonagazi, Sonargaon, Sreepur, Tangail Sadar, Tanore, Teknaf, Trishal, Ukhia, Ullah Para **(146 upazilas)**
High (50.01 - 75 per cent)
Very High (> 75 per cent)

Source: Author's calculation, based on data from "Minor Irrigation Survey Report 2007-08.

Annex Table 6.4: Upazilas Irrigated under Diesel in FY2007-08

No diesel-operated irrigation
Hatiya, Manpura, Mongla **(3 upazilas)**
Negligible (up to 100 ha)
Belai Chhari, Betagi, Bhandaria, Mirzaganj, Patuakhali Sadar, Ramu, Thanchi (7 upazilas)
Low (101-1,000 ha)
Alikadam, Bamna, Bandar, Bandarban Sadar, Barguna Sadar, Barkal, Bauphal, Chittagong City, Companyganj, Dacope, Dashmina, Fenchuganj, Galachipa, Haim Char, Jaintiapur, Jurai Chhari, Kachua, Kala Para, Kanaighat, Kanthalia, Kaptai, Kawkhali, Kawkhali (Betbunia), Lakshmichhari, Manikchhari, Mathbaria, Munshiganj Sadar, Naikhongchhari, Nanner Char, Narayanganj Sadar, Nesarabad, Patharghata, Pirojpur Sadar, Rajapur, Rajasthali, Ramgarh, Rangamati Sadar, Rowangchhari, Sarankhola, Sitakunda, Teknaf, Tongibari, Zakiganj **(43 upazilas)**
Medium (1,001-5,000 ha)
Akhaura, Alfadanga, Amtali, Anowara, Babuganj, Baghai Chhari, Bakerganj, Balaganj, Banari Para, Barlekha, Batiaghata, Beani Bazar, Bera, Bhairab, Bhedarganj, Bheramara, Bishwambarpur, Bishwanath, Boalia, Boalkhali, Chandanaish, Char Bhadrasan, Char Rajibpur, Chauhali, Chhatak, Chilmari, Companyganj, Daganbhuiyan, Damudya, Daulatkhan, Dhaka City (Tejgaon), Dighalia, Dighinala, Dohar, Dowarabazar, Fatikchhari, Gazaria, Goalandaghat, Golabganj, Gosairhat, Gowainghat, Harirampur, Hathazari, Hizla, Hossainpur, Kamalganj, Keraniganj, Khagrachhari Sadar, Khoksa, Khulna Sadar, Koyra, Kutubdia, Lama, Langadu,

Annex Table 6.4 contd.)

Annex Table 6.4 contd.)

Lohagara, Lohajang, Mahalchhari, Maheshkhali, Matiranga, Moulovibazar Sada, Mirsharai, Morrelganj, Nalchity, Naria, Nazirpur, Paikgachha, Palash, Palong, Panchhari, Parshuram, Patiya, Phultala, Rajnagar, Rajoir, Rampal, Ramu, Rangunia, Raozan, Roypur, Rupganj, Rupsa, Sadarpur, Satkania, Serajdikhan, Sonargaon, Sreemangal, Sreenagar, Sylhet Sadar, Tahirpur, Taziumuddin, Tetulia, Tungi Para, Ukhia, Zanjira **(94 upazilas)**
High (5,001-1,0000 ha)
Agailjhara, Ajmiriganj, Akkelpur, Araihazar, Assasuni, Atgharia, Atpara, Austagram, Bagati Para, Bagerhat Sadar, Bagha, Bahubal, Bajitpur, Banchharampur, Banshkhali, Barisal Sadar, Basail, Belabo, Belkuchi, Bhanga, Bhangura, Bhola Sadar, Bholahat, Bhuapur, Brahman Para, Burhanuddin, Burichang, Chandina, Chandpur Sadar, Charghat, Chhagalnaiya, Chunarughat, Daulatpur, Debhata, Delduar, Dewanganj, Dhobaura, Domar, Fakirhat, Faridganj, Faridpur, Feni Sadar, Fulchhari, Gaurnadi, Ghior, Ghoraghat, Habiganj Sadar, Hajiganj, Hakimpur, Homna, Ishwardi, Itna, Jagannathpur, Jamalganj, Jhalokathi Sadar, Jhenaigati, Kaliakair, Kaliganj, Kamarkhanda, Karimganj, Katiadi, Kishoreganj Sadar, Kotchandpur, Kulaura, Kuliar Char, Lakhai, Laksam, Lalmohan, Lalpur, Lohagara, Madaripur Sadar, Madhabpur, Matlab, Mehendiganj, Mithamain, Mollahat, Muladi, Nawabganj, Nikli, Noakhali Sadar, Pabna Sadar, Pakundia, Panchagarh Sadar, Phulbari, Porsha, Ramganj, Sadar, Saidpur, Santhia, Saturia, Savar, Senbagh, Shahrasti, Shib Char, Shibalaya, Shibpur, Shyamnagar, Sonagazi, Sreepur, Sunamganj Sadar, Tarail, Terokhada **(103 upazilas)**
Very high (More than 10000 ha)
Abhaynagar, Adamdighi, Aditmari, Alamdanga, Atrai, Atwari, Badalgachhi, Badarganj, Bagher Para, Baghmara, Bakshiganj, Baliakandi, Baliadangi, Baniachong, Baraigram, Barhatta, Barura, Begumganj, Bhaluka, Bhurungamari, Biral, Birampur, Irganj, Boalmari, Bochaganj, Boda, Bogra Sadar, Brahmanbaria Sadar, Chakaria, Char Fasson, Chatkhil, Chatmohar, Chauddagram, Chaugachha, Chirirbandar, Chitalmari, Chuadanga Sadar, Comilla Sadar, Damurhuda, Daudkandi, Daulatpur, Debidwar, Debiganj, Derai, Dhamoirhat, Dhamrai, Dharampasha, Dhunat, Dhupchanchia, Dimla, Dinajpur Sadar, Dumuria, Durgapur, Durgapur (Netrokona), Faridpur Sadar, Fulbari, Fulbaria, Gabtali, Gaffargaon, Gaibandha Sadar, Gangachara, Gangni, Gauripur, Gazipur Sadar, Ghatail, Gobindaganj, Godagari, Gomastapur, Gopalganj Sadar, Gopalpur, Gurudaspur, Haluaghat, Harinakunda, Haripur, Hatibandha, Ishwarganj, Islampur, Jaldhaka, Jamalpur Sadar, Jhenaidaha Sadar, Jhikargachha, Jiban Nagar, Joypurhat Sadar, Kachua, Kahaloo, Kaharole, Kalai, Kalaroa, Kalia, Kaliganj (Lalmonirhat), Kaliganj, Kalihati, Kalkini, Kalmakanda, Kapasia, Kasba, Kashiani, Kaunia, Kazipur, Kendua, Keshabpur, Khaliajuri, Khansama, Khetlal, Kishoreganj, Kotali Para, Jessore Kotwali, Kumarkhali, Kurigram Sadar, Kushtia Sadar, Lakshmipur Sadar, Lalmonirhat Sadar, Madan, Madarganj, Madhukhali, Madhupur, Magura Sadar, Mahadebpur, Maheshpur, Manda, Manikganj Sadar, Manirampur, Manohardi, Meherpur Sadar, Melandaha, Mirpur, Mirzapur, Mitha Pukur, Mohammadpur, Mohanganj, Mohanpur, Muksudpur, Muktagachha, Muradnagar, Mymensingh Sadar, Nabiganj, Nabinagar, Nachole, Nagarkanda, Nageshwari, Nakla, Nalitabari, Nandail, Nandigram, Nangalkot, Naogaon Sadar, Narail Sadar, Narsingdi Sadar, Nasirnagar, Natore Sadar, Nawabganj, Nawabganj Sadar, Netrokona Sadar, Niamatpur, Nilphamari Sadar, Paba, Palashbari, Panchbibi, Pangsha, Parbatipur, Patgram, Patnitala, Phulpur, Pirgachha, Pirganj, Pirganj (Thakurgaon), Purbadhala, Puthia, Rajarhat, Rajbari Sadar, Rangpur Sadar, Raninagar, Ranisankail, Raumari, Royganj, Roypura, Sadullapur, Saghatta, Sakhipur, Sapahar, Sarail, Sariakandi, Sarishabari, Satkhira Sadar, Shahjadpur, Shailakupa, Shalikha, Sharsha, Sherpur, Sherpur Sadar, Shibganj (Bogra), Shibganj, Singair, Singra, Sirajganj Sadar, Sonatola, Sreebardi, Sreepur, Sujanagar, Sulla, Sundarganj, Tala, Tangail Sadar, Tanore, Taraganj, Tarash, Thakurgaon Sadar, Trishal, Ulipur, Ullah Para, Wazirpur **(212 upazilas)**

Source: Authors' calculation, based on the data from Minor Irrigation Survey Report 2007-08.

Annex Table 6.5: Percentage of Area under Diesel in FY 2007-08

No diesel operated-irrigation
Hatiya, Mongla, Sandwip **(3 upazilas)**
Medium (50.01-70 per cent)
Adamdighi, Akkelpur, Anowara, Araihazar, Atgharia, Bandar, Barura, Basail, Belabo, Belkuchi, Bhairab, Bhangura, Bholahat, Birampur, Boalkhali, Bogra Sadar, Brahman Para, Burichang, Chandina, Chatmohar, Chauddagram, Chirirbandar, Chittagong City, Comilla Sadar, Companyganj, Daganbhuiyan, Debidwar, Delduar, Dhamrai, Dhupchanchia, Dinajpur Sadar, Dohar, Domar, Fatikchhari, Feni Sadar, Fulbaria, Ghoraghat, Godagari, Gomastapur, Gopalpur, Hajiganj, Hakimpur, Hossainpur, Ishwardi, Ishwarganj, Jamalpur Sadar, Joypurhat Sadar, Kachua, Kahaloo, Kalai, Kaliakair, Kaliganj, Kalihati, Kamarkhanda, Kasba, Kaunia, Khetlal, Laksam, Lohagara, Madaripur Sadar, Madhupur, Mahadebpur, Maheshkhali, Manda, Mohanpur, Muktagachha, Muradnagar, Mymensingh Sadar, Nabinagar, Nachole, Nandail, Nandigram, Nangalkot, Naogaon Sadar, Narsingdi Sadar, Nawabganj, Nawabganj Sadar, Niamatpur, Pabna Sadar, Palash, Palong, Panchbibi, Parshuram, Patiya, Patnitala, Porsha, Rajoir, Ramu, Rangunia, Raozan, Rupganj Sadar, Sakhipur, Satkania, Saturia, Senbagh, Shibpur, Sirajganj Sadar, Sonagazi, Sonargaon, Tanore, Teknaf, Trishal, Ukhia, Ullah Para **(105 upazilas)**
High (70.01 - 99 per cent)
Abhaynagar, Aditmari, Agailjhara, Ajmiriganj, Akhaura, Alamdanga, Alfadanga, Alikadam, Amtali, Assasuni, Atpara, Atrai, Atwari, Austagram, Babuganj, Badalgachhi, Badarganj, Bagati Para, Bagerhat Sadar, Bagha, Bagher Para, Baghmara, Bahubal, Bajitpur, Bakerganj, Bakshiganj, Balaganj, Baliakandi, Baliadangi, Banari Para, Banchharampur, Bandarban Sadar, Baniachong, Banshkhali, Baraigram, Barhatta, Barisal Sadar, Batiaghata, Begumganj, Bera, Bhaluka, Bhanga, Bhedarganj, Bheramara, Bhola Sadar, Bhuapur, Bhurungamari, Biral, Birganj, Bishwambarpur, Boalia, Boalmari, Bochaganj, Boda, Brahman, aria Sadar, Burhanuddin, Chakaria, Chandanaish, Chandpur Sadar, Char Bhadrasan, Char Fasson, Charghat, Chatkhil, Chaugachha, Chhagalnaiya, Chhatak, Chilmari, Chitalmari, Chuadanga Sadar, Chunarughat, Companyganj, Damudya, Damurhuda, Daudkandi, Daulatkhan, Daulatpur, Debhata, Debiganj, Dewanganj, Dhaka City (Tejgon), Dhamoirhat, Dhobaura, Dhunat, Dighalia, Dighinala, Dimla, Dowarabazar, Dumuria, Durgapur, Fakirhat, Faridganj, Faridpur, Faridpur Sadar, Fenchuganj, Fulbari, Fulchhari, Gabtali, Gaffargaon, Gaibandha Sadar, Gangachara, Gangni, Gauripur, Gaurnadi, Gazaria, Gazipur Sadar, Ghatail, Ghior, Goalandaghat, Gobindaganj, Gopalganj Sadar, Gosairhat, Gowainghat, Gurudaspur, Habiganj Sadar, Haluaghat, Harinakunda, Haripur, Harirampur, Hathazari, Hatibandha, Hizla, Homna, Islampur, Itna, Jaintiapur, Jaldhaka, Jamalganj, Jhenaidaha Sadar, Jhenaigati, Jhikargachha, Jiban Nagar, Kaharole, Kalaroa, Kalia, Kaliganj, Kalkini, Kalmakanda, Kamalganj, Kapasia, Kaptai, Karimganj, Kashiani, Katiadi, Kawkhali (Betbuni), Kazipur, Kendua, Keraniganj, Keshabpur, Khansama, Khoksa, Kishoreganj, Kishoreganj Sadar, Kotali Para, Kotchandpur, Kotwali Koyra, Kulaura, Kuliar Char, Kumarkhali, Kurigram Sadar, Kushtia Sadar, Lakhai, Lakshmipur Sadar, Lalmonirhat Sadar, Lalpur, Lama, Lohagara, Lohajang, Madan, Madarganj, Madhabpur, Madhukhali, Madhupur, Magura Sadar, Maheshpur, Manikganj Sadar, Manirampur, Manohardi, Matlab, Mehendiganj, Meherpur Sadar, Melandaha, Mirpur, Mirsharai, Mirzapur, Mitha Pukur, Mithamain, Mohammadpur, Mohanganj, Muksudpur, Muladi, Munshiganj Sadar, Nabiganj, Nagarkanda, Nageshwari, Naikhongchhari, Nakla, Nalitabari, Narail Sadar, Narayanganj Sadar, Naria, Nasirnagar, Natore Sadar, Nawabganj Sadar, Netrokona Sadar, Nikli, Nilphamari Sadar, Noakhali Sadar, Paba, Paikgachha, Pakundia, Palashbari, Panchagarh Sadar, Panchhari, Pangsha, Parbatipur, Patgram, Phulbari, Phulpur, Phultala, Pirgachha, Pirganj, Purbadhala, Puthia, Rajarhat, Rajbari Sadar, Ramganj, Ramgarh, Rangpur Sadar, Raninagar, Ranisankail, Raumari, Royganj, Roypur, Roypura, Ruma, Rupsa, Sadarpur, Sadullapur, Saghatta, Saidpur, Santhia, Sapahar, Sarail, Sarankhola, Sariakandi, Sarishabari, Satkhira Sadar, Savar, Serajdikhan, Shahjadpur, Shahrasti, Shailakupa, Shalikha, Sharsha, Sherpur, Sherpur Sadar, Shib Char, Shibalaya, Shibganj, Singair, Singra, Sonatola, Sreebardi, Sreenagar, Sreepur, Sujanagar, Sunamganj Sadar, Sundarganj, Sylhet Sadar, Tahirpur, Tala, Tangail Sadar,

Annex Table 6.5 contd.)

Annex Table 6.5 contd.)

Taraganj, Tarail, Tarash, Taiumuddin, Tentulia, Terokhada, Thakurgaon Sadar, Ulipur, Wazirpur, Zanjira **(290 upazilas)**
Fully Diesel-operated
Baghai Chhari, Bamna, Barguna Sadar, Barkal, Barlekha, Bauphal, Beani Bazar, Belai Chhari, Betagi, Bhandaria, Bishwanath, Char Rajibpur, Chauhali, Dacope, Dashmina, Derai, Dharampasha, Galachipa, Golabganj, Haim Char, Jagannathpur, Jhalakathi Sadar, Jurai Chhari, Kachua, Kala Para, Kanaighat, Kanthalia, Kawkhali, Khagrachhari Sadar, Khaliajuri, Khulna Sadar, Kutubdia, Lakshmichhari, Lalmohan, Langadu, Mahalchhari, Manikchhari, Manpura, Mathbaria, Matiranga, Moulovibazar Sadar, Mirzaganj, Mollahat, Morrelganj, Nalchity, Nanner Char, Nazirpur, Nesarabad (SwarupKathi), Patharghata, Patuakhali Sadar, Pirojpur Sadar, Rajapur, Rajasthali, Rajnagar, Ramgati, Rampal, Rangamati Sadar, Rowangchhari , Shyamnagar, Sitakunda, Sreemangal, Sulla, Thanchi, Tongibari, Tungi Para, Zakiganj **(66 upazilas)**

Note: No upazila under Negligible (0-20 per cent) and low (20.01-50 per cent) category.
Source: Authors' calculation, based on the data from Minor Irrigation Survey Report 2007-08.

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RESTRUCTURING OF THE JUTE MANUFACTURING SECTOR IN BANGLADESH AT CROSS-ROADS

CHALLENGES AND THE WAY-OUT*

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7.1 INTRODUCTION AND OBJECTIVES

Jute manufacturing sector of Bangladesh, which is one of the oldest traditional manufacturing sectors of the country, has traveled a long way witnessing many ups and downs and experiencing fluctuating fortunes. In 1960s and 1970s, the jute sector was considered as the mainstay of the manufacturing industry (of East Pakistan and Bangladesh respectively) because of its significant contribution to the national income, export earnings and industrial employment. However, over the subsequent years the sector gradually lost its prominence and importance - at present jute manufacturing sector accounts for a mere 3.9 per cent of the country's total export (which was about 90.0 per cent in 1973). Though the ascendancy of the export-oriented readymade garment (RMG) was a major reason, such a diminished share was also the result of policies pursued by successive governments and the secular decline in the demand for jute goods, in both domestic and international markets, over time.

One of the distinctive features of jute manufacturing sector of Bangladesh has been predominance of public sector in terms of production of jute goods and employment generation. However, the role of the public sector has come down over time as a consequence of policy of successive governments towards pro-private sector led industrial development (Haque 1984). Since early 1980s, restructuring of the state-owned enterprises (SoEs) has got underway as part of this policy shift. During 1982-84 a total of 34 jute mills (out of 72) which were operating in the public sector were privatised; most of these mills were conventional units. Out of the 34 privatised jute mills, 27 were conventional (hessian and sacking) and 7 were carpet backing cloth (CBC) jute mills. A total of another 22 jute mills were privatised during the last two decades. A number of new jute mills (mostly of spinning type) were established under the private sector initiative during this period.

There is a longstanding debate in the country as regards the rationale and justification of privatising the SoEs (Muniruzzaman 1992). This debate has also been fuelled because of the evidence of a number of privatised SoEs, particularly jute mills, having closed down over the subsequent years. According to an earlier survey conducted by the Bangladesh Institute of Development Studies (BIDS) (1995), of the 205 firms which were privatised, only 112 (50 per cent) were in operation at the time of survey. A large number of firms had discontinued production after privatisation. Among the 83 firms which were closed down, 28 units were engaged in other activities and 65 units were inactive. Of the firms privatised, 46 per cent were either making profits or were operating at break-even prior to privatisation (Privatization Commission 2008). About 39 thousand workers of 205 firms were laid off

since the privatisation of the enterprises. In case of jute manufacturing sector, although a number of initiatives were taken as part of support underwritten by the World Bank in early 1990s (World Bank 1986; IDIL 1992), no discernible change was observed with regard to performance.[1] On the contrary, performance of public and private sector jute mills worsened, to various degrees, especially in terms of capacity utilisation and level of production. As a move towards restructuring of the jute mills, the immediate past caretaker government (CTG) had decided to close down four jute mills and subsequently, retrenched 14 thousand workers. It is to be noted that these initiatives were taken by the government at a time when the Indian jute sector, particularly mills operating under the private sector, decided on a strategy of expansion towards higher production and more importantly, higher exports.

Having gone through the three decades of experience that involved reforms and restructuring of the jute manufacturing sector, it appears that time has come to examine its prospects with a fresh look. This would call for exploring ways and means that will contribute to sustainable development of this industry. However, there is a dearth of information on the current state of performance of public sector as well as private sector jute mills. This makes the task of putting forward policy suggestions rather difficult. The present study has attempted to address this lacuna by undertaking extensive field surveys and interviews with well informed stakeholders.

The objectives of the study are three-fold:

- The study analyses the performance of public and private sector jute mills to understand the state of comparative performance of the two sectors with the objective of evaluating their relative contribution, level of efficiency, and productivity.

- The study examines major weaknesses of public sector jute mills by undertaking survey of jute enterprises with a view to identify micro-level weaknesses.

- Based on the aforesaid analyses, the study seeks to put forward specific suggestions in three areas: (a) overall development of jute manufacturing sector of the country; (b) restructuring and reform of public sector jute mills; and (c) raising the efficacy of the process of privatisation.

[1]Under the World Bank programme (Jute Sector Adjustment Credit or JSAC), government compensated the mills through export loss finance for BJMA mills between 1992 and 1995 and up to 1995-96 for BJMC mills. The loss of finance to BJMC mills ranged between 31 per cent and 67 per cent, i.e. on an average 50 per cent; on the contrary for the BJMA mills this was 16 per cent during 1992-93 and 20 per cent between 1993 and 1995. According to the BJMA, private sector mills are yet to receive the support in the form of export loss finance, which was about Tk. 52 crore.

7.1.1 Methodology

It needs to be highlighted at the outset that the study is part of a broader ongoing research project of the CPD titled "Performance of Jute Sector of Bangladesh: Constraints, Opportunities and Challenges." The present study is based on data generated from primary survey, conducted over a three-month period from November 2007 to January 2008 of 45 jute mills (35 per cent of total jute mills in the country). Of the 45 sample jute mills, 14 jute mills belonged to the Bangladesh Jute Mills Corporation (BJMC), 17 to the Bangladesh Jute Mills Association (BJMA) members and the rest to the Bangladesh Jute Spinners Association (BJSA). Sample jute mills were located in 17 districts, of which, 9 were in Chittagong, 6 in Narsingdi, 5 in Khulna, 4 in Dhaka and the remaining mills were dispersed across the country. The primary survey concentrated on such areas as production and export; availability of technologies; work force; productivity and efficiency of labour and capital; management efficiency; procurement process (of raw jute); access to finance; cost and income; export market; and other relevant areas. The survey made an attempt to generate information for two specific periods (2002 and 2007) with the overarching objective to provide a better understanding of the intertemporal dynamics of changes experienced by the jute manufacturing sector of the country.

In order to appreciate various reform initiatives undertaken in India, a rapid perception survey was carried out in West Bengal through a week-long visit in March 2009. During this visit, several key officials of the Indian government and private sector were interviewed. They included: Office of the Jute Commissioner, Indian Jute Mills Association (IJMA), National Jute Manufactures Corporation Ltd. (NJMC), Jute Manufactures Diversification Council (JMDC), Indian Jute Industries Research Association (IJIRA), Directorate of Jute Development, National Centre for Jute Development (NCJD), and Forward Markets Commission. As part of this visit, two jute mills were visited which were located in two districts of West Bengal (Chabbish Pargana and Kolkata). Relevant sections of this report reflect an understanding of the distinctive features of the jute industries of the two countries, as was gleaned from field level visits. A separate section is dedicated to analysing various reform initiatives undertaken by the Indian government in the management of public sector jute mills under NJMC in order to gain insights with respect to possible policy directions in the context of Bangladesh.

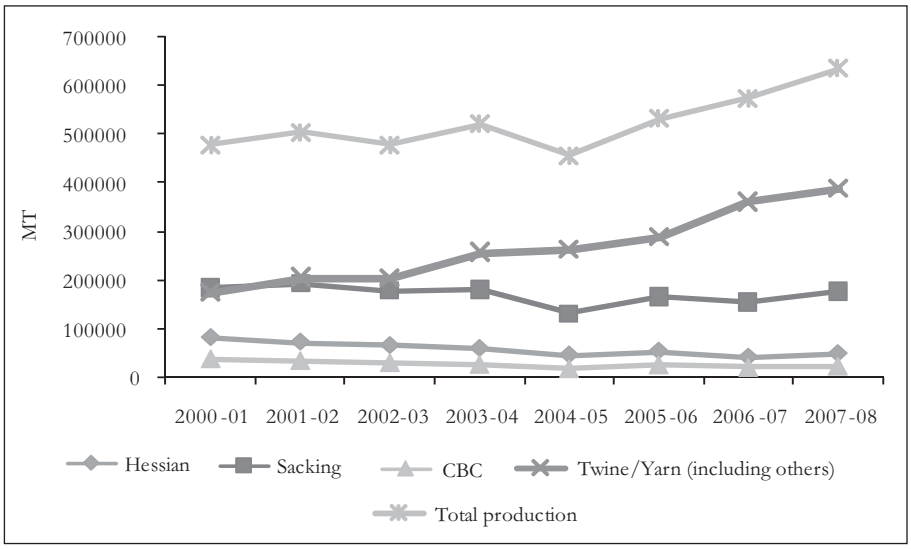
7.2 AN OVERVIEW OF THE JUTE MANUFACTURING SECTOR OF BANGLADESH

At present, a total of 129 jute mills are in operation in Bangladesh, of which, 18 mills operate under the public sector and the remaining 111 are operating

under the private sector. Of the 111 private mills, 61 were owned by the BJMA members while the remaining 50 by the BJSA members. According to the available data of 30 June 2008, 88,956 registered workers were working in BJMC and BJMA mills, of which, 46,958 workers (52.8 per cent) were engaged in BJMC mills and 41,998 workers were in BJMA mills.

According to Figure 7.1, production of jute goods had been on the rise over the past years- production increased from 4.11 lakh metric tonnes (MT) in FY2003-04 to 5.49 lakh MT in FY2007-08.[2] However, production of jute goods has experienced a decelerating trend in recent months in view of the global financial crisis - between July 2008 to January 2009, except for the

Figure 7.1: Production Trends of Jute Goods in Bangladesh



Source: BJMC, BJMA and BJSA.

month of August and November 2008, production had indeed decelerated. Production of jute goods declined by 4 per cent during July-January FY2008-09 compared to that of the previous year - production of sacking, hessian and CBC items fell by 4.7 per cent, 7.6 per cent and 28.0 per cent respectively. Whilst production of most of the jute goods is attributed to either a deceleration or a negative rate of growth during 2001 to 2008, production of yarn/twine registered a consistently high level of growth during the comparable period. As a result, overall production crossed the level of 6 lakh

[2]Production trend of the jute manufacturing sector can be broadly categorised into four periods: first phase (1950-1970); second phase (1972-1981); third phase (1982-1990); and, fourth phase (1991-onward). During these four phases, jute manufacturing sector had experienced various changes in policies, and also in the pattern of utilisation of jute and jute goods.

MT. The ongoing global economic crisis had a negative impact on jute exports which constitute a large share of total jute production. Export of Bangladesh's jute goods had decreased during July-March, FY2008-09 (-17.98 per cent) compared to the same period of the previous year (Table 7.1). Similarly, export of raw jute has also suffered a decline over the same period (-19.62 per cent).

Table 7.1: Month-wise Export Growth of Raw Jute and Jute Goods during July-March FY2009

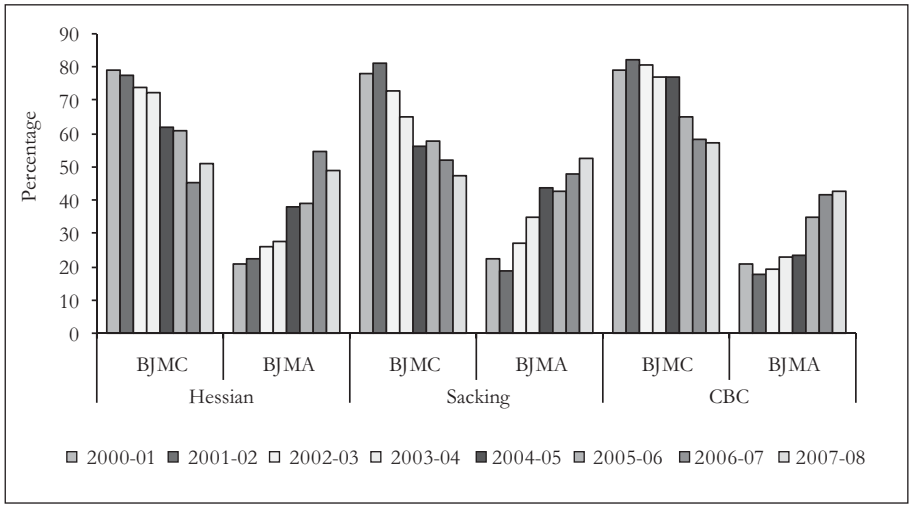
(in Per cent)

Months	Raw Jute	Jute Goods
July	78.27	32.70
August	-49.96	-19.49
September	-49.20	-16.12
October	8.36	-18.24
November	21.22	-30.90
December	-20.66	-46.25
January	-49.42	-32.40
February	-49.22	-3.73
March	-18.78	-17.21
July - March	**-19.62**	**-17.98**

Source: CPD Trade Database.

It is to be noted that, between 2001 and 2008, share of production of private sector jute mills had nearly doubled - from 21 per cent to 49 per cent in case of hessian products, from 22 per cent to 53 per cent in case of sacking products and from 21 per cent to 43 per cent in case of CBC products (Figure 7.2). This

Figure 7.2: Share of BJMC and BJMA Mills in Production of Different Types of Jute Goods



Source: BJMC, BJMA and BJSA.

rise in share of private sector jute mills is accounted for not by increased production of various products by these mills, rather by the sharp deceleration of production of those goods by the public sector mills. In this connection it needs to be remembered that production of sacking and yarn accounts for more than 80 per cent of the country's total production of jute goods.

7.3 COMPARATIVE ANALYSIS OF PERFORMANCE OF PUBLIC AND PRIVATE SECTOR JUTE MILLS: FINDINGS FROM THE CPD SURVEY

In order to appreciate the factors responsible for the performance of public and private sector jute mills, an indepth analysis has been carried on critically important issues related to production and sales, technology, operation and maintenance, marketing and labour-management in the jute sector of the country.

7.3.1 Production and Sales of Jute Products

Share of sales by the sample BJMC and BJMA mills in domestic and international markets were almost similar. This corroborates the general national trend (Table 7.2). BJSA mills, which mainly produce yarn/twine products, exported two-thirds of their products in the international market. One of the major features of Bangladesh jute industry has been the limited domestic market for the jute goods. On the other hand, India has a large domestic market where more than 95 per cent of sacking products are sold locally; sale of India's hessian products follow similar trend as that of Bangladesh (about 49 per cent). Market structure is not the same for Bangladesh (yarn-based and export market oriented) and India (sacking-based and domestic market oriented).

Table 7.2: Share of Sale in Domestic and International Markets of the Sample Mills: 2007

(in Per cent)

Organisation	Domestic Market	International Market
BJMC	47	53
BJMA	49	51
BJSA	34	66

Source: CPD Trade Database.

Major export destinations of products manufactured by the sample mills include the United States (US), the European Union (EU), Asia, Africa and Australia (Table 7.3). About 39.9 per cent products of sample mills (mainly sacking and yarn/twine) were exported to Asian countries and 23.5 per cent products (mainly yarn/twine and hessian products) were exported to the

European market. Interestingly, public sector jute mills marketed their major products, hessian and sacking, mainly in Asian and African markets whilst private sector jute mills sold mainly in the European markets, as also in some of the Asian markets. Yarn was exported by the private sector jute mills both to the Asian and the European markets. It appears that it was mainly the relatively low priced markets of Asia and Africa that were targeted by the BJMC mills, while, private sector jute mills focused relatively more on high priced markets such as those of Europe and the US. BJMC should seriously think about revisiting its marketing strategies by putting more emphasis on expansion of its market base in Europe and North America. Expansion of market to Latin American countries should be set as target both by the private and the public sector jute mills. In this regard, it is worth highlighting here that India has gradually increased its exports to Latin American markets over the recent past years.

Table 7.3: Proportionate Export by the Sample Mills in Different Regions (as % of Total): 2007

Product	Mill	USA	EU	Africa	Asia	Australia	Other	Total (%)
Hessian	Public	16.3	13.1	13.2	48.5	8.9		100.0
	Private	23.6	64.8	3.8	7.8			100.0
Sacking	Public	5.0	3.8	25.7	60.9	4.6		100.0
	Private	9.3	6.2	19.2	58.0	7.3		100.0
CBC	Public	5.3	12.3	6.5	16.3	55.5	4.1	100.0
	Private	3.5	29.0		26.5	41.0		100.0
Yarn/twine	Public		10.0		90.0			100.0
	Private	11.0	43.8	7.1	38.1			100.0
Diversified products	Private	18.1	54.6		24.2	3.1		100.0
Total		**9.1**	**23.5**	**15.7**	**39.9**	**10.9**	**0.9**	**100.0**

Source: CPD Jute Survey 2007-08.

Maintaining a strong marketing network is important for manufacturers to guarantee assured orders and to ensure better price for the products. A domestic market based marketing network led mainly by local buyers/buying houses is capable of offering only low price of jute products compared to the ones offered by international buying houses with international marketing networks. Most of the BJMC mills sold their products either through local buying houses (54 per cent) or international buying houses (35.9 per cent); on the other hand, private sector manufacturers sold their products mainly through direct buyers (Table 7.4). Private sector jute mills were likely to receive better price for their products not only because they targeted upstream markets, but also because they had better marketing techniques. BJMC should strive to come out of its traditional way of marketing with overwhelming dependence on a single local buying house such as Bangladesh Jute Goods Association (BJGA). BJMC central authorities and individual mills under the BJMC should try to sell more products directly through international buyers, which could ensure better price for products

manufactured by BJMC. However, better price for jute goods is also correlated to quality issue and timeliness of delivery of the products, where BJMC mills suffer from serious weaknesses.

Table 7.4: Sales of Different Products of Public and Private Sector Jute Mills of the Sample Mills through Different Agents: 2007

(in Per cent)

Product	Public			Private		
	Local Buying Houses	International Buying Houses	Direct Buyers	Local Buying Houses	International Buying Houses	Direct Buyers
Sacking	64.5	32.5	3.0	71.3	16.1	12.6
Hessian	55.0	32.5	12.5	55.5	4.0	40.5
CBC	52.9	45.3	1.9	19.1	26.4	54.4
Yarn/Twine	23.0	77.0	0.0	45.8	17.8	36.3

Source: CPD Jute Survey 2007-08.

Although production of traditional items such as hessian and sacking has registered a decline between 2002 and 2007, price of all types of jute products, on the contrary, indeed increased over this period. Both public and private sector jute mills have received higher prices for their products.[3] However, BJMA mills received comparatively higher prices both in domestic (64.7 per cent) and international markets (55.6 per cent), against the ones received by the BJMC mills (54 per cent and 46 per cent respectively; Table 7.5). Similarly, BJSA mills received a high price for their specialised product (yarn/twine) in the international market. The rise of per unit price of jute goods can be partly explained by increasing demand for jute and jute goods in global market vis-a-vis jute alternates, polypropylene products. However, the high price of jute products did not sustain for long; prices started to decline especially following the global economic crisis of 2008. As a consequence, Bangladeshi manufacturers suffered in two ways - through lower demand of jute goods and falling export prices.

Table 7.5: Change of Selling Price in the Domestic and International Markets of Sample Mills

Organisation	Domestic Market			International Market		
	Average Selling Price in 2002 (Tk./MT)	Average Selling Price in 2007 (Tk./MT)	% Change of Selling Price between 2002 and 2007	Average Selling Price in 2002 (Tk./MT)	Average Selling Price in 2007 (Tk./MT)	% Change of Selling Price between 2002 and 2007
BJMC	28881.4	44474.6	53.9	33646.3	49250.8	46.3
BJMA	30611.5	50422.8	64.7	33427.8	52031.0	55.6
BJSA	13866.7	25785.8	85.9	36548.4	49783.5	36.2

Source: CPD Jute Survey 2007-08.

[3]In some instances, manufacturers received better prices for their products in domestic market compared to the international market.

7.3.2 Technical Aspects of Sample Jute Mills

Noticeable difference is discerned between public and private sector jute mills in respect of use of modern machines and capacity utilisation, level of production, and level of productivity and efficiency. BJMC mills, which were traditionally large in size, had larger number of looms in operation (403) compared to that of BJMA mill (191). However, their level of production did not match this advantage with the latter (only 5.6 per cent higher compared to that of a BJMA mill; Table 7.6).[4] Hence production per unit of machine in BJMC mills was lower compared to that in BJMA and BJSA mills. It is important to note that, production per loom in Indian jute mills is substantially higher (33 MT) than that of BJMC jute mills (20 MT), whilst it is marginally higher than that of BJMA jute mills (30 MT).

Table 7.6: Number of Looms and Market Value of Machineries: 2007

Organisation	Market Value of Machineries per Unit (in Crore Tk.)	Total no. of Looms in Operation per Unit	Production per Unit	Production per Loom	Production per Worker
BJMC	54.72	403	6,085	20.10	2.50
BJMA	16.93	191	5,761	30.20	4.67
BJSA	-	-	6,823	-	7.19

Source: CPD Jute Survey 2007-08.

Poor performance of local jute mills is attributed initially to unutilisation and underutilisation of the machine capacity. Capacity utilisation was lower in public sector jute mills compared to that in the private sector (Table 7.7). More importantly, rate of capacity utilisation had declined significantly in most of the sections in the production chain of BJMC mills between 2002 and 2007. Interestingly, it was found that private sector jute mills, over the same period, could ensure better use of their productive capacities in certain sections, though in other sections capacity utilisation fell. On the other hand, capacity utilisation of machines in different sections was higher in case of Indian jute mills. More importantly, capacity utilisation of machines of some sample mills achieved the maximum limit (100 per cent) in case of carding, drawing, spinning and winding, as reported in a study (JMDC 2002; Table 7.8). The high level of capacity utilisation in Indian mills was attributed to high demand of jute products, particularly sacking products, in the local market, better maintenance of machines and a continuing thrust to improve productivity of machines to

[4] Indian jute mills, on the other hand, are rather big (average number of looms in a mill is 617).

achieve higher levels of efficiency. Capacity utilisation in private sector jute mills of Bangladesh was, on average, within the range of 70-80 per cent only in most sections.

Table 7.7: Change in Capacity Utilisation of Sample Mills between 2002 and 2007

(in Per cent)

Mills	Softener/Spreading			Carding			Drawing			Winding			Calendering		
	FY2002	FY2007	% Change	FY2002	FY2007	% Change	FY2002	FY2007	% Change	FY2002	FY2007	% Change	FY2002	FY2007	% Change
Public Sector	61.5	49.8	-19.1	62.3	47.7	-23.4	67.2	53.5	-20.4	65.3	53.9	-17.4	65.2	59.3	-9.1
Private Sector	79.3	74.9	-5.6	77.4	81.8	5.7	77.9	82.1	5.5	74.6	73.1	-2.1	61.4	62.9	2.4

Source: CPD Jute Survey 2007-08.

Table 7.8: Machine Utilisation in Indian Jute Mills: 2002

(in Per cent)

	Softening	Carding (breaker)	Intermediate carding	Finish carding	Drawing (first)	Drawing (second)	Finish drawing	Spinning fine	Spool winding	Cop winding	Weaving (hessian)	Damping (hessian)	Calendering (hessian)	Cutting (hessian)	Sewing hemming
Indian Jute Mills	66.7	93.3	100.0	100.0	100.0	100.0	98.5	100.0	100.0	90.9	100.0	66.7	63.9	66.7	66.7

Source: JMDC (2002).

There was a significant difference in the level of productivity of different sections of public and private sector mills, especially in case of drawing, spinning and calendaring. Private sector was far ahead of the public sector in this regard. Productivity of machines in most sections in public sector jute mills had declined, barring the weaving and calendaring sections (Table 7.9). In contrast, machine-productivity in private sector jute mills has increased in most of the sections, particularly in softener, spinning, winding and weaving. Low level of machine-productivity in major operations in the public sector jute mills was indicative of low level of their technical efficiency. This could be related to inefficient use of raw jute as inputs, handling and maintenance of machines, time-use pattern for manufacturing goods, etc. Operational inefficiency of the management appears to be the main reason for low level of productivity. Compared to Bangladesh, productivity of machines of Indian jute mills was relatively high (Table 7.10); in some sections, productivity was almost double even compared to that in private sector jute mills, such as carding, spinning and weaving (JMDC 2002).

Table 7.9: Change in Output per Unit of Machine (kg/hour) of Sample Mills

Type of Mill	Section	Output in 2007	% Change in Output between 2002 and 2007
Public Sector	Softener/Spreading	586.2	-2.0
	Drawing (first)	95.3	-2.5
	Carding (breaker)	150.9	-3.9
	Spinning	27.0	-1.5
	Weaving (sacking)	5.7	1.8
	Winding	93.5	-4.5
	Calendaring (metres/machine/hour)	2300.1	1.8
Private Sector	Softener/Spreading	459.7	0.9
	Drawing (first)	163.9	-1.4
	Carding (breaker)	167.1	-4.1
	Spinning	33.2	1.8
	Weaving (sacking)	6.7	34.0
	Winding	97.9	16.5
	Calendaring (metres/machine/hour)	2931.1	-10.1

Source: CPD Jute Survey 2007-08.

Table 7.10: Productivity of Sample Indian Mills (kg/hour)

	Softener/Spreading	Carding (breaker)	Drawing (First)	Spinning	Weaving (Sacking)	Calendaring (Sacking)
Indian Jute Mills	656.3	318.8	275.0	54.9	11.0	3914.3

Source: CPD Jute Survey 2007-08.

7.3.3 Operational Aspects

Procurement of better quality raw jute, in the amount required, was the most critically important activity of jute mills during the initial phase. On average, a total of 1.45 lakh maund raw jute was procured by a jute mill. Raw jute procured by a spinning mill was relatively higher since they tend to use more

jute for manufacturing export quality yarn/twine. However, major issue in case of procurement of raw jute was the availability of adequate funds at the disposal of public and private sector jute mills during the harvest season. A wide difference in the procurement price of raw jute between public and private sector jute mills was another issue of concern. However, the CPD survey indicated that variation was not wide in terms of time of procurement between the public and private sector jute mills. Resource-seeking public jute mills perhaps had better access by way of funds from the government.[5]

Interestingly, procurement price in public sector mills was low for some types of raw jute (deshi, tosha) compared to that in private sector mills, while in other types (mesta), procurement price was found to be relatively high in public sector jute mills (Table 7.11). Procurement price of raw jute has increased by 32.4 per cent between 2002 and 2007. This has positively contributed to jute farming in the country by providing stimulus to farming. It appears that rise of prices of jute and jute goods in international market in recent years have had positive impact by way of rise in price of raw jute at the farmer's level. Higher price of raw jute was also associated with escalating cost of production. In terms of amount of raw jute required for processing and manufacturing of one unit of hessian, sacking, CBC and yarn products, and also the time required for manufacturing those items, both BJMC and BJMA mills revealed similar patterns of performance.

Most of the mills, particularly BJMC mills, suffered from inadequate amount of capital during procurement season. Banks, in some cases, were reluctant to provide funds in advance since most jute mills had defaulted on earlier loans. Often times mills were found to be having a tough time repaying their debts because of lack of required net income from their current transactions. Because of the huge debt burden, majority of the mills were in a financially weak position. Raw jute procured with suppliers' credit was one of the major modalities for procurement by both the public and private sector jute mills (Table 7.12). However, a huge amount of suppliers' credit had remained unpaid, which has continued to remain a headache for both concerned parties. In contrast, most of the Indian jute mills operating under private sector maintained strong financial position since debt burden of individual mills was rather small.

According to the Annual Report of a mill visited in March 2009 during the field survey undertaken for this study, out of the total Rs. 1.3 billion in 2007, amount of bad debts constituted merely 0.01 per cent (Rs. 152,978).

[5]BJMC is regularly receiving grant/subsidy from the government in order to operate its jute mills - in 2008 it received Tk. 25.8 crore; in 2007 and 2006, these amounts were Tk. 35 crore and Tk. 100 crore respectively.

Table 7.11: Purchasing Price of Raw Jute of Sample Mills

Type of Mill	Type of Raw Jute	Average Price in 2002 (Tk./maund)	Average Price in 2007 (Tk./maund)	% Change between 2002 and 2007
Public Sector	Deshi white	667.9	783.1	17.2
	Tosa	671.2	881.8	31.4
	Mesta	589.1	848.9	44.1
	Total raw jute	580.4	746.6	28.6
Private Sector	Deshi white	558.3	858.1	53.7
	Tosa	642.8	948.7	47.6
	Mesta	484.5	782.1	61.4
	Total raw jute	580.4	793.4	36.7
Total	Deshi white	624.1	831.3	33.2
	Tosa	653.6	930.0	42.3
	Mesta	547.3	807.8	47.6
	Total raw jute	580.4	768.2	32.4

Source: CPD Jute Survey 2007-08.

Table 7.12: Sources of Working Capital of Sample Mills

Type of Mill	Sources of Working Capital	Capital Available for Procuring Raw Jute in 2007 (Lakh Tk.)	Capital Repaid to Different Sources (%) in 2007
Public Sector	Financial institutions	769.2	7.7
	Own capital of the mill	542.0	-
	Borrowing from other sources	91.8	10.7
	Borrowing (dues) from raw jute suppliers	986.3	41.5
	Others	0.8	0.0
	Total	2390.1	-
Private Sector	Financial institutions	706.5	31.7
	Own capital of the mill	819.4	-

(Table 7.12 contd.)

(Table 7.12 contd.)

Type of Mill	Sources of Working Capital	Capital Available for Procuring Raw Jute in 2007 (Lakh Tk.)	Capital Repaid to Different Sources (%) in 2007
	Own capital of the mill	819.4	-
	Borrowing from other sources	49.3	12.3
	Borrowing (dues) from raw jute suppliers	87.0	30.1
	Others	12.5	1.7
	Total	1674.7	0.0
	Financial institutions	725.4	24.4
Total	Own capital of the mill	735.5	-
	Borrowing from other sources	62.2	11.8
	Borrowing (dues) from raw jute suppliers	358.9	33.6
	Others	9.0	1.2
	Total	1890.9	-

Source: CPD Jute Survey 2007-08.

7.3.4 Employment and Worker-related Issues

Jute manufacturing has traditionally been a labour-intensive activity; however, the size of employment in public and private sector jute mills has varied overtime. BJMC mills, on average, employed more than twice the number of workers compared to the BJSA mills; the number was about 75 per cent higher when compared with BJMA mills (Table 7.13). Number of workers in the various sections of BJMC mills was higher then that of BJMA and BJSA mills and this difference ranged between 19 per cent and a whopping 167 per cent (in particular sections). It can be inferred that because of underutilisation and unutilisation of machineries in the BJMC mills, many workers, who are employed under "permanent" contract, remains underemployed or unemployed. Since these workers were entitled to receive government-stipulated salaries and other amenities, to the fullest extent, cost of production in the BJMC mills has tended to remain high on a consistent basis undermining profitability, and overall sustainability of the units. Wage structure of BJMA mills, on the other hand, was different because of the "contractual" nature of appointment; workers' wages were also found to be low. Excess number of workers in the public sector jute mills was mainly because of recruitment of additional workers and also "non-workers" during different political regimes and also as a result of pressure from trade unions.

Since BJMC mills were unable to employ the workforce appropriately, their overall production was lower compared to other mills. Output per worker, which is a proxy variable for labour productivity, was found to be only half in sample BJMC units compared to that of a BJMA mill. While in case of a BJSA mill, it was almost three times higher compared to that of a BJMC jute mill. Low productivity in the BJMC mills has been, and continues to be, a serious cause of concern which demands further and more in-depth investigation.

Table 7.13: Types of Workers in Different Sections in Sample Mills: 2007

Section	BJMC	BJMA	BJSA	Percentage of Workers Higher in a BJMC Mill Compared to a BJMA Mill	Percentage of Workers Higher in a BJMC Mill Compared to a BJSA Mill
Batching/softening/pilling/ carding & drawing	382	222	322	72.0	18.6
Spinning	420	231	262	81.8	60.3
Winding, beaming	206	156	315	32.1	-34.6
Weaving	925	346	NA	167.3	NA
Damping, lapping etc.	298	145	NA	105.5	NA
Others	344	365	NA	-5.8	NA
Total	2575	1465	1108	75.8	132.4

Source: CPD Jute Survey 2007-08.
Note: NA: Data not available.

Workers' wages are related to their skill and the types of operation they are engaged in. Survey carried out for this study showed that workers' wages in a typical jute enterprise ranged between Tk. 2,600 and Tk. 5,400, depending on level of skill and types of operation. Workers' wages were significantly higher in BJMC mills as compared to BJMA and BJSA mills (Table 7.14). Wages in the BJMC mills ranged between a minimum of Tk. 4,400 and a maximum of more than Tk. 10,000. Survey revealed that wages of BJMC workers was more than double (even three times higher in certain operations) than the workers in BJMA and BJSA mills. BJMC workers received higher wage despite low productivity; the situation worsened since productivity has declined over time. Such a high expenditure on account of workers' wages in the BJMC mills led to a hike in overall cost of production in these mills. As a consequence, impact on their overall earnings was negative. In contrast, BJMA and BJSA mills were found to enjoy higher output with half the level of wages. Whether the wage paid to workers in private sector jute mills was adequate to meet workers' living expenses is an issue which merits attention; however, this has not been dealt within this paper.

Table 7.14: Workers' Wages in Sample BJMC Mills against Other Sample Mills

Section	BJMC			% of Wage Higher in BJMC Mill Compared to BJMA			% of Wage Higher in BJMC Mill Compared to BJSA		
	Ave. Monthly Wage of Skilled Workers (in Tk.)	Ave. Monthly Wage of Semi-skilled Workers (in Tk.)	Ave. Monthly Wage of Unskilled Workers (in Tk.)	Skilled Workers	Semi-skilled Workers	Unskilled Workers	Skilled Workers	Semi-skilled Workers	Unskilled Workers
Batching/softening/ pilling/carding & drawing	6362	5349	4217	141.0	161.3	130.6	118.0	134.2	113.8
Spinning	7147	5740	4331	138.6	137.9	124.7	119.4	137.1	105.4
Winding, beaming	10131	5975	4573	235.2	147.7	133.0	202.7	144.5	107.5
Weaving	7263	6091	4413	74.1	87.4	112.0	102.1	83.2	308.2
Damping, lapping, etc.	6996	5736	4490	153.5	178.7	136.9	108.3	83.4	100.1
Others	9060	6972	4882	217.0	293.2	167.8	220.0	255.1	188.5

Source: CPD Jute Survey 2007-08.

Between 2002 and 2007, labour productivity, i.e. output per unit of labour, was found to have declined by 8.9 per cent. Labour productivity in BJMC mills

declined by 32 per cent in the period under review. Whilst labour productivity in BJMA mills fell by 7.8 per cent, in case of BJSA mills, this has not changed (Table 7.15). Low labour productivity originated from the cumulative affects of low capacity utilisation, low productivity of machineries, inefficient use of time and raw materials, etc. Lower productivity in BJSA mills was also possibly explained by higher growth in the number of workers which did not match growth of output. Field level information suggested that reduction of workers alone was not able to enhance labour and capital-productivity and removing inefficiency along a range of areas of operation and management was required at the same time.

Table 7.15: Changes in Labour Productivity of Sample Mills

Mill	Percentage Change between 2002 and 2007		
	Number of Workers	Production (in MT)	Production per Worker
BJMC	-15.6	-43.4	-32.4
BJMA	0.8	-6.3	-7.8
BJSA	24.1	22.9	0.0
Total	-13.0	-19.8	-8.9

Source: CPD Jute Survey 2007-08.

Workers' wages in Indian jute mills were found to be relatively higher compared to that in Bangladesh. Workers received average wages of Rs. 7,484 which was equivalent to Tk. 10,750 (Rs. 1 = Tk. 1.43642 as of 31 December 2008). Higher wages paid to workers was stipulated by State Government's (West Bengal) regulations as regards payment of minimum wage to workers which included a basic pay, dearness allowance, house rent allowance, employees' provident fund, employees' state insurance, bonus and other benefits. According to the regulations of the state government, basic payment of workers was usually revised in each quarter of the year on the basis of consumer price index (CPI). Though the public sector adhered to the government declared wage structure, private sector, according to comments of some entrepreneurs, did not make the necessary adjustments to the fullest extent in tune. It was found that cost escalation on account of higher wages was often balanced by other measures such as delay of expansion of scale of production. In an initiative which was still at an experimental stage, some private sector jute mills in India were found to implement productivity-based wage system for workers; however, this initiative was not acceptable to the workers.

7.3.5 Production Cost

While production cost of jute and jute goods was in general high for Bangladesh's mills in general, it was extremely high in case of BJMC mills. Cost of production of BJMC mills was significantly higher compared to that of the BJMA and BJSA mills. For manufacturing one unit of hessian product, operating cost for BJMA mills was found to be Tk. 54,603, while in a BJMC mill it was as high as Tk. 120,220 (Table 7.16). High production cost was particularly associated with high cost for raw jute and high expenditure on account of workers' wages. It is to be noted that these two categories of costs covered about 60-70 per cent of the total cost of production. A significant share of costs was associated with payment of interest for the large amount of outstanding loan as also high expenses for repair and maintenance. High expenditure on maintenance of machineries in public sector jute mills against their low productivity was in many instances because of lack of appropriate maintenance of machineries. In all types of jute mills, particularly in case of BJMC mills, production cost had escalated for all items in 2007 when compared to the situation in 2002.

Table 7.16: Operating Cost for One Metric Ton of Output in Sample Mills

Mill	Cost of Output (Tk./MT) in 2007					% of Cost Higher in BJMC Mills Compared to other Mills			
	Hessian	Sacking	CBC	Yarn/Twin	Diversified Products	Hessian	Sacking	CBC	Yarn /Twin
BJMC	120220	65155	116140	48660	NA	NA	NA	NA	NA
BJMA	54603	39232	60044	38752	56826	120.2	66.1	93.4	25.7
BJSA	NA	70719	56534	42222	NA	NA	-7.9	105.4	15.2
Total	85685	50745	94295	41960	56826	NA	NA	NA	NA

Source: CPD Jute Survey 2007-08.

There are some basic differences in the cost structures of Bangladeshi and Indian jute mills (Table 7.17). Indian jute mills tended to spend relatively more on workers' wages because of the implementation of the Minimum Wage rule. However, some other costs were found to be lower in Indian Jute Mills compared to those in Bangladesh. These included interest charges on current loan, R&M cost, depreciation cost and other costs. Most of these costs were associated with core operational component of jute mills, which were related to better raw jute procurement, efficient use of machineries, better efficiency and higher machine productivity. These helped reduce the average cost of production of Indian units.

Table 7.17: Comparison of Cost of Production of Sacking Products between Private Sector Jute Mills of Bangladesh and India: 2007

Cost Components	Bangladesh		India	
	Sacking (Tk./MT)	%	Sacking (Rs./MT)	%
Cost of raw jute	20377	51.6	16269	53.1
Cost of other raw materials	1716	4.3	848	2.8
Wages and salaries	8278	21.0	9636	31.5
R & M cost	1505	3.8	360	1.2
Power fuel	1526	3.9	1424	4.7
Depreciation cost	1339	3.4	457	1.5
Interest of current and earlier loans & other charges	1668	4.2	273	0.9
Others (including insurance, overhead, packing, return, store, tax)	2953	7.5	773	2.5
Work in process adjustment	83	0.2	357	1.2
Workers' PF, gratuity	67	0.2	215	0.7
Total cost	**39510**	**100.0**	**30612**	**100.0**

Source: CPD Jute Survey 2007-08 and JMDC (2002).
Note: Cost of production of Indian jute mills has been adjusted for 2007 based on the data collected from a survey of Indian Mills (conducted in West Bengal) during March 2009.

7.3.6 Debt Burden

Huge debt of Bangladesh's jute mills has been a major concern over the past years, undermining the sustainability of the sector. Public sector jute mills were, on average, in debt of Tk. 103 crore, while private sector jute mills had a debt burden of Tk. 77 crore on average (Table 7.18). More importantly, these debt burdens, both in case of public as well as private sector jute mills, have been on the rise over the past years; almost doubling from Tk. 53.6 crore in 2001 to Tk. 103.3 crore in 2007 in case of public sector jute mills, while in case of private sector mills it showed some variations. It was a cause of concern that because of such huge amount of outstanding loans, both public and private sectors were having to pay a large amount of interest which added to their recurrent cost of production, and consequently led to huge losses and made the operation of jute mills unviable in many instances.

Table 7.18: Outstanding Loan Situation of Sample Mills

(in Tk.)

Sector		FY2000-01	FY2001-02	FY2005-06	FY2006-07
Public	Mean	53,58,25,690	61,86,32,803	99,59,47,708	103,27,60,624
	N	11	11	11	13
Private	Mean	18,52,27,471	17,77,90,237	19,34,66,863	77,65,67,722
	N	17	18	19	25
Total	Mean	32,29,62,485	34,50,06,383	48,77,09,839	86,42,12,662
	N	28	29	30	38

Source: CPD Jute Survey 2007-08.

Debt burden was not a major concern for Indian private sector jute mills though it was a concern for jute mills operating under the NJMC (Table 7.19). One of the major operational strategies of private sector jute mills in India, as understood from conversation with managers of two large jute mills, was to operate on the basis of equity (own capital) to the maximum extent possible. This led to significant reduction in operating cost of production. Borrowings from commercial banks and other sources were relatively low. According to the Annual Report for the year 2006-2007, in case of a sample jute mill, major sources of working capital for procurement of raw jute in 2007, other than equity constituting 13.6 per cent, which included 6 per cent of total working capital through credit from commercial banks, 6.6 per cent through suppliers' credit and 1 per cent through cash in hand. On the other hand, Bangladeshi jute mills procured more than 40 per cent of total raw jute through borrowing from banks (Table 7.20). Consequently, expenditure on account of repayment of interest charges was higher, at 4.2 per cent of total cost in 2007 for a Bangladeshi mill in contrast to the 0.9 per cent in case of an Indian jute mill.

Table 7.19: Loan and Debt Position of a Selected Jute Mill in India (as of 31 March)

(in Rs.)

Loan/Debt	2007	2006
Loans		
Secured Loan		
1. Long term loan	164,440,782	202,443,542
2. Short term loan	103,199,694	124,840,009
3. Others	589,835	1,303,675
Unsecured Loan	615,011,914	476,000,077
Total	883,242,225	804,587,303
Debts		
Debts exceeding six months		
Due over six month		
Considered good	67,078,895	29,489,619
Considered doubtful	13,055,631	13,055,631
Other debt		
Considered good	276,380,329	355,701,718
Total	356,514,855	398,246,968

Source: Based on the Annual Report 2006-2007 of a Sample Jute Mill in India.

Table 7.20: Sources of Working Capital of Sample Private Sector Jute Mills in Bangladesh

Sources of Working Capital	Amount	Per cent
Financial institutions	70,647,330	42.2
Own capital of the mill	81,936,692	48.9
Borrowing from other sources	4,933,721	2.9
Borrowing (dues) from raw jute suppliers	8,697,017	5.2
Others	1,250,712	0.7
Total capital available for procuring raw jute	167,465,472	100.0

Source: CPD Jute Survey 2007-08.

7.3.7 Revenue and Profit

There was a serious mismatch between what a firm spent on production and what it received in terms of revenue through selling its products. Gross revenue earned by BJMC tended to be low since price of products which the mills produced was low. This was mainly because of their focus on low-end segment both in case of domestic as well as international markets. As mentioned earlier, BJMC received relatively lower prices in markets where they have traditionally concentrated - in Asia and Africa. The problem accentuated because the organisation sold their products through local buyers who usually offered low prices. Low price of products could be associated with low quality also which was often a problem for BJMC products. Profit estimated for sample jute mills revealed a grim picture, especially for public sector jute mills, both in gross and net amount. In case of gross profit where operating costs and income are considered, public sector jute mills had negative profits across all items (Table 7.21). On the other hand, BJMA mills earned profit in 2007 on all products that they produced; this was particularly evident in case of hessian products and diversified products. This was accounted by marketing of those products in the high-priced markets of Europe, the US and also in Asia. BJSA mills earned high level of profits for their specialised products (yarn and twine).

Table 7.21: Gross Profit of Sample Mills in 2002 and 2007

(in Tk.)

Mill	2002					2007				
	Hessian	Sacking	CBC	Yarn /Twine	Diversified products	Hessian	Sacking	CBC	Yarn /Twine	Diversified Products
BJMC	-14907.8	-10272.8	-6152.6	-3096.9		-90478.8	-19127.6	-72711.4	-31137.5	
BJMA	4334.1	186.6	3438.4	-1213.2		17768.9	2871.3	22255.5	2967.2	14690.6
BJSA	5800.3		-4393.9	2772.2	7097.9	-12315.2		6520.4	12338.6	46415.6
Total	-7930.9	-7054.5	-4248.9	1079.72	7097.9	-35210.2	-6294.9	-44701.2	4242.4	22621.9

Source: CPD Jute Survey 2007-08.

When net profit is considered, where all costs including workers' gratuity, overdue loans and their interests are taken into account against gross revenue, all types of factories operating under different categories of ownership were found to incur losses (Table 7.22). Because of the huge burden of debt, BJMC mills were found to have a large negative balance in case of all types of products. This was also true in case of both BJMA and BJSA mills.

Table 7.22: Net Profit of Sample Mills: 2007

(in Tk.)

Mill	Hessian	Sacking	CBC	Yarn/Twine	Diversified Products
BJMC	-261944	-78383	-212210	-93281	-
BJMA	-41481	-33524	-18210	-30876	-44223
BJSA	-115227	-	-43872	-29835	-336461
Total	-149975	-52215	-154491	-36596	-117283

Source: CPD Jute Survey 2007-08.

A case by case examination of the level of profit indicates that there were few firms in the sample which were able to enjoy profit both in cases on gross and net accounting estimation terms. A study of the experience of such firms could throw important insights which would be helpful in identifying factors contributing to their success. It was found that some of the firms, which were leased by the government to individual entrepreneurs, had seen cost escalation because of the statutory bindings which compelled them to adhere to certain government regulations with respect to workers' wages, number of workers, etc. This added to their operational costs and whereby it undermined profitability. However, some private sector jute mills which were operating under leasing contracts were found to be performing well. Hence, the answer to whether leasing would be a possible way to make the loss-making firms viable was not a straightforward one.

On the other hand, most of the Indian mills were found to be making profits both through sales in domestic as well as international markets. Sales in domestic market (a large part of it constituted sacking products) had built-in mechanisms to ensure a certain percentage of profit. The procurement price was fixed by the Jute commissioner India.[6] According to the Annual Report for 2006-07, of a sample jute mill in India, the company earned a gross profit of Rs. 179 lakh in 2007, though the profit was lower compared to the previous

[6]The procurement price is fixed up based on the statement of cost of production submitted by the jute mills to Jute Commissioners' office. The commissioner's office also fixes the amount of jute goods procured from different jute mills based on the available capacity of looms. The procurement price and distribution of orders to various mills have been revised on a regular interval in order to ensure the transparency of the mechanism.

year when it was Rs. 284 lakh. Net profit in 2007 (profit after tax) was substantially low at Rs. 73 lakh which was Rs. 165 lakh in the previous year. A low level of profit in 2007, according to the report, was mainly because of low level of production and steep rise in the price of raw jute. Conversation with a number of jute mills' managers of India revealed that most of the mills enjoyed profit, to varying degrees, because of their domestic sales where a guaranteed profit has been ensured through price-fixation by the government. There was a tendency in the Indian jute mills to reduce the cost of production by taking various cost reduction initiatives in order to augment profit margin. Thus, even though Indian firms operate in a "secured" local market, competition remains the key driver.

7.4 MAJOR ISSUES AND CONCERNS WITH REGARD TO PUBLIC SECTOR JUTE MILLS OF BANGLADESH: A DISAGGREGATED ANALYSIS

The above analysis suggests that performance of public sector jute mills, in general, was poor compared to that of private sector jute mills, in terms of productivity, efficiency and profitability. However, there were variations in the performance of mills at individual unit level, which needs to be examined in a more in-depth fashion in order to identify firm-specific strengths and weaknesses which could throw useful insights, and lessons could be drawn by the government from such an exercise. Based on the CPD survey, a disaggregated analysis was carried out for 14 jute mills operating under the BJMC with the objectives of finding out microlevel determinants of performance and concerns related to technical, operational marketing and managerial areas and also financial and worker related indicators.

7.4.1 Large Unit of BJMC Mills was a Drag on Performance

It was found that, in general, performance of large scale jute mill units (mills that had more than 500 looms) was poor when compared to that of the medium (which had 250-500 looms) and small (less than 250 looms) jute units. It was evident that a low level of productivity was associated with low level capacity utilisation of machines which was common in large size jute mills. Large size jute mills (such as sample no. 11, 16, 25 and 40 in the survey) suffered from low capital productivity as well as low labour productivity. At the same time, these mills have low capacity utilisation of machines (such as sample no. 11 and 40 except that of sample no. 25). Detailed evidence has been provided in Table 7.23. Consequently, production per unit of machine in different sections of large size firms was low. Ensuring a higher level of productivity was one of the most essential steps for reducing the cost of production. Hence, rationalisation of size

of jute mills could be one of the major strategical interventions for ensuring better capacity utilisation as well as better labour management in the mills. This would lead to productivity enhancement. Rationalisation of size in the jute mills should be pursued across all sections of operation.

7.4.2 Unutilisation and Underutilisation of Productive Capacity is a Major Concern

Low level of capacity utilisation had adverse impact on both productivity and efficiency. This was indicative of underutilisation of productive capacity. Average capacity utilisation in BJMC mills was 52.4 per cent, but it varied widely, with maximum capacity utilisation of 81 per cent (sample no. 25) and minimum of 20 per cent (sample no. 15). A majority of the mills possessed a large pool of machines which were often unutilised (a part of these machines also become obsolete because of lying idle over long period of those). Market value of these machines were found to range between Tk. 554,000 to Tk. 1,883,000. Low capacity utilisation of machines had negative effect on productivity of both machines and workers. Capital and labour productivity in sample BJMC jute mills was higher (as indicated by sample no. 5, 25 and 44), thanks to higher rate of capacity utilisation; jute mills for which capacity utilisation was lower (sample no. 4, 15 and 40) had lower productivity. There are some exceptions though. In an integrated value chain, as was in the jute sector, a low level of capacity utilisation for looms had knock-on adverse impact by way of lowering the level of use of machines in other sections (Table 7.24), leading to a fall in output manufactured per machine (Table 7.25). In initiating reform measures for the mills, the capacity utilisation situation needs to be thoroughly investigated in order to identify areas of rationalisation.

7.4.3 Mismatch between Capacity Utilisation of Machines, Level of Production and Number of Workers Employed

There was a rationale for establishing large sized jute mills during 1960s, with large numbers of both machines and workers, owing to the huge potentials of the industry as was perceived at the time. However, declining demand of jute and jute goods over time has necessitated rationalisation of level of production of these oversized jute mills. This has not been the case for the BJMC mills. While a small BJMC mill has a workforce of about 300-400, a large mill often employed ten times more than that (about 3500-4500). However, this large size of the workforce did not equate to the performance in terms of level of production. This was mainly because productivity was low in these mills. If it is assumed that skilled and semi-skilled workers have worked under "permanent" contract with higher remuneration, then less capacity utilisation and low labour productivity would mean that cost escalation alongside output decelaration

would inevitably lead to poor performance. Hence, there was scope for rationalisation of workforce and size of the factories.

Though workers' wages in the BJMC mills were set in accordance with the government-declared wages, these wage levels were relatively high compared to that in the private sector jute mills. Hence adjustment of workers' wages was critically important, especially to bring those in consonance with productivity of workers. Any rationalisation of workforce in BJMC mills should take into account not only the number of workers in the mill, but also the huge wage differential between different categories of workers under public and private sector jute mills.

7.4.4 Huge Debt Burden is a Major Concern

Because of default on past debts, majority of the jute mills incurred substantial amount of interest charges on debt which undermined their credit worthiness. According to Table 7.26, public sector jute mills had an outstanding debt (to a sample nationalised commercial bank) of as low as Tk. 20 crore to as high as Tk. 116 crore. A large part of these debts were "bad" debts - equivalent to a minimum of 11.89 per cent to a maximum of 50.82 per cent of the total outstanding debt. Although most of these debts were mortgaged, there was no initiative from the lending banks to recover these huge debts from the jute mills. All jute mills are overburdened because of this huge amount of debt and the interest charge associated with these debts. Thus, any kind of restructuring focusing on the public sector jute mills need to focus not only on the short-term requirement of capital, but also on the long-term debt burden of these firms, which had a cumulative impact on the overall cost of production and performance.

The important issue in case of debt liabilities was the huge amount of interest burden which is being associated with the cost of production. It is found that interest payment on loans was equivalent to as high as 18.6 per cent of total cost of production (in case of sample no. 16, though for sample no. 44 this was zero). Average interest payment was equivalent to 7.5 per cent of total cost while interest payment in case of average public sector jute mills was 5.1 per cent. It was mentioned by BJMC officials that no bank was at present financing public sector jute mills, although a cash in credit (CC) limit was allowed to be opened by the banks which is only used for adjustment of banks' loans and interests when jute mills receives payment for their sales in the domestic and international markets.

According to a report prepared by a nationalised commercial bank which provided credit facility to eight BJMC mills, a total of Tk. 5,152.8 million was lent as of 31 October 2008, out of which Tk. 1,691.2 was bad debt, which was 32.8 per cent of the total outstanding debt (Table 7.26). However, most of these advances made by the banks had adequate mortgage arrangements; in most instances, land, establishments and machineries, and in some instances government guarantees have been used as mortgaged assets. The majority of the mills had assets such as land which was not mortgaged. Although outstanding debt has been adequately covered by mortgaged assets, other liabilities were also significant, including suppliers' credit, arrears of workers' wages and salaries, gratuity and other payments against which adequate amount of provision has not been made by the jute mills. Such a state of affairs often led to a situation when jute mills found it difficult to pay wages to their workers.

Table 7.23: General Features of BJMC Mills: 2008

Items	Sample Mills of BJMC													Average	
	1	2	4	5	11	12	15	16	25	39	40	43	44	BJMA	BJSA
TECHNICAL															
Market value of one unit of machine (Tk.)	990,639	564,274	720,909	767,139	576,657	873,797			987,616	1,595,942	1,883,004		553,575	517,261	808,297
Capacity Utilisation (%)	40	66	33	80		33	20	67	81	34	47	67	81		
Production per loom (MT)	18.3	22.3	15.9	21.5	5.2	20.6	12.7	11.0	20.9	23.7	7.7		18.2	30.2	3.3
Production per worker (MT)	3.0	4.8	2.6	3.9	1.2	2.7	2.4	1.8	4.4	3.2	1.4		3.4	4.7	7.2
WORKER															
Skilled (% of total)	52.5	66.9	58.8	50.0	53.2	64.2	58.8	58.0	55.4	83.3	39.9		74.0	59.1	46.7
Semi-skilled (% of total)	22.6	23.5	23.8	30.0	25.7	15.5	23.0	23.0	7.4	7.6	60.1		3.1	19.6	28.7
Unskilled (% of total)	24.9	9.6	17.4	20.0	21.2	20.4	18.2	19.0	37.3	9.1	0.0		22.9	21.3	24.7
Worker per loom	6.1	4.7	6.1	5.5	4.5	7.6	5.3	6.1	4.7	7.4	5.6	7.0	5.3	6.5	0.5
Production per worker (MT)	3.0	4.8	2.6	3.9	1.2	2.7	2.4	1.8	4.4	3.2	1.4	9.1	3.4	4.7	7.2

Source: CPD Survey, 2008.

Table 7.24: Capacity Utilisation Rate of Different Sections of the Jute Mills: 2007

Section	1	2	4	5	11	12	15	16	25	38	39	40	43	44
Spinning	40	98	36	78	5	46	30	63	89	50	30	39	59	88
Weaving	28	64	34	55	5	36	60	37	87	51	32	29	-	71
Batching	40	66	33	80	3	33	20	67	81	44	34	47	67	81
Carding	30	92	33	55	4	36	32	63	90	3	26	67	40	95
Drawing	40	94	33	80	4	33	34	67	90	50	30	67	40	87
Winding	40	95	30	70	4	36	33	-	85	50	34	67	67	90
Damping	66	83	-	70	4	37	-	51	82	45	50	66	-	98

Source: CPD Survey, 2008.

Table 7.25: Output per Unit of Machine (kg/hour) in Various Sections of the Jute Mills: 2007

Section	1	2	4	5	11	12	15	16	25	39	40	43	44
Spinning	35.00	25.00	23.00	22.00	23.00	22.00	21.00	30.00	31.00	22.00	21.00	36.00	40.00
Weaving	5.1.00	5.00	6.20	5.94	4.00	8.75	6.00	4.63.00	8.72	4.95	4.60	-	4.16
Carding	230.00	120.00	160.00	38.00	50.00	250.00	135.00	350.00	220.00	182.00	125.00	60.00	41.99
Drawing	180.00	125.00	120.00	35.00	40.00	100.00	-	150.00	94.00	130.00	90.00	48.00	31.31
Winding	130.00	150.00	110.00	52.00	120.00	123.00	100.00	-	116.00	40.00	5.80	80.00	95.75
Calendaring	1800.00	1600.00	-	1800.00	1500.00	1800.00	-	2300.00	2200.00	1900.00	7500.00	-	600.63
Batching	550.00	400.00	450.00	306.00	300.00	500.00	380.00	700.00	550.00	500.00	800.00	1200.00	984.00

Source: CPD Survey, 2008.

Table 7.26: Debt Liabilities and Possible Assets for Compensation (as of 31 October 2008)

Item	A (5)	B	C (16)	D	E	F	G (44)	H (2)
Outstanding debt (Million Tk.) as of 31.10.2008	417.919	905.998	1102.935	552.151	335.666	1163.762	471.737	202.634
Bad debt (Million Tk.)	37.191	292.934	425.613	149.150	90.799	591.504	79.921	24.104
Mortgaged Assets (Million Tk.)								
Land	191.97	132.520	167.520	79.63	57.798	3656.00	1301.30	130.00
Establishments	226.59	457.850	210.260	149.734	152.967	171.97	297.519	18.78
Machineries	126.87	261.420	518.520 4	44.130	221.719	889.80	477.160	216.47
Government guarantee	52.00	322.20	384.800	39.00	32.00	346.70	21.00	20.00
Total	597.43	1173.990	1281.10	712.494	464.484	5064.47	2096.979	375.25
Non-mortgaged Assets (Million Tk.)								
Land	400.00	19.50	40.00	52.50	53.20	2432.30	660.90	116.90
Establishments		24.20						
Machineries								
Government guarantee								
Total	400.00	43.70	40.00	52.50	53.20	2432.30	660.90	116.90

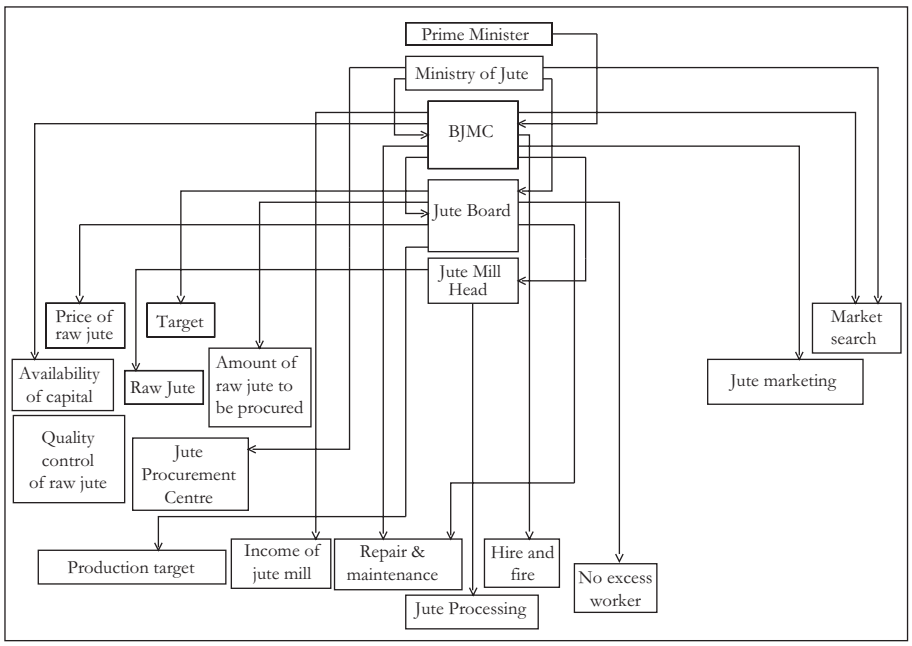
Source: Data collected from a Nationalised Commercial Bank.

Note: Some of the mills mentioned above (such as A, B, C, D, E, F, G and H) are different. Figures in the parantheses are the sample no. of the surveyed mills.

7.4.5 Management Structure of BJMC is not Favourable for Smooth Functioning

BJMC jute mills are operated by project heads (Figure 7.3). Major decisions as regards operation of jute mills such as procurement of raw jute, recruitment of workers and job distribution, fixation of workers' salaries, and meeting the production targets, etc. are supposed to be decided by project heads in consultation with the Jute Board. The Jute Board is operating at firm level

Figure 7.3: Structure of BJMC Management



Source: Prepared by the authors.

which, though considered to be the appropriate authority to oversee the operation at mill levels, in practical sense, was unable to function properly because of various limitations. Most of the strategic, policy-related, financial, marketing-related decisions are taken by the BJMC mills. Hence, project heads of jute mills and board operating at mill levels have very limited autonomy in terms of policy decisions. Moreover, decision-making process relating to procurement of jute, repair and maintenance of machineries was found to be cumbersome and time consuming. In case of issues such as arrears to workers, dues to suppliers and non-payment of debt, BJMC would need to take more responsibility and should take decisions in view of the peculiarity and uniqueness of the situation in case of each individual jute mills. Ministry of Textiles and Jute got involved in the decision making process, when decisions were made with regard to subsidy for operation of jute mills, handing over jute

mills for privatisation, etc.; an inter-Ministerial decision was also necessary in this regard. However, it was found that level of responsibility and authority to be exercised at different levels, starting from project head at the mill level to the level of Chairman of BJMC at the central level, were often not well-defined. This created unnecessary complexity and hindering the decision making process. Consequently, overall efficiency of the mills has not been able to attain the desired targets (Sobhan and Ahmad 1980).

Besides, short job tenure in particular projects often did not allow the project heads to acquire a comprehensive knowledge about their units. Lack of appropriate authority in making decisions as well as poor remuneration package often led to a situation where unit level officials did not have the incentives to undertake the necessary initiatives towards higher productivity and efficiency of jute mills. Decentralisation of authority along with well defined responsibility at each level in the BJMC mills was thus, urgently required.

7.5 RESTRUCTURING OF PUBLIC SECTOR JUTE ENTERPRISES IN INDIA: A CASE STUDY

Unlike public sector jute mills in Bangladesh, public sector jute mills in India accounted for a very limited share in the market. Since its establishment in late-nineteenth century, the sector has been led by the private sector. National Jute Mills Corporation (NJMC) was the statutory authority of six public sector jute mills in India. These mills are: Alexander, National, Kinnison, Khardah, RBHM and Union Jute Mill. It is important to note that NJMC never operated profitably since it took over control of the six jute mills from the private entrepreneurs in early 1980s (Dey 1995). In 1992, NJMC was referred to the Board for Industrial and Financial Reconstruction (BIFR) to decide on its potentials in order to operate profitably. After assessing the performance of NJMC, BIFR declared NJMC as sick (non-viable), and the government started to consider reforming and restructuring the NJMC. According to the revival proposal approved by the Indian Cabinet on 24 March 2005, NJMC has taken the following actions[7]:

- Offering Voluntary Retirement Scheme (VRS) to all the employees of the organisation, including the employees of Head Office in order to reduce the manpower of NJMC Ltd.

- Extending budgetary support to the extent of Rs. 978 crore for providing VRS, liquidating statutory arrears, gratuity and securing liabilities of NJMC Ltd.

[7]Excerpts from Annual Report of NJMC 2008.

- The Cabinet while approving the proposal of the Ministry directed that:
  - The mills at Kinnison and Khardah will be referred to the Board for Reconstruction of Public Sector Enterprises for Rehabilitation, and
  - VRS will be given to employees of other mills but these will be dealt under BIFR proceedings.

As per the decision taken by the Cabinet, NJMC has given VRS to all workers of the mills along with provident fund, employees' state insurance, gratuity and other dues. NJMC has also settled dues of all secured creditors.

7.5.1 Revival Plan for Public Sector Jute Mills

It was decided that two out of six jute mills would be taken into consideration by the NJMC under the revival scheme. These two mills were: Kinnison and Khardah. Industrial Development Bank of India (IDBI) prepared a revival plan of financial restructuring taking into account cost of scheme and means of finance. According to the proposal of IDBI, the following strategies were to be pursued:

- Modernisation and upgradation of production facilities of two mills at Kinnision and Khardah would be undertaken.
- Liquidation of all the secured and unsecured liabilities would be carried out.
- Payment to be made to pressing creditors.
- Sales of land and assets of closed mills and surplus land of mills to be revived.
- Fresh workforce to be engaged as per industry norms.

West Bengal government has offered a number of relief and concession schemes as part of the revival plan which includes the following:

- Waiver of electricity duty on the electricity consumed on restarting of production activities in the units taken for revival of a productive period of 5 years.
- Soft loan for liquidation of arrear sales tax liabilities of those industrial units that require such support for rehabilitation.[8]

[8]Loan repayable over 11 years with moratorium on principal amount for 3 years; interest at the rate of 8.75 per cent pa with rebate of 2 per cent for timely payment and payable from the first anniversary of actual disbursement of the loan.

- Extension of revival efforts for sick industrial units under the provisions of the West Bengal Relief Undertaking (Special Provisions Act) 1972.

- Disposal of surplus land assets held by the defunct/closed/sick industrial units of NJMC and Birds Jute and Export Limited (BJEL) to generate augmental resources for investment in the rehabilitation/revival of NJMC and BJEL.

Ministry of Textiles (MoT), Government of India was to consider the following restructuring package for NJMC:

- To write-off entire outstanding loans and liabilities of Rs. 2,607.2 crore and interest of Rs. 3,613.8 crore on those loan as on 31 March 2008 against accumulated losses, which amounted to Rs. 6,221 crore.

- Infusion of additional interest free government loan to be refunded, starting from 2009-10 till 2015-16, which amounts to Rs. 310.3 crore.

MoT is exploring the possibility of inducting one or more private partners to operate Kinnision and Khardah mills. Based on the report of assessment of the proposal, the MoT has proposed the revival of the three NJMC mills by leasing (subject to approval by the Cabinet).

Thus, revival of public sector jute mills in India was considered from the perspective of an integrated strategy with changes in the number of mills to be revived, necessary resources required for such revival, special budgetary support in terms of waivers, etc. Changes in the management or ownership were also considered. The most important aspect in case of revival was that new mills would operate with a fresh start having no burden of debt and interest, arrears on workers' wages, PFD, ESI, gratuity and others. Since all workers of NJMC had been laid off with full payment of all their respective dues, there was no immediate challenge to the government's efforts to start these mills with new recruitment of workers as per requirement. There was thus no notable pressure on the government from the trade unions.

7.6 WAY OUT: HOW THE JUTE INDUSTRY OF BANGLADESH CAN BE MADE VIABLE

The study has come out with a set of recommendations from three different perspectives: firstly, a set of suggestions has been put forward which is relevant in general for all categories of jute mills because of the commonality of the problems; secondly, another set of ideas has been put forward which is targeted at the BJMC jute mills mainly to address sector specific challenges,

issues and concerns; thirdly, a set of proposals has been placed relating to privatisation of public sector jute mills, particularly with respect to the work of the Privatization Commission.

7.6.1 Overall

Extended Support is Needed for Jute Industry in view of Global Economic Crisis

It will be difficult to get back to the normal trend of production and export of jute goods in near future, because of the low prospect of rise in demand for these products in developed and developing countries over the short run. On the other hand, because of limited demand for yarn in the domestic market, there was limited scope to expand its usage there, at least in the immediate term. Since flow of income of jute goods manufacturers is falling (in extreme cases it has stopped), they are facing problems in terms of loan repayments to banks and suppliers. Under the stimulus package government had announced additional cash incentive of 2.5 per cent for jute and jute-made goods (which will now rise to 10 per cent from the previous 7.5 per cent). This would provide some cushion for jute goods manufacturers. However, in order to retain the flow of funds for continuing operation, jute mills will need continuation of "CC" loan facility from the commercial banks. As has been stipulated by the Bangladesh Bank, exporters of jute goods will enjoy longer time period (this facility will be available up to September 2009) to repay their down payment.

It is important that the jute industry should be categorised as an "agro-based industry," and thereby it should be provided with equal facilities as those enjoyed by those belonging to this respective category. Reduction of interest rates both on term loan and working capital is a major demand of the entrepreneurs. In view of the global financial crisis, it was the temporary workers who lost their jobs first since factories were closed down or operations were scaled down. These workers should be brought under social safety net progarmme in order to at least ensure their own and their family members' subsistence. It is hoped that there will be significant and adequate allocation under social safety net programmes in the upcoming budget of FY2009-10 which will address the concerns of retrenched workers of jute mills.

Improvement of Productivity

Both labour and capital productivity need to be significantly improved in public and private sector jute mills. It was found in a recent study conducted by

a Japanese team that targeted changes in the production process in the jute mills could contribute to substantial improvement in overall productivity. A number of reasons were identified which gave rise to low level of productivity. Poor maintenance of machineries was regarded as one of the major weaknesses in the jute mills sector particularly in mills that operated in the public sector. Although pubic sector jute mills spent significant amount of their resources on repair and maintenance works, there was hardly any reflection of these spendings on firm level capital and labour productivity. All categories of jute mills needed to follow appropriate and modern production methods and maintenance procedures and techniques, particularly with regard to use of raw jute, management of workers and maintenance of machineries.

Improvement of productivity of machines will not be adequately ensured if the existing sets of machineries in the jute mills are not overhauled since a large number of those are outdated. Instead of using these machineries, jute mills should adopt an action plan as regards replacement of outdated machineries in order to replace those in order to achieve high levels of productivity. Jute mills should be allowed appropriate autonomy to make their own decisions for long term investment. A Technology Upgradation Fund (TUF) should be put in place which would ensure distribution of credit to manufacturers at concessional rates of interest. This would allow the industries to undertake technological restructuring initiatives, modernise their plants through installation of new machines and adopt latest technologies.

Reduction of Production Cost

In view of the low level of producers' profit margins in the sector, a renewed effort will be required towards cost cutting measures. However, as was seen, cost of production was high, particularly in BJMC mills mainly because of low levels of productivity. High expenditure on account of workers' wages in the BJMC mills was one of the major reasons for high cost per unit of item. Rationalisation of the workforce in line with the current operational requirements and capacity utilisation status was required to reduce cost. Interest payment on bank loans was yet another major cost element. It was important to develop capital base of the jute mills perhaps through one-time infusion to enable the mills to start afresh on a sound financial footing.

Encourage Domestic Usage of Jute Goods

Higher levels of domestic demand could be an important element of a sustainable jute industry in the Bangladesh context. This has been the case of Indian jute industry. In times of slack in global demand, the domestic market could act as a buffer. Under the Jute Packaging (Mandatory) Act, the Indian

government ensured use of jute bags for foodgrains to the tune of 100 per cent domestic use; in the case of sugar it was 90 per cent. Bangladesh could also think about pursuing such policies that encourage domestic use of jute. Government has now decided to introduce an Act to make use of jute goods mandatory in case of packing of foodgrains. Research was carried out to promote use of hessian and sacking products in building roads; this type of initiative has been introduced in India. If use of jute in road building and maintenance can be implemented, this would create large demand for jute goods. Innovative approaches are required towards product diversification and more crucially, usage diversification of jute.

Review of the "Jute Policy"

The "Jute Policy" needs to be reviewed and revised in view of the current developments. In this context, the government's initiative to design a new jute policy is a well-timed initiative. However, the draft policy will need to be substantively improved to provide strategic directions to the jute sector. The policy should give guidelines for a realistic plan of action over short, medium and long term. Jute policy of the country needs to take into account the prospects and dynamics of global demand for jute and jute goods in the coming years, which is absent in the draft policy, and come up with a realistic growth target and set out the essential elements of the strategy to attain those targets. A comprehensive vertically integrated production chain needs to be considered for jute and the jute manufacturing sector in Bangladesh.

Formation of an Independent "Jute Board"

The idea of setting up an independent "Jute Board" should be considered, which will have representations from major stakeholder groups. The Board will take all policy-related decisions pertaining to the jute sector. The Board will set out plan of action, offer guidance, monitor performance and provide support on an ongoing basis. One of the major tasks of the Board will be to establish "rules of the game," so that all mills, private and public, will operate on a market-based approach. The proposed Jute Board will take measures to ensure production of high value added jute items that would enjoy benefits being derives from the international market. The Board would recommend policies for higher domestic use of jute goods, product and process diversification, and product and market diversification. The Board would also provide policy guidelines for fixation of price.

Establishment of College for Jute Technology

Establishment of academic institutions for preparing graduates, who will specialise in industrial engineering and industrial management, focusing on the

jute industry, needs to be seen as an urgent task. Private sector organisations such as BJMA and BJMC should take proactive measures along with the government to establish such institutions under public-private partnership (PPP). It is to be noted that jute industry in India has reaped the benefits of the Jute Technology College, which produces fresh graduates each year who subsequently join Indian jute mills. In Bangladesh, both demand and supply side problems have created a gap in the area of availability of competent personnel for the jute sector. This gap will need to be urgently bridged.

Market Search for Jute Products

A joint initiative of BJMC, BJMA and BJSA is required for market promotion of jute goods. Products made in Bangladesh are targeted primarily to Asian, European and American markets, while only an insignificant share of the products are targeted to Latin American markets. It is important to note that market share of India is growing in Latin America, particularly in Brazil and Argentina. One of the major components in case of searching markets should be to identify country-specific various tariff and non-tariff barriers (NTBs) faced by jute goods when exported globally. Organisations associated with jute industries in Bangladesh and India could think about collaborating and taking joint initiatives in this regard. Promotion of jute as an eco-friendly item could also be a prospective area of such collaboration. Both the countries could take joint initiatives to introduce jute based products through organisation of joint trade fairs. A common basis of such cooperation would be to familiarise and popularise "natural fibre" based products in the markets of developed and developing countries. Since Bangladesh and India are the major suppliers of jute goods in the global market and they do compete with each other, it is felt that there were synergies to be drawn from cooperation between the two countries.

7.6.2 Reform and Restructuring of BJMC

Rationalisation of Public Sector Jute Mills

As discussed earlier, size of firms matter in the jute industry. Large scale units were found to be less efficient, as a matter of record, for various reasons. There was a prima facie cause for rationalisation of BJMC mills, i.e. scaling down the large size mills to medium size units. Since half of the capacity of public sector jute mills remain unutilised or underutilised over protracted period, there was a rationale and for scaling down the operation of large-sized jute mills to ensure higher and more effective capacity utilisation. Size of the workforce as well as operation need to be rationalised. A medium sized mill with about 500 looms made more sense on the ground of limited financial

involvement, better opportunity for worker management, more effective monitoring of operations and flexibility in mode of operation. Rationalisation of size will give firms an opportunity also to sell their machineries, which could be used to repay part of their outstanding debt.

Rationalisation of Number of Workers

Rationalisation of number of workers is one of the most sensitive areas that need to be handled with care and passion as well by taking cognisance of logic of economics, bearing in mind social dimensions and implications. Type of rationalisation will depend, to a large extent, on the scale of rationalisation of the size of mills. Since demand for skilled workers is likely to be high even following rationalisation, the strategy for retrenchment should start with less skilled/temporary workers. A special allocation is needed in order to pay all the arrears of retrenched workers. In this context, it may be mentioned here that four jute mills, which were closed in 2008 with 14 thousand workers being laid off, are yet to receive their full arrears. BJMC should take measures to clear all dues to retrenched workers.

Encouraging Public-private Partnership (PPP)

In order to operate jute mills, BJMC should reexamine and revisit its ability and capacity to handle the challenges faced by these mills. However, there are alternative mechanisms to manage and operate jute mills that BJMC should also consider such as PPP arrangements and adopting leasing out systems. Performance of jute mills which operated under PPP was found to be better compared to those operating under single public ownership. BJMC may take initiatives to allow more jute mills to operate under public-private partnership. The government has already taken decision to lease out a number of jute mills to the private sector. Without taking adequate actions as regards huge amount of debt burden and workers' arrears, it will be difficult to run mills only by leasing these out. This will also be true in case of PPP.

Ensure Adequate Funds for Repayment of All Arrears of Workers

Public sector jute mills had large arrears that they owed to workers on account of unpaid wages and various other statutory benefits. BJMC should take initiatives to resolve these issues on an immediate basis. A separate fund should be established with necessary allocations for the payment of workers' arrears. Any restructuring of the public sector jute mills should give ex-ante priority on payment of all arrears to workers.

Due Payment to Suppliers

Jute mills have traditionally been dependent on raw jute suppliers to ensure smooth supply of raw jute under hire purchase contracts. A huge amount of suppliers' payment had remained unresolved with many jute mills, especially public sector jute mills. Jute mills should take necessary measures to clear all dues of the suppliers and if required, necessary allocations can be made from the proposed fund for making such payments.

Amortisation of Debt

The huge amount of debt burden of public sector jute mills has made their operation financially unviable. In view of this, it was necessary to make an audit to assess overall financial position of jute units, especially liabilities with financial institutions. It appears that without writing off these huge debts, it would be difficult for BJMC mills to undertake any initiative towards rationalisation of operation and starting afresh. Government will need to take responsibility to amortise these debt burdens and may adopt a plan of action with the primary objective of phasing out such debts in stages. It may be recalled here that, according to the Bangladesh Economic Survey 2008, BJMC had an outstanding loan of Tk. 2,296.45 crore as of 30 June 2008, of which Tk. 904.38 crore (39.4 per cent) was classified loan.

Improving Marketing Strategies

Marketing of jute goods by BJMC mills is mainly targeted to low-priced markets, as was noted earlier. This has called for BJMC management to review their marketing strategies. Currently, BJMC mills sell most of their products through BJGA members or other agents. BJMC mills need to explore other markets, especially high-priced markets in Europe and the US. Besides, timely delivery of jute goods as well as better quality of products are important factors that need to be assured to generate higher earnings through higher price. BJMC mills were found to be lacking in this regard. An aggressive marketing strategy is required on the part of public sector jute mills in such areas as market search, price offering, timely delivery of goods, etc. Adequate human resources for these specialised functions need to be developed on an urgent basis.

Greater Autonomy of Jute Mills Required

Efficient operation and management of public sector jute mills will hinge critically on whether individual units can operate with adequate autonomy and flexibility in terms of decision making. Appointment of project heads of BJMC mills should be based on efficiency, competency and experience in terms of

managing crisis-prone industries. There should be options for recruitment of project heads from outside the government on contract basis, with offers of attractive remuneration package and service benefits. These appointments need to be reviewed on a periodic basis with opportunities for extension. The same process should be maintained with regard to appointment of other directors of the jute mills. Project managers should be able to function with adequate authority and be responsible to take all relevant decisions with regard to management and operation.

Project heads and their teams should enjoy full authority in decision making in such areas as procurement of raw jute, marketing of jute goods, recruitment, promotion, dismissal, sanctions and disciplinary actions, financial issues, and searching for buyers. BJMC head office and Board will extend their full support to the management at the unit levels.

7.6.3 Privatisation of Public Sector Jute Mills

Privatisation of Selected State-owned Jute Mills

Reform measures in the jute manufacturing sector, as mentioned in the draft policy, envisages gradual privatisation of public sector jute mills, and also mentions that those that remain in the public sector will need to operate efficiently. The operative word should be "efficiency" and not whether it should be a blanket of privatisation or not. The proposed Board could take policy decisions in this context. In this connection, PPP could be explored as a possible strategy. It is also worth repeating here that a number of sample jute mills which operated under PPP, were found to perform profitably.

Expedite the Process of Privatisation

A total of four jute mills are at present with the Privatization Commission. These are Daulatpur Jute Mills of Khulna, Qaumi Jute Mills of Sirajgonj, Monowar Jute Mills of Narayanganj, and Baghdad-Dhaka Carpet Factory of Chittagong. Of these, three units have been included for privatisation by a recent decision of the Commission. These jute mills are at different stages of the privatisation process. According to the information provided by the officials of Privatization Commission, there are some litigation problems as regards valuation of assets of Monowar Jute Mills. Many have suggested that in selecting entrepreneurs, "highest bidder" should not necessarily be selected unless his/her technical and financial capabilities comply with the required standard. Hence, it is important to assess entrepreneurs' technical and financial capabilities to operate the jute mill. Entrepreneur's experience in jute manufacturing, financial capacity to run outdated jute mills in a modern way by

taking measures for modernisation, etc. should also be taken cognisance of. With regard to the SoEs which are placed for privatisation, all liabilities ought to be borne by the government which will be a key step in the direction of hope. However, absorption of these debt burdens by the government will remain a recurring problem. There will have to be adequate budgetary allocations to underwrite the debts so that once SoEs are privatised, settlement of bills may be made in a speedy manner.

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ANNEX

ANNEX-A

Conference on
Development with Equity and Justice

Immediate Tasks for the Newly Elected Government

Organised by

Centre for Policy Dialogue (CPD)

28-29 March 2009, Bangladesh-China Friendship Conference Centre

Programme of the Conference

Day 1 - Saturday 28 March 2009, Bangladesh-China Friendship Conference Centre

Venue	Carnival	
9.30 am - 11.45 am	**Inaugural Plenary Session**	**Macroeconomic Management in the Face of Global Challenges**
	Chief Guest:	**Mr AMA Muhith, MP** Hon'ble Minister for Finance
	Guest of Honour:	**Dr Masihur Rahman** Economic Affairs Advisor to the Hon'ble Prime Minister
	Speaker:	**Professor Mustafizur Rahman** Executive Director, CPD
	Chair:	**Professsor Rehman Sobhan** Chairman, CPD
Venue	Carnival	
3.00 pm - 5.45 pm	**Plenary Session II**	**Food Security and Containing Price Inflation**
	Chief Guest:	**Dr Muhammad Abdur Razzaque, MP** Hon'ble Minister for Food and Disaster Management
	Special Guest:	**Dr AMM Shawkat Ali** Former Advisor to the Caretaker Government
	Speaker:	**Dr Uttam Deb** Head of Research, CPD
	Discussants:	**Dr Quazi Shahabuddin** Director General, BIDS
		Professor MA Sattar Mandal Vice Chancellor, Bangladesh Agricultural University
	Chair:	**Mr M Syeduzzaman** Member, CPD Board of Trustees and Former Finance Minister

Day 2 - Sunday 29 March 2009, Bangladesh-China Friendship Conference Centre

Venue	Media Bazaar	
9.30 am - 11.45am	**Plenary Session III**	**Energy Sector: Challenges of Adding New Capacity**
	Chief Guest:	**Advocate Shamsul Hoque Tuku, MP** Hon'ble State Minister Ministry of Power, Energy and Mineral Resources
	Special Guest:	**Mr Annisul Huq** President, FBCCI
	Speaker:	**Dr M Fouzul Kabir Khan** Professor of Economics and Finance School of Business North South University and Former Secretary, Power Division
	Discussants:	**Dr M Asaduzzaman** Research Director, BIDS
		Mr Nazrul Islam Executive Director and CEO Infrastructure Investment Facilitation Centre (IIFC)
	Chair:	**Mr Syed Manzur Elahi** Member, CPD Board of Trustees and Former Advisor to the Caretaker Government and Chairman, Apex Group
Venue	Media Bazaar	
3.00 pm - 5.45 pm	**Parallel Session I - ICT for Development: The Immediate Doables**	
	Chief Guest:	**Architect Yeafesh Osman, MP** Hon'ble State Minister for Science and ICT
	Special Guest:	**Professor Jamilur Reza Chowdhury** Vice Chancellor, BRAC University and Former Advisor to the Caretaker Government
	Speaker:	**Dr Ananya Raihan** Executive Director, D.Net
	Discussants:	**Mr Mustafa Jabbar** President, Bangladesh Computer Samity
		Mr Habibullah N Karim President, BASIS
	Chair:	**Mr Fazle Hasan Abed** Member, CPD Board of Trustees and Chairperson, BRAC

Day 2 - Sunday 29 March 2009, Bangladesh-China Friendship Conference Centre

Venue	Executive Lounge	
3.00 - 5.45	**Parallel Session II**	**100-Day Employment Generation Programme: Challenges of Effective Implementation**
	Chief Guest:	**Mr Hossain Toufique Imam** Advisor to the Hon'ble Prime Minister for Administration and Establishment Affairs
	Special Guests:	**Dr Akbar Ali Khan** Chairman, Regulatory Reforms Commission and Former Advisor to the Caretaker Government
		Dr Qazi Kholiquzzaman Ahmad Chairman, Bangladesh Unnayan Parishad (BUP) and President, Bangladesh Economic Association
	Speaker:	**Dr Fahmida Khatun** Additional Director, Research, CPD
	Discussants:	**Dr Atiur Rahman** Chairman, Unnayan Shamannya
		Professor Syed M Hashemi Executive Director, BRAC Development Institute BRAC University
	Chair:	**Professor Rehman Sobhan** Chairman, CPD

ANNEX-B

Conference on
Development with Equity and Justice
Immediate Tasks for the Newly Elected Government

Participants of the Conference

Inaugural Plenary Session
Macroeconomic Management in the Face of Global Challenges

Professor Abu Ahmed
Department of Economics, University of Dhaka

Mr Farooq Ahmed
Secretary General, Metropolitan Chamber of Commerce and Industry (MCCI)

Mr Mahbub Ahmed
Additional Secretary, Government of Bangladesh

Dr Momtaz Uddin Ahmed
Professor, Department of Economics, Dhaka University

Dr Quazi Mesbahuddin Ahmed
Managing Director, Palli Karma-Sahayak Foundation (PKSF)

Professor Dr Salauddin Ahmed
Director (Academic), Darul Ehsan University

Dr M Zainul Abedin
IRRI Representative for Bangladesh and Team Leader
Foshol Coordination Project

Mr Sheikh Ahaduzzaman
Programme Officer, Food and Agriculture Organization (FAO)

Ms Selima Ahmad
President, Bangladesh Women's Chamber of Commerce and Industry

Professor Syed M Ahsan
Former Advisor, Bangladesh Bank and
Professor, Concordia University, Canada

Md Atikul Alam
Coordinator, ICT, Equity and Justice Working Group
Agricultural Advisory Society (AAS)

Dr Muhammad Nurul Alam
Senior Program Specialist, SAARC Agricultural Centre (SAC)

Mr Syed Nurul Alam
Executive Director, South Asia Partnership-Bangladesh (SAP-BD)

Mr Khondoker Shakhawat Ali
Research Fellow, Power and Participation Research Centre (PPRC)

Mr Murshed Ali
General Secretary, Bangladesh Krishak Samity

Mr Sayed Mokshed Ali
Member of Parliament

Ambassador Dr Toufiq Ali
Former Permanent Representative of Bangladesh to the WTO

Dr Sheikh Maqsood Ali
Former Secretary, Government of Bangladesh

Professor Dr M Amanullah
MP and Former State Minister for Health and Family Welfare

Mr MK Anwar
MP and Former Minister for Agriculture

Md Shafiul Azam
Executive Vice President, Shahjalal Islami Bank Ltd.

Mr MS Azim
Director
Bangladesh Garment Manufacturers and Exporters Association (BGMEA)

Mr Sheikh Abdul Aziz
Managing Director, Leads Corporation Ltd.

Mr SM Al-Husainy
Former Chairman, PSC and Chairman, Swanirvar Bangladesh

Mr MA Baset
2nd Vice President
Bangladesh Knitwear Manufacturers and Exporters Association (BKMEA)

Dr Anwara Begum
Research Fellow, BIDS

Mr Tomas Bengenholte
First Secretary, Embassy of Sweden

Professor Ayubur Rahman Bhuiyan
Former Professor of Economics, University of Dhaka

Mr Arup K Biswas
Senior Advisor, Development Affairs, Royal Norwegian Embassy

HE Mr Charley Causeret
Ambassador, Embassy of France

Mr Siddiqur Rahman Choudhury
Chairman, Agrani Bank and Former Secretary, Finance Division

Mr Suhel Ahmed Choudhury
Former Secretary, Government of Bangladesh and Chairman, Janata Bank

Dr Toufic Ahmed Choudhury
Professor and Director, CPGS
Bangladesh Institute of Bank Management (BIBM)

Mr Abdul Muyeed Chowdhury
Chairman, BRAC BD Mail Network Limited

Mr Atiqul Islam Chowdhury
Senior Coordinator, Equity & Justice Working Group (Equity BD)

Mr Enam Ahmed Chowdhury
Member, Advisory Council of the Chairperson of
Bangladesh Nationalist Party (BNP)

Mr Fuad Chowdhury
Director, Production and Strategy, United Network Ltd.

Mr Dileep Kumar Das
Joint Secretary, Economic Relations Division (ERD), Ministry of Finance

Dr Subash Dasgupta
Assistant Representative, FAO

Mr A Gafur
Executive Director
American Chamber of Commerce in Bangladesh (AmCham)

Dr MA Hakim
General Manager, PKSF

Dr M Hasanullah
Agriculturalist

Mr David Hilton
Assistant Programme Officer, CIRDAP

Dr Anwarul Hoque
Professor and Chairperson
Department of Economics and Social Science (ESS), BRAC University

Dr Dil Afroz Hoque
Additional Secretary and Member Director (Fertilizer Management)
Bangladesh Agricultural Development Corporation (BADC)

Mr Mukarram Hossain
Consultant, CASEED

Dr Md Ismail Hossain
Member Director (AERS), Bangladesh Agricultural Research Council (BARC)

Mr SK Monowar Hossain
Director, BKMEA

Mr Najmul Huq
Chairman, Bangladesh Jute Mills Association (BJMA)

Mr Anwarul Islam
Former Secretary, Government of Bangladesh

Dr AB Mirza Azizul Islam
Former Advisor to the Caretaker Government
Ministries of Finance and Planning

Dr Muinul Islam
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Professor M Nurul Islam
Professor, Institute of Appropriate Technology, BUET

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Chief Executive Officer, Equity Partners Limited

Mr SM Monowarul Islam
Operative Director, Aftab Bahumukhi Farms Ltd.

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Senior Development Advisor, CIDA, Canadian High Commission

Mr Jaimie Tax
Researcher Intern, Institute of Micro Finance

Mr Adam Jakson
Economist, The UK Department for International Development (DFID)

Ms Rubayat Jesmin
Economist, Delegation of the European Commission

Mr Goram Jonsson
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Former Professor, 'Dr. Rashid Chair', BUET

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Massey University, Newzealand

Ms Veena Khaleque
Country Director, Practical Action

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Md Fazley Rashid Khan
Manager, SEBA

Dr Omar Farooq Khan
Senior Development Advisor, CIDA, Canadian High Commission

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Dr Nasreen Khundker
Research Director, CIRDAP and
Professor, Department of Economics, Dhaka University

HE Dr Justin Lee
High Commissioner, Australian High Commission

Dr Syed Akhtar Mahmood
Senior Programme Manager, IFC-BICF

Mr Ahmed Swapan Mahmud
Executive Director- VOICE and General Member, SUPRO

Mr Badiul Alam Majumder
Country Director, The Hunger Project and Secretary, SHUJAN

Ambassador MA Malik
Former Secretary, Government of Bangladesh

Md Mohibullah Maruf
Executive Director, TRUST

HE Mr Robert McDougall
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Mr Ge Mingdong
Political Attaché, Embassy of China

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Hon'ble Member of the Parliament

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Dr Muhammad Abdul Moyeen
Director, BKMEA

Mr AMA Muhith
MP and Hon'ble Minister for Finance, Government of Bangladesh

Mr AFM Fakhrul Islam Munshi
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Ms Sharmeen Murshid
Chief Executive Officer, BROTEE

Mr Md Abu Musa
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Research Information Officer, BGMEA

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Mr Shah Muhammad Nasim
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Mr Karin Orneryd
Intern, Embassy of Sweden

Dr Atiur Rahman
Chairman, Unnayan Shamannay

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Economic Affairs Advisor to the Hon'ble Prime Minister

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Member of Parliament

Mr Md Rakibur Rahman
President, Dhaka Stock Exchange Ltd.

Dr M Sayadur Rahman
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Mr Md Shahedur Rahman
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Mr Md Siddiqur Rahman
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Mr Rezwan Rahman
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Dr M Rahmatullah
Former Director, UN-ESCAP and
Transport Policy Advisor, TSMR Programme, Planning Commission

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Former Secretary, Government of Bangladesh

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Former Chairman, Securities and Exchange Commission

Mr Md Abu Bakar Siddique
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First Secretary (Head of Chancery & Economic and Commercial)
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HE Ms Ingebjorg Stofring
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Former Managing Director, Gas Transmission Company Ltd.

Mr Md Ruhul Amin Talukder
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Staff Photographer, The Daily Star

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Senior Reporter, The Financial Express

Mr Mohammed Hasan Arif
Staff Reporter, The Daily Bhorer Dak

Mr SM Tanil Aslam
Reporter, The Executive Times

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Mr Miraj Ahmed Chowdhury
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Senior Reporter, ETV

Mr Kazi Saimul Haque
Staff Reporter, Desh TV

Mr Khan Md Nazrul Islam
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Mr Shafiqul Islam
Reporter, The Daily Amader Shomoy

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Staff Correspondent, BD News 24

Mr MM Jaman
Reporter, Focus Bangla News

Ms Ayesha Kabir
Editor, Probe News Magagine

Mr Abul Kashem
Staff Reporter, The Daily Manabzamin

Mr Mohammad Kawser
Staff Reporter, The Daily Amar Desh

Mr Tanvir Khondoker
Cameraman, NTV

Mr Asjadul Kibria
Senior Reporter, The Daily Prothom Alo

Mr Moinuddin Mia (Nayan)
Reporter, The Daily Karatoa

Mr Sujoy Mohajan
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Staff Reporter, The Independent

Ms Kazi Runa
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Ms Sukla Sarker
Staff Reporter, ABC Radio

Mr Apurbo Stanly
Staff Reporter, Radio Today

Plenary Session II
Food Security and Containing Price Inflation

Mr M Zainul Abedin
IRRI Representative, Bangladesh

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Programme Officer, FAO

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Additional Secretary, Government of Bangladesh

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Mr Pius Costa
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Ministry of Food and Disaster Management

Ms Penny Davies
Programme Manager, Pro-poor Growth, DFID
Dr M Osman Farruk Former Education Minister

Mr Anwar Faruque
DG, Seed Wing, Ministry of Agriculture

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Agricultural Economist

Dr Chowdhury SB Jalal
Senior Research Fellow, Research & Evaluation Division, BRAC

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Chairman, SAMATA

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Vice Chairman, PROSHIKA

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Senior Information Officer and
PRO to the Hon'ble Minister for Food and Disaster Management

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Senior Programme Manager, Bangladesh Investment Climate Fund

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Vice Chancellor, Bangladesh Agricultural University

Dr M Moslem Uddin Mia
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Dr MA Hamid Miah
Liaison Scientist, IRRI

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Mr Anisur Rahman Mollick
President, Jatiya Krishok Samity

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Senior Vice President, Energy Pac Agro Ltd.

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APS to the Hon'ble Minister for Food and Disaster Management

Dr M Sayadur Rahman
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Mr Harun-Ar-Rashid
Executive Director, Agricultural Advisory Society

Dr M Harun-Ur-Rashid
Former Executive Chairman, BARC

Dr Muhammad Abdur Razzaque
MP and Hon'ble Minister for Food, Disaster Management and Relief
Government of Bangladesh

Dr Md Abdur Razzaque
Former Executive Chairman, BARC and Project Director, NATP

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Dr Bimal Kumar Saha
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Mr KM Ali Samrat
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Dr Golam Sarwar
Joint Chief, Planning Commission, Ministry of Planning

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Managing Director, Kranti Associates Ltd.

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FAO Representative in Bangladesh

Mr M Syeduzzaman
Member, CPD Board of Trustees and Former Chairman, Bank Asia

Mr Md Moshfequel Alam Talukder
Urban Agricultural Expert, UNDP

List of Journalists

Mr Mir Ahsan
Senior Reporter, Channel 1

Mr Salahuddin Bablu
Senior Reporter, The Daily Inquilab

Mr Abu Bakar
Cameraman, Diganta TV

Mr Shawon Hasnat
Reporter, Bangladesh Television (BTV)

Mr Arif Hossain
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Mr Humayan Kabir
Reporter, Financial Express

Mr Iftekhar Mahmud
Senior Reporter, The Prothom Alo

Mr Faizullah Mahmud
Reporter, NTV

Mr Mithun Mostafiz
Reporter, ETV

Mr Rezvi Newaz
Staff Correspondent , Channel i

Mr Sohel Parvez
Staff Reporter, The Daily Star

Mr Sahadat Riad
Senior News Correspondent, Desh TV

Mr Md Kamruzzaman Shamim
Senior Cameraman, Desh TV

Mr Md Monir Uddin
Reporter, Diganta TV

Plenary Session III
Energy Sector: Addressing Challenges of Adding New Capacities

Mr Abdul Matlub Ahmed
Chairman, Nitol Group

Mr Farooq Ahmed
Secretary General, Metropolitan Chamber of Commerce and Industry (MCCI)

Mr Imran Ahmed
Member of the Parliament

Mr Mahbub Ahmed
Additional Secretary, Government of Bangladesh

Professor M Shamsul Alam
Professor, Electrical Engineering Department, Chittagong Engineering University and Member, Oil, Gas & Mineral Protection Committee

Mr Khandker Mohammad Ali
Joint Secretary and Executive Member, Board of Investment (BOI)

Mr Mohammad Ali
APS to the Hon'ble State Minister
Ministry of Power, Energy and Mineral Resources

Mr Md Liakwat Ali
Manager IT & MIS, Novo Pharma

Dr M Asaduzzaman
Research Director, Bangladesh Institute of Development Studies (BIDS)

Professor Ali Ashraf
Member of the Parliament and
Finance and Planning Secretary, Awami League Central Committee

Engineer Shafiul Azam
Managing Director, Rupantarita Prakritik Gas Company Limited (RPGCL)

Mr Kazi Syedul Alam Babul
Chairman, Bangladesh Jute Goods Association

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Chairman, Department of Applied Physics, Electronics and
Communication Engineering, University of Dhaka

Dr Shafiqul Islam Bhuiyan
Former Chairman, Bangladesh Atomic Energy Commission (BAEC)

Dr Gouranga Chandra Chanda
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Equity and Justice Works Group

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Member (Engineering), Rural Electrification Board (REB)

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Mr A Gafur
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Dr Dil Afroz Haque
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Mr Asif Hasan
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Brig Gen (Retd) Mohammad Enamul Huq
MP and Member, Parliamentary Standing Committee on
Ministry of Energy and Mineral Resources

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Mr Tauhidul Islam
Managing Director, Summit Power Ltd.

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M Md Mokhlesur Rahman Khandker
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HE Dr Justin Lee
High Commissioner, Australian High Commission

Mr Rashed Mahmud
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Ambassador MA Malik
Former Secretary, Government of Bangladesh

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Mr ASM Mainuddin Monem
Deputy Managing Director, Abdul Monem Ltd.

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Mr Golam Mortoza
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Mr Rahman Murshed
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Mr Md Abu Musa
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Mr Niaz Rahim
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Parallel Session I
ICT for Development: Immediate Doables

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Parallel Session II - 100-Day Employment Generation Programme: Challenges of Effective Implementation

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- Emerging Issues in Bangladesh Economy
- State of the Bangladesh Economy in FY2007-08 and Outlook for FY2008-09
- Recent Inflation in Bangladesh: Trends, Determinants and Impact on Poverty
- Bangladesh Economy in FY2007-08: An Interim Review of Macroeconomic Performance
- বাংলাদেশের অর্থনীতি পর্যালোচনা ২০০৭-০৮
- State of the Bangladesh Economy in FY2006-07 and Outlook for FY2007-08
- State of the Bangladesh Economy in FY2005-06 and Outlook for FY2006-07
- State of the Bangladesh Economy in FY2004-05 and Outlook for FY2005-06
- Regional Cooperation in South Asia: A Review of Bangladesh's Development

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Development of Bangladesh with Equity and Justice

Immediate Tasks for the New Government