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ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank	LGD	Local Government Division
APR	Annual Program Review	LGED	Local Government Engineering Department
APSCL	Ashuganj Power Station Company Limited	MBF	Ministry Budget Framework
AUEO	Assistant Upazila Education Officer	MDG	Millennium Development Goals
BADC	Bangladesh Agricultural Development Corporation	MEU	Monitoring and Evaluation Unit
BANBEIS	Bangladesh Bureau of Educational Information and Statistics	MIS	Management Information System
BB	Bangladesh Bank	MMR	Maternal Mortality Rate
BBS	Bangladesh Bureau of Statistics	MoE	Ministry of Education
BCIC	Bangladesh Chemical Industries Corporation	MoF	Ministry of Finance
BDHS	Bangladesh Demographic and Health Survey	MoHFW	Ministry of Health and Family Welfare
BDT	Bangladesh Taka	MoPME	Ministry of Primary and Mass Education
BERC	Bangladesh Energy Regulatory Commission	MSA	Management Support Agency
BINP	Bangladesh Integrated Nutrition Program	MSR	Medical and Surgical Requisites
BMRC	Budget Monitoring and Resource Committee	MTBF	Medium Term Budgetary Framework
BOGMC	Bangladesh Oil, Gas and Mineral Corporation (Petrobangla)	MTBO	Medium Term Budget Outlook
BPC	Bangladesh Petroleum Corporation	MTBPS	Medium Term Budget Policy Statement
BPDB	Bangladesh Power Development Board	MTMF	Medium Term Macroeconomic Framework
BR	Bangladesh Railway	NBR	National Board of Revenue
CAMPE	Campaign for Popular Education	SCB	State Commercial Bank
CFA	Central Finance Agency	NCTB	National Curriculum and Text Book
CGA	Controller General of Accounts	NDB	Non Development Budget
CPuS	Consolidated Public Sector	NEC	National Economic Council
DB	Development Budget	NGO	Nongovernmental Organization
DDOs	Drawing and Disbursement Officers	NHA	National Health Accounts
DESA	Dhaka Electricity Supply Authority	NIPORT	National Institute of Population Research and Training
DESCO	Dhaka Electric Supply Company Limited	NLTP	National Land Transport Policy
DFIs	Development Financial Institutions	NNP	National Nutrition Program
DGFP	Directorate General of Family Planning	NSAPR	National Strategy for Poverty Reduction
DGHS	Directorate General of Health Services	NTRCA	National Teacher Registration and Certification Authority
DIA	Directorate of Inspection and Audit	OMS	Open Market Sale
DP	Development Partner	OOP	Out-of-Pocket
DPE	Directorate of Primary Education	OP	Operational Plan

DPHE	Department of Public Health Engineering	PAD	Project Appraisal Document
ECNEC	Executive Committee of the National Economic Council	PER	Public Expenditure Review
FD	Finance Division	PGCB	Power Grid Company of Bangladesh
FFW	Food For Work	PMA	Performance Monitoring Agency
FMAU	Financial Management and Audit Unit	PFDS	Public Food Distribution System
FMRP	Financial Management Reforms Project	PRSP	Poverty Reduction Strategy Paper
GDP	Gross Domestic Product	PSC	Production Sharing Contract
GoB	Government of Bangladesh	REB	Rural Electrification Board
HDI	Human Development Index	SDP	Strategic Development Plan
HEU	Health Economic Unit	SMC	School Management Committee
HIES	Household Income and Expenditure Survey	SoE	State-owned Enterprise
HNP	Health, Nutrition and Population	SSC	Secondary School Certificate
HNPSP	Health, Nutrition and Population Sector Program	SSP	Single Super Phosphate
HPI	Human Poverty Index	SWAp	Sector Wide Approach
HPSP	Health and Population Sector Program	TFR	Total Fertility Rate
HSC	Higher Secondary Certificate	THE	Total Health Expenditures
IEDCR	Institute of Epidemiology, Disease Control and Research	U5MR	Under 5 Child Mortality Rate
IMR	Infant Mortality Rate	UESD	Utilization of Essential Services Delivery
IMTP	Integrated Multimodal Transport Policy	UHC	Upazila Health Complex
IOC	International Oil Company	VGD	Vulnerable Group Development
IPP	Independent Power Producer	VGf	Vulnerable Group Feeding
LD	Line Directorates	WHO	World Health Organization
		WZPDCL	West Zone Power Distribution Company Limited

CHAPTER ONE

THE EDUCATION SECTOR: POLICY, FINANCING AND OUTCOMES

Increasing enrollments and achieving gender parity in schooling have been the hallmarks of education policy in Bangladesh for the last two decades. More recently, prominence has been given to improving the quality of education at all levels as indicated by improvements in examination scores and test results. While education expenditures since 2000 have increased (in real terms), the recent analysis shows that enrollment in recognized (registered) government schools, where most public spending is directed, has experienced a decline. The current distribution of education spending is not progressive. The poor represent 40 percent of the total population of school-aged children but receive only 32 percent of the total recurrent education expenditure. Even the primary stipend program, designed to target the poorest 40 percent of students, is only marginally pro-poor. If the National Strategy for Accelerated Poverty Reduction (NSAPR) targets are to be achieved, substantial improvements and investments in the primary and junior subsector will be needed, in addition to effectively balancing public spending between the poor and non-poor populations.

Key Policy Priorities

- *Improve coordination between the two ministries of education to strengthen policy planning and create a common approach to issues affecting the entire sector, including unrecognized schools.*
- *Improve targeting and enforcement of the stipend program for the poor, and revise funding norms to ensure that they serve the government's equity goals.*
- *Gradually increase the overall funding level in education commensurate with improvements in the institutions for managing public resources to address issues of access and quality, in particular: (i) providing in-service training for teachers; (ii) provision of text books; (iii) increases in instructional times; and (iv) introduction of school grants.*
- *Strengthen budget management systems to improve policy planning, reduce fragmentation and ensure continuous monitoring of sector budget performance.*

1.1 The Sector Policy Framework

1. **Bangladesh's vision, laid out in the National Strategy for Accelerated Poverty Reduction (NSAPR), considers human development as being one of the four strategic blocks for fostering economic growth and delivering rapid poverty reduction and social development.** The quality of education in particular is highlighted as one of the major strategic issues to be addressed. Reflecting this vision, the Medium-Term Budget Framework (MTBR) is closely linked with the goals and objectives outlined in the NSAPR, both in terms of the long-term objectives (goals and targets for 2015), as well as detailed medium-term plans to achieve these goals (for the 2005-2008 period). The sector policy highlights the need to invest in all aspects of the education system in order to achieve these goals and clearly articulates targets to strengthen gender equity and female education, although it is less specific in activities that directly target the poor. The policy also pays attention to the groups within society that the current system is failing to reach and includes a plan of action to improve access and education opportunities for indigenous groups (Table 1-1).

Table 1-1: Key Targets for 2015 Relating to Education in the NSAPR¹

Goal	Key targets for 2015
EARLY CHILDHOOD	
Introduce and strengthen early childhood and preschool education.	Introduce early childhood and preschool education to all rural poor children for at least six months.
NONFORMAL EDUCATION	
Increase literacy and expand post literacy and continuing education opportunities.	Increase literacy rate to 80 percent.
PRIMARY EDUCATION	
Introduce a unified and common primary education syllabus for all children.	Net primary school enrollment ratio to increase to 100 percent.
Increase access.	Increase school completion and attendance to 80 percent.
Improve quality.	Seventy percent of primary school completers pass a minimum competency test.
	All teachers trained and certified by 2007.
Ensure equality and equity in provision.	
Improve quality of madrasa ² education.	Harmonize curriculum to 90 percent and double current levels of student competency.
	All teachers trained and certified by 2007.
SECONDARY GENERAL AND MADRASAH EDUCATION	
Increase access.	Gross junior secondary enrollment rate to increase to 90 percent, secondary to 66 percent and higher secondary to 25 percent.
	Reduce dropout rate by 50 percent.
Improve quality.	Secondary School (SSC) pass rate to improve to 65 percent.
	Higher Secondary (HSC) pass rate to improve to 60 percent.
	All teachers trained and certified by 2007.
Ensure equality and equity in provision.	Gender sensitive textbooks.
	Male and female enrollment and completion rate parity.
	Drop-out rate amongst poor children to improve by 50 percent.
TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING	
Increase access and equity.	Increase enrollment by 50 percent and female enrollment by 60 percent.
Improve quality.	Eighty percent passing rate in terminal examinations.
	All teachers trained and certified by 2007.
TERTIARY EDUCATION	
Increase access to professional degree courses and non-humanities subjects.	Increase enrollment by 40 percent in professional courses and 50 percent in non-humanities subjects.
Improve quality.	Improve examination pass rates by 50 percent in degree and masters examinations.

Source: GoB (2005).

1.2 Trends in the Education Sector Since 2000

2. **How far away is the education system from the stated education goals? Where will the focus of investment need to be if these goals are to be achieved? This section aims to address these questions by analyzing trends in the education sector since 2000 when information for the last public expenditure review was collected.³**

¹ These goals and targets are taken from the education policy matrix of the NSAPR. Education targets are also included in other policy matrixes and, in particular, the children policy matrix. The education targets contained in other parts of the NSAPR are similar in terms of direction but differ on actual levels.

² Madrasah: A school that provides a combination of religious and temporal education.

³ The latest data used for the education sector in the last public expenditure review was 2000 even though the review was not published until 2003.

3. **Education services in Bangladesh are provided by a number of different providers but government either directly provides or substantially supports most education sectors.** Government schools at all levels are fully funded by public resources. At the secondary level, nongovernment schools and madrasas are largely funded privately with the government contributing teachers' basic pay and tuition payments for female students participating in the stipends scheme⁴ (Table 1-2).

Table 1-2: Government Financing Modalities for Education

Sector	Level of Government Funding	Enrollment 2005 (000s)	% of Total
PRIMARY EDUCATION			
Government schools	Fully government funded.	9,484	54
Registered non-government schools	Government provides basic pay of teachers and limited allowances. Provides free stipends to 40 percent of rural students and free textbooks to all students.	3,573	21
Govt. Alia madrassas	Fully government funded.	n/a	
Independent ebtadayee ¹ madrasahs	Teachers receive Tk. 750. Provides free stipends to 40 percent of rural students and free textbooks to all students.	850	5
Recognized non-government Alia madrassas	Attached ebtadayee sections of higher madrassas. Government provides basic pay of teachers and limited allowances. Provides free textbooks.	1,146	7
Unrecognized madrasahs	No government funding.	n/a	n/a
Private schools	No direct government funding. Free textbooks for schools following national curriculum.	404	2
NGO schools	No direct government funding. Free textbooks for schools following national curriculum.	1,500	9
Community schools	Teachers receive Tk. 750. Provides free stipends to 40 percent of rural students and free textbooks to all students.	426	2
SECONDARY AND HIGHER SECONDARY EDUCATION (CLASSES 6-12)			
Government schools	Fully government funded.	387	4
Registered non-government schools	Government provides basic pay of teachers and limited allowances. Provides free tuition and a stipend to participating rural female students.	7,812	79
Govt. Alia madrassas	Fully government funded.	1	0
Recognized non-government Alia madrasahs	Government provides basic pay of teachers and limited allowances. Provides free tuition and a stipend to participating rural female students.	1,717	17
Unrecognized madrasas	No government funding.	n/a	n/a
Private schools	No government funding.	n/a	n/a
NGO schools	No government funding.	n/a	n/a
TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING			
Government institutes	Fully government funded.	49	20
Non-government institutes	Government provides basic pay of teachers and limited allowances for most private institutes in this sector.	192	80
TERTIARY EDUCATION DEGREE AND MASTERS EDUCATION			
Government colleges	Fully government funded.	344	41
Government universities	Government subvention.	116	14
Registered non-government colleges	Government provides basic pay of teachers and limited allowances.	223	27
Govt. Alia madrassas	Fully government funded.	2	0
Recognized non-government Alia madrassas	Government provides basic pay of teachers and limited allowances.	55	7
Private universities	No government funding.	92	11

Source: NGO primary enrollment data is an estimate taken from World Bank (2006b). All other data for enrollment is for 2005 and taken from DPE (2006a) and BANBEIS (2006).

Notes: Private primary schools include non-registered non-government primary schools and kindergartens.

¹: Ebtadayee madrassas are a type of Alia madrassa that operates in primary education, They are Government registered and funded and sanctioned by the Bangladesh Madrassa Education Board.

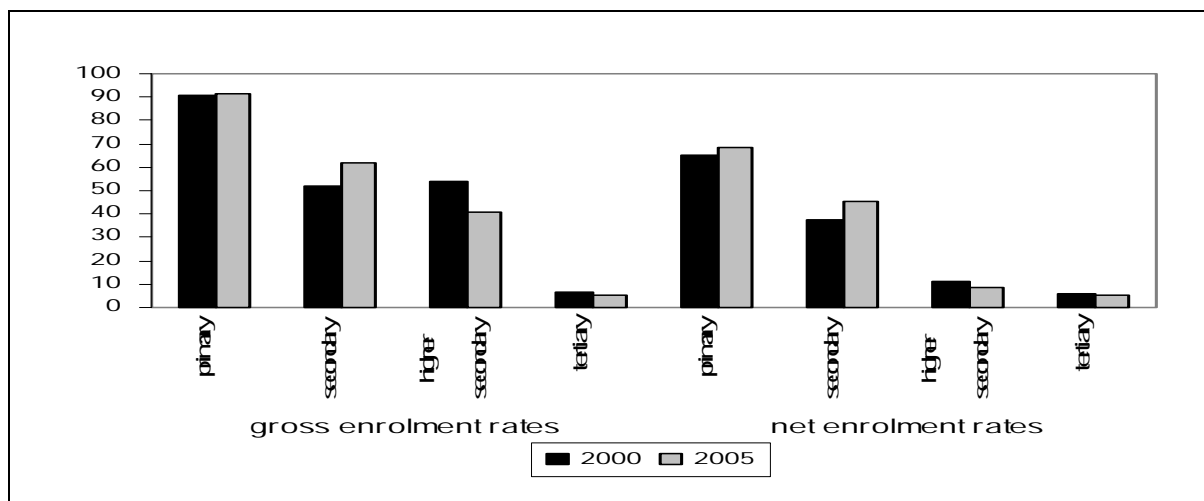
⁴ It should be noted that the curriculum and syllabus for recognized madrassas is different and at the secondary level a separate education board administers and delivers public madrassa examinations.

4. **Little is known about private schools that are not supported by government, although it appears that English-medium schools have been growing since 2000.** It is also very difficult to get accurate figures on the number of unrecognized madrassas in Bangladesh. However, *Quami*⁵ madrassas make up a large proportion of madrassas of this type offering primary and higher education. A recent study suggested that there are approximately 8,000 *Quami* madrassas in Bangladesh, serving approximately 2 million students (Mercer et al 2005). The same study also suggested that enrollment in *Quami* madrassas rose by 15 percent between 1995 and 2005.

1.3 Trends in Education Access

5. **Access to primary school has remained stagnant, while secondary school enrollment has exhibited the fastest growth in the period 2000-2005.** Primary school enrollment rates have registered a modest increase, whereas secondary school enrollment has increased by 10 percentage points, or approximately 1.6 million students over the period, including Technical and Vocational Education Training (TVET). Greater demand from the private sector for better-skilled employees seems to have driven the expansion of TVET.⁶ In contrast to secondary education, enrollment rates in higher secondary and tertiary education have declined since the beginning of the decade. These declines have been greatest at the higher secondary level with a 13 percentage point drop in gross enrollment rates between 2000 and 2005. Despite enrollment in universities almost doubling, a large fall in college enrollment has resulted in an overall decline in enrollments at the tertiary level during this period (Figure 1-1).

Figure 1-1: Enrollment Rates in Bangladesh (2000 and 2005)



Source: Enrollment rates generated from the 2000 and 2005 Household Income and Expenditure Surveys (Al-Samarrai 2007a).

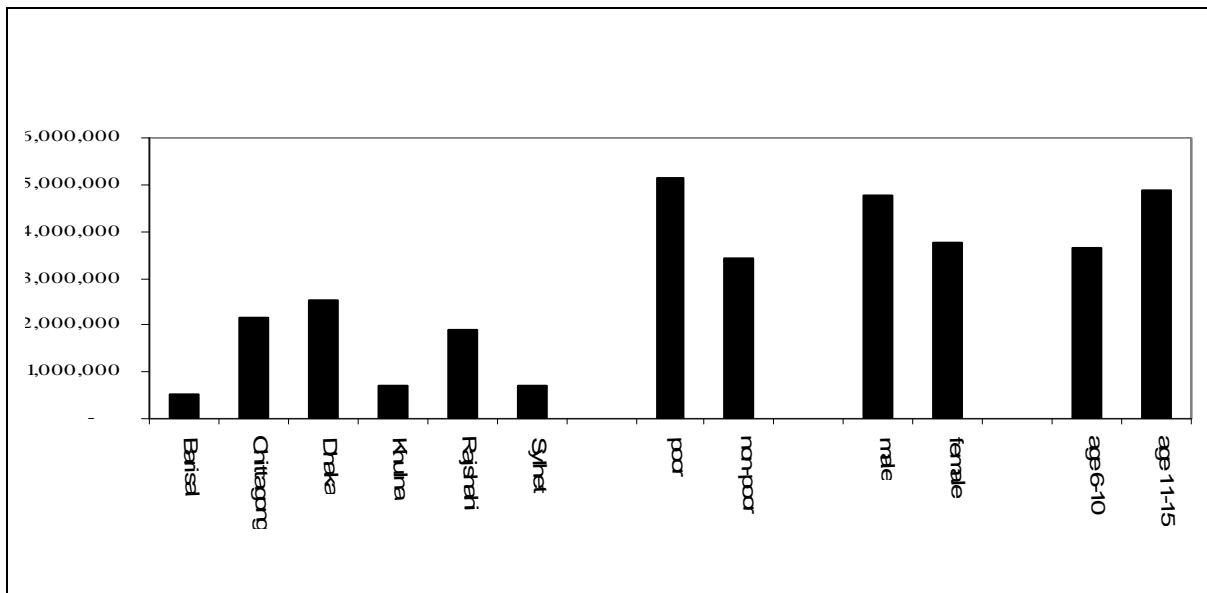
⁵ Quami madrassas are not registered with the Government, may or may not be under informal independent networks/boards, predominantly teach only religious subjects, and are financed via various non-state sources (e.g., private charities, foreign private funding)

⁶TVET accounted for 79 percent of the increase in total secondary school enrollment, although TVET only represents 1 percent of total enrollment at this level.

6. **The aggressive pursuit of gender equity policies has shifted the gender gap in enrollment in favor of girls.** The gap in enrollment rates between male and female students is largest at secondary school, where female gross enrollment rates exceed those of their male counterparts by 8 percentage points.⁷ Since 2000, however, the gender gap in secondary school enrollment has narrowed slightly. At the higher secondary level a gender gap in gross enrollment rates in favor of boys remains, although this gap declined by 6 percentage points between 2000 and 2005. Within secondary and higher secondary the TVET sector has the largest gender imbalances with fewer than 30 percent of total places filled by female students in 2005 (BANBEIS 2007). Gender differences in enrollment levels at higher secondary contribute to the large gender gaps seen at the tertiary level. While these gaps have been narrowing since 2000, there were approximately two male students for every female student in 2005.

7. **Socioeconomic status affects the number of children of school age who are currently out of school, a situation that has been improving, especially at the primary level.** The total number of children of primary age, who are out of school, fell by approximately 1 million between 2000 and 2005. However, 60 percent of children (aged 6-15) out of school are in poor households (Figure 1-2). The out-of-school population is very unevenly distributed across Bangladesh and largely reflects differences in overall population levels and enrollment rates across divisions. Divisions with the highest numbers of out-of-school children tend to have the lowest poverty rates. For example, Dhaka division has approximately 2.5 million children who do not attend school, which is almost 30 percent of all out-of-school children, even though it has the lowest poverty rate.

Figure 1-2: Estimated Number of Children Aged 6-15 Out of School (2005)



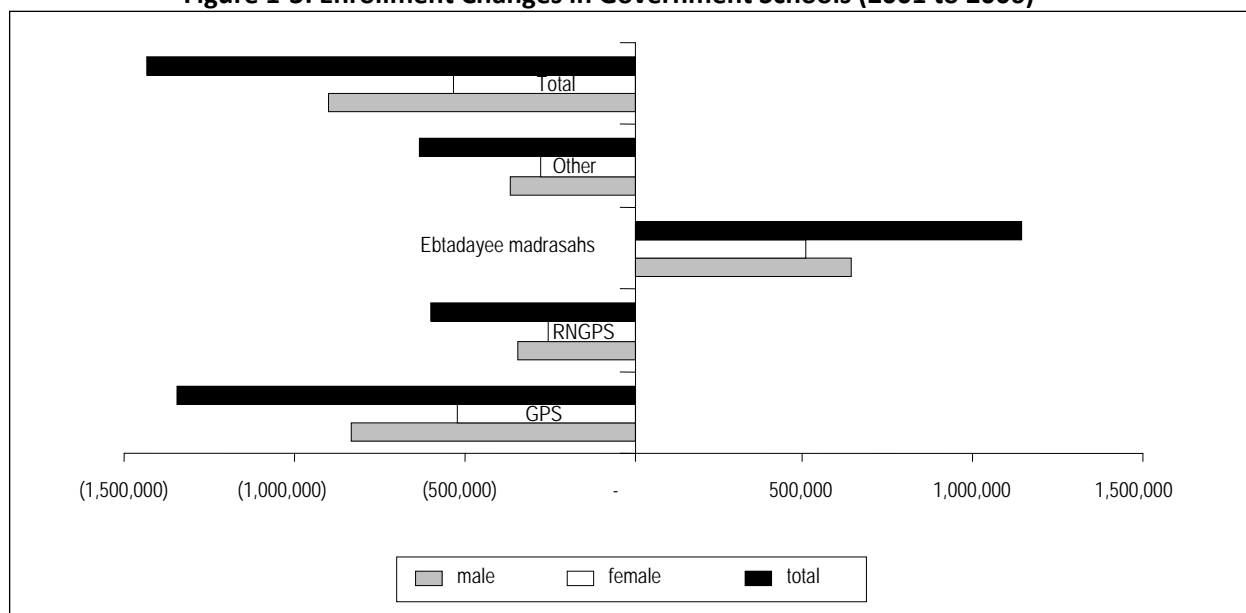
Source: HIES (2005)

Notes: Out of school children are defined as children in the 6-15-year age group who are not attending any form of schooling.

⁷ This has put Bangladesh in a unique position in the developing world, comparable only to Namibia and Lesotho.

8. **The composition of enrollment has changed following a large shift away from the government recognized (and funded) primary and secondary schools.** This is likely to have important implications for public funding and sector policy. Overall, recognized government schools have registered an 8 percent decline in enrollment between 2000 and 2005. Declines have been greatest for government and registered non-government primary schools where enrollment has fallen by 13 percent over the four-year period. In contrast, government recognized madrassas appear to have registered substantial increases in enrollment.⁸ Furthermore, male enrollment has dropped by a greater number than female enrollment; in 2005, there were nearly 900,000 fewer males in government recognized schools than in 2001 (Figure 1-3).

Figure 1-3: Enrollment Changes in Government Schools (2001 to 2006)



9. **These declines in enrollment in government recognized schools combined with the stagnant enrollment rates shown in (Figure 1-1) imply that there has been a shift into schools that are not recognized (and not funded) by government.**⁹ However, it is not possible using current information sources to determine which types of schools, outside the government recognized system, have seen their student numbers increase. These shifts are extremely important given the strong focus of current policy on improving access and quality in government and registered non-government primary schools. The shift in the composition of enrollment away from government and registered non-government schools and towards madrassas is also seen at the secondary level. Between 2000 and 2005, enrollment declined by approximately 250,000 students in government and registered non-government schools, while a similar increase was recorded in government recognized madrassas (BANBEIS 2007).

⁸ This increase is likely to be due both to better reporting, as well as a shift in enrolment towards this type of school.

⁹ Another possibility is that the primary school age population has declined between 2001 and 2005. There are no agreed school age population projections that use the latest census of 2001. While there is general agreement that there has been a slowdown in the rate of growth, the magnitude of this slowdown is a source of debate. However, Bangladesh Bureau of Statistics (BBS) projections for DPE and projections used for the National Plan of Action show an approximate growth of 1 percent between 2001 and 2005 (DPE 2006a; MoPME 2006). Therefore, it is unlikely that declines in population would account for the fall in enrollment.

1.4 Trends in Education Quality

10. **While overall education access presents a mixed picture, the education system in Bangladesh is characterized by persistent low quality and inefficiency.** Only half of all children beginning primary and secondary education survive to the final grade, and at secondary level only one in five actually passes the SSC examination. Failure to complete secondary education is a growing phenomenon. Between 2000 and 2005, the proportion of the 16-25 age group, with an incomplete secondary education as their highest educational attainment, increased from 23 to 33 percent (Al-Samarrai 2007a). These low completion rates are masked by an improvement in examination results at this level. In 2006, 60 percent and 76 percent of students sitting for the SSC examination in general schools (government and non-government) and madrassas respectively passed (BANBEIS 2007).

11. **Female students have higher completion rates than male students at primary level. However, despite a higher level of female enrollment, a higher proportion of male students complete secondary schooling.** This male advantage at secondary level is also seen in SSC examination results. In 2006, 57 percent and 72 percent of female students sitting for the general and madrasa examinations respectively passed, compared to 61 percent and 78 percent of male students. In contrast, completion rates are much better at higher secondary compared to secondary level, and female completion and examination results tend to be better than their male counterparts at this level.

12. **Completion rates amongst the poor are much lower than for the non-poor, but the gap in primary completion rates narrowed between 2000 and 2005 (Al-Samarrai 2007a).** A large gap remains, however, with 57 percent of poor individuals between the ages of 16 and 20 completing primary school compared to 79 percent of the non-poor. These low relative completion rates feed into very low completion rates of the poor at the secondary level. Only 6 percent of the poor between the ages of 16 and 20 have completed secondary education compared to 26 percent of the non-poor. The completion rate gap between poor and non-poor students has also narrowed at secondary level, although this has come about from a decline in completion rates amongst the non-poor, rather than a more rapid rise in completion rates amongst the poor (Al-Samarrai 2007a).

13. **Completing primary education is seen to be an important step in realizing benefits associated with education, such as basic literacy and numeracy.** Internal efficiency indicators and public examination results give only a partial picture of the quality of education provision. In a survey conducted in 2002, it was found that approximately one-third of individuals who had completed primary education were illiterate (CAMPE 2003). Learning outcomes for the poor are also lower than for the non-poor. In a study of secondary schools in 2004, differences in average test results between the poorest and richest quintiles were 6-7 percentage points in mathematics and Bangla (FMRP 2006c). It is also important to note that the national assessment in 2001 and other studies exploring achievement at primary school have found the quality of primary education to be low across all providers (CAMPE 2001; Carroll and Tan 2002; FMRP 2006a).

14. **Analysis of education trends in the previous sections shows that to achieve the goals of the Poverty Reduction Strategy Paper (PRSP), the main efforts and resources to improve educational outcomes should be at the primary and junior secondary school levels.** This is even more challenging since the current emphasis in the subsector has been on government and non-government primary schools where there have been substantial declines in enrollment. Comparing the PRSP access targets for secondary education with the current enrollment rates suggests that

increases in enrollment need to be concentrated at the junior secondary level (Table 1-3). It is estimated that enrollment in the first three grades of secondary school would need to increase by around 50 percent, or 3 million students if the PRSP target for junior secondary school enrollment is to be achieved. This is particularly difficult given that intake rates into junior secondary schools have begun declining (BANBEIS 2007). Much of the challenge remains enrolling poor children into primary and secondary school. Access targets, laid out in the PRSP, appear to have already been achieved at the higher secondary school level.

Table 1-3: Internal Efficiency of the Education System 2005 (%)

Level	Repetition Rate			Survival Rate			Completion Rate		
	M	F	T	M	F	T	M	F	T
Primary	12	11	11	49	57	53	–	–	–
Secondary (general)	8	8	8	43	40	41	23	17	20
Secondary (madrassa)	–	–	–	–	57	61	–	14	22
Higher Secondary	–	–	–	–	–	–	–	59	57

Source: (DPE 2006a, BANBEIS 2007).

Notes: Primary statistics cover government, registered non-government and experimental schools. Statistics for madrassa education are for 2003. Figures for survival and completion rates are calculated using the reconstructed cohort method.

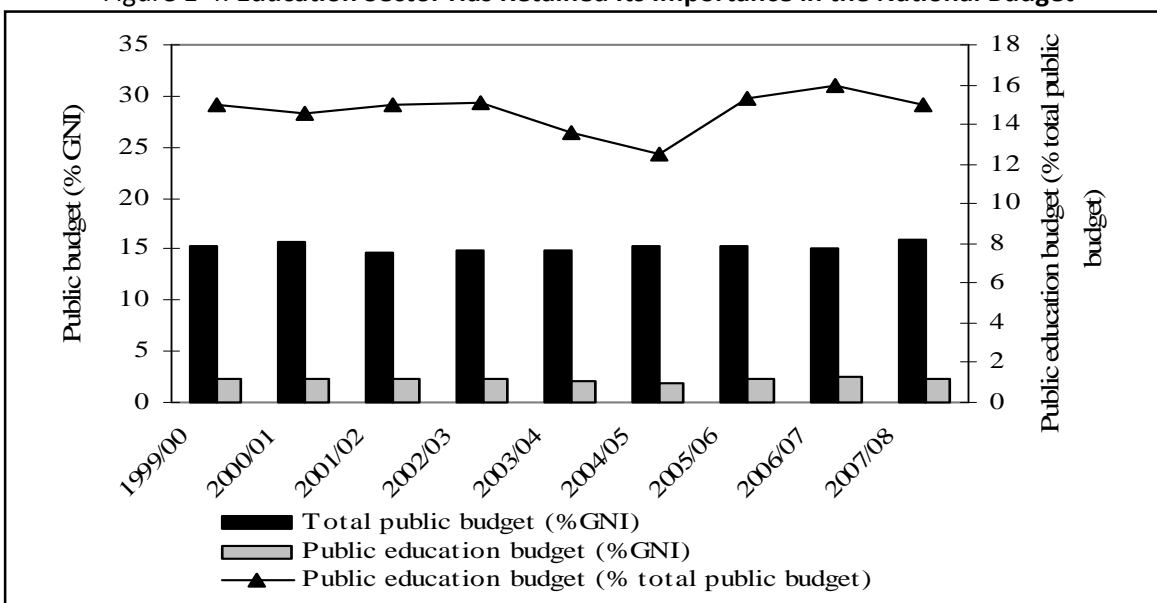
15. **Improving the low primary school completion rates remains a major challenge to the achievement of PRPS goals.** Poor school completion and high drop-out rates are likely to be related to the poor quality of primary education outlined in this section and further emphasis on improving quality will be needed if completion rates are to improve. PRSP targets concerned with the quality of education have largely been met at the secondary school level. For example, HSC pass rates have already passed the 60 percent target set in the PRSP. However, very low levels of survival at the secondary level make the pass rate targets a poor indicator of quality in this subsector. As with primary education, significant progress needs to be made on quality if the majority of students entering secondary school are to successfully complete their schooling.

1.5 Composition of Education Expenditures

16. **The education sector has retained its importance in the national budget and there have been substantial increases in the real resources available to the sector.** Since the beginning of the decade, approximately 15 percent of government resources have been devoted to education and this is comparable to developing and regional country averages (Table 1-4).¹⁰ However, at 2.3 percent, the proportion of national income devoted to education remains low and is due largely to the low share of government spending in national income. While the share of national income devoted to education was similar in 1999/00 and 2006/7, real spending has increased by 50 percent owing to the high rates of economic growth in Bangladesh.

¹⁰ The average percentage of total public spending devoted to education in 2002 was 16 percent for developing countries as a whole and 14 percent for countries in South and West Asia (UNESCO 2006a)

Figure 1-4: Education Sector Has Retained Its Importance in the National Budget

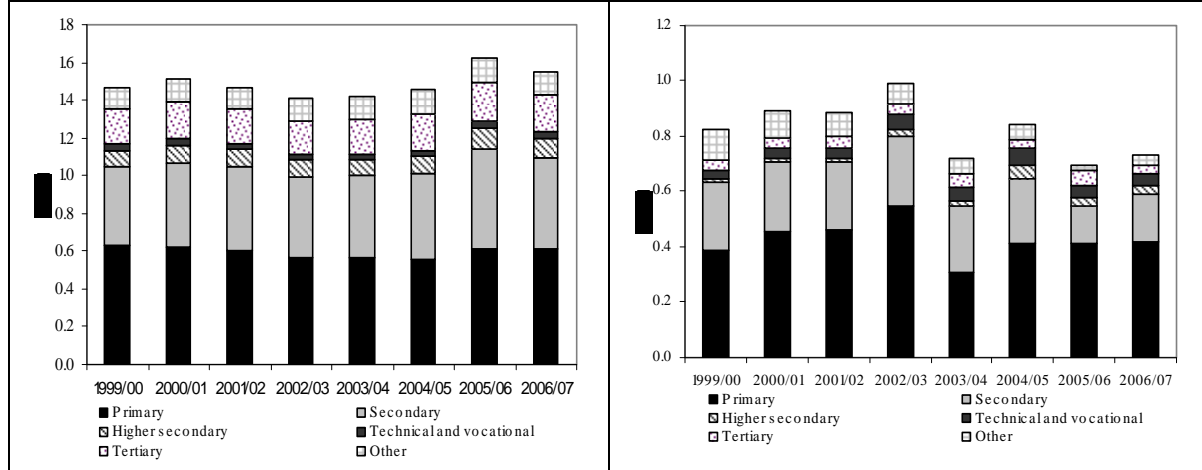


Source: Ministry of Finance (various years), Planning Commission (various years) and Bangladesh Bureau of Statistics for GNI data.
 Notes: All figures are for revised budget except 2000/1 (total development and education development budget) and 2007/8 (all statistics), which are budgeted figures. Total public budget figures exclude debt repayments, loans and advances, food operations and structural adjustment spending. The total budget figures for 2005/6 and 2006/7 include programs financed by the nondevelopment budget (commonly 1-2 percent of the overall budget) whereas, other figures do not. Total budget figures for 1999/00 and 2000/1 are not completely comparable with other figures but the differences are small.

17. **Primary education has received greater importance within the education sector, with development spending shifting slightly away from secondary education.** Intra-sectoral allocations on the recurrent budget (revenue budget) have also remained relatively stable, while the shares on the development side (investment budget) have varied since 2000. Approximately 80 percent of the education revenue budget is equally shared between primary and secondary subsectors. Since 2003/4 and the beginning of Primary Education Development Project II (PEDP II), the amount of the development budget allocated to primary education has been increasing and by 2006/7, approximately 60 percent of education development resources were devoted to the subsector. During the same period, the share of development resources going to the secondary education sector has declined from 36 percent to 27 percent. While these shares are in a similar range to other countries, the low proportion of national income spent on education implies that Bangladesh spends much less on primary and secondary education as a proportion of national income compared to other countries. For example, in 2002 India and Nepal spent approximately 1.4 percent of national income on primary education, more than double the amount spent in Bangladesh in the same year (Figure 1-5).¹¹

¹¹ In 2005, the average proportion of GNP devoted to primary education was 1.8 percent for developing countries as a whole compared to 0.4 percent in Bangladesh (UNESCO 2007).

Figure 1-5: Subsectoral Revenue and Development Budget Allocations for Education (1999/00–2006/7)(% GNI)



Source: Staff calculations from Ministry of Finance data (various years) and Planning Commission data (various years).
Notes: Revenue budget data is based on the revised budget except for 2006/7. For details of how sub-sectoral budget allocations have been calculated see Appendix.

18. **Personnel costs take the largest share of the education revenue budget, with some 98 percent of revenue spending in primary education being devoted to salaries during the last decade.** This leaves very little room for any operational expenditure. A great deal of the non-salary recurrent spending, however, occurs on the development side of the budget, such as stipends and provision of primary school textbooks. Combining the information on both sides of the budget, it shows that 20 percent is devoted to non-salary expenditure. Non-salary spending on stipends and textbooks in 2004/5 accounted for 78 percent and 15 percent of overall non-salary spending respectively (Table 1-4). Teacher salaries are the largest driver of differences in unit expenditure between different school types. Government school teachers are paid better and at comparable levels with their regional counterparts, at 3-4 times their per capita GDP, while nongovernment teachers are paid substantially less.

**Table 1-4: Composition of Total Public Education Spending (Various Years)
(Constant 2006/7 Prices)(Millions of Taka)**

Level	2001/2		2003/4		2004/5 ¹²	
	Total	%	Total	%	Total	%
PRIMARY EDUCATION						
Salary	18,007	57	18,456	64	19,357	67
Nonsalary	7,275	23	6,078	21	6,425	22
Capital	6,189	20	3,952	14	2,831	10
Other	43	0	255	1	265	1
Total	31,514	100	28,741	100	28,878	100
SECONDARY EDUCATION						
Salary	14,624	66	15,965	58	-	-
Nonsalary	4,412	20	4,245	15	-	-
Capital	3,193	14	7,049	25	-	-
Other	8	0	604	2	-	-
Total	22,237	100	27,863	100	-	-

Source: Ministry of Finance, Planning Commission.

¹² For 2004/5, actual primary education spending is low compared to budget figures because only 51 percent of the development budget was spent. This was due largely to the slow implementation of PEDP II at the start; budget execution for this project was only 34 percent in 2004/5.

19. **The increase in real total spending, combined with a decline in enrollment, has increased spending per student in real terms, although this is still low by regional standards.**¹³ Spending per student in India was approximately three times as high at the primary level in 2002. Per-student spending in registered nongovernment schools increased by 64 percent between 2001 and 2005, and the pupil to teacher ratio declined from 67:1 to 58:1 between 2001 and 2005. These developments might have led to reductions in class sizes and possibly to improvements in the quality of teaching. Subsidies per student also vary between different education providers, both at primary and secondary levels. Of the largest providers at the primary level, government and nongovernment registered madrassas tend to receive the highest per-student subsidies from the government. However, registered nongovernment schools that enroll over one-fifth of all primary school students receive less than half of the subsidy going to the other large providers. At the secondary level, both nongovernment schools and madrassas are similarly poorly funded (Table 1-5).

Table 1-5: Revenue Expenditure Per Student (Current Prices) Taka 2005

Level	Primary	Secondary	Higher Secondary	Technical and Vocational	Tertiary	University
Government schools/colleges	1,497 (23)	5,568 (87)	4,748 (74)	13,558 (211)	4,748 (74)	40,428 (629)
Registered nongovernment schools	717 (11)	1,924 (30)	4,318 (67)	3,021 (47)	4,318 (67)	-
Government Alia madrassas	-	7,536 (117)	7,536 (117)	-	7,536 (117)	-
Recognized nongovernment Alia madrassas	1,969 (31)	1,969 (31)	1,969 (31)	-	1,969 (31)	-
Independent ebtedayee madrassas	43 (1)	-	-	-	-	-
Community schools	198 (3)	-	-	-	-	-
Total (weighted average)	1,261 (20)	2,125 (33)	4,091 (64)	4,767 (74)	4,355 (68)	40,428 (629)

Sources: CGA data on recurrent expenditure for 2004/5 and 2005/6 (BANBEIS 2006 and DPE 2006a).

Notes: Recurrent spending is averaged over 2004/5 and 2005/6 to calculate the unit expenditures shown. Figures in parentheses are US dollar figures based on the average exchange rate in 2005 (IMF 2007).

1.6 Equity in Education Spending

20. **An important feature of effective resource allocation is its contribution to equity, so that the underprivileged in society can benefit more from public funding compared to the better-off who can use alternative sources of funding.**

21. **Overall education spending in Bangladesh falls short of such attributes as its current distribution is not pro-poor.** The poor in Bangladesh represent 40 percent of the total population of school-aged children, but receive only 32 percent of the total recurrent education expenditure (Table 1-6). However, education spending is progressive in the sense that a greater proportion of it accrues to the poor compared to private household spending.

¹³ Decreases in enrollment have not been accompanied by reductions in the teaching workforce and therefore pupil/teacher ratios have improved and led to increases in spending per student.

Table 1-6: Incidence of Public Recurrent Education Expenditure (2005)

Demographic	Primary	Secondary	Higher Secondary	Tertiary	Total
Quintiles					
1	24	12	3	2	15
2	23	14	8	4	16
3	21	20	11	8	18
4	18	27	22	21	22
5	14	27	56	65	29
Poor	47	26	11	9	32
Nonpoor	53	74	89	91	68
Male	52	49	61	66	53
Female	48	51	39	34	47
Rural	74	72	46	25	64
Urban	26	28	54	75	36

Source: HIES 2005.

Notes: All students, irrespective of whether they attend schools subsidized by government are used to compute the distribution of public spending in the table.

22. **Primary education spending is clearly more focused on the poor than the other levels of education.** However, even primary education expenditure is not pro-poor; 50 percent of the primary school age population is classified as poor but they receive only 47 percent of public primary recurrent expenditure. This is a very similar finding to the incidence analysis conducted on the 2000 HIES data. Since 2000 there has, therefore, been no significant shift in education spending towards the poor (Glinskaya 2005).¹⁴

23. **The gap between the proportion of public spending going to the poor and the poor's share in the population grows as students' progress from primary to tertiary education.** At the higher secondary level, only 3 percent of public spending goes to the poorest quintile despite the poor representing 14 percent of the higher secondary school age population. Furthermore, at higher secondary and tertiary levels, public education spending is regressive since a smaller proportion of public spending accrues to the poor compared to private household spending. Only 9 percent of public tertiary spending accrues to the poor compared with 21 percent of household expenditure. Therefore, subsidies at these levels tend to raise income inequality as they are more unequally distributed than household spending.

24. **Even the stipend program, a well-known conditional cash transfer program, designed to target the poorest 40 percent, is only partially pro-poor (Box 1-1).** A large proportion of stipend recipients at the primary level are not drawn from the poorest 40 percent of the population. At the secondary level, the stipend program participation rate amongst female students tends to be higher for the poorest quintile (Table 1-7). While participation rates are high, three-quarters of stipend holders at this level come from non-poor households. This reflects the lower enrollment rates of poor female students compared to their richer counterparts. Low participation in the stipend

¹⁴ In the previous study, public primary education expenditure is classified as being pro-poor because a higher percentage of this spending went to the poor compared to the percentage of poor individuals in the overall population. However, the paper also reports the percentage of primary school age children who are poor. This shows that 59 percent of the primary school age population is poor and only 56 percent of primary education expenditure accrues to this group (Glinskaya 2005).

program might also reflect the fact that other factors influence poor people's participation in school, such as family reasons or cultural factors.

25. **Information on annual stipend payments can be used to examine the incidence of stipend program spending, which is pro-poor at primary and pro-rich at secondary level.** The poor receive 54 percent of all primary stipend payments and, given that about 50 percent of the total primary school age population is poor, the primary stipends program is pro-poor.¹⁵ At the secondary level, only 23 percent of stipend program expenditure goes to the poor even though they make up nearly 40 percent of the secondary population (Table 1-7). Therefore, the stipend program at the secondary level is pro-rich. This situation is largely driven by the differences in enrollment and progression rates between the poor and non-poor at this level.

Table 1-7: Stipend Participation Rates and Incidence of Program Expenditure (2005)

Level	Quintiles					Poor	Nonpoor	Male	Female
	1	2	3	4	5				
Stipend participation rates (% of all students attending eligible schools)									
Primary	28	27	26	20	12	27	21	22	26
Secondary	68	62	58	62	63	64	61	–	100
Stipend participation rates (% of all stipend holders in each group)									
Primary	28	27	24	15	6	55	45	47	53
Secondary	12	14	18	27	28	27	73	–	100
Per-student average annual stipend payment (Taka)									
Primary	808	839	861	885	878	823	871	836	852
Secondary	428	449	501	509	589	439	537	–	510
Incidence of stipend project expenditure (%)									
Primary	27	27	24	16	6	54	46	46	54
Secondary	10	13	18	27	33	23	77	–	100

Source: HIES 2005.

Notes: A wide definition of participation has been used, which does not take account of the type of school that the individual attends and therefore overall participation rates will underestimate true program participation.

n.a. means not applicable

¹⁵ However, the poor represent 59 percent of children currently attending primary school and hence, this suggests that the proportion of stipend resources going to poor students (54 percent) is smaller than their share in the student population.

Box 1-1: What is the Stipend Program in Bangladesh?

Conditional cash transfer programs have operated in the Bangladesh education sector since the mid-1980s with the introduction of a small stipend scheme for female secondary school students in 1982. Since then, stipend schemes have been extended to all levels of pre-tertiary education, although the objectives and characteristics of each scheme are different.

The primary stipend program is funded completely by the government and is recorded on the development side of the budget. The objectives of the current stipend program are to improve student enrollment, attendance and completion rates, establish equity in financial assistance to primary school aged children and enhance the quality of primary education (DPE 2002b). The program covers up to 40 percent of rural students attending primary schools receiving government support.¹⁶ Stipend card holders are supposed to be drawn from poor households.¹⁷ The selection of stipend card holders is undertaken by school management committees (SMCs), approved by *Upazila* education and *nirbahi* officers. In 2005, approximately 4.6 million students participated in the primary stipends program (DPE 2006b). To be eligible for a stipend, the card holder must achieve a minimum score of 40 percent on the end-of-year examination. If this condition is met the annual stipend payment is based on the number of months an individual achieved an attendance rate above 85 percent.

For secondary education (Classes 6-10), the current stipend program began in 1994 and is funded by the government and three development partners (ADB, NORAD and the World Bank). The government is the largest provider of stipends at this level, operating in 270 of the 461 *Upazilas* covered by the program. The stipend program aims to increase female access to secondary education, improve education quality and reduce fertility rates by delaying marriage. In 2005, 2.5 million female students were participating in the program.¹⁸ Unlike primary, the secondary stipends program provides tuition payments for eligible students to their schools in addition to a stipend. All unmarried female secondary school students are eligible to participate in the program. To receive a stipend and tuition payment, girls must remain unmarried, obtain a minimum score of 45 percent in half-yearly examinations and have a school attendance rate of at least 75 percent (DSHE 2004).

1.7 Governance and Accountability in the Education Sector

26. **Education sector policy and delivery of services in education is managed by two separate ministries with little coordination between them.** The Ministry of Primary and Mass Education (MoPME) oversees the primary education system for government-recognized schools, while the Ministry of Education (MoE) oversees all post-primary education for government-recognized schools. This management model excludes schools that are not recognized by the government. For example, primary school students in nongovernment madrassas do not fall under the responsibility of the MoPME even though they make up a substantial part of the primary education system. If goals around primary education are to be achieved, reform initiatives will need to be inclusive, especially in light of the declining enrollment in government-recognized schools.

¹⁶ It should be noted that primary school students in high schools and madrassas supported by government are not eligible to participate in the stipend program. Schools also have to fulfill a set of criteria to be eligible to participate in the stipends program (DPE 2006b).

¹⁷ Poor households are defined in the project pro-forma as female-headed households, households of day laborers, households of insolvent professionals and households with less than 0.5 acres of land (DPE 2002b).

¹⁸ This information was provided by the four project offices for the purposes of the poverty assessment.

1.7.1 Monitoring and Regulation of Education Services by the Government

27. **The government uses a framework of deconcentrated offices to monitor and regulate education service delivery.** Upazila education officers are the main interface between schools and the government administration. Assistant upazila education officers (AUEOs), responsible for a cluster of approximately 20-25 schools, make school inspection visits, countersign school payment requests and carry out cluster-based teacher training. This level of administrative support is likely to impact positively on financial and human resource management issues. However, academic supervision, training and support provided by the upazila office is delivered through officers with little knowledge of teaching as very few are drawn from the teaching workforce. While there have been major efforts to provide training for these officers, it is not clear whether this has had a major impact on the quality of in-service training activities and/or has led to major improvements in subject knowledge and classroom teaching quality of the primary teaching workforce.

28. **At the secondary and college levels, accountability of schools to education administration authorities is much weaker than at the primary level.** Until recently, there has been no upazila level education administration to perform functions similar to the primary upazila education offices.¹⁹ Inspection and audit functions are the responsibility of the Directorate of Inspection and Audit (DIA), which has approximately 50 sanctioned officers responsible for academic inspection and audit in more than 24,000 institutions across Bangladesh.

29. **A recent study showed that around 40 percent of all nongovernment secondary schools and madrassas receiving government funding had never been inspected and/or audited by government (FMRP 2006c).**²⁰ This lack of support at the secondary level to schools and teachers is reflected in differences between the primary and secondary systems in terms of in-service teacher training. In one assessment of education in Bangladesh, all government and nongovernment primary school teachers had received approximately seven days of teacher training per year (FMRP 2006a). In contrast, only around two-thirds of secondary teachers in government and nongovernment schools had received in-service training and had received on average of only 3-4 days per year (FMRP 2006a). For Dakhil²¹ madrassa teachers, the situation was much worse with only 20 percent receiving any kind of in-service training in the last five years.

30. **Nongovernment schools and colleges receiving government financial support are required to fulfill a set of criteria to receive initial support and an ongoing commitment.** This represents the main way in which government regulates nongovernment institutions and, to the extent that it is covered, the quality of teaching and learning. A study conducted in 2004 (FMRP 2006c) found that a selection of criteria that could be readily measured are rarely met by a substantial proportion of schools. In this study, over half of all nongovernment secondary schools and Dakhil madrassas did not fulfill the criteria of 75 percent participation rates in the SSC examination and over two-thirds of nongovernment schools failed to achieve high enough pass rates to continue receiving government support.²² While there are periodic crackdowns and the media occasionally reports the closing-down of schools for failure to meet the criteria, government mechanisms to monitor and regulate nongovernment schools remain very weak.

¹⁹ Recently, the secondary stipend scheme *upazila* project offices have been renamed as *upazila* secondary education offices and are expected to fulfill similar roles to *upazila* primary education offices.

²⁰ Nongovernment institutions are required to have their accounts audited annually and they generally comply with this. However, there is no requirement for academic inspection.

²¹ Dakhil madrassas are secondary school; government-registered and -funded madrassahs that are sanctioned by the Bangladesh Madrassa Education Board. In addition to their religious subjects they also teach academic subjects.

²² For Dakhil madrassas, 39 percent failed to achieve pass rates of 50 percent or more.

1.7.2 School Management Committees and Parent-Teacher Associations

31. **Accountability of schools to the local community operates most routinely through school management committees (SMCs) and governing bodies.**²³ SMCs consist of village government officials, teachers, local individuals as well as parents of students. The main functions of the SMCs are to manage school affairs, execute development projects and ensure regular attendance of students and teachers. At the primary level, SMCs also carry out the initial selection of students for the stipend scheme.

32. **The impact of SMCs on school development and performance has been mixed. SMCs have become increasingly politicized, particularly at the secondary level, as SMC headship has become an important source of local political capital (FMRP 2007).** It is, for example, common for individuals to be SMC members of more than one school. In one example from a recent study, a local businessman was reported as being the SMC chair of over 20 secondary schools (FMRP 2007). In nongovernment schools and madrassas, SMCs are also responsible for the recruitment of teachers, which provides a strong financial motivation for SMC membership (see Box 1-2).

33. **A study conducted in 2006 that explored the relationship between SMCs and school performance at the primary and secondary level (FMRP 2007) found that competition for the SMC amongst local political groups had differing impacts on school performance.** In one school, rapid improvements in school performance occurred after the election of a chairperson from the governing political party. In contrast, SMCs where conflict between political parties remained unresolved often led to ineffective SMCs and poorer outcomes. While SMC competition had mixed results, the study also found that where there is no competition and little interest for posts on the SMC, school performance was poor.

34. **There is a government requirement for all government schools and colleges to establish Parent Teacher Associations (PTAs).** While most schools follow this guideline, most PTAs rarely meet and often meetings between parents and teachers to discuss the academic progress of their children are classified by schools as PTA meetings (Campe 2005; FMRP 2007). A key issue in short-route accountability mechanisms between schools and their local community is the lack of participation of women and, in particular, mothers of students. Mothers tend to be more involved with the education of their children and are generally more aware of issues that their local school faces. This is the reason cited by the primary stipends project for giving stipends to the mother rather than the father of eligible students.

35. **Women's participation in PTAs and SMCs is made more difficult because of gender and social relations in Bangladesh, and the large class differences between the majority poor parents and respected and relatively better-off teachers.** These relations make it difficult for women, in particular, and parents more generally, to challenge teachers on school issues in general and on teaching matters in particular. However, an action research project carried out as part of the Effective Schools Through Enhanced Education Management (ESTEEM) project has showed that involving parents and particularly mothers more directly in school affairs has the potential of improving accountability and, indirectly, the quality of education in schools (ESTEEM 2004).

²³ Government secondary schools do not have school managing committees.

1.7.3 Current Reforms to Improve Education Sector Governance

36. Since 2003, there have been a series of reforms undertaken in the secondary education sector to improve governance (Box 1-2). These reforms have been supported by the World Bank through \$300 million of sector budget support since 2003. It is difficult to assess the extent to which these reforms have led to substantial improvements as the evidence of their impacts is sparse.

Box 1-2: Governance Reforms in the Secondary Education Sector (2003-2008)	
Reforms Completed	Continuing Reforms
<p>System management</p> <ul style="list-style-type: none"> • Finalizing new criteria governing the establishment, registration and ongoing performance of nongovernment institutions. • Contracting out the evaluation of potential new institutions. • Establishing new schools in underserved areas and piloting means-based stipend schemes. • Setting up district/upazila committees, amending composition of SMCs/GBs to ensure greater community participation and removal of political influence. • Improving financial management at the ministry level through improved controls and increased attention to reconciliation and follow-up on audit queries. <p>Teacher effectiveness</p> <ul style="list-style-type: none"> • Establishment of NTRCA. • Instituting incentive scheme for teachers and streamlining recruitment. • Ensuring a common set of standards for teachers in public and private institutions. • Finalizing five-year plan for teacher training for in-service teachers as well as new teachers. <p>Curriculum and textbook reforms</p> <ul style="list-style-type: none"> • Establishment of NTRCA. • Developing action plan for National Curriculum and Text Book (NCTB) restructuring. • Instituting transparent criteria for manuscript evaluation; opening up textbook production for grades 6-8. 	<p>System management</p> <ul style="list-style-type: none"> • Actions to raise enrollment by 50 percent in underserved areas. • Designing and implementing grants-based financing for secondary level institutions; Establishment of National Vocational Training Board (NVTB) and training fund to finance well-performing training institutions. • Financing of public vocational institutions linked to performance in examinations. • Upgrading of planning capacity at all levels. • Instituting expenditure tracking surveys and stipend evaluations, systematizing school mapping exercise undertaken by BANBEIS. • Piloting student assessments at grades 8 and 12 and rolling system out throughout country. • Finalizing action plan for devolution of functions to districts and upazilas and all SMCs elected using revised rules. <p>Teacher effectiveness</p> <ul style="list-style-type: none"> • Establishing a National Council for Teacher Education to coordinate in-service teacher training. • Providing right incentives for potential teachers in underserved and remote areas. • Certifying all eligible teacher training institutions based on agreed criteria and training and certifying 60 percent of untrained teachers. <p>Curriculum and textbook reforms</p> <ul style="list-style-type: none"> • Revision of curriculum to make it more relevant. • Continuing competitive production of textbooks within the system.

Source: World Bank 2007.

37. **A key component of the reform agenda has been the establishment of the National Teacher Registration and Certification Authority (NTRCA).** Established by a parliamentary Act in early 2005, it organizes annual examinations for prospective nongovernment school, college and madrasa teachers to ensure basic levels of competence. Successful candidates receive a certificate, valid for five years, that for potential employers is a prerequisite to obtain a government subsidy for the teacher's salary if they are appointed. This new condition for inclusion in the government monthly pay order (MPO) excludes teachers who were in-post before the act was passed.

38. **Since 2005, over 250,000 candidates have been tested and approximately 80,000 have received accreditation, although it is not clear how many of these certified teachers have obtained employment (NTRCA 2008).**²⁴ Subject to the NTRCA certification process being able to remain free of corruption, it is likely that teachers with these certificates will raise teacher quality in education over the long-term as the current stock of teachers retire or leave the system. However, as SMCs are still responsible for recruiting teachers, it is unclear whether the introduction of certification alone will necessarily have a large impact on the political nature of local recruitment and reduce the informal payments required to secure employment.

39. **In the secondary education sector, the weakness of SMCs has been identified by MoE as an area that leads to poor school governance and overall performance.** Reforms on the SMC have centered on reducing the number of SMCs that an individual can chair and providing training to its members in their roles and responsibilities. Reducing the number of SMCs that individuals can chair is seen to be important as it reduces 'elite capture' and reduces the rent-seeking opportunities for the elite. However, these reforms do not adequately address ways in which the accountability of SMCs could be enhanced. As this section has shown, participation of parents, particularly mothers, and individuals not directly involved in the school is relatively low and this undermines the ability of the SMC to act as an effective accountability institution. Further research and evaluation work is clearly needed to understand how changes to SMC structure and improvements in training impact on school accountability and performance. It is also interesting to note that PTAs, which potentially provide a more suitable vehicle to strengthen accountability between schools and parents, are not included in current reform proposals.

40. **Efforts have also been made to improve the criteria used to extend government support to nongovernment institutions, as well as to monitor supported institutions.** As mentioned above, a substantial proportion of nongovernment institutions in 2004 failed to meet these criteria. Information on the changes that have been implemented show that, during 2005 and 2006, government support to 368 nongovernment institutions were suspended due to their failure to meet the qualifying criteria (World Bank 2007). Given that there are over 30,000 nongovernment institutions, it is likely that a substantial number of these still require inspection visits to assess the extent to which they fulfill the new criteria. Nevertheless, the demonstration effect of canceling government support to this small number of schools is seen to have made a large contribution to the improvements in public examination results seen since 2003 (World Bank 2007).²⁵

²⁴ This compares with approximately 440,000 teachers, who were teaching in the nongovernment education sector in 2005 (BANBEIS 2006).

²⁵ Comparing public examination results over time is only indicative of changes in the quality of education as examinations are not directly comparable over time.

41. **The continuing reform agenda in the secondary education sector is important as it identifies poor governance to be a key determinant of poor education outcomes.** However, evaluations of current reforms are needed to understand their impact on education outcomes, as well as providing direction for future reform initiatives. It is interesting to note that, while similar governance issues arise in the primary and tertiary education sectors, there is as yet no concerted effort to address them in the systematic way adopted in the secondary education sector.

1.8 Key Conclusions and Policy Priorities in the Education Sector

42. **This section attempts to draw together the findings of the analysis into key conclusions and policy recommendations on the sector expenditure policy and management.** Attention will need to be directed to these areas if the goals outlined in the PRSP are to be realized. Reforms addressing key policy issues that are currently underway are also identified and discussed.

43. **Since the beginning of the decade, the analysis has shown that government spending on education has increased significantly.** However, this has come about through growth in real government spending rather than a reallocation of government resources towards education. Levels of spending on education are low when compared to other regional neighbors at similar levels of income. There have also been no significant shifts in the composition of government education spending brought about by the PRSP; the subsector shares of education have remained relatively stable across the period. On the whole, government education spending has remained heavily skewed towards the non-poor. Even the primary stipend program, designed to target the poorest 40 percent of students, is only marginally pro-poor.

44. **If PRSP targets to improve the quality of education are to be achieved, substantial investment in the primary and junior schooling subsectors will be needed.** This will be in addition to balancing more effectively public spending between the poor and the non-poor populations. Improving access to good quality education for all children— particularly the poor and disadvantaged— remains one of the largest challenges confronting the education system in Bangladesh.

1.8.1 Improved Management and Accountability

45. **A more holistic approach to primary education provision needs to be incorporated into government reform efforts to arrest falling enrollment rates in government and nongovernment primary schools.** Such an approach needs to explore and potentially learn from the different education models used by unrecognized education providers in Bangladesh. The analysis has shown that primary enrollment has been declining in schools that have been the prominent focus of current government reform efforts (for example, government and nongovernment primary schools).

46. **These declines do not correspond to reductions in overall primary school enrollment rates but represent shifts into other primary school provision.** It is possible that this shift is predominantly a shift of poor students out of the formally recognized system and into unrecognized formal and non-formal schools (for example, private English-medium schools, Quami madrassas and NGO schools). Relatively little is known about some of these providers and the extent to which the education they provide contributes to the achievement of PRSP goals and Education for All (EFA) goals more widely. A great deal of further research work is needed to understand why there has

been a shift out of the recognized school system before its implications can be fully understood and a clear policy on this part of the primary education system can be developed.

47. **Greater coordination between the two ministries of education would likely improve policy planning and performance of the education sector and create a common approach to issues affecting the whole sector.** Reforms that began in 2003 in secondary education to improve the governance of the sector have been encouraging and focused on key policy issues highlighted in the PRSP. Most notably, the establishment of an accreditation agency for nongovernment school teachers and the strengthening of the ministry's capacity to effectively monitor nongovernment schools will improve overall governance of the subsector. However, similar issues are prevalent in other education subsectors and a coordinated approach between the ministries of education would lead to improvements in the sector as a whole. Better coordination between the primary and post-primary education ministries would also lead to an improvement in subsector strategies.

48. **Providing funds directly to schools to implement development plans developed by reconstituted SMCs could potentially lead to a more effective use of resources and better accountability.** Where SMCs function well and are able to attract resources, these funds are often used effectively to improve school conditions. Unfortunately, many schools lack the capacity to attract additional funding, which restricts the ability of SMCs to alter conditions within the school significantly and has the potential to lead to a dilution of the SMC's role. This is particularly the case for primary schools where funds, that the school and SMC have any direct control over, are virtually nonexistent. The current sector-wide program that supports education reforms (PEDP II) has plans to introduce school development funds but this has had a number of false starts and it remains to be seen whether this will occur during the lifetime of the program.

1.8.2 Stronger Focus on Serving the Needs of the Poor

49. **The analysis has shown that public education expenditure is not pro-poor and there is clearly a need to refocus efforts to improve educational participation and learning outcomes for poor children.**

50. **Better targeting and enforcement of stipend programs are likely to have a greater impact on access to schooling for the poor.** The stipend program at the primary level has not had the large impact on enrollment seen in the female secondary school stipends program. Since the introduction of the cash stipend program in 2002, primary enrollment rates for the poorest have not increased a great deal and only risen at a similar pace as rates for the non-poor. In contrast, female secondary school enrollment rates have continued to rise rapidly over the same period. The stipend program currently covers all recognized primary schools in rural areas and therefore, excludes the poor in urban areas. From the latest poverty assessment, the urban poor make up a significant proportion of the population living in poverty and efforts need to be made to target poor urban children in the stipend program. Expanding the secondary stipend program to increase access to education for the poor is important, but it must not lose sight of the eligibility conditions, which need to be enforced to ensure that incentives for regular attendance and levels of achievement for both students and schools operate effectively.

51. **More attention needs to be given to improving the learning outcomes of the poor, which largely rests on improving the quality of education and ensuring that schools serving disadvantaged areas have adequate resources and support.** Improving incentives for poor children to attend school is only one aspect of improving the educational outcomes of the poor and

maximizing the impact education has on poverty reduction. Poor students drop out more frequently than non-poor students and have poorer learning outcomes even when they do complete primary school. Better learning outcomes for the non-poor are driven primarily by better preprimary education opportunities, better nutrition, fewer labor demands on children, greater levels of investment and better nonpecuniary support in richer households owing to their higher average levels of education. These better outcomes at primary school then place non-poor students at a greater advantage in post-primary education, leading to widening outcomes at higher levels. Targeting additional resources such as supplementary reading materials, teaching materials and other school inputs towards schools in disadvantaged areas is also likely to narrow differences in education outcomes.

1.8.3 Improved and More Equitable Levels of Financing

52. **If access to, and the quality of, education is to be improved in line with PRSP targets, increased education spending is clearly required.** Levels of overall spending on education in Bangladesh compare unfavorably with other developing countries at similar levels of development and within the region. Investment in increased access— particularly at the primary and secondary levels— needs to go beyond providing school spaces and include demand-side interventions to attract and retain students in school.

53. **This should be complemented with a review of funding norms across different types of schools to ensure that they serve the government’s equity goals.** The review has shown that there are some large disparities in government support to different types of nongovernment schools, which are not based on any clear rationale. At the primary level, it is illegal for schools to charge school fees and the only channel for further funding is through community contributions, which studies have shown do not supplement government funding a great deal. At the secondary level, nongovernment schools and madrassas appear to be more reliant on government funding than government schools (FMRP 2006c). This often leads to inequitable outcomes with the richer students gaining access to good quality government and nongovernment secondary schools, while the poorer students attend poor quality nongovernment schools.

54. **While funding levels are important to improve access and quality, experience suggests that in-service training for teachers is important, especially in improving quality.** Levels of in-service training are currently very low at the post-primary level and a comprehensive plan to provide professional support to teachers is clearly needed. Under the PEDP II, there are substantial efforts underway to increase the level of in-service support for primary school teachers. International experience as well as experience from Bangladesh suggests, however, that to be effective, support is needed for teachers to put into practice what they have learnt in out-of-school training exercises. The gap between the teaching techniques and knowledge presented in training and actual classroom practice needs to be eliminated. National assessments of student learning outcomes could be usefully employed to identify the strengths and weaknesses of current teaching practices and direct teacher training efforts. This is likely to require more resources to be devoted to education.

1.8.4 Improved Incentives for Nongovernment Schools

55. **Increases in the level of financing and investments to the education sector need to be accompanied by a series of other measures to improve quality and outcomes, if such increases are to be effective.**

56. **Regulations providing incentives to nongovernment schools and madrassas for better school performance need to be improved and enforced in order to provide good quality education.** Once schools receive government support, it is very difficult to lose this support and therefore schools lack any motivation to provide good quality education to their students. While there has been some improvement in this area, and occasionally nongovernment secondary schools lose government support for not fulfilling the relevant criteria, this does not happen automatically.

57. **Furthermore, there is a need to review indicators used to monitor the performance of schools to ensure that they address the goals of education policy, particularly in relation to poverty.** Current monitoring indicators, if enforced, are likely to focus schools on children likely to do well in external examinations at the expense of students who are academically weaker or who drop out before final examinations. Both of these groups are likely to be disproportionately drawn from the poorer groups in Bangladesh.

58. **Incentives for teachers to improve their teaching abilities and to perform more effectively need to be established.** The analysis has shown that nongovernment teachers are paid poorly in comparison with both government teachers and also with nonteachers having similar levels of education and experience. This leads to teachers seeking additional income-earning opportunities, which often results in reduced motivation levels. If learning time is to be increased, it is likely that low levels of nongovernment teacher pay will need to be addressed with implications for higher spending in education.

59. **Stronger signals need to be sent through the education management system that school performance is important.** At the primary level, Upazila education offices play an important role in school monitoring but this has often focused on compliance with administrative rules rather than on the quality of education provided. This has occurred despite significant investments in training Assistant Upazila Education Officers (AUEOs) on academic supervision and support. More support is needed to allow AUEOs to put into practice training on academic supervision, as well as providing a stronger demand for better teaching through a stronger focus on learning outcomes. Key competencies that children are expected to obtain by the end of primary school need to be monitored by schools and the administration more closely through regular assessment.

CHAPTER TWO

THE HEALTH SECTOR: POLICY, FINANCING AND OUTCOMES

Bangladesh's health sector policy emphasizes its commitment to pro-poor health and the need to reduce inequalities in service provision. The journey towards achieving these outcomes is on the right track with positive trends over the last decade. However, significant challenges remain to build on the current positive trends. While infant and child mortality have experienced an impressive decline, achievement of MDGs on maternal mortality and malnutrition remain a challenge and require a new approach to service provision and outreach programs. Although supported by an extensive network of public health facilities, a significant proportion of the population seeks care from private pharmacies. Health facilities are not adequately funded, nor are the allocated funds effectively utilized. The allocation of resources is not pro-poor and this contributes, among other factors, to the wide disparities in health outcomes. Sector management remains weak and budget planning and implementation structures highly fragmented.

Key Policy Priorities

- *Improve service provision for the poor by: (i) increasing budgets for programs that benefit the poor directly; (ii) strengthening existing programs that promise to reach the poor; and (iii) systematically evaluating how spending contributes to reducing inequality.*
- *Strengthen budget management systems in the sector by: (i) better integration of the two budgets, revenue and development; (ii) improving financial reporting and upgrading financial management systems; and (iii) establishing a system for regular monitoring of performance against program objectives.*
- *Strengthen the leadership role of the ministry as the steward of the sector through building partnerships and improving the regulatory framework.*

2.1 Health Outcomes

60. **Bangladesh has made significant strides in improving health outcomes, although maternal mortality and malnutrition remain a challenge.** Infant and child mortality declined an impressive 46 and 57 percent respectively during the period 1990/1-2007, outstripping progress in other countries in the region and setting Bangladesh on track to meet the MDG 4 target of no more than 50 and 31 deaths per 1,000 for U5MR and IMR respectively by 2015. After having stabilized in the 1990s, fertility rate is once again on the decline and, at the current pace, the replacement rate target of 2.2 children per woman of reproductive age is on track to be met by 2010 (Table 2-1).

Table 2-1: Bangladesh – Key Health Status Indicators (1990-2007)

Indicator	Base Year	1993	1996	1999	2003	2007	MDG Target
Infant Mortality Rate (IMR) (Number of infant deaths per 1,000 live births) ^{1/}	96	87	82	66	65	52	31 by 2015
Under 5 Child Mortality Rate (U5MR) (Numbers of deaths of children under the age of 5 per 1,000 live births) ^{1/}	151 ^{3/}	133	116	94	88	65	50 by 2015
Maternal Mortality Rate (MMR) (Number of maternal deaths per 100,000 live births) ^{2/}	478	452	444	320	315 ^{4/}	-	143 by 2015
Total Fertility Rate (TFR) (Number of births per female of reproductive age) ^{1/}	4.3	3.4	3.3	3.3	3	2.7	2.2 by 2010
Prevalence of Underweight Children Under 5^{1/}	67.0% ^{3/}	-	56.3%	47.7%	47.5%	46.0%	-

Note: Base year varies depending on data availability: MMR (1990), TFR, IMR, U5MR (1991).

1/ BDHS, reported at end year.

2/ BBS date from the Vital Registration System.

3/ MDG Progress Report 2005: Bangladesh.

4/ Last year for which MMR is available is 2001.

61. **While it is difficult to ascertain the magnitude of changes in maternal mortality due to limitations in data availability and accuracy, some progress has been achieved.** Falls of as much as 22-34 percent in the MMR have been reported, depending on the data source (Koblinsky et al 2008). Even under the most optimistic scenario, however, the MDG target of no more than 143 maternal deaths per 100,000 live births will not be reached at the current rate of change of -3.7 percent per annum (for the 1990-2001 period). Progress in combating malnutrition has been particularly slow-- a drop of 1.7 percentage points in eight years. This highlights the need to reassess the effectiveness of Bangladesh's nutrition and maternal health programs.²⁶ In light of the size of the nutrition problem in Bangladesh and the marginal progress that has been achieved in the last 10 years, efforts to implement evidence-based solutions are much needed.

62. **Inequities in service utilization remain a major concern as a substantial equity divide exists among service recipients.** Among the wealthy, almost nine out of 10 children under the age of two are fully vaccinated compared with only six in 10 children in the lowest quintile. Pregnant women in the top quintile are almost four times more likely to have received antenatal care from a medically trained person than those in the bottom quintile. One in every five women in the richest quintile delivered at a facility (whether public or private) as opposed to one in every 100 women in the poorest (Table 2-2). Alarming, the gap in these measures between the rich and the poor increased between 1996 and 2006.

²⁶ Better measurement of maternal mortality should be a priority. In the absence of reliable administrative-based vital statistics, a maternal mortality survey is needed; one has not been conducted since 2001. The national nutrition program has not been sufficiently grounded on solid evidence of what approaches deliver results in the field.

Table 2-2: Utilization Rates (%) For Selected Health Output Indicators (by Wealth Quintiles)

Indicator	1996/7			1999/00			2004			2007		
	Poorest	Richest	Gap	Poorest	Richest	Gap	Poorest	Richest	Gap	Poorest	Richest	Gap
Immunization ¹	47.4	66.6	19.2	50.3	74.9	24.6	57.4	86.7	29.3	79.9	88.4	8.5
Vitamin A supplementation ²	66.3	76.3	10.0	73.5	83.1	9.6	74.5	83.1	8.6	88.8	90.0	1.2
Modern contraceptive prevalence ³	38.8	48.5	9.7	37.4	50.2	12.8	44.7	50.0	5.3	46.9	49.4	2.5
Antenatal care from a medically trained provider	16.0	62.3	46.3	19.4	69.8	50.4	24.9	81.1	56.2	30.8	83.6	52.8
Deliveries assisted by a medically trained provider	1.8	29.8	28.0	3.5	42.1	38.6	3.3	39.4	36.1	4.8	50.9	46.1
Deliveries at a public facility	0.8	8.6	7.8	1.7	18.0	16.3	1.8	16.7	14.9	2.5	17.1	14.6
Deliveries at a private facility	0.1	8.7	8.6	0.2	1.4	1.2	0.2	13.6	13.4	1.5	23.0	21.5
Skilled management of ARI among children	23.0	51.3	28.3	-	-	-	10.7	44.1	33.4	17.0	59.9	42.9

Sources : BDHS Gwatkin et al (2007).

Notes:¹ Percentage of children under 2 who are immunized against diphtheria, pertussis, tetanus, polio, hepatitis and measles.

² Percentage of children under 5 who received a vitamin A capsule in the last six months.

³ Prevalence of modern methods.

⁴ Percentage of women who had a live birth in the last five years; who received antenatal care during pregnancy for the most recent birth.

⁵ Deliveries refer to live births in the five years preceding the survey.

2.2 Health Service Provision

63. **Bangladesh has an extensive infrastructure from national to union level to provide health services to its population.** The Ministry of Health and Family Welfare (MoHFW) is the principal actor in the public health sector; it plays both a provider and purchaser role. For historic reasons, the MoHFW is structured into two general directorates: health services (DGHS) and family planning (DGFP). There are different types of health facilities at different administrative levels (Table 2-3). At the union level, both directorates run facilities that provide outpatient primary care. At the Upazila level, Upazila health complexes are in-patient facilities with either 31 or 50 beds. District hospitals, and some general hospitals, provide secondary care at the district level. Bed capacity varies between 50 and 350 beds. Maternal and Child Welfare Centers— 20-bed facilities controlled by DGFP— provide maternal and health care mainly at district level, but also at some units at Upazila and union levels. Tertiary care is provided by 13 medical college hospitals, with bed capacity varying from 250-1,700 beds, as well as post graduate specialized institutes with hospital facilities.

Table 2-3: Distribution of Public Health Facilities (by Type)

Type of Facilities	Number of Facilities
Directorate General of Health Services	
Specialized hospitals	30
Medical college hospitals	13
District and general hospitals	63
Upazila health complexes	408
Union sub-centre	1,362
Directorate General of Family Planning	
Maternal and child welfare center	70
Family welfare centre	3,622

Source: MS, DHGS, and DGFP.

64. **Although there is no census of private health providers, the network is believed to be widespread, comprising pharmacies and dispensaries, physicians and nonmedical practitioners, and NGO clinics.** Private providers mostly deliver primary health care and rely on the largely public network of hospitals when higher levels of care are required; private hospitals are confined to major urban centers. While patients primarily avail themselves of the private sector for health care (Table 2-4), most Bangladeshis seek care directly from pharmacies, bypassing qualified providers, whether public or private. The second most sought-after providers in urban areas are government doctors in private practice, and private doctors in rural areas. While government rural posts remain vacant and absenteeism is high,²⁷ private doctors seem unwilling to locate to rural areas. Government doctors serve almost twice as many patients in their private practices as they do in their government jobs. These figures reflect the ineffectiveness of the current incentive structure for human resources in the public sector.

Table 2-4: Distribution of Patients Who Sought Care for Illness (by Type of Provider)(%)

Provider	National	Urban	Rural
Government outreach worker	1.1	0.7	1.2
NGO outreach worker	0.3	0.2	0.3
Government doctor in government institution	7.5	10.6	6.7
Government doctor in private practice	15.1	27.6	11.5
NGO doctor	0.5	1.1	0.3
Private doctor	24.4	18.3	26.1
Private pharmacy	38.6	29.7	41.3
Nonmedical practitioners ¹	6.3	6.5	6.2
Other	6.2	5.3	6.4
Total	100.0	100.0	100.0

Source: HIES 2005.

Note: ¹ Includes homeopathic doctor, kabiraj, hekim, ayurved, peer, fakir, tantric, ojha, baidya.

2.3 Health Sector Policy Framework

65. **The Health, Nutrition and Population (HNP) Strategic Investment Plan (SIP) 2003-2010 confirms the GoB commitment to pro-poor health services provision and addresses the need to re-appraise essential core functions of the public sector.** The SIP lays out four broad policy directions that have an impact on reducing health inequalities: (i) shifting resources to poorer districts (or districts with poor health outcomes); (ii) targeting and demand-side subsidies as an alternative way of reaching the poor; (iii) diversification of service provision through public-private partnerships to improve quality and coverage of HNP services; and (iv) intersectoral collaboration to link with other ministries that have a direct impact on health status of the poor. The SIP identifies seven long-term strategic priorities (Box 2-1).

²⁷ According to Chaudhury and Hammer (2003), the vacancy rate for all types of providers in rural health centers nationwide was 26 percent, and absentee rates for physicians were over 40 percent.

Box 2-1: Long-Term Strategic Priorities of Health SIP

- Stimulating informed demand through effective communication, education and information strategies;
- Improving the quality and scope of HNP services through regulation and quality control measures (such as registration and accreditation of practitioners), better disaster responsiveness and improved disease surveillance;
- Restructuring the way services are provided by diversifying service provision (contracting out to NGOs) and implementing demand-side financing;
- Mobilizing more resources for HNP services by exploring financing sources other than general taxation, such as social (payroll) insurance, community financing schemes, religious taxation (Zakaat), charitable contributions through corporate social responsibility, service fees, and private insurance;
- Improving equity by exploring ways to shift resources towards areas with the greatest needs through a revision of norms for per capita allocations to districts (weighted by a poverty-related index of health needs), incentives for practitioners to attend to the needs of the poor, and vouchers;
- Improving service efficiencies by enhancing workforce motivation and productivity, and by use of service providers according to their comparative advantage; and
- Improving sector governance and management, with particular focus on budget, organizational, staff and external aid management, as well as decentralization and improved local-level planning.

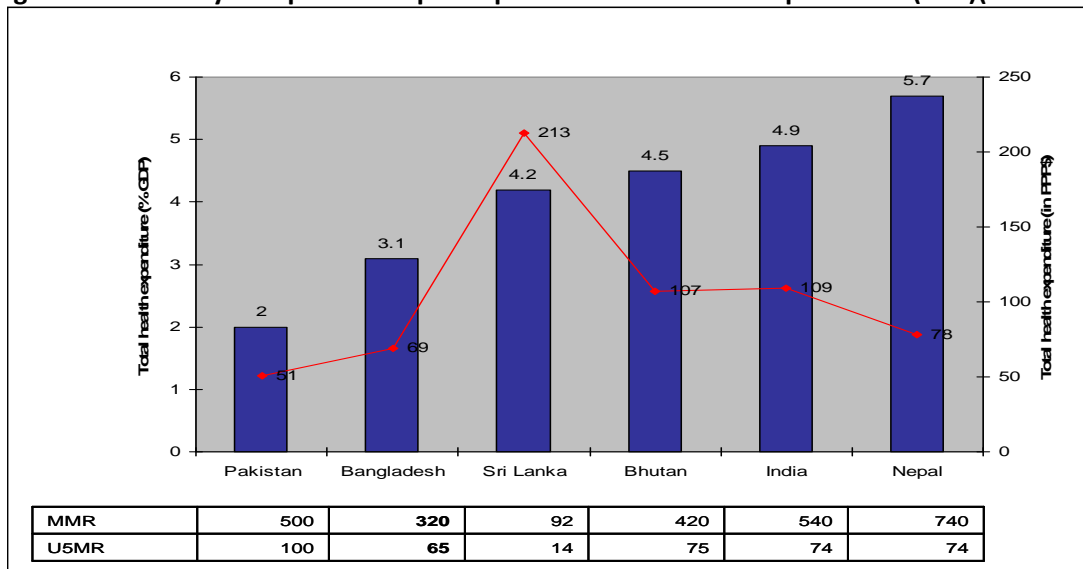
2.4 Expenditures on Health

66. **While expenditures on health are low, high value is obtained from those expenditures compared to other countries in the region.** Whether expenditure is measured as a proportion of GDP or translated into per capita terms and adjusted for purchasing power parity, Pakistan was the only country in the region to spend less than Bangladesh on health (Figure 2-1). Using maternal and child mortality as a measure, Bangladesh outperforms most countries in the region, except Sri Lanka.

67. **Households are the largest source of financing for health at 64.6 percent of total health expenditure (THE), which is financed almost entirely through out-of-pocket (OOP) payments.** The Government of Bangladesh (GoB) is the next largest financier (21.2 percent),²⁸ followed by development partners (DPs) who financed a 12.2 percentage share, split between the MoHFW (56.1 percent) and NGOs (43.9 percent). The remaining 1.9 percent of total health expenditures was funded mostly by private firms. Counting both GoB and DP contributions, the MoHFW managed 25.6 percent of THE— three-fourths of it financed from GoB funds, and the rest from DPs. Figure 2-2 illustrates the flow of funds to the health system from sources of financing to the entities that manage health funds to the providers of services.

²⁸ Some 88.9 percent of government funding is channeled through the MoHFW, 7.3 percent through other ministries and the remaining 3.7 percent through NGOs.

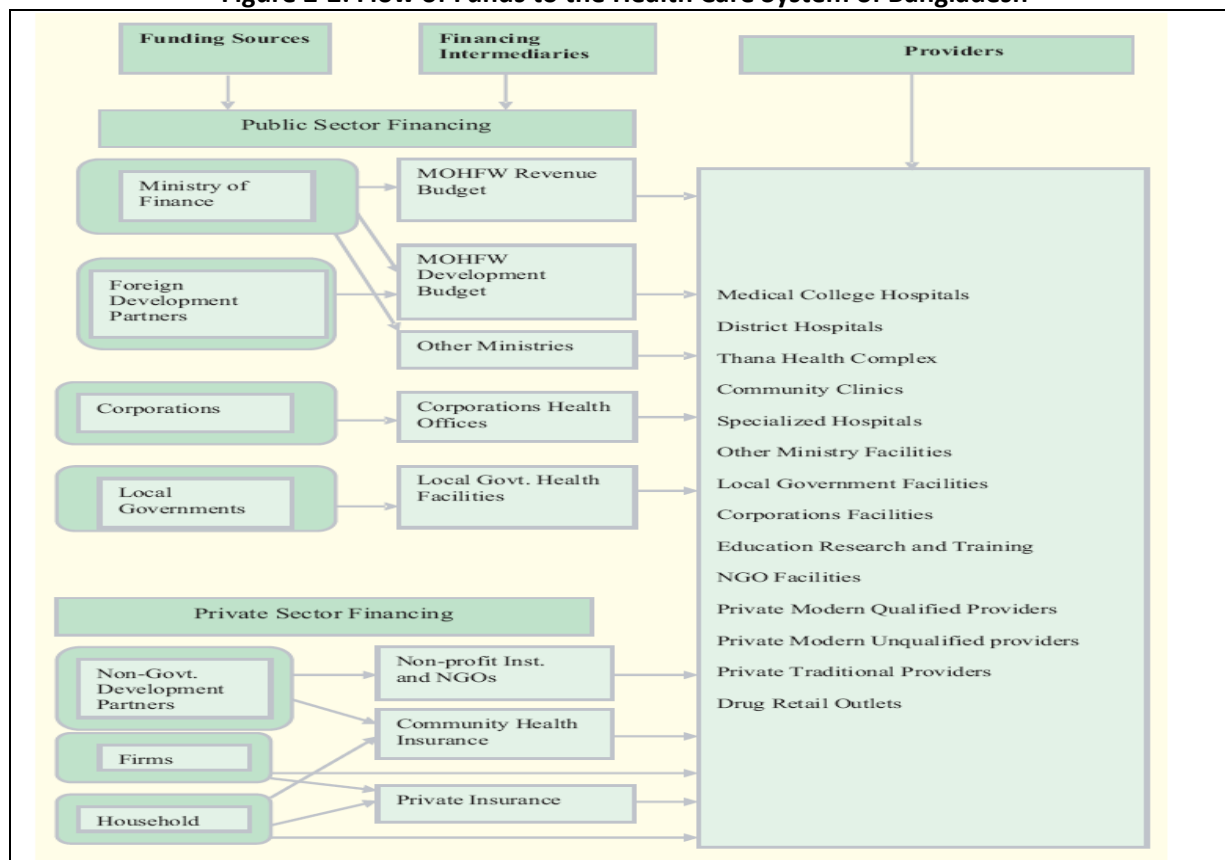
Figure 2-1: Country Comparison of per Capita and Total Health Expenditure (THE)(% of GDP)



Source: WHO, BDHS 2007.

Note: Maternal mortality rate (MMR) data is for 2000; mortality rate for children under five (U5MR) data is for 2005. Mortality figures for Bangladesh are from the 2007 BDHS.

Figure 2-2: Flow of Funds to the Health Care System of Bangladesh

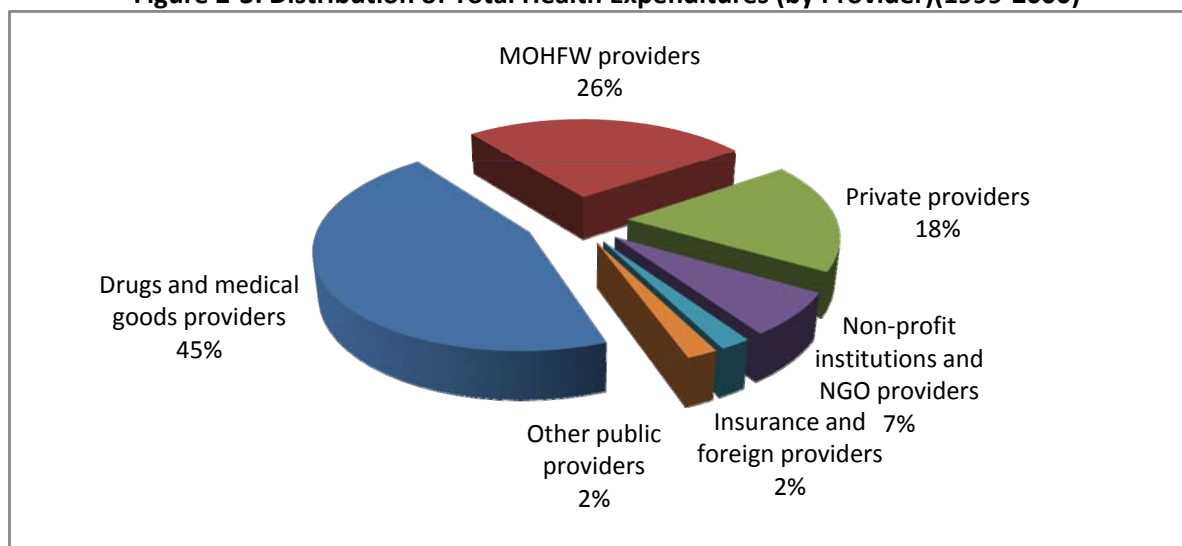


Source: Health Economics Unit, MoHFW (2003).

Note: The term financing intermediaries was replaced by financing agents in the standardized NHA terminology.

68. **The largest share of THE– 45 percent– was spent in retail drug outlets (pharmacies).** This is a useful indicator to suggest that people are largely seeking health care from unqualified personnel (pharmacists), although conclusive evidence on this is difficult in the absence of information about the volumes of drugs sold with or without a doctor’s prescription. About 26 percent of THE was spent on MoHFW providers, 7 percent on NGO providers and 18 percent on other private providers including clinics, medical and nonmedical practitioners (Figure 2-3).²⁹

Figure 2-3: Distribution of Total Health Expenditures (by Provider)(1999-2000)



Source: Health Economics Unit, MoHFW (2003).

2.5 Trends in Public Expenditures

69. **While not large by international standards, the overall budget envelope of the MoHFW is not a principal constraint to improving sector outcomes, considering the continuous underspending.** The total expenditure of the MoHFW increased 44 percent in real terms between FY98-99 and FY05-06—to reach Tk37.04 billion. The revenue budget allocation rose at a respectable average rate of 8 percent per annum in CPI-adjusted prices, although the share of the revenue budget actually spent declined. It is hard for the MoHFW to make a case for increased allocations for health care in negotiations with the Ministry of Finance (MoF) when as much as 6 percent of its revenue budget goes unspent (Table 2-5).

²⁹ An important piece of information missing from this picture is how expenditures at retail outlets are broken down into those incurred for self-medicated drugs and those prescribed by either qualified or unqualified providers.

Table 2-5: Trends in MoHFW Expenditure and Budget (1998/9-2005/6)(Millions of Taka)

Item	1998/9	1999/00	2000/1	2001/2	2002/3	2003/4	2004/5	2005/6
Revenue expenditure								
MoHFW revenue expenditure (current price)	8,906	9,631	10,411	12,055	12,982	14,478	17,035	19,360
MoHFW revenue expenditure (constant price)	12,093	12,722	13,492	15,197	15,678	16,522	18,256	19,350
MoHFW revised revenue budget (current price)	8,940	9,724	10,991	12,861	13,337	14,967	18,030	20,643
MoHFW revised revenue budget (constant price)	12,139	12,845	14,242	16,214	16,107	17,080	19,322	20,643
Expenditure as a share of revised revenue budget (at current prices)	99.6%	99.0%	94.7%	93.7%	97.3%	96.7%	94.5%	93.8%
Share of MoHFW in total revenue expenditure	3.2%	3.2%	3.2%	3.3%	3.1%	3.3%	3.3%	3.4%
As a share of GDP	0.41%	0.41%	0.41%	0.44%	0.43%	0.43%	0.46%	0.47%
Development expenditure								
MoHFW development expenditure (current price)	9,810	11,207	11,518	11,922	10,465	13,383	11,360	17,679
MoHFW development expenditure (constant price)	13,320	14,804	14,925	15,029	12,639	15,272	12,174	17,679
MoHFW revised development budget (current price)	11,928	13,910	15,279	13,633	14,631	18,476	13,718	20,472
MoHFW revised development budget (constant price)	16,196	18,375	19,799	17,186	11,670	21,084	14,701	20,472
Expenditure (share of revised development budget) (current price)	82.2%	80.6%	75.4%	87.5%	71.5%	72.4%	82.9%	86.4%
Share of MoHFW in total development expenditure	10.9%	8.8%	6.9%	7.96	6.5%	7.7%	5.9%	9.9%
As a share of GDP	0.45%	0.47%	0.45%	0.44	0.35%	0.40%	0.31%	0.43%
Total expenditure								
Total MoHFW expenditure (current price)	18,716	20,838	21,929	23,977	23,447	27,861	28,395	37,039
Total MoHFW expenditure (constant price)	25,413	27,526	28,417	30,226	28,317	31,794	30,430	37,029
MoHFW revised total budget (current price)	20,868	23,634	26,270	26,494	27,968	33,443	31,748	41,115
MoHFW revised total budget (constant price)	28,335	31,220	34,041	33,400	33,776	38,164	34,023	41,115
Expenditure as a share of revised total budget	89.7%	88.2%	83.5%	90.5	83.8%	83.3%	89.4%	90.1%
Share of MoHFW in total government expenditure (current price)	5.0%	4.8%	4.4%	4.7%	4.0%	4.6%	4.0%	5.0%
As a share of GDP	0.85%	0.88%	0.86%	0.88%	0.78%	0.84%	0.77%	0.89%

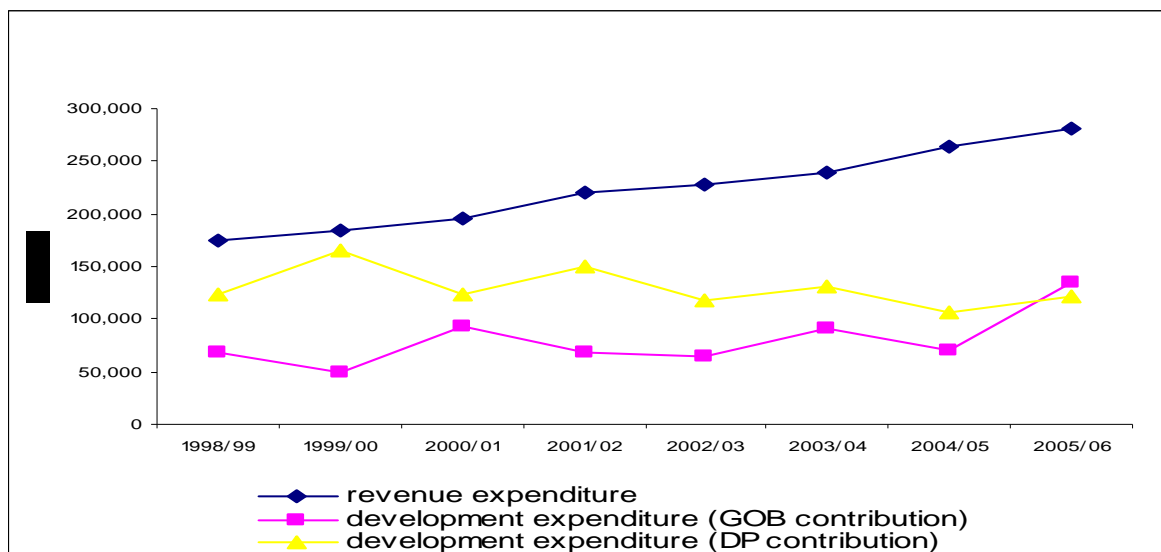
Note: Base year is 2005/6 for figures of constant price.

Source: CGA, MoF, HEU PER.

70. **In contrast to revenue expenditures, which increased steadily during the 1998-2006 period, the development budget and expenditures fluctuated markedly.** The development budget, which is financed by the GoB and DPs³⁰, as well as actual development spending grew at an average annual rate of 6 percent, with annual variations ranging from -30.3 to +45.2 percent respectively. From 1998/9 to 2001/2, the GoB contribution to MoHFW development expenditures moved in the opposite direction of DP contributions. In 2005/6, for the first time, GoB-financed development expenditures exceeded DP-financed spending (Figure 2-4).

³⁰ Development partners also finance MoHFW expenditures outside of the ADP through parallel funding.

Figure 2-4: MoHFW Expenditures by Source of Financing (1998/9 to 2005/6)



Source: CGA, MoF, HEU PERS.

71. **The 20 percent drop in the development budget observed in 2004/5 reflects the transition between the close of the first sector-wide program in December 2003 and initial disbursements under the second program in December 2005 (Box 2-2).** During this period, some DPs suspended their grants. Notwithstanding these localized events, there is little evidence of waning overall donor support to the health sector despite low levels of execution of the development budget (as little as 71.5 percent in 2002/3). It points to low absorptive capacity of the MoHFW, barriers in disbursement, and/or inflated budgeting. Successful implementation of the health sector program requires the capacity to plan and execute budgets effectively. This remains a major challenge in Bangladesh.

72. **Public health facilities are inadequately funded and, while the overall public resource envelope does not appear to be a major constraint, how resources are spent does raise some concerns.** Expenditures on administration of health services, which include mostly central level MoHFW functions of planning, management and regulation of the sector, are on the rise whereas allocations to facilities that attend to the curative care needs of the population declined from 72 to 63 percent of MoHFW spending from 2003/4 to 2005/6. The funding share of Upazila level and below facilities, comprising Upazila health complexes (UHC) and union-level facilities, which deliver hospital and primary care to the majority rural population, dropped from 51 to 42 percent over the same period (Table 2-6).

Box 2-2: The Health, Nutrition and Population Sector Program (HNPS)

Starting in 1998, with the implementation of the Health and Population Sector Program (HPSP), the GoB and some DPs moved away from a multiple project approach of financing investments in the health sector towards a sector-wide approach (SWAp). Under the new paradigm, GoB contributions and donor assistance are coordinated within the sector program and donor finance is channeled through government systems.

World Bank Credits for Health, Population and Nutrition

Project/Program	Date	Co-financiers with World Bank Credit
Projects		
First Population Project	1975-82	Australia, Canada, Germany, Norway, Sweden, UK
Second Population and Family Health Project	1979-85	Canada, Germany, Norway, Sweden
Third Population and Family Health Project	1986-92	Australia, Canada, Germany, Netherlands, Norway, UK
Fourth Population and Health Project	1992-98	Australia, Canada, EU, Germany, Netherlands, Norway, Sweden
Sector-wide Programs		
Health and Population Sector Program (HPSP)	1998-2003	Canada, EU, Netherlands, Sweden, UK
Health, Nutrition and Population Sector Program (HNPS)	2003-2010	Canada, EU, Germany, Netherlands, Sweden, UK, UNFPA

Source: White H (2007).

Note: In addition to the pool financiers listed, Japan, UNICEF and WHO contribute nonpool financing.

The follow-on HNPS supports the GoB's HNP Strategic Investment Plan objective to increase availability and utilization of effective, efficient, equitable, affordable and accessible quality HNP services by focusing on three reform areas: (i) strengthening public health sector management and stewardship role through pro-poor targeting and strengthening sector-wide governance mechanism; (ii) health sector diversification through new delivery channels for public and nonpublicly-financed services; and (iii) stimulating demand for essential services by the poor through advocacy and demand-side financing options (World Bank 2005a). HNPS is a \$4.3 billion program that initially envisioned a \$2.7 billion GoB contribution and \$760 million of pooled DP financing (including a \$300 million IDA credit) in addition to nonpooled contributions. HNPS accounts for two-thirds of development expenditures. As of end FY06/07, 23 percent of pool funds had been expended.

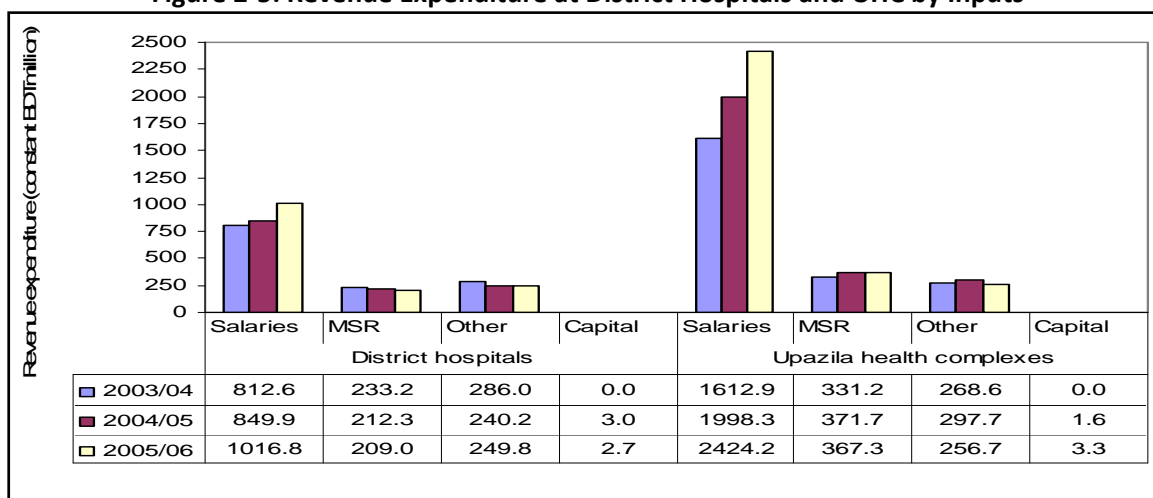
Table 2-6: MoHFW Expenditures by Type of Provider (Current Millions of Taka)(%)

Provider	2003-04			2004-05			2005-06		
	Develop-ment	Revenue	Total %	Develop-ment	Revenue	Total %	Develop-ment	Revenue	Total %
Tertiary hospitals	651	2,074	2,725 10	1,291	2,214	3,506 13	2,680	2,643	5,323 14
District and general hospitals	1,377	1,281	2,658 10	554	1,335	1,889 7	397	1,610	2,007 5
<i>Upazila</i> and below	7,074	7,127	14,201 51	4,819	8,264	13,084 46	5,978	9,675	15,654 42
Maternal and child health facilities	203	103	306 1	55	116	171 1	0	124	124 0
Other facilities	62	96	158 1	50	110	160 1	0	132	132 0
Provision and administration of public health program	2,006	0	2,006 7	2,669	0	2,669 9	3,422	0	3,422 9
Education, research and training institutes	1,172	729	1,901 7	954	755	1,710 6	1,795	950	2,745 7
Health administration	830	2,774	3,604 12	966	3,893	4,859 16	3,408	3,870	7,278 20
Transfer	7	293	300 1	0	348	349 1	0	356	356 1
Total	13,382	14,477	27,859 100	11,360	17,035	28,395 100	17,680	19,360	37,040 100

Source: CGA, MoF, HEU PERS.

73. **Analysis of revenue expenditures³¹ by inputs at the district hospital and UHC level shows that funds are spent largely on human resources, with a small and declining share allocated for medical and surgical requisites (MSR)(Figure 2-5).** Inadequate supply of medicines in public facilities would at least partially explain the substantial OOP payments incurred by patients in private pharmacies and drug outlets. Declining funding for district hospitals and UHCs is particularly worrisome in light of service statistics, indicating that hospital facilities are utilized beyond optimal capacity, with bed occupancy rates exceeding 100 percent in the case of district hospitals (Figure 2-6). This also raises the question about whether there is a causal link between decreased funding and the decline in utilization of these public health facilities.

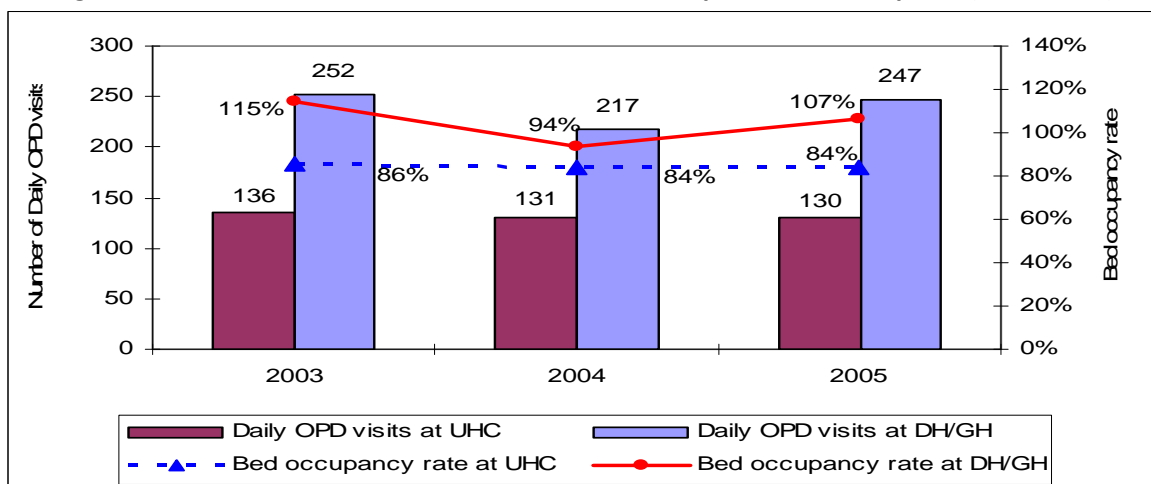
Figure 2-5: Revenue Expenditure at District Hospitals and UHC by Inputs



Note: Base year is 2005/6 for figures in constant price.

Source: Begum et al (2007).

Figure 2-6: Trend in Service Statistics at District and Upazila Level Hospitals (2003-2005)



³¹ Development expenditures are not tracked at the functional (facility) level and, therefore, are not included in this analysis. Given that less than 4 percent of the development budget is spent on salaries and MSR, this omission does not affect the inferences drawn.

2.6 Allocation of Public Resources is not Pro-poor

74. **Public resources are not allocated equitably, either from a geographic distribution or income perspective, despite HNP policy documents that emphasize the need to achieve equity in service provision and resource allocation.** Irrespective of ranking method, the proportion of revenue spending going to the 16 poorest districts is less than what is going to top 16 districts, which is inconsistent with policy objectives. The proportion of revenue spending to districts correlates closely with the distribution of the population. This implies equality but not equity because poorer districts generally have worse health indicators and, hence, greater health needs.³² With regard to development spending, only 8-10 percent of the development budget can be traced to the district level. The traceable share of development expenditures accruing to the wealthiest districts has declined over time, but gains were not shifted to the poorest districts. Instead, the second poorest districts benefited. Table 2-7 and Table 2-8 present the distribution of revenue and development expenditure to districts ranked by poverty level according to the human development and human poverty indexes.

Table 2-7: Distribution of MoHFW Expenditures by District According to Poverty Rankings (%)

Indicator	Top 16	Second	Third	Bottom 16
Human Development Index (HDI)				
Revenue 2003-04	31.4	24.2	23.6	20.8
Revenue 2004-05	29.0	24.8	24.8	21.4
Revenue 2005-06	31.5	24.1	23.6	20.8
Development 2003/4	33.3	25.1	24.3	17.3
Development 2004/5	31.3	24.9	27.6	16.2
Development 2005/6	24.0	42.6	18.4	15.0
Population	32.6	24.0	23.3	20.1
Human Poverty Index (HPI)				
Revenue 2003-04	30.4	24.3	25.2	20.1
Revenue 2004-05	28.1	24.6	26.5	20.8
Revenue 2005-06	30.6	23.9	25.4	20.1
Development 2003/4	36.7	19.5	27.6	16.2
Development 2004/5	31.8	28.3	23.5	16.4
Development 2005/6	27.7	40.6	18.0	13.7
Population	32.8	23.7	22.5	21.0

Sources: CGA, MoF, World Bank (2005b).

Note: Bangladesh's 64 zilas have been divided into four groups of 16 according to wealth status.

³² HNPSP Annual Program Review 2006 and 2007, Technical Reports.

75. **An analysis of beneficiaries of public subsidies (for curative care services), classified according to consumption expenditure quintiles, yields similar results (Table 2-8).**³³ In almost all cases, the rich received a greater share of subsidies than the poor; inequities are most pronounced at tertiary care facilities and for in-patient care. This is particularly worrisome because the poor are susceptible to incurring catastrophic health care expenditures when they are in need of hospitalization, especially for severe illnesses requiring tertiary-level care.

Table 2-8: Distribution of Curative Care Subsidies by Equalized Consumption Expenditure Quintiles (%)

Quintile	Tertiary		Secondary		Primary		Other GOB		Total	
	Inpatient	Out-patient	Inpatient	Out-patient	Inpatient	Out-patient	Inpatient	Out-patient	Inpatient	Out-patient
Poorest	8	11	21	18	11	16	7	8	12	14
2	12	22	10	24	9	18	7	15	10	20
3	8	15	14	21	15	21	0	10	13	18
4	23	20	15	20	25	27	20	33	24	25
Richest	49	32	40	17	40	18	66	34	41	23
Total	100	100	100	100	100	100	100	100	100	100

Source: Authors' calculation based on data from CGA, HIES 2005, HDS 2000.

76. **Given this differential access to health care services, it is not surprising to find wide disparities in health outcome indicators in Bangladesh. Nevertheless, several other factors might also play a role (Table 2-9).** Reaching the poor and improving their health status remains a major challenge for the health sector.

Table 2-9: Select Health Status Indicators (by Wealth Quintiles)

Indicator	1996/7		1999/00		2004	
	Poorest	Richest	Poorest	Richest	Poorest	Richest
Infant Mortality Rate Number of infant deaths per 1,000 live births	96.5	56.6	92.9	57.9	89.7	64.8
Under 5 Child Mortality Rate Number of deaths of children under the age of 5 per 1,000 live births	141.3	76.1	139.7	72.4	121.1	71.5
Total Fertility Rate Number of births per female of reproductive age)	3.8	2.2	4.6	2.2	4.1	2.2
Prevalence of Underweight Children Under 5(%)	65.2	37.6	n.a.	n.a.	59.3	30

Sources: Gwatkin et al (2007), NPORT/IEDCR (2007).

³³ Following the methodology proposed by WHO (2005), individuals were divided into five groups based on equalized consumption expenditures. A limitation of this analysis is the use of 2000 utilization patterns because HIES 2005 data does not allow for the breakdown of in- and outpatient care, nor does it allow for utilization by facility level.

2.7 Budget Management Challenges in the Health Sector³⁴

2.7.1 Policy Analysis and Budget Planning

77. **The current budget preparation process is fragmented and does not facilitate the implementation of resource allocation strategies that promote policy objectives.** Planning for major funding streams— GoB revenue and development budgets, donor-pooled and parallel funds— is not integrated into a single expenditure program that supports a single health sector policy aimed at achieving the objectives outlined in the poverty reduction strategy paper. Some progress has been made with introduction of the medium-term budget framework (MTBF) (Dixon and Mubin 2006). The MoHFW gained a greater role in budget decisions, with the MoF and Planning Commission assuming a more supervisory function. Within the resource envelope established by the MoF, the MoHFW now prepares and submits the development budget for review by the Planning Commission rather than receiving a set allocation from them. There has also been greater involvement of the MoHFW and its directorates in setting MTBF monitoring indicators for the health sector.

78. **Notwithstanding progress that has been made in implementing a less centralized system, major challenges remain. In practice, the revenue and development budgets are still prepared in isolation rather than as part of a comprehensive expenditure program.** The revenue budget is the responsibility of the Joint Secretary (Administration), whereas the development budget falls under the authority of the Joint Chief (Planning). The revenue and development budgets submitted, respectively, to the Joint Secretary (Administration) and Joint Chief (Planning) by the DGHS and DGFP are prepared by separate units within each directorate (revenue by Budget Units and development by Planning Units). At a final stage, the Joint Secretary (Administration) consolidates the revenue and development budgets before submitting the overall package to the MoF, but there is no overarching unit that manages the budget process in its entirety.

79. **Budgeting continues to be incremental and based on inputs, although the practice varies slightly for the revenue and development budgets.** The revenue budget is not planned against policy objectives or output targets. Different units submit input-based budgets. Input allocation is generally not mapped to outputs; nor is execution of the budget monitored against them, making output-based planning unworkable. Moreover, unit cost data is rarely available. For instance, district hospitals submit a budget for pay and allowances, MSR and other inputs to DGHS and the allocation they receive is calculated on the basis of bed capacity and fixed rates (for example, Tk22,000 per bed for MSR for general hospitals and Tk18,000 for UHCs). Decisions on human resource allocations, which consumed 69 and 79 percent of revenue expenditures in district hospitals and UHCs respectively in 2005/6, are made centrally according to pre-established national norms and do not necessarily, reflect needs at the facility level. For the most part, a given year's human resource budget is merely the previous year's budget with a 5-10 percent upward adjustment to account for salary raises.

80. **While the development budget is planned according to policy objectives as reflected in the operation plans (OP) of the Health Directorates, its execution is not monitored against outputs (as is the case with the revenue budget).** A corollary of the bifurcation of the two budgets is that development expenditures cannot easily be mapped to the service delivery units that are critical to implementation of the sector. Health facilities are also the level at which many health output indicators are tracked, so inability to trace development expenditures to facilities hinders the MoHFW's ability to conduct expenditure-output analysis. Likewise, revenue expenditures cannot be

³⁴ This description of the budget process and challenges for the health sector is very similar to all the other sectors.

easily matched to OPs. The Annual Program Review (APR) of Health SWaP operations reported that line directorates (LDs) have no control over staff and MSR financed from the revenue budget; this prevents them from implementing their OPs properly.

81. **Lack of coordination across the two budgets undermines the effectiveness of investments in the sector.** For example, health care facilities are upgraded and new equipment purchased using development funds without concomitant increases in staffing, MSR or maintenance, which are typically funded out of the revenue budget. A further limitation to the development of a comprehensive results-based expenditure plan for the MoHFW is that, under the current system, an estimated one-third of development expenditures occur outside the framework of the OPs through DP-funded parallel projects. Each parallel project has its own results framework, and financial and output reporting requirements.

82. **Finally, budget allocations are not linked to past performance – outside a narrow definition of financial performance whereby units that did not spend past allocations may see a reduction in future funding.** Revenue allocations and, to a slightly lesser extent, development allocations are also not based on any equity criteria (geographic or otherwise), despite a strong policy emphasis on equity.

2.7.2 Budget Execution

83. By channeling DP funds through the GoB systems, the sector-wide approach in the health sector makes significant strides towards enabling improved, comprehensive financial management and reducing the fragmentation of projectized development assistance. Disbursement of HNPSF funds follows public finance rules and procedures of government; accounts are maintained as per existing government classification structures; and, financial reporting uses information generated by the treasury system.

84. **Once the budget is approved, the MoHFW is empowered to release GoB development expenditure for up to the first three quarters and reimbursable project aid for up to two quarters without reference to MoF.** To release the fourth quarter of the GoB development allocation and third quarter of reimbursable project aid, MoF agreement is necessary and fund release for those quarters is tagged with a detailed budget utilization report of prior quarters. Because budget utilization reports are often delayed, fund release is stalled. Issues arise in the first quarter and last quarter of the fiscal year and implementation can suffer during these periods. First quarter funds are usually not available for nearly three months, and fourth quarter funds are only made available at the end of the calendar year, prompting spending units to exhaust the entire allocation within a short time.

85. **There is no single unit in the ministry authorized to track the system for: (i) ensuring prompt receipt of the funds released by the LDs and Drawing and Disbursement Officers (DDOs); and (ii) monitoring the time lags with the objective of bringing down the delays in the disbursement process.** Despite acknowledgment of this issue by policy makers, no concrete steps have ever been taken to reverse the age old practice. Budget checks during execution are often ignored, particularly at the division or upazila level. The Chief Accounts Officer is responsible for sending to the respective district and upazila accounts officers details of the budget to be spent at various locations. However, the system is ineffective as spending can continue where no budget exists due to lack of built-in controls. As such, work may be undertaken and completed in the current fiscal year with payment made in the following year, if there is no budget in the current financial year.

86. **Poor financial management and procurement capacity within the MoHFW is a severe limitation.** This has been highlighted each year by the APRs of HPSP and HNPSP, although measurable improvements have been achieved since the April 2007 APR. High staff turnover is a major challenge to capacity building. Lack of financial and procurement capacity is a principal cause of underspending of the development budget, as well as a contributor to delays in implementation and even interruption of services (APR 2007). Low levels of execution of the development budget undermine the ability of the MoHFW to successfully argue to the Planning Commission that more resources should be mobilized for the health sector. This creates incentives for program managers to opt for parallel funding and for the MoHFW to return to a project structure in order to improve its budget execution rate. An unintentional result of the ready availability of funding through parallel projects is that it alleviates pressure on government to undertake system reforms that would be required for disbursement of DP funding under the SWAp. These are the very changes, however, that would enhance the prospects for long-term sustainability of investments in the sector.

87. **Beyond capacity issues, weak financial management systems lead to considerable variations in expenditure information generated by MoF and the Controller General of Accounts (CGA), as well as different units within the MoHFW.** Data from LDs, that use the reporting format of the Implementation, and Monitoring and Evaluation Division of the Planning Commission differ from those maintained by the CGA. Data from LDs is used by the Planning Wing to prepare progress reports on the development program, whereas the Financial Management and Audit Unit (FMAU) utilize CGA data for reporting under HNPSP. Not surprisingly, FMAU-planned budgets often bear no relationship to the ADP and OP budgets developed by LDs (APR 2007). Because of fragmentation in reporting, discrepancies are often not reconciled. Lack of coding, miscoding or absence of code descriptions for expenditure line items makes reconciliation difficult. These shortcomings in coding also hinder the classification of expenditures by providers and health care functions, an intermediate step to linking expenditures to outputs and monitoring performance.

2.7.3 Fragmented Organizational Structures

88. Organizational structures are not aligned with the broad principles of a strategic budgeting approach such as the MTBF. Although integration of development and revenue budget under a single resource envelope is prepared under MTBF, budget execution and monitoring functions continue to be fragmented between planning, finance and administration. There is no designated wing or unit either in the ministry or LDs that oversees budget implementation in accordance with strategic policy, ensures that general financial management principles are followed, and provides single source information for management decision-making. Financial Management Automation Units, the Financial Management and Development Unit, the Budget Management Committee, and the Planning Wing exercise partial budget execution functions on a piecemeal basis, which often results in duplication or overlapping. The organization structure, particularly in the LDs and DDOs, which has not been restructured with the introduction of MTBF, continues to disrupt the budget management and monitoring process, information and data flow, timely preparation of financial reports, internal control processes and timely settlement of audit.

89. **The Health Economics Unit (HEU) is charged with providing applied, evidence-based research and policy guidance for use by key decision makers and planners but is not well integrated with other budget units.** Specific issues identified in the unit's OP include developing a pro-poor strategy, conducting financial efficiency and benefit incidence analyses, and providing other inputs for developing a robust HNP sector-financing plan and budget allocation priorities (MoHFW 2005). Lack of

integration between the HEU– which is still mostly staffed by consultants funded out of the development budget– and the Planning Wing limit the extent to which analyses and research carried out by the former filter into policy design and implementation. This is particularly evident in the development and implementation of pro-poor strategies; there is little evidence that current resource allocation patterns (of human resources, medical or other inputs) favor poor districts or specifically target the poor within districts. Furthermore, equity analyses are not regularly carried out and the existing health information systems do not, by and large, generate data that would facilitate such analyses.

2.7.4 Performance Monitoring

90. **Existing financial and information systems are not used effectively for management purposes and it is unclear who bears responsibility for monitoring performance.** Financial systems, imperfect as they may be, are not effectively used to monitor budget execution beyond book-keeping and financial control purposes. DGHS and DGFP each maintain a management information system that tracks multiple health output indicators, but those measures are not routinely analyzed (either for budget planning or monitoring purposes) against the expenditures incurred by the functional units– whether service delivery facilities or public health programs– that produce the outputs being tracked. Reliable unit cost estimates are scarce due to the absence of cost-accounting systems or regular costing studies.

91. **Implementation of resource allocation strategies that respond to policy objectives and monitoring the execution of those strategies is typically a function of the Planning Wing, but monitoring of expenditure against outputs is still deficient.** Establishment of a Monitoring and Evaluation Unit (MEU) within the Planning Wing is a relatively new function (less than one year old) and limited progress has been achieved in either connecting the two existing management information systems or linking development budgets or expenditures to outputs under various OPs. The aforementioned bifurcation of the development and revenue budget processes means that the MEU does not have the mandate to carry out routine analysis of revenue expenditures against outputs. The sheer number of line directorates– 38 in all –makes the task of collecting and managing information to measure performance daunting. Some priority programs, such as nutrition, are spread across multiple OPs and administrative entities– National Nutrition Program (NNP), Micronutrient Supplementation and the Institute of Public Health and Nutrition– without clarity on who has oversight of the entire program.

2.8 Recent Developments in Achieving Reform Objectives

92. **Notwithstanding the institutional challenges described above, some progress is being made in the financing and diversifying of service delivery.** The two major pillars of the reform agenda – demand-side financing and diversification of service delivery through public-private partnerships– are aimed at reaching the poor and improving efficiency in the delivery of publicly financed services.

93. **Recognizing that the distributional effects of supply-side subsidies were marginally pro-poor, HNPS policy documents emphasize the adoption of demand-side financing schemes.** A maternal voucher– which entitles poor pregnant women to three antenatal visits, delivery services and a postnatal check up from any designated provider of her choice in the public, NGO or private sector, as well as money for transport expenses– provides incentives to poor pregnant women to seek services as well as incentives to providers to attend to them. The scheme is now being piloted in 21

upazilas in 21 districts, 12 of which have a high or very high poverty status in terms of proportion of population living below the poverty line, according to the World Food Program poverty mapping.

94. **While other factors, such as political considerations and convenience, influenced the selection of geographic areas in the past, the forthcoming expansion of the program offers a new opportunity to target poor districts and the poor within those districts.** Equity has been an explicit criterion in selection of the 15 upazilas where the MoHFW is currently in the process of outsourcing 130 union health and family welfare centers and 342 community clinics. These rural facilities are expected to increase access to health facilities by the poor. Geographic targeting in some MoHFW programs, such as the NNP, has improved over time (Table 2-10). A recent external performance audit indicates that the program, which contracts area-based community nutrition services to NGOs, has made significant improvements in reducing the prevalence of malnutrition among women with a body mass index below 18.5 to 29.1 percent (within reach of the 2010 target of 28 percent) and that exclusive breastfeeding in NNP areas is 61.3 percent, well above the 42.9 percent national average (HLSP 2008).

Table 2-10: Geographical Distribution of Bangladesh Integrated Nutrition Program (BINP) and NNP (Upazila by Poverty Level)

	1	2	3	4	Number of Upazilas covered
Bangladesh Integrated Nutrition Program, 1995-2002	31%	34%	20%	15%	61
National Nutrition Project – Phase 1, 2002-2006	40%	23%	23%	14%	43
National Nutrition Program – Phase 2, 2006-present	0%	0%	17%	83%	63

Source: World Bank HNP Team and WFP Poverty Atlas (2005)

Note: Poverty score assigned to upazillas on the basis of proportion of population living below poverty line (consuming <1805 Kcal per person per day). Score 1:-0-25%; score 2: 25-31%; score 3: 31-37%, and score 4: 37-55%.

95. **There is limited current capacity within the MoHFW to design pay-for-performance contracts, supervise their execution, monitor outputs and evaluate outcomes.** While there are several successful public-private partnerships in the tuberculosis and HIV/AIDS programs, it is only under the nutrition program that the MoHFW directly manages NGO contracting. As the MoHFW expands this component of the program, by contracting health care services at the community level, the onus remains on them to monitor the effectiveness of the contracted NGOs. The idea under the HNPSP program is that the Management Support Agency (MSA) and the Performance Monitoring Agency (PMA) would absorb these roles. At the midway point of the sector program, these agencies are yet to be created. Establishment of the MSA and PMA is particularly critical as the MoHFW moves into contracting out community clinics because measuring performance in the delivery of discretionary, transaction-intensive services, such as curative care, is a more complex task than monitoring the well-defined outputs of the nutrition program (for example, whether behavior change campaigns or Vitamin A supplementation were carried out).

96. **Reforms that empower consumers and service providers and promote accountability, while difficult to implement, have the greatest potential to improve service delivery and health outcomes.** While there are still many gains to be made by improving the effectiveness of existing systems,

eventually the GoB will need to build public consensus around a vision for the health sector and address larger reform issues around how the system is to be financed and whether financier and provider roles will be split.

2.9 Key Conclusions and Policy Priorities in the Health Sector

97. **Bangladesh has achieved significant progress in improving the health status of its population and is on track to meet or even surpass MDG targets. However, gains have not been shared by all segments of the population.** Inequities in access to services remain and contribute to wide disparities in health outcomes between the rich and the poor. Although expenditures on health are low compared to other countries in the region, the value obtained from those expenditures is relatively high; health outcomes are better in Bangladesh than in countries that spend similar amounts. The overall public resource envelope, while low, does not appear to be a binding constraint to system performance at present since a not so insignificant share of the budget, particularly the development budget, goes unspent every year.

98. **Resource allocation, however, is not pro-poor, public resources are not spent effectively and public health facilities are inadequately financed and staffed.** Poor budget planning and weak performance monitoring are major constraints to improving effectiveness of public spending. In March/April 2008, the MoHFW and DPs carried out a joint review of the sector program, which in turn drew on the inputs of an independent review team, to identify principle areas for action to address the weaknesses in the current system. The main recommendations can be grouped into three areas: (i) service delivery; (ii) strengthening systems; and (iii) improving leadership and governance.

2.9.1 Improving Service Provision to the Poor

99. **Pro-poor service provision is a core strategy of the GoB. However, current allocation patterns from either the revenue or development budgets do not reflect this strategy.**

- **Budgets will need to be increased for programs that most directly benefit the poor.** This includes such programs as essential service delivery, and the levels of care where the poor are most likely to seek service, namely the district level and below. Revenue budget allocation formulae need to be revised to be more responsive to service demand patterns than the current infrastructure-driven method.
- **Programs that show promise in reaching the poor, including the maternal health voucher scheme, should be strengthened.** New programs, such as contracting out of community clinics, should be specifically targeted to poor districts and hard-to-reach areas.
- **The effectiveness of spending as well as its contribution to reducing health inequities must be evaluated on a continuous basis.** This evidence should guide program design and implementation. The experience of annual PERs in the health sector under the HNPS is a very good example but it needs to be linked with budget planning and the medium-term budget for health prepared by MoHFW.

2.9.2 Strengthening Management Systems

100. **Budgeting and planning need to be integrated. Integrated budgeting and planning is not undertaken for a single expenditure program encompassing GoB revenue and development funds, or for DP-pooled and parallel funds.** Linkages between budget allocations and policy objectives are weak. Budgeting remains highly centralized; current allocation formulae do not reflect actual costs; nor are they needs- or equity-based.

- **The MoHFW annual work plan must combine revenue and development budgets.** These should preferably be prepared by a single budget unit staffed with professionals with strong financial management and budget preparation skills. This combined expenditure plan needs to be well-aligned with policy priorities defined in the MTBF and reflect the sector's pro-poor focus.
- **Financial reporting needs to be automated, reconciled to ensure consistency and done according to codes that are meaningful from a policy objective standpoint.** Reporting on off-budget financing must be improved. Data on program costing needs to be available. Better management of financial and costing data will support improved decision-making on budget allocations.
- **The performance of the program and budget execution should be routinely measured against program objectives.** This can be more easily achieved if the MoHFW units responsible for budget planning, financial management, economic analysis, and monitoring and evaluation coordinate relevant parts of their work program.
- **Local level planning should be supported and backed by budget allocations.** Health facilities, particularly hospitals and UHCs, need to be able to gradually exercise greater autonomy over management of funds in order to be more responsive to local needs.

101. **Monitoring and evaluation of MoHFW program performance needs to be strengthened.** Reporting is bifurcated between the MIS of DGHS and DGFP, operational plans do not set indicators for program performance that link clearly with broad MoHFW policy objectives, and results are not monitored on a routine basis. While a large amount of data on health is generated through ad hoc surveys, data on some critical indicators, such as maternal mortality, are not collected periodically. Access to much of the data generated in the country and use of the data to inform policy decision-making is not institutionalized.

- A comprehensive monitoring and evaluation plan needs to be developed. This will need to harmonize the MIS of DGHS and DGFP, define indicators for various OPs, ensure that critical data is generated periodically, and outline how access to data will be improved over time.

2.9.3 Improving Leadership and Sector Governance

102. **The MoHFW needs to take a more active role in exercising broader stewardship over the entire health sector, including the nonpublic subsector.** To this end, the MoHFW should make greater efforts to build coalitions with nonpublic actors. The regulatory framework governing health services providers needs to be revised and strengthened. This should include accreditation of service providers to ensure the delivery of quality services to the population. Health policy needs to be revised and updated. The MoHFW needs to take greater ownership of the sector by demanding improved harmonization of development assistance.

CHAPTER THREE

THE TRANSPORT SECTOR: POLICY, FINANCING AND OUTCOMES

Bangladesh has made significant strides towards developing a modern transport system to support the needs of a developing economy. The road network has experienced the greatest expansion, providing Bangladesh with one of the most extensive road networks in the developing world. Sustained public expenditures have played their role in making the road sector the dominant mode of transport over the years at the expense of rail and inland water transport (IWT). Notwithstanding this expansion, the services provided to users have not kept up with demand in terms of quality and safety. The quality of the road network is poor as roads are often too narrow for the traffic they carry. Congestion, overloading, air pollution, and safety are major problems. The transport sector has not yet been integrated or diversified, and has insufficient funds to support its need for continuous rehabilitation and maintenance. In order to improve the effectiveness and efficiency of the use of resources, the sector needs a more balanced allocation of resources between maintenance and new construction, and a strengthening of the role of the public sector as a regulator and enforcer of standards rather than a provider of services.

Key Policy Priorities

- *Align expenditure allocations to sector policy goals of establishing a more balanced multimodal system by shifting resources away from building new roads and into other modes, such as rail and inland water transport.*
- *Strengthen cost-recovery in all transport modes and revise the subsidy policy to provide incentives to government agencies to maximize efficiency and rationalize pricing policies.*
- *Improve budget management systems in the sector to reduce fragmentation and be better informed by performance through better information systems and regular monitoring.*
- *Streamline the institutional structure in the sector to promote consolidation, integration and effective regulation.*

3.1 Sector Policy Framework

103. **The government's policy for the transport sector is spelt out in the National Land Transport Policy (NLTP) approved by GoB in April 2004.** The policy objectives include provision of safe and dependable transport services, and improvement of the regulatory and legal framework. The policy is designed to play an important role in helping reduce the transport costs of goods for export and in keeping the costs of Bangladeshi goods competitive in the world market.

104. **The policy introduces the notion of an integrated multimodal transport system, integrating rail, roads and water transport.** A draft Integrated Multimodal Transport Policy (IMTP) was prepared during the last government but has not yet been approved. The IMTP is designed to build up on the NLTP and help to achieve more rational and balanced investments across transport modes and achieve better coordination among the various modes of transport. This section is aimed at analyzing recent trends in transport sector performance, policies and financing to determine how far Bangladesh is from its stated goals and objectives, and where the focus of investment needs to be if these goals are to be achieved.

105. **As is the case with other sectors of the economy, the Planning Commission is largely responsible for investment planning and for the main sectoral policies.** Management of the sector is centralized but fragmented, with several transport-related ministries implementing the investment plans and enforcing the policies. The most important is the Ministry of Communications (MoC), which is responsible for land transport— both road and rail. The Roads and Highways Department (RHD) manages the first three tiers of Bangladesh’s six-tier road network: national highways, regional highways and Zila roads, totaling over 21,000 km (Table 3-3).

3.2 Sector Outcomes

106. **Bangladesh is one of the few countries in the world that has all modes of transport serving the needs of its economy and people with very little integration among them.** It has a vast network of highways and rural roads, a railway system, inland waterways, two seaports, maritime shipping and civil aviation and a national airliner. Yet, this has not always been the case. The economic expansion and social development witnessed in Bangladesh since independence was accompanied by a rapid growth in transport demand, which grew at 9 percent per year. Much of this growth was met by road transport, which emerged as the dominant mode of transport over the years (Table 3-1). The share of passenger transport demand provided by road transport increased from 54 percent in 1975 to 88 percent in 2005, while rail and IWT declined from 30 percent and 16 percent to 4 percent and 8 percent respectively. A similar change happened in freight transport demand.³⁵

Table 3-1: Evolution of Transport Demand Mode Share (1975-2005)

Year	Passenger				Freight			
	Total Passengers-km (billion)	Mode Shares (%)			Total Tons-km (billion)	Mode Shares (%)		
		Road	Rail	IWT		Road	Rail	IWT
1975	17	54	30	16	2.6	35	28	37
1985	35	64	20	16	4.8	48	17	35
1989	57	68	17	15	6.3	53	17	30
1997	90	72	11	17	12	65	7	28
2005	112	88	4	8	20	80	4	16

Source: Bangladesh Transport Sector Review (The World Bank publications), People’s Republic of Bangladesh: Revival of Inland Water Transport-Options and Strategies, 2007.

107. **Continuous public investments in the roads sector have established one of the most extensive road networks in a developing country with significant social and economic benefits.** The road network has expanded to an impressive 271,000 km, an additional 50,000 km since 2001. This includes more than 21,000 km of national highways, regional roads and Zila roads (Table 3-2). The Local Government Engineering Department (LGED) is responsible for the development and management of a further 250,000 km of roads classified as the local road network (Upazila roads, Union roads and village roads). Inter-city road transport services, both freight and passenger, are provided by private operators and regulated by the Bangladesh Road Transport Authority (BRTA). BRTA regulates road transport and collects fees from road users.

³⁵ A key reason for the dominance of road transport is the efficiency of the mode relative to others. Road transport provides door-to-door services, and is more flexible and completes the service in less time than competing modes.

Table 3-2: Roads and Highways Road Network Definition and Length

Road Class	Definition	Length (km)
National Highways	Connects, or forms part of a connection between: the national capital and divisional headquarters, a sea port, a land port, or the Asian Highway.	3,570 (Paved: 99%)
Regional Roads	Connects, or forms part of the connection, between: a District headquarters and a main river port or a main land port, or between any of those, that connection not being made by a national road.	4,323 (Paved: 96%)
Zila Roads	Connects an <i>Upazila</i> headquarters with: a District headquarters; a national road or a regional road.	13,678 (Paved: 71%)
Total		21,571 (Paved: 81%)

Source: Maintenance and Rehabilitation Needs Report of 2006 - 2007 for RHD Paved Roads, May 2006.

108. **Bangladesh has developed major road corridors connecting Dhaka with key economic centers and towns, and a network of village roads connecting communities to market centers and the main road.** New bridges connect communities with road transport and integrate whole regions. The multipurpose Jamuna Bridge now provides uninterrupted east-west road and rail connection in Bangladesh. This extensive network surpasses other countries in South Asia in total road density (Table 3-3). Investments in rural roads as part of the rural development strategy have created many social and economic opportunities for communities. These include a reduction in transportation costs, an increase in female labor market participation, diversification of the rural economy, and reduction in poverty levels (Box 3-1).

Table 3-3: Road Densities in Selected Countries

Country	Road Density All Land (kms per 100km ²)	Road Density Agricultural Land (kms per 100km ²)	Road Density (kms per 1,000 persons)
Bangladesh	69.2 (27.8)	77.8 (32.6)	0.88 (0.34)
China	9	20	1
India	49	74	1.5
Korea, Rep.	52	230	2.5
Malaysia	18	134	-
Nepal	3	9	-
Sri Lanka	50	130	-
Thailand	15	37	-
United States	70	149	27

Sources: World Bank, Bangladesh Transport Sector Review, 1991; LGED & RHD, 2001: 2000 Statistical Year Book of Bangladesh.

Note: Data in parentheses exclude rural roads.

Box 3-3: Rural Road Development Impact

The Rural Roads and Markets Improvement and Maintenance Project I and II (RRMIMP I&II), originally implemented in eight districts in the country's northwest region and then repeated in six more districts in the Greater Dhaka area, helped remove physical bottlenecks by improving and upgrading feeder roads, constructing culverts and small bridges, rehabilitating river jetties and improving rural markets. Socioeconomic impact studies conducted, using data on project and control roads, which were surveyed before and after the project, reveal significant reductions in transportation costs: 41 percent for passengers and 33 percent for cargo.

This has facilitated the movement of labor to employment centers and diversification of the rural economy. The labor force increased by nearly 13 percent in the project area and by 9.1 percent in the control area. The bulk of changes observed in the labor force and in economic participation appeared to be due to the increase in the size of the female labor force and female participation rate. Female employment decreased in the control area but increased by nearly 50 percent in the project area. RRMIMP II alone created a total of 78,000-person years of employment, of which 25 percent was female employment. While agriculture accounted for nearly 65 percent of the employed population in the project area before road development, it declined after road improvement to 53 percent. The decline in agriculture employment was more pronounced in the project area than in the control area.

The proportion of the population below the poverty line decreased by 2 percent in the project area while it increased by 4 percent in the control area. The incidence of hunger amongst the poor, measured by the headcount index based on direct calorie intake, declined at a faster pace in the project areas than the control areas. The annual growth rate in per capita calorie intake was 1.5 percent in the project area compared to only 0.1 percent in the control area. It is important to consider, from the food security perspective, the distribution of food consumption geographically, implying that the impact of roads on the distribution of food consumption has been quite favorable. Overall, an increase in participation of the local communities and NGOs in project activities, as well as increased institutional capacities for efficient rural infrastructure management and maintenance were key to the success of the rural roads projects.

109. **Notwithstanding the massive expansion in transport infrastructure since independence— notably in the road sector— the services provided to users have not kept up with the demand in terms of quality and safety.** The quality of the road network is poor, as roads are often too narrow for the traffic they carry. Only about 40 percent of the main roads (the national and regional highways and the Zila roads) are in good condition. Congestion, overloading, air pollution, and safety are major problems. Truck overloading is estimated to cost Bangladesh Tk 3 billion per year in additional maintenance and rehabilitation. Delays in urban areas, especially in Dhaka and major highway corridors, as well as congestion in the Chittagong port increase costs and continue to be major concerns for users.

110. **Injury and death from road accidents in Bangladesh is one of the highest in the world. Bangladesh has around 700,000 motorized vehicles and 1.5 million nonmotorized vehicles, with the former expected to double in the next 10 years.** According to police statistics, road accidents result in 4,000 deaths annually, but the unofficial figures are much higher. Even using official figures, road accident fatalities in Bangladesh would be about four times those in India (57 deaths per/10,000 motorized vehicles in Bangladesh versus 13 in India). Multiple agencies are involved with setting standards on road safety, including the National Road Safety Council (NRSC), the Road Safety Cell (RSC), which prepares national policies on road safety, and the Accident Research Center (ARC) at Bangladesh University of Engineering and Technology that identifies the causes of accidents and develops solutions. Judging from the outcomes observed so far, this approach has proved ineffective.

111. **The role of Bangladesh Railway (BR) in the economy has been limited and declining, largely due to the limited infrastructure, poor condition of BR's physical assets and low efficiency of services vis-à-vis competing transportation modes.** Railway sector governance challenges and inadequate resource allocations are largely responsible for these persistent obstacles. In order to contain the adverse budgetary impact of its operations and to enhance the contribution of the railways to the economy, reform actions and investment are underway, supported by the Asian Development Bank (ADB), World Bank and Japan Bank for International Cooperation (JBIC). The restructuring of BR, including corporatization and commercialization being pursued as a major focus of the reforms, is critical to developing the sector and improving the efficiency of services.

112. **The IWT system is not used to its full potential, in part due to inadequate dredging of the waterways and lack of berthing facilities.** While lack of resources is the main cause of poor sector performance, the quality of sector management and services provided by the operators also contribute to the overall decline of the sector. Tariffs regulated by the government are insufficient to generate a reasonable profit and, as a result, boats are overloaded, causing 56 percent of the accidents on waterways. Although the private sector is more efficient in dredging, and it offers a capacity of 6.9 million cubic meters (2.5 times the capacity of the government-owned Bangladesh Inland Water Transport Authority (BIWTA)) and a lower cost, GoB gives priority to BIWTA, thus maintaining an inefficient system of dredging.

113. **The Chittagong port has been progressively expanded with the addition of a container terminal and several berths to cater to the growing foreign trade.** Despite recent improvements (for example, in the vessel turnaround times), the low quality of port services and of the associated land transport system (road and rail connection to the port), and of the onward inland connections, mostly dominated by the trucking industry, have been a major barrier to trade. The privatization of the New Mooring Container Terminal and changes in the dock labor management board at the Chittagong port are necessary for increasing efficiency. The country's other sea port at Mongla is underutilized (only 33 percent of its capacity being utilized) largely due to chronic siltation and obsolete handling equipment, as well as the lack of a bridge over the Padma River to facilitate road and rail connection to Dhaka.

114. **Finally, a major reform in the air transport sector occurred in 2007, when the state-owned airline (BIMAN Bangladesh) became a limited-liability public company.** Immediate measures were taken to reduce costs and increase efficiency by reducing its workforce by 44 percent and closing down loss-making international and domestic destinations.

3.3 Transport Expenditure Trends and Issues

3.3.1 Public Sector Plays an Important Role in Provision and Financing

115. **Transport services in Bangladesh are mainly provided by the public sector through central government agencies and/or government departments.** Private operators are limited to inter-city road transport (freight and passengers) and the main routes of inland water transport. Public finances, therefore, have a major role to play in the formulation and implementation of the transport policy and the observed outcomes. Similar to other sectors, the following are the most important factors: (i) a high level of centralization, notably with regard to investment decisions; (ii) a sectoral fragmentation relating to land, water or air transport; (iii) government departments rather than financially-autonomous transport parastatals provide services and manage infrastructure; and (iv) unbalanced public expenditure policy.

116. **While Bangladesh's transport services are provided by both public and private operators, public funding still forms the largest component of transport financing.** Railway services are provided by Bangladesh Railways, a government department under the Ministry of Communications (MoC). As an agency of the government rather than an independent state-owned enterprise (SoE), BR's revenues go to the Treasury, and BR's operating and investment budget is provided by the central government. Several public and private institutions are involved with the provision and regulation of inland waterways transport. BIWTA is the main agency responsible for regulating IWT services, which are provided mainly by private operators on the main routes, and by the government-run Bangladesh Inland Water Transport Corporation (BIWTC) on secondary routes. Bangladesh's airports are managed and regulated by the Civil Aviation Authority of Bangladesh (CAAB), while air transport services are provided by BIMAN Bangladesh Airlines. While the government retains 100 percent ownership of BIMAN, the intention is to gradually sell up to 49 percent to the private sector.

3.3.2 Expenditure Policy has Favored Extension of the Road Network

117. **Expenditure policy on transport has supported the outcomes we observe in the sector today. Despite recognizing the need for a more balanced approach to development of the transport subsectors, the government's expenditure policy did not experience any major changes in the period under review, 2003-2007.** Accounting for about one-fifth of the total government expenditures, transport spending declined slightly in comparison with the preceding review period 1998-2002. As a share of national income, however, it remained constant at around 2 percent of GDP when compared to the average for the 1998-2002 period. Nevertheless, considering that national incomes increased by almost 50 percent during this period, transport expenditures also increased in real terms (Table 3-4).

Table 3-4: Transport Sector Expenditure by Subsector for FY 2003-2007 (Billions of Taka)

Sector	2002/3	2003/4	2004/5	2005/6	2006/7	Total (FY03-07)
Rural Roads	15.3	20.3	24.5	29.7	30.5	120.3
Highways	23.5	23.6	28.6	26.2	21.8	123.7
IWT	6.4	7.0	8.2	11.6	9.9	43.1
Railways	14.8	14.7	13.1	16.5	15.6	74.7
CAAB	1.6	1.7	1.9	3.3	2.8	11.3
Total Transport	61.6	67.3	76.3	87.3	80.6	373.1
Total Expenditure (GoB)	445.2	492.2	581.0	594.5	739.9	2852.8
Transport as % of Total						
Spending	13.8	13.7	13.1	14.7	10.9	13.1
GDP Growth Rate	5.30%	6.30%	6.00%	6.60%	6.50%	–

Source: Annual Development Program, Ministry of Transport.

118. **The largest share of transport spending during the 2000-2007 period was used on investments at the expense of urgently needed rehabilitation and maintenance to improve road conditions and safety.** About 69 percent of the resources dedicated to transport were allocated to development (investments) projects, making transport the largest sector of Bangladesh's investment program. Only 31 percent was allocated to recurrent and maintenance expenditure (Table 3-5).

Table 3-5: Transport Sector ADP Expenditure Allocation for FY 2003-2007 (Billions of Taka)

Transport Subsector	2002/3	2003/4	2004/5	2005/6	2006/7	Total (FY03-07)
Rural Roads	14.5	17.2	21.3	25.7	29.2	107.9
Highways	23.6	24.6	24.6	19.9	22.5	115.2
IWT	0.8	2.5	1.9	5.1	2.1	12.4
Railways	9.0	8.6	6.9	7.4	6.8	38.7
CAAB	0.8	1.2	1.1	1.3	1.5	5.9
Total Transport	48.7	54.1	55.8	59.4	62.1	280.1
Total Transport ADP (US\$ Billion)	0.8	0.9	0.9	1	1	4.6
All ADP (GoB)	171	190	205	215	216	997
Transport ADP as % of						
Total ADP	28%	28%	27%	28%	29%	28%
Growth Rate of ADP	11.10%	3.20%	6.40%	4.60%	5.50%	
GDP Growth Rate	5.3%	6.30%	6.00%	6.60%	6.50%	–

Source: Annual Development Program, Planning Commission, Ministry of Transport

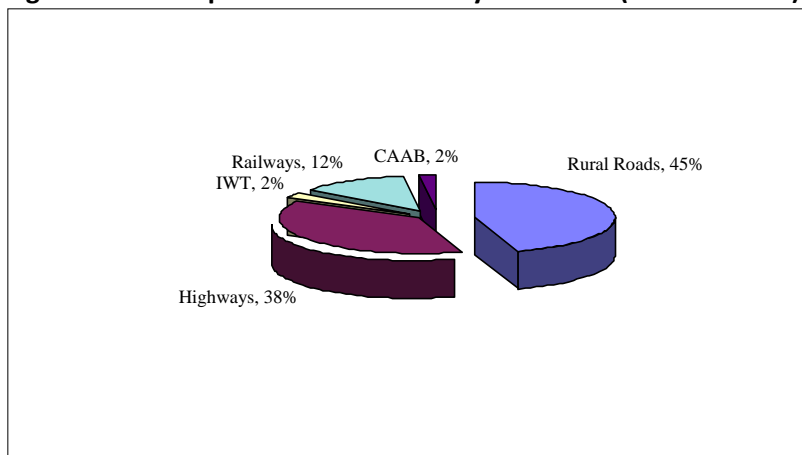
119. **While the transport investment (ADP) allocation is large compared to other sectors, it appears to be below what is required to achieve sustainable economic growth.** The Tk 62 billion investment in the transport subsector in 2006/7 represented 1.40 percent of GDP. Normally, developing countries with a satisfactory GDP growth rate invest 2.5-3.0 percent of GDP in transport.

In South Asia, in order to sustain a GDP growth rate of 6.5 percent, investment in paving roads alone is estimated to require 2.0 percent of GDP.³⁶

120. **Investment spending experienced 6 percent real growth, while revenue spending grew at a higher rate until 2003 before declining during FY03-07.** The revenue budget finances mainly salary, maintenance and miscellaneous expenditures. Unlike ADP allocations, recurrent and maintenance expenditures are more evenly distributed across subsectors. In fact, railways and IWT get larger shares, in part because of their large labor pool and salary obligations and because they have to service not only infrastructure but also transport equipment, rolling stock (rail) and vessels and ferries (IWT). Nevertheless, funding for road maintenance, especially for highways, has been substantially inadequate, leading to a major deterioration of the highway network. One-third of the national highway network is in poor (or very poor) condition, and the situation is much worse for regional and Zila roads, where the corresponding values are one half and four fifth respectively.

121. **Investments in extending the road network continued to be a priority, especially in rural roads.** Rural roads accounted for about 45 percent of total transport sector investments (ADP) during FY2003-07. This was followed by RHD-managed roads and highways (38 percent), which means that the road sector took 83 percent of the total transport investment (ADP) allocation during the period. Railways received about 12 percent, while IWT and CAAB each received only 2 percent (Figure 3-1).

Figure 3-1: Transport ADP Allocation by Subsector (FY 2003-2007)

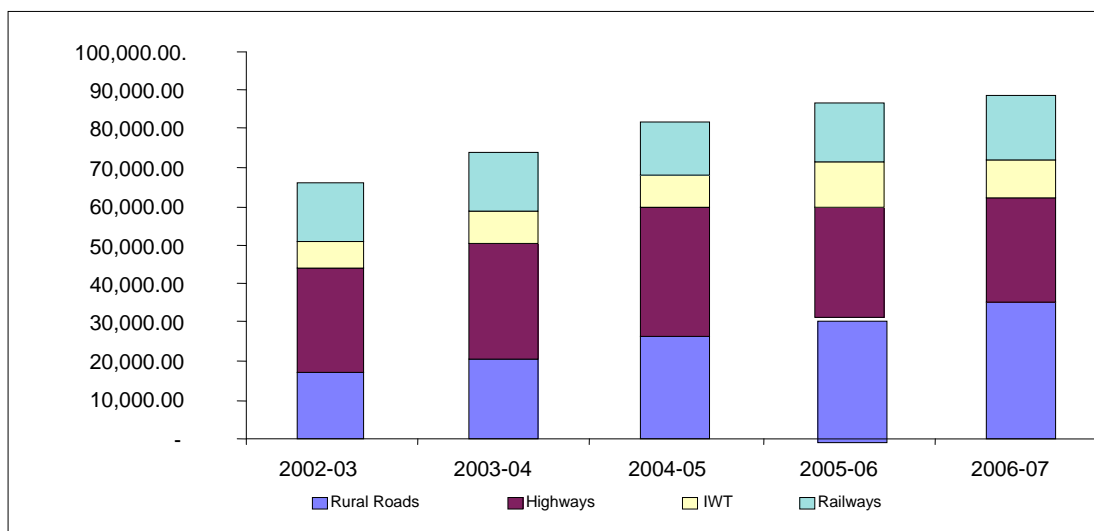


Source: Ministry of Transport, ADP

122. **This unbalanced public expenditure policy that emphasizes the road sector is not consistent with the government's recent policy pronouncements to provide a more balanced development of the transport system.** It has led to overexpansion of roads, and a decline of railways and IWT. Despite the 2004 NLTP recommending increased investment for rail, the road sector continues to receive the lion's share. The allocation of the share of transport ADP to rural roads also increased faster during the FY2003-07 period, while allocation for rail remained constant and only marginally increased in 2007 (Figure 3-2).

³⁶ GDP in 2006 was \$62 billion, and the average exchange rate in FY06-07 was Taka 71.3 per dollar. The estimate for South Asia is from the World Bank document: Chatterton, I. and O.S. Puerto (2005): Estimation of Infrastructure Investment Needs in the South Asia Region.

Figure 3-2: Transport ADP Allocation by Subsector (FY2003-2007) (in million BDT)



Source: Planning Commission, MOF

123. **The contrast between the 2004 policy and the actual allocation of funds for the different transport modes suggests that the GoB either does not have the right mechanisms to allocate funds within the transport sector, or that other factors are more powerful than the stated policy.** As we will see later in the study, political support for the road sector seems to influence the current policy, because roads and highways are highly visible and popular with voters. An analysis of rural roads investment by district shows that allocations for rural roads are not based on actual needs or the size of the districts, suggesting that districts may be favored for investment depending on their political representation at the center (Table 3-6).

Table 3-6: Spatial Allocation of ADP (%)

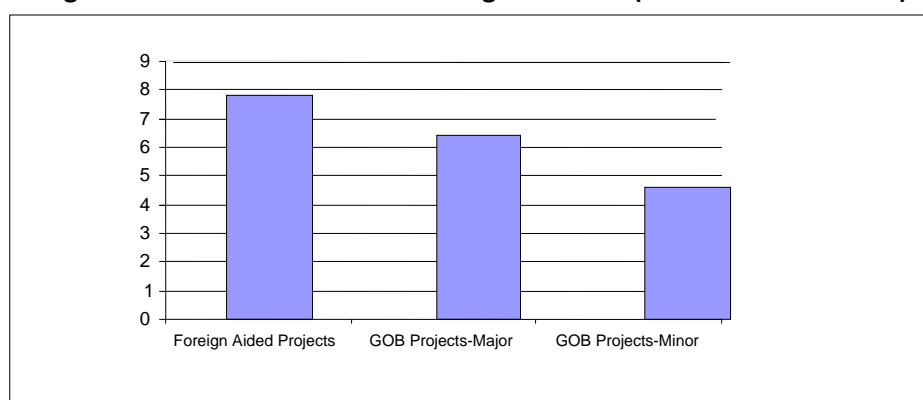
Name of Zone	Share of ADP Allocation	Road Network Size
Barisal	12	13
Chittagong	7	12
Comilla	14	12
Dhaka	32	19
Khulna	5	12
Rajshahi	6	11
Rangpur	6	14
Sylhet	18	7
Total	100	100

Source: Staff calculations

3.4 Quality of the Investment Portfolio

124. The relatively poor quality of the investments in transport highlights further the inefficiency of public expenditure policy. Overall, limited resources combined with an inadequate forward planning process lead to a significant fragmentation of the budget. The pressure to include too many projects results in resources being spread thin in small annual allocations per project, and in long delays in project completion. On average, for instance, the RHD projects take six years to complete and the range is from 1 to 21 years (Figure 3-3). In the highway sector, the RHD has 131 projects on its books, with an average completion time of seven years compared to an average of two years to complete similar internationally funded road projects. In railways, the BR projects average five years and the range is from 2 to 12 years. If we compare projects with a contract value over Tk 1 billion, the average implementation period for these large projects is seven years. International practice suggests that projects of similar size in the BR portfolio should be implemented in four years.

Figure 3-3: RHD ADP Portfolio Average Duration (in Years to June 2007)



125. **Even though the resources are scarce and thinly allocated, the budget outturn (actual expenditure) varies. The ability of agencies to spend what they are allocated varies by sector agency.** LGED and Bangladesh Railways are able to spend more than 90 percent of their allocation, while RHD and IWT spend around 80 percent of their allocation. CAAB is the least efficient, spending only 54 percent of its allocated budget (Table 3-7). In CAAB especially, and to a lesser extent in IWT and RHD, there appears to be a serious deficiency in institutional capacity to implement projects, which may be due to the result of weakness in project preparation or procurement weaknesses, or both.

Table 3-7: ADP Proposals, Allocation and Expenditure for FY2003-2007 (Billions of Taka)

Proposal	Proposed Funding	Allocated Budget	Actual Expenditure	Allocated as % of Proposed Funding	Actual Expenditure as % of Allocated Budget
Rural Roads	127.7	107.9	97.7	84	90.6
Highways	108.2	115.2	93.7	106	81.3
IWT	6.6	12.4	9.8	188	79.5
Railways	35.4	38.6	36.1	109	93.6
CAAB	5.8	5.8	3.1	100	53.5
Total	283.7	279.9	240.4	99	85.9

Source: Planning Commission-ADP, Ministry of Finance

126. Further, this process seems to have been distorted by political influences. Districts represented by the ruling party, for example, receive eight times more investment in rural development projects— of which rural roads constitute a large proportion— than districts represented by the opposition party. While part of the difference could be explained by higher population and size of the districts, and therefore more road needs, these two factors could not explain the eight times differential (Table 3-8).

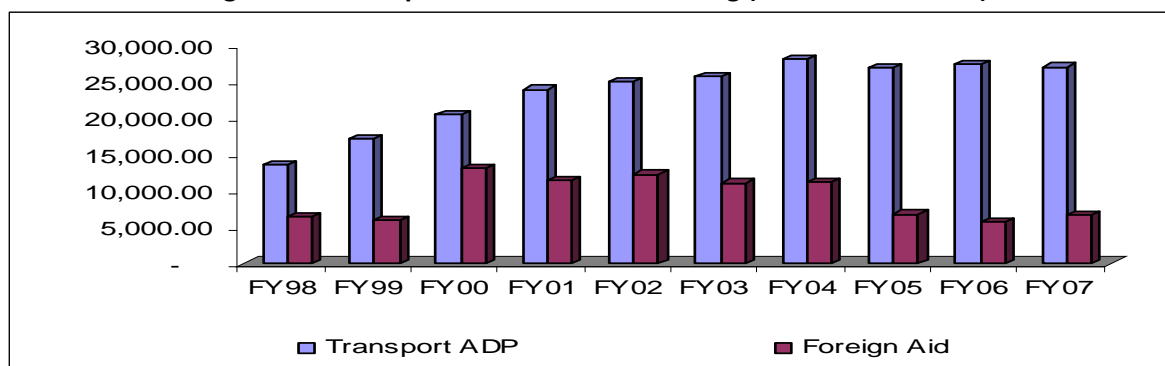
Table 3-8: Investment in Rural Development Projects in Different Districts Representing Different Political Parties

Sl. No.	Name of District	Name of Political Party	Name of Projects Other Than Projects of Countrywide Coverage (No. of Projects)	Total Investment Cost of Projects (in Millions of Taka)
1.	Natore	BNP	1) Rural Development Project-11; 2) Construction of Connecting Road of Asrayan Project; 3) Integrated Food Assisted Rural Development Project (IFADEP); 4) Greater Bogra, Rajshahi & Pabna Districts Infrastructure Development Project; and 5) Rural Development Project-26 (5)	34,803.69
2.	Noakhali	BNP	1) Construction of Connecting Road of Asrayan Project; 2) Cyclone Rehabilitation Project: Entire Coastal Area (2nd Phase); 3) Rural Development Project: Greater Noakhali & Chittagong Districts; 4) Rural Development Project 26; 5) Eastern Bangladesh Rural Infrastructure Development Project (EBRIDP); and 6) Rural Development Project-22 (6)	32,084.46
3.	Bogra	BNP	1) Rural Development Project-11; 2) Construction of Connecting Road of Asrayan Project; 3) Integrated Food Assisted Rural Development Project (IFADEP); 4) Greater Bogra, Rajshahi & Pabna Districts Infrastructure Development Project; and 5) Rural Development Project-26 (5)	34,803.69
4.	Rajshahi	BNP	1) Rural Development Project-11; 2) Integrated Food Assisted Rural Development Project (IFADEP); 3) Greater Bogra, Rajshahi & Pabna Districts Infrastructure Development Project; and 4) Rural Development Project-26 (4)	34,303.69
5.	Bandarban	AL	1) Lama-Swalak Road Development Project; and 2) Rural Road Maintenance Project through Destitute Women in Hill District (2)	892.14
6.	Madaripur	AL	1) Rural Development Project-24; and 2) Construction of Connecting Road of Asrayan Project (2)	4,707.00
7.	Gopalganj	AL	1) Rural Development Project-24; and 2) Construction of Connecting Road of Asrayan Project (2)	4,707.00
8.	Shariatpur	AL	1) Rural Development Project-24 (1)	4,207.00
9.	Kurigram	JP	1) Rural Infrastructure & Community Development Project; 2) Rural Development Project-21; 3) Integrated Food Assisted Rural Development Project (IFADEP); and 4) Greater Rangpur & Dinajpur Districts Rural Infrastructure Development Project (4)	11,397.42
10.	Rangpur	JP	1) Rural Development Project-21; 2) Integrated Food Assisted Rural Development Project (IFADEP); 3) Greater Rangpur & Dinajpur Districts Rural Infrastructure Development Project; and 4) Begum Rokeya Memorial Centre Connecting Road (m/c Link Roads) Development Project (4)	11,932.49
11.	Gaibandha (2)	JP	1) Rural Development Project-21; 2) Integrated Food Assisted Rural Development Project (IFADEP); and 3) Greater Rangpur & Dinajpur Districts Rural Infrastructure Development Project (3)	11,333.09
12.	Satkhira (3)	Jamat	1) South-West Flood Damage Rehabilitation Project; 2) Greater Khulna District Infrastructure Development Project; 3) Cyclone Rehabilitation Project: Entire Coastal Area (2nd Phase); 4) Integrated Food Assisted Rural Development Project (IFADEP); and 5) Rural Infrastructure Improvement Project: 25 (5)	11,354.39
13.	Pabna (2)	Jamat	1) Rural Development Project-11; 2) Integrated Food Assisted Rural Development Project (IFADEP); 3) Greater Bogra, Rajshahi & Pabna Districts Infrastructure Development Project; and 4) Rural Development Project (4)	34,303.69

Source: World Bank.

127. **Weak implementation and related governance issues have contributed to a decline in the foreign-financed component of the transport subsector. The dependence on foreign aid for ADP allocation has declined in recent years (Figure 3-4).** In 1998, almost one-half of ADP funds came from foreign aid, while in 2007, the share declined to 25 percent. In absolute terms, the total ADP allocation more than doubled between 1998 and 2007, while foreign aid fluctuated during the period. Foreign aid increased during FY00-04, but has declined since FY05 as a result of donors reducing or ending their assistance in response to governance concerns and is currently at the 1998 level. While the reduction in foreign aid dependence for ADP funding is to be encouraged, given the large unmet demand for transport investment, it would appear that donors could scale-up their assistance in the transport sector, while influencing improvements in governance and a more balanced and prioritized investment program in the transport sector.

Figure 3-4: Transport ADP Source of Funding (in Millions of Taka)



Source: ADP, Planning Commission, Ministry of Finance.

3.5 Cost Recovery

128. **Users of public transport infrastructure and services cover only a minor part of the cost of operating and maintaining the transport system through fares and fees.** The amount paid by road users (Tk 12.6 billion) in fees and charges (vehicle registration, license, certification of fitness, driver and conductor licenses and route permits for heavy vehicles) in FY01-05 covered only about 50 percent of road maintenance requirements. This was only 60 percent of the amount allocated from the revenue budget (Tk 21.1 billion) for national road maintenance managed by RHD. In addition, the revenue budget allocation for rural roads during the 5-year period (FY 03-07) was Tk 22.9 billion for which there are no fees or charges. This means that road user payments cover about 30 percent of the cost of maintaining the road system.

129. **Fees and charges paid by users of the road system are not only insufficient to cover costs, but the system is also poorly structured. All fees and charges are fixed annual values, and are not tied to actual road use.** This creates a perverse incentive for users to use the roads more than they would if there were a variable charge. Bangladesh does not have a fuel levy, the most common way world-wide to recover road costs, although a proposal to establish a fuel levy is being considered by the GoB.

130. **Cost recovery in the railways is also weak, with revenues covering just 64 percent of operating expenses.** In the year 2004/5, revenues totaled Tk 4.46 billion (including Tk 1.43 billion in fiber optic and land lease income), while railway operating expenses were Tk 6.95 billion. Coverage

of costs by railway users, excluding the lease revenues, show that they contributed only 42 percent of such expenses. The problems with cost recovery in the inland waterways and aviation subsectors are similar to those encountered in roads and railways. However, there is insufficient data to quantify the level of cost recovery in these two transport modes.

3.6 Key Conclusions and Policy Priorities in the Transport Sector

131. **Public expenditure in transport has focused primarily on road infrastructure expansion, and paid little attention to maintenance and other modes.** The road infrastructure network has expanded impressively from its initial start at independence. Successive governments have allocated a significant share of the ADP to develop the highway and rural road network, which provides key transport access for communities and businesses across Bangladesh. However, revenue budget allocation for maintenance has been inadequate, putting the sustainability of the large road network at risk and suggesting that previous ADP allocation on the road sector is being wasted for lack of maintenance. Similarly, the lack of a balanced expenditure program has resulted in the decline of rail and IWT. The GoB, therefore, needs to balance its transport sector allocation of ADP and increase budgetary allocations to meet maintenance requirements.

132. **Performance-informed budgeting is needed if the above policy goals are to be achieved, as is the case in many other sectors.** The current government's policy aims to achieve a safe, less polluting, modally balanced and affordable means of transport. However, these outcomes are not reflected in the transport sector's public expenditure, as seen in the unbalanced allocation of resources across modes, and the lack of attention to safety and maintenance of the road network in budget allocations. Therefore, resource allocation should be based on whichever mode would achieve the policy outcomes. Since rail and IWT are generally more energy efficient and could be safer, with effective safety regulation, the GoB will need to increase its public expenditure for rail and IWT, while focusing on maintenance of the existing highways. New construction needs to be done selectively, especially on the main highway network. Allocation of investment and recurrent funding needs to be underpinned by economic analysis.

133. **Cost recovery in all transport modes needs to be strengthened and restructured to ensure fees and charges are commensurate with usage.** At present, the government is using scarce fiscal revenues to subsidize all modes of transport, and generally allocating fewer funds to maintain assets than what is required to properly preserve public transport infrastructure and equipment. Furthermore, the subsidy policy provides no incentives for the government agencies to provide services to maximize efficiency and set rational pricing policies.

134. **Quality and safety need to be addressed under the government's transport expenditure policy.** The government's initial focus has been on expanding the road network to meet the transport access requirement of the vast majority of the population. As a result, while basic road access has significantly improved, the design standards failed to pay attention to quality and safety of the infrastructure being built, resulting in a congested and unsafe transport system. The focus needs to shift to streamlining and improving the regulatory framework to avoid fragmentation and strengthen enforcement of standards, in addition to road maintenance, as noted above.

135. **The institutional framework and orientation of the transport sector agencies need to be modernized.** In order to promote a well-coordinated and integrated transport system, the institutional and governance structure— within which the transport sector is organized and financed— needs to be better coordinated. A clear policy framework for the transport sector as a

whole is vital. The road agencies, RHD and the LGED, have to slowly shift their paradigm from new road construction to maintenance, as well as clarify the overlapping jurisdiction of Zila and Upazila roads. Lack of customer focus, management practices, and lack of accountability towards efficient and productive use of public finances is a key issue, which needs to be addressed through appropriate reforms for most of the government infrastructure agencies.

CHAPTER FOUR

THE ENERGY SECTOR: POLICY, FINANCING AND OUTCOMES

The challenges in the energy sector remain substantial. Despite improvements over the past years Bangladesh's energy sector continues to suffer from low coverage, unreliable and inadequate supply, and high technical and commercial distribution losses. Energy shortages constrain economic growth and directly affect household welfare, in particular of the poor. Most of these problems are caused by a weak institutional framework and restricted competition, with large SoEs dominating the sector. Inadequate pricing for many energy products has undermined the financial viability of energy suppliers, depriving them of the financing needed to carry out routine maintenance activities and to invest in the expansion of access. At the same time, the sector continues to put pressure on public finances to cover operational losses and inject fresh capital into the sector. Current direct and indirect liabilities arising from quasi-fiscal activities in the energy sector together amount to roughly Tk 106 billion annually, about the same as government spending in education and more than health and social welfare expenditure. Most of these transfers are not shown in the budget but are provided through indirect means, such as guarantees on financing from state-owned banks, cross-subsidization through administered input prices for gas and fuel to power plants and, most importantly, depletion of gas reserves, one of the country's most valuable natural resource assets. While fiscally costly, these transfers are largely inequitable and represent a significant reallocation of wealth to the higher-income urban population that has better access to, and higher per capita consumption of, commercial energy and thus benefits disproportionately from low prices. Responding to growing fiscal and political pressures, the government has begun to undertake a number of short-term measures, including tariff adjustments and demand management, and simultaneously embarked on structural reforms to overcome the systemic challenges in the sector. Further progress will require deepening of these reforms, including strengthening of the regulatory environment and further corporatization of suppliers aimed at providing a more conducive climate for private investments, in particular in power generation capacity, and competition in the sector.

Key Policy Priorities

- *Undertake tariff reform to improve commercial viability of SoEs and reduce the fiscal burden to the budget resulting from underpricing.*
- *Establish predictable and transparent adjustment mechanisms to ensure timely responses to changes in the business environment.*
- *Develop a more balanced growth strategy for the sector by investing in generation capacity to keep up with increased demand.*
- *Reduce commercial losses by applying strict disconnection policies and stronger internal controls.*

4.1 Energy Sector Structure and Service Delivery Framework

136. **The energy sector provides a range of products and services to households and businesses, including electricity, gas and petroleum.** Traditionally, energy provision has been dominated by a number of SoEs, but the government has begun to open up the sector to more private sector involvement in order to mobilize private capital and improve efficiency. As a result, private sector energy provision has gained some ground, but it remains low by international standards, and below its potential in Bangladesh.

137. **On the institutional front, the Bangladesh Energy Regulatory Commission (BERC) has been tasked with strengthening the independent regulation and oversight of the energy market.** BERC was established under the Energy Regulatory Commission Act, enacted in 2003, although the new agency is just becoming operational. As in other countries, the regulator has the authority to set wholesale and retail electricity and gas tariffs, as well as to issue and revoke licenses in the energy sector. The Ministry of Power, Energy and Mineral Resources is now solely responsible for setting the overall policy framework, overseeing state-owned energy suppliers and executing capital projects financed by the state budget.

138. **The power subsector comprises the generation, transmission and distribution of electricity, which is mainly provided by the Bangladesh Power Development Board (BPDB).** Bangladesh generates about 85 percent of electricity from natural gas-fired thermal power plants, while imported liquid fuel accounts for about 10 percent of electricity generation and hydropower plants for the remaining 5 percent. The sector is undergoing structural change. The main power sector entity— BPDB —is being unbundled into separate generation, transmission and distribution companies.³⁷ At the same time, private sector involvement is gradually increasing, but remains small by international standards.

139. **New private sector independent power producers (IPP)³⁸— which have been permitted since the 1996 Private Sector Power Generation Policy— have added generation capacity and now account for 36 percent of electricity generation.** However, while BPDB market shares have been declining as a result of these developments, it continues to dominate the generation and distribution of electricity by a significant margin— accounting for 64 percent of power generation (down from 78 percent in 2002) and 30 percent of distribution (down from 40 percent in 2002) (Table 4-1). Rural electricity distribution is managed by 67 cooperatives under the Rural Electrification Board (REB) that supply electricity to about two-thirds of the country's 6.1 million electricity customers. The transmission business has been fully segregated and all assets have been transferred to the Power Grid Company of Bangladesh Limited (PGCB), another state-owned utility that is now responsible for the operation, maintenance and development of the transmission system.³⁹ On the consumption side, residential and industrial users are the main customer segments accounting for 42 and 44 percent respectively.

³⁷ Spin-offs from BPDB include the Power Grid Company of Bangladesh Limited (PGCB) that has acquired all transmission assets, Dhaka Electric Supply Company Limited (DESCO), West Zone Power Distribution Company Limited (WZPDCL), and Ashuganj Power Station Company Limited (APSCL).

³⁸ Including the Rural Power Company Limited and the Electricity Generation Company of Bangladesh.

³⁹ The company was formed in 1996 and the existing transmission system has been gradually transferred over to PGCB from BPDB and Dhaka Electricity Supply Authority (DESA). The restructuring was completed by the end of 2002 and PGCB has become profitable and recently floated 10 percent of its shares on the Dhaka Stock Exchange.

Table 4-1: Electricity Generation by Producer (GWh)

Source	FY 02		FY 03		FY 04		FY 05		FY 06		FY 07	
BPDB	13,674	78%	12,123	66%	12,584	63%	13,224	62%	14,423	64%	14,548	64%
Independent Power Producer	3,771	22%	6,299	34%	7,478	37%	7,940	38%	8,286	36%	8,244	36%
Total Generation (Net)	17,445	100%	18,422	100%	20,062	100%	21,164	100%	22,709	100%	22,792	100%

140. **The gas subsector is controlled by the state-owned holding– Bangladesh Oil, Gas, and Mineral Corporation (BOGMC or Petrobangla).** Through nine operating companies, Petrobangla is involved in the exploration, production, transmission and distribution of natural gas. Private sector participation is limited in the exploration and production segment but to encourage natural gas exploration, the sector was opened up to foreign direct investments. Petrobangla has entered into Production Sharing Contracts (PSC) with international energy companies to explore and produce gas.

141. **Bangladesh has in the range of 5 trillion cubic feet of proven natural gas reserves, with estimates of another 20-30 trillion cubic feet in undiscovered recoverable reserves.** Annual production levels have increased steadily over the years, peaking at 562 billion cubic feet in 2007. Given the uncertainty about remaining gas reserves, Bangladesh has been reluctant to export, and instead leveled production to meet domestic energy needs. Gas is the main source of commercial energy– accounting for almost 75 percent of total energy consumption. More than half of current output is consumed by the power sector– that relies heavily on gas thermal power for electricity generation– followed by the industrial and fertilizer sector, and domestic end-users (Table 4-2).

Table 4-2: Gas Sales by Consumer Group (Billions of Cubic Feet)

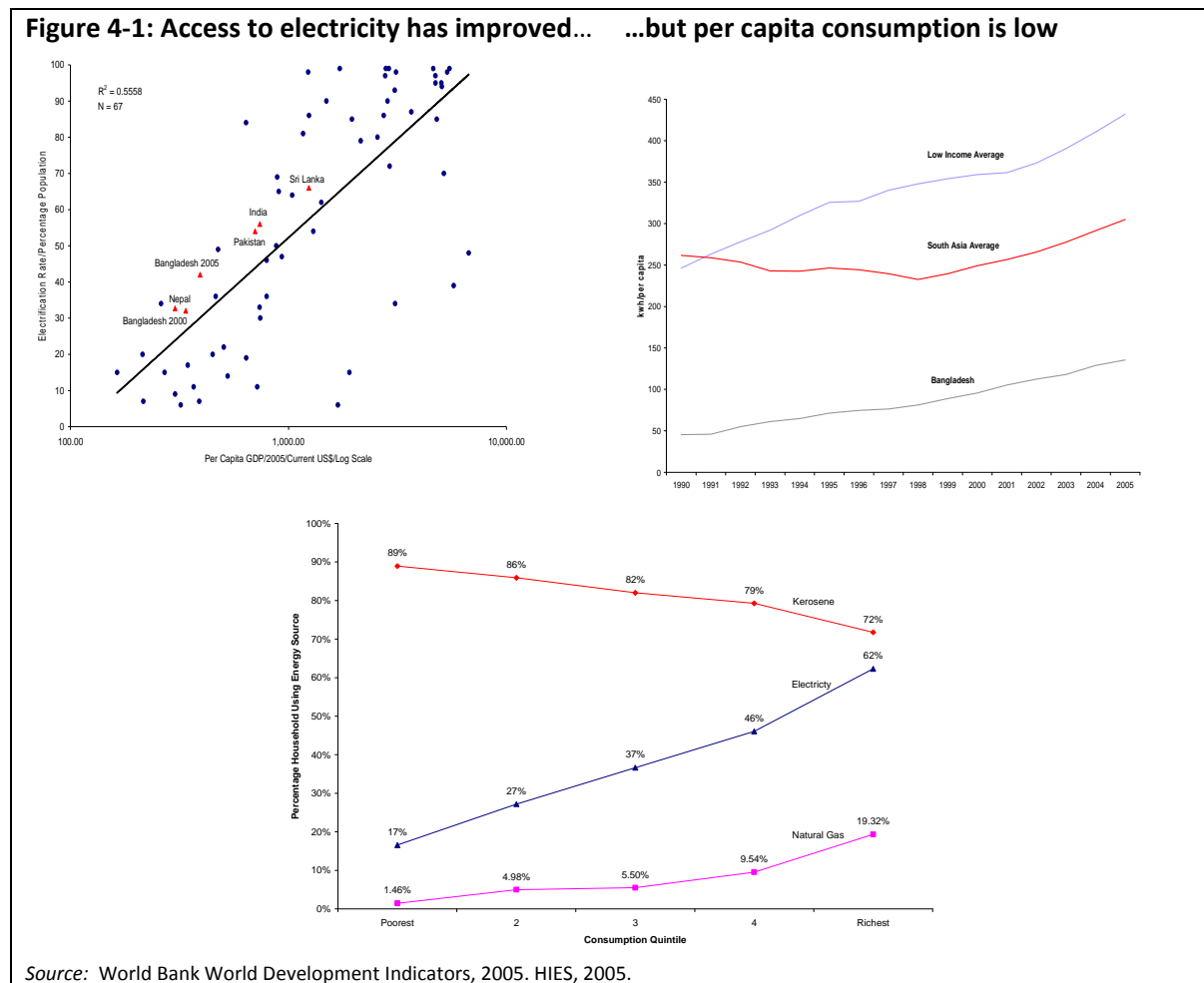
Consumer	FY05	FY06	FY07	FY08	FY09
Power	211	224	221	234	257
Fertilizer	94	89	93	79	75
Captive Power	38	49	63	80	95
Industry	51	63	77	92	105
Domestic	53	57	63	69	73
Commercial	5	5	6	7	7
Others	4	8	13	13	32
Total	456	495	536	574	644

Source: Petrobangla.

142. **The petroleum subsector is dominated by the Bangladesh Petroleum Corporation (BPC).** Bangladesh’s own proven oil reserves are low at about 28 million barrels and its production level of approximately 4,000 barrels a day is too low to meet domestic consumption of 91,000 barrels a day– making it a net importer of petroleum products. BPC controls the wholesale market for petroleum products as it is the sole importer of crude oil and petroleum products and holds the only refining capacity in the country. The retail market, a competitive market in most countries, is controlled by three BPC affiliates that have been shielded from competition.

4.2 Energy Sector Outcomes

143. **Consumer access to electricity has increased from only 32 percent in 2002 to 42 percent in 2005—commensurate with Bangladesh’s rising income level.** Bangladesh’s per capita consumption of electricity at 163 kWh, however, remains low in regional comparison and for a country of its per capita income. Moreover, access to and consumption of energy services remains hugely inequitable. Distribution networks are concentrated in urban areas with insufficient rural coverage, and the poor, in particular, are underserved. The poorest 20 percent of households are more than three times less likely to have an electricity connection than the richest 20 percent and, while 68 percent of urban households have electricity connections, only 29 percent do so in rural areas. As a consequence, poorer rural households have to rely on other energy sources, such as kerosene for lighting and other household uses (Figure 4-1).

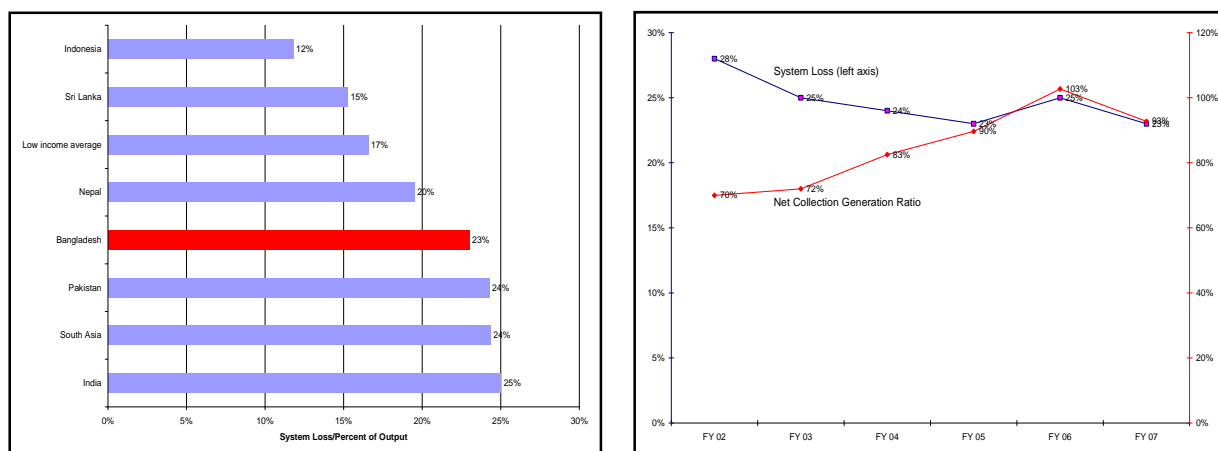


144. **With more consumers connected to the grid, supply-side constraints have been amplified as generation capacity fails to keep pace with demand.** Demand has grown at an average annual rate of 8.1 percent during the last 10 years and is expected to continue to grow at similar rates into the next decade. The current installed generating capacity of the country has grown to about 5,000

megawatts (MW), but parts of the existing capacity are suffering from severe operational failures.⁴⁰ Rapidly rising peak demand of up to 4,700 MW has led to severe load shedding during peak periods. Unreliable power supply hurts consumers and businesses, in particular the country's textile industry, putting severe constraints on Bangladesh's growth performance. Some estimates have put the foregone growth resulting from electricity shortages in the range of 1-2 percent per annum.

145. **Improvements in operational efficiency over the years have brought Bangladesh on par with countries in the region.** Technical and commercial system losses in the power sector have declined from 28 percent in 2002 to 23 percent in 2007, while collection ratios have improved from 70 percent in 2002 to 93 percent in 2007— mainly as a result of the changes in the business environment in the sector described above (Figure 4-2).⁴¹ Notwithstanding these improvements, losses account for about 5 billion kWh— in financial terms, roughly equal to the budgetary investment injected into the sector, or 0.5 percent of GDP each year. At the same time, a 2006 user survey confirms that weak controls have led to rampant corruption and pilferage in transactions with customers, including new connections, as well as meter readings and the billing process, with 90 percent of all respondents reporting harassments, bureaucratic complexities and negligence of energy distributors.⁴²

Figure 4-2: Operational Efficiency is Improving



Source: World Bank World Development Indicators 2005. BPBD.

4.3 Energy Pricing

146. **Prices for many energy products and services, including electricity, gas, diesel and kerosene are regulated at levels below cost recovery.** While government regulations require pricing to capture both operating and long-term capital costs, in practice, energy prices are politically sensitive and, while formally independent, the regulator is vulnerable to political and public

⁴⁰ The list of unreliable plants includes the BPDB plant at Tongi (80 MW gas-fired, and inoperable), Barapakuria (250 MW coal, also inoperable); and Rauzan (360 MW, idled due to gas shortage in the Chittagong area). All told, in the second half of 2006, about 20 units in the system, comprising over 1,000 MW of capacity, have consistently tripped or been out of service completely—one-fifth of installed capacity in the system.

⁴¹ Operational performance varies across the sector entities. BPDB's operational performance improved with current gross system losses around 13 percent and collection-billing ratio of 90 percent. DESA's performance remains poor—with distribution losses of around 30 percent and a billing collection rate at around 91 percent.

⁴² "The State of the Governance in the Power Sector of Bangladesh – Problems and the Way Out" Transparency International Bangladesh unpublished Working Paper 2008.

pressures. As elsewhere, energy pricing policies are subject to opposing pressures. On the one hand, low energy prices are wrongly perceived as socially equitable by large parts of society, and raising these prices is seen as harmful, in particular to the poor. As a result, price increases are often associated with politically costly public upheaval and popular protests. On the other hand, low energy prices drain scarce public resources and are poorly targeted with more affluent social groups benefiting disproportionately. In addition, persistent underpricing undermines the financial viability of service providers and most energy suppliers accrue operational losses, depriving them of the financing needed to carry out routine maintenance activities, expand access and improve efficiency. Low energy prices also distort price signals to households and businesses, leading to energy inefficient consumption patterns and production technologies (captive diesel generators rather than grid).

147. **In the power sector, both wholesale and retail tariffs are set by BERC with a structure that sets discriminatory tariffs among different types of consumers (Table 4-3).** BPBD alone has 15 tariff groups with 37 different tariffs. Other downstream distributors, such as DPDC, DESCO, WZPDCL and REB, have their own retail tariff schemes, depending on their efficiency, consumer mix and cost structure. Despite sharp increases in input costs, tariffs have adjusted slowly and barely covered inflation in past years. Despite intermittent adjustments in recent years, the existing tariffs are not reflective of even the operating cost structures, and far below long-run marginal costs that would include required capacity expansion costs.

Table 4-3: BPDB Power Tariffs Taka/kwh

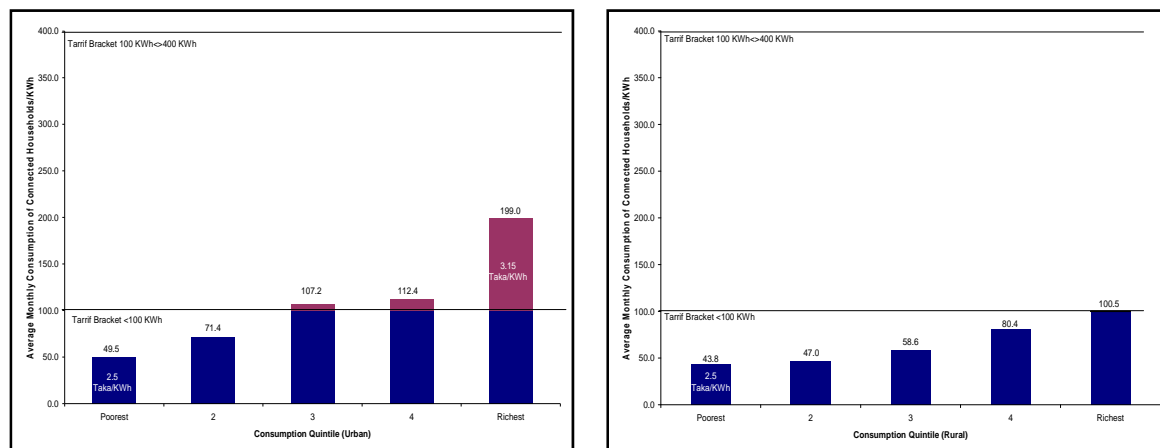
Consumer Segment	2001	2007	Annual Increase (2001-2007)
Domestic*	2.15	3.63	7%
Agricultural	1.75	1.93	2%
Industrial*	3.30	4.01	3%
Commercial*	4.65	5.30	2%

Source: BPDB.

Note: *Average tariff across consumer segment.

148. **The residential tariff structure is progressive, with marginal rates increasing with higher energy use.** However, the lowest bracket in the tariff structure applies to use of up to 100 kWh, which appears high, both domestically and in international comparisons, given Bangladesh's current levels of electricity consumption. At present consumption levels, progression in effective marginal rates is relatively flat (Figure 4-3). India, for example, with a much higher per capita consumption applies the lowest tariff only up to 20 to 25 kWh (with the exception of some urban areas, for example Mumbai, where the first tariff bracket also applies for consumption up to 100 kWh). Pakistan and Laos apply the lowest bracket to 50 kWh, and Thailand only to the first 5 kWh.

Figure 4-3: Residential Tariffs are Progressive But Targeting Could be Improved



Source: HIES 2005.

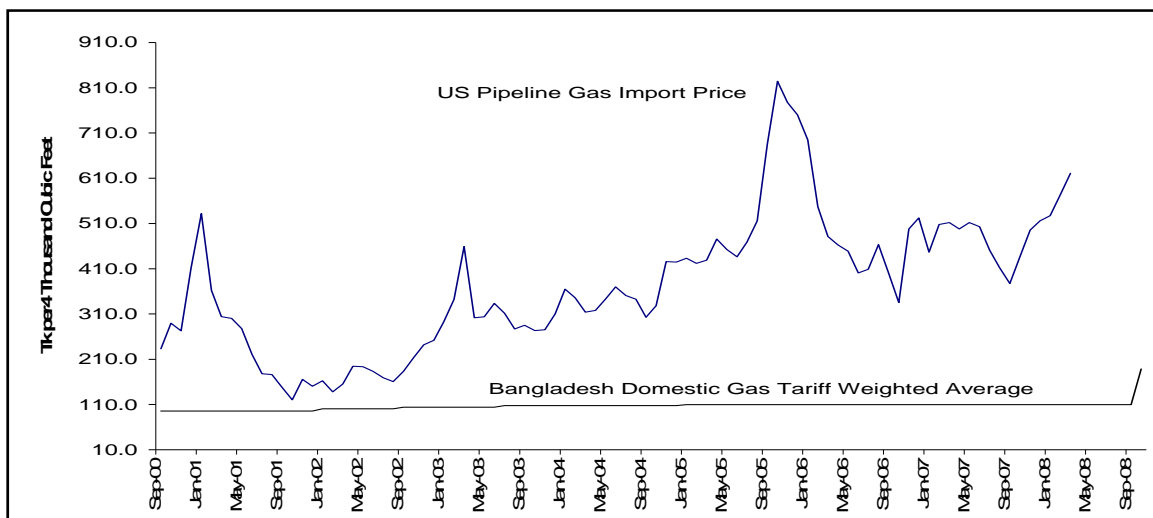
149. **BERC sets prices for each customer group in the gas sector, which mainly supplies gas for power (54.6 percent), and fertilizer (11.6 percent) production.** These are also the two consumer segments with the lowest tariffs (Table 4-4). While Petrobangla’s average unit costs are lower than its average selling price, allowing Petrobangla to turn a net profit, they are far below world market prices. Petrobangla’s weighted average selling price per one thousand cubic feet in the period since the last tariff increase in January 2005 was only Tk 112, about 85 percent below the US pipeline gas import price, which is used as a world market price reference (Figure 4-4). More importantly, they are also below regulated prices Petrobangla pays for purchases from production-sharing arrangements with foreign producers; as a result Petrobangla is incurring financial losses, which are beginning to adversely affect its overall financial performance. As the rapid expansion of gas production is mainly coming from production-sharing arrangements, purchases have been rising, accounting for 50 percent of Petrobangla’s turnover in 2009 and, incongruously, the increasing gas sales are putting pressure on Petrobangla’s profitability.

Table 4-4: Gas Tariffs by Consumer Segment (Taka/Thousand Cubic Feet)

Consumer	01/09/2002	01/07/2004	01/01/2005	01/09/2009
Power	70.0	72.5	73.9	79.8
Fertilizer	60.0	62.2	63.4	72.9
Industry	140.0	145.2	148.1	166.9
Commercial	220.0	228.5	233.1	268.1
Average Selling Price (Weighted by Sales Volumes)	106.0	109.9	112.1	137.6

Source: Petrobangla U.S. Energy Information Agency.

Figure 4-4: Bangladesh Domestic Gas Tariffs are Below International Prices



Source: Petrobangla, U.S. Energy Information Agency.

Note: US pipeline import price converted at market exchange rate. Sept 2008 increase proposed to BERC

150. **The petroleum sector relies heavily on imports and its cost structure is thus fully exposed to changes in international oil prices.** Like gas and power tariffs, domestic retail prices for petroleum products are set by the regulator, BERC. Prices— primarily for kerosene and diesel— have failed to keep up with movements in international oil prices. Despite price hikes of 21 and 69 percent that the government implemented in response to mounting fiscal pressures in April 2007 and July 2008 respectively, retail prices continue to be among the lowest in the region (Table 4-5). As a result, the BPC is incurring substantial negative margins on its most important products, diesel and kerosene, which together account for almost 90 percent of petroleum sales, leading to operating losses that have been increasing substantially in recent years.

Table 4-5: Comparison of Regional Petroleum Retail Prices in Taka/Liter (March 2008)

Type	Bangladesh	India (Kolkata)	Pakistan	Sri Lanka	Nepal
Petrol	65.00	79.80	68.53	74.36	84.93
Octane	67.00	82.31	81.58	76.27	—
Kerosene	40.00	15.77	45.21	43.22	54.35
Diesel	40.00	56.97	48.15	47.67	59.72

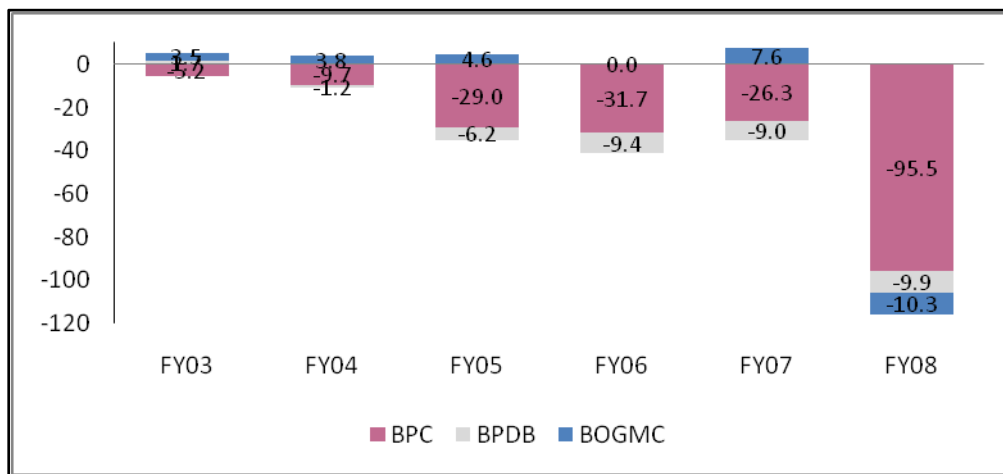
Source: various oil companies of respective countries.

4.4 The Fiscal Cost of Cheap Energy

151. **The provision of energy services below market prices is a quasi-fiscal activity that imposes significant fiscal costs on the government and creates substantial contingent liabilities.** As a result of underpricing, major state-owned utilities realize persistent losses, constraining their ability to cover operating costs to meet capital requirements and to service their debt. In 2008, the energy sector incurred cumulative losses of around Tk 115.7 billion (Figure 4-5). Since utilities lack long-

term financial sustainability, it is likely that large portions of these losses will be shifted to government.

Figure 4-5: Energy SoEs – Profit/Loss



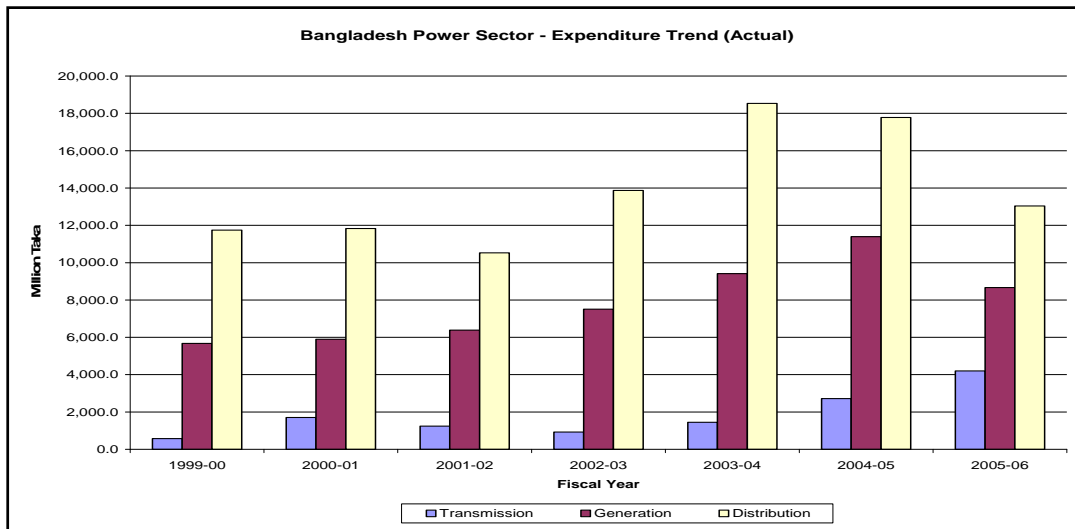
Source: MoF.

152. **Explicit budgetary subsidies and discreet capital projects financed through the development budget only cover a small fraction of the total public financing provided to the sector.** The lion's share is hidden in implicit transfers not shown in the budget, such as loans provided to energy suppliers at below-market rates (in many cases on-lending from international development partners), guarantees on loans by national commercial banks, ad hoc liquidity support, and cross-subsidization through administered input prices for gas and fuel to power plants. In addition, depreciation of state assets— mainly the depletion of the country's fossil energy reserves and foregone returns in the form of SoE dividends— add to the cost.

153. **The power sector is subsidized through a number of different channels— including direct subsidies and equity injections in capital projects.** Direct subsidies— provided for explicit loss coverage— amounted to Tk 6 billion in the FY08 budget. Actual losses, however, are likely to be much higher. Secondly, the development budget is injecting equity through discreet capital projects, in the range of Tk 31 billion annually. Capital projects in the power sector absorb about 12 percent of the total development budget. While fiscally costly, these capital expenditures are insufficient to meet the substantial requirements of the sector, which conservative estimates put in the range of \$5 billion to \$6 billion for the next five years. Moreover, intrasectoral allocation has been skewed towards expansion of distribution networks, with generating capacity lagging behind.

154. **Secondly, some two-thirds of capital allocations are invested in distribution networks and only one-third into generating capacity (Figure 4-6).** This is largely a politically driven prioritization of expenditures as the government seeks to attain universal coverage, and parliamentarians have taken great interest in bringing connections to their constituents. However, to avoid a widening gap between supply and demand, a more balanced growth pattern would be technically desirable, with generating capacity expanding in step with rising numbers of consumers being connected to the grid. Weak project management capacity in the Ministry of Power, Energy and Mineral Resources has resulted in delays and cost overruns in the procurement of major projects.

Figure 4-6: Development Expenditures in the Power Sector



Source: ADP.

155. **In addition to subsidies and capital injections, a third means of subsidizing the power sector is via the purchase of natural gas at a heavily discounted price.** Some 85 percent of Bangladesh’s electricity is generated by natural gas-fired power stations, and power plants purchase their most important input at a hugely discounted price. Providing these subsidies through underpriced production inputs rather than on the sales side not only distorts price signals on input markets but also reduces fiscal transparency as forgone profits on gas sales and depletion of one of the country’s most valuable natural resource assets are not recorded as a fiscal cost.

156. **Fourthly, the government is extending budgetary loans to power sector entities on discounted financial terms.** Since these loans are financing operations, rather than expenditures, they are not, in all cases, reflected in the budget. The current lending rate to BPDB is 3 percent for loans denominated in domestic currency and 4 percent for loans in foreign exchange, significantly below the typical market financing costs in Bangladesh, which stand at 10-13 percent. As the debt service capacity of BPDB is doubtful, the government is likely to continue to service their debt out of government revenues.

157. **Finally, the government is guaranteeing payment obligations to independent power producers.** In the face of mounting liquidity problems, BPDB in 2007, built up arrears to IPPs—forcing MoF to step in with ad hoc financial aid of about Tk 500 million per month through the national budget to prevent breakdowns in supply.

158. **In the gas sector, the depletion of domestic gas deposits at tariffs that are below market prices comes at a significant opportunity cost.** Notwithstanding the question of gas exports, which is a politically contentious issue in Bangladesh, the current tariff structure also does not recover the long-term marginal costs of domestic production. Assuming that the price⁴³ at which Petrobangla

⁴³ Under the PSCs, the IOC is similar to a contractor who gets paid for costs and risks from its share of the output from successful drilling. Up to some predefined maximum, the IOC receives a share of output characterized as "cost recovery" to compensate for the cost of exploration and production specific to that field. The residual quantum, known as the "profit gas," is shared between the IOC and Petrobangla, based on the initial bid and the outcome of subsequent negotiations.

purchases gas from International Oil Companies (IOC) reflects the marginal costs of domestic production, administered gas tariffs imply forgone revenue in the range of Tk 62.35 billion annually. Most of these implicit subsidies are passed through as cross-subsidies to the electricity sector (Tk 35 billion) and the fertilizer sector (Tk 11 billion). (Table 4-6).

159. **At current consumption growth rates, Bangladesh’s proven natural gas reserves are projected to be depleted within the next decade.** Divesting one of the country’s most valuable natural resource assets at discounted prices has important intertemporal and social distribution effects. The rents generated by low energy prices are primarily captured by higher-income groups and increase present consumption rather than investment in human or physical capital assets needed to increase future welfare.

Table 4-6: Estimating the Opportunity Cost of Gas Subsidies

Sector	Unit Cost (Taka/thousand Cubic Feet) of IOC Purchases	Unit Selling Price (Taka/thousand Cubic Feet)	Margin	Sales Billion Cubic Feet	Implicit Subsidy Billions of Taka
Power	210	73.9	(136.1)	256.8	(34.95)
Fertilizer	210	63.4	(146.6)	74.8	(10.97)
Industry	210	148.1	(61.9)	104.6	(6.47)
Tea Estates	210	148.1	(61.9)	0.6	(0.04)
Captive Power	210	105.6	(104.4)	95.0	(9.92)
Total Implicit Subsidy					(62.35)

Source: Petrobangla

160. **In the petroleum sector, the global surge in energy prices has increased financial pressures and caused severe financial distress for BPC, although the recent downturn has offered some relief (Table 4-7).** Even though BERC considerably increased prices in response to the increasing gap between international oil and domestic fuel prices, BPC losses amounted to more than Tk 95 billion in FY08. BPC has mostly financed these operational losses by borrowing from commercial state-owned banks rather than through direct subsidies from the state budget, although the government in FY08 used budget funds to acquire Tk 75.23 billion of BPC’s debt to state-owned banks. BPC’s debt at the end of FY08 stood at Tk 124 billion. At 2.3 percent of GDP, this represents one of the most significant contingent liabilities of the government, undermining fiscal transparency and—while reducing budgetary pressure today— is threatening future fiscal stability.

Table 4-7: Estimating Fuel Subsidies

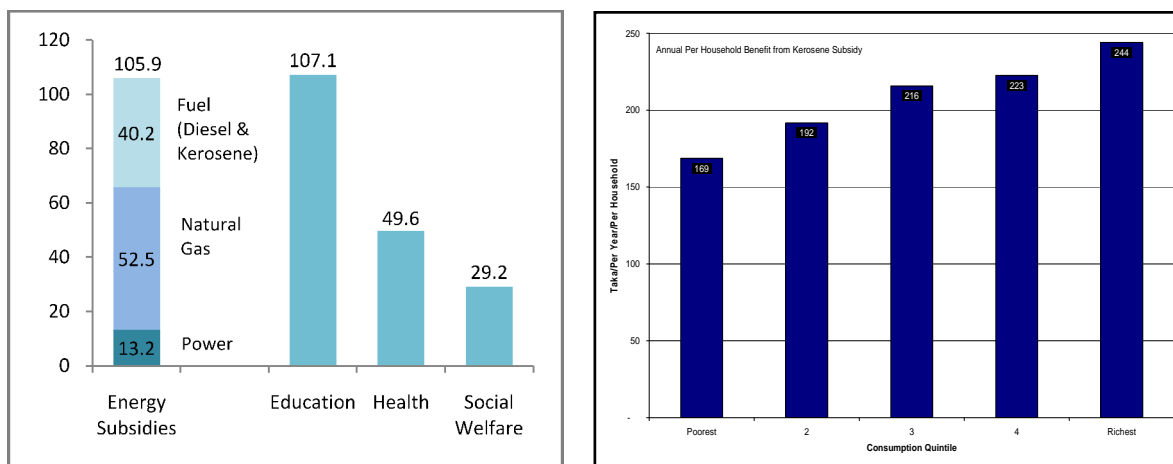
Type of Fuel	Unit Cost Taka/Liter*	Unit Selling Price Taka/Liter	Margin	Sales in Millions of Liters	Implicit Subsidy Billions of Taka
Diesel	50.9	44.0	(6.9)	2402.8	(16.6)
Kerosene	52.8	44.0	(8.8)	228.2	(2.0)
Total Implicit Subsidy					(18.6)

Source: Based on BPC Data.

Note: *Average cost in FY09, including import parity price, taxes, dealers' margin, financing charges, and transport costs.

161. The total fiscal cost of energy subsidies is calculated as approximately Tk 106 billion—equal to 2.2 percent of GDP, about the same as government spending in education and more than health and social welfare expenditure (Figure 4-7). This estimate recognizes full coverage of SoE operational losses and the opportunity costs of low gas prices (but does not include capital injections from the development budget). Only about one-third of these transfers are allocated and accounted for in the budget. Given the predominantly indirect nature of energy subsidies, they are largely outside the resource prioritization and control processes of the budget framework. As such, they remain shielded from competition with other expenditure programs and some, such as loan guarantees, represent significant fiscal risks that threaten to undermine long-term fiscal sustainability, and possibly causing adverse macroeconomic effects.

Figure 4-7: Energy Subsidies Impose a High Opportunity Cost but are Largely Inequitable



Source: ADP, MoF, BPC, Petrobangla, HIES 2005.

162. Since energy consumption is progressive— with higher-income groups consuming more— these subsidies are largely inequitable and benefit the more affluent disproportionately (Figure 4-7). Subsidies are primarily captured by the urban middle- and upper-class that have both greater access to, and higher per capita consumption of, energy. At the same time, they impose high opportunity costs on the government, constraining investments in social sectors and— with the exception of equity injections that account for roughly one-third of the total— they are also largely consumptive in nature and do not create the long-term (human or physical) capital assets that are needed to generate future growth and income.

4.5 Key Policy Priorities in the Energy Sector

163. Although reforms of the energy sector to date have been difficult and uneven— in the face of high international prices and domestic systemic problems— this analysis has identified a number of future policy options. Soaring global energy prices, combined with consistent underpricing of domestic energy and an existing sector structure that favors large but loss-making government-owned enterprises financed through an opaque system of indirect subsidies, have created a protracted political and economic reform environment. Public and fiscal pressures for reform are rising but do not always point in the same direction. Price hikes are largely unpopular and politically difficult to implement, while unavoidable if growing financial liabilities and fiscal crisis are to be

avoided and the sector put back on a financially sustainable and self-reliant path. Within these constraints the government has made strides towards structural reforms, and deepening of these reforms is essential for better sector outcomes.

164. **First, Tariff reforms should be considered as a means of improving the commercial viability of service provision and to reduce the fiscal burden resulting from underpricing.** Adequate pricing policies can help prevent excessive resource depletion and promote higher genuine investment in the sector. Affordability of energy is a legitimate public policy concern, but price distortions might not be the best way of achieving this objective. While price reforms are sensitive, experience from other countries shows that they can be both politically feasible and fiscally efficient if accompanied by countervailing measures to compensate the loss in purchasing power, for example through direct cash transfers to the poor in particular.

165. **Second, where direct price controls below cost recovery are deemed desirable, financing should be made more transparent and explicitly provisioned for as direct subsidies of the end-user selling price in the budget.** This would reduce fiscal risks and expose resources devoted to lowering energy prices to the same political expenditure prioritization process as other competing expenditure programs.

166. **Third, where price discrimination based on consumption levels is possible in the power sector, tariff reform could substantially improve the targeting of subsidies.** While the current structure is already progressive, a lowering of the current tariff thresholds could ensure affordable electricity supply to poor households that are connected to the grid. At the same time, this would avoid the mistargeting of higher-income households, thereby reducing the costs of these subsidies and mobilizing resources needed to expand access and capacity in the sector.

167. **Fourth, the establishment of an independent regulator is a laudable step to introduce more efficient and transparent regulation of markets and improve the institutional framework for price setting.** To fully capitalize on this new structure, it will be critical to establish predictable and transparent adjustment mechanisms to ensure timely responses to changes in the business environment. Frequency of tariff adjustments— of fuel prices in particular— would need to be increased to avoid the adverse effects of global price fluctuations.

168. **Fifth, a more balanced growth strategy in the power sector is needed. Generation capacity needs to be increased to keep pace with rising demand.** The capital requirements for capacity expansion are substantial and it is widely recognized that public resources are insufficient to address them. Tariff structure reforms are the key to utilizing the cost recovery potential and improve the financial fundamentals of the sector. In addition, efforts to improve the commercial environment in the sector should continue through corporatization and segregation of business entities as prerequisites to attracting more private capital into the sector.

169. **Budgetary resources devoted to capital projects in the development budget should be re-aligned away from the previous focus on expanding the power grid towards the power generation sector.** To mitigate short- to medium-term threats to Bangladesh's growth performance stemming from unreliable electricity supply, the highest short-term return on scarce public resources could be in making the existing capacity dependable through the expeditious repair, rehabilitation and maintenance of power plants, rather than through investing in new plants. In the medium- to longer-term, it will be critical to step up gas exploration and production, while moving on the coal policy to more effectively tap into the country's other fossil resource reserve.

170. **Finally, to further improve operational efficiency, governance reforms are essential.** Applying strict disconnection policies to delinquent customers, combined with a strengthened internal control environment (for example, risk-based audits), in particular in the billing and collection business, are needed to reduce commercial losses.

CHAPTER FIVE

THE AGRICULTURE SECTOR: POLICY, FINANCING AND OUTCOMES

The agricultural sector continues to play a critical role in Bangladesh's development. Although rapid expansion of industrial production and services led to a steady decline of the agricultural share in GDP from 32 percent in 1980 to about 19 percent at present, 46 percent of the labor force continues to be employed in the sector making it a major source of employment and income, particularly for the rural poor. Bangladesh has in the past achieved impressive progress in raising productivity and diversification of its agricultural sector. This has been possible mainly as a result of investments in rural infrastructure, including disaster management and mitigation systems, rural roads and electricity, and liberalization of markets for important agricultural inputs. However, while the country has achieved self-sufficiency in food grain production, supply shocks caused by the frequent incidence of natural disasters, together with increased volatility in global food prices, pose severe threats to food security at both the national and the household level, particularly among the poor. Beyond the short term, significant increases in agricultural productivity are required for food supply to keep pace with increased demand resulting from population and income growth. With negligible scope for area expansion, the most pressing problem is to enhance and sustain growth in crop production through further yield gains. Agricultural policy and public expenditures in the sector will be critical in supporting further productivity growth. The overall level of public expenditures devoted to agriculture has increased to 12 percent of total expenditure. However, a large- and growing- proportion of public resources is devoted to subsidizing agricultural inputs, most importantly fertilizer and diesel, which now account for roughly 40 percent of the total budgetary expenditures on agriculture, while investments in key public goods, such as agricultural research and development and extension services have been lagging.

Key Policy Priorities

- *Reform agriculture input markets, including liberalization of wholesale markets of fertilizer to improve viability of inputs and free up fiscal resources.*
- *Increase investments in public goods aimed at increasing productivity of agriculture, in particular research and extension, commensurate with improvements in the institutions that manage these resources to ensure quality.*
- *Ensure a multi-sector approach strategy to improving performance in agriculture, which includes improving the linkages between farmers and consumers through better maintained rural roads.*

5.1 Sector Structure

171. **The agricultural sector in Bangladesh plays a critical role in ensuring food security and in generating employment and income, particularly for Bangladesh's predominantly rural population.** The agricultural share (including crops, livestock, forestry and fisheries) in GDP has

diminished gradually over time: from 32 percent in 1980 to 18.2 percent at present, mainly as a result of rapid expansion of services and industry sectors. Agricultural growth has reached an average rate of 3.7 percent during recent years compared to an overall GDP growth of 5.2 percent. Notwithstanding this decline, the sector continues to be the major source of income with about 46 percent of the total labor force being employed in labor-intensive agriculture. The sector exhibits strong forward and backward linkages with other parts of the Bangladesh economy and is a major source of supply of raw materials for the country's growing agro-based industries and nonfarm rural economies. Continuing agricultural growth is essential for Bangladesh's further economic development and poverty reduction, as its growth is, on average, twice as effective in reducing poverty as nonagricultural growth.

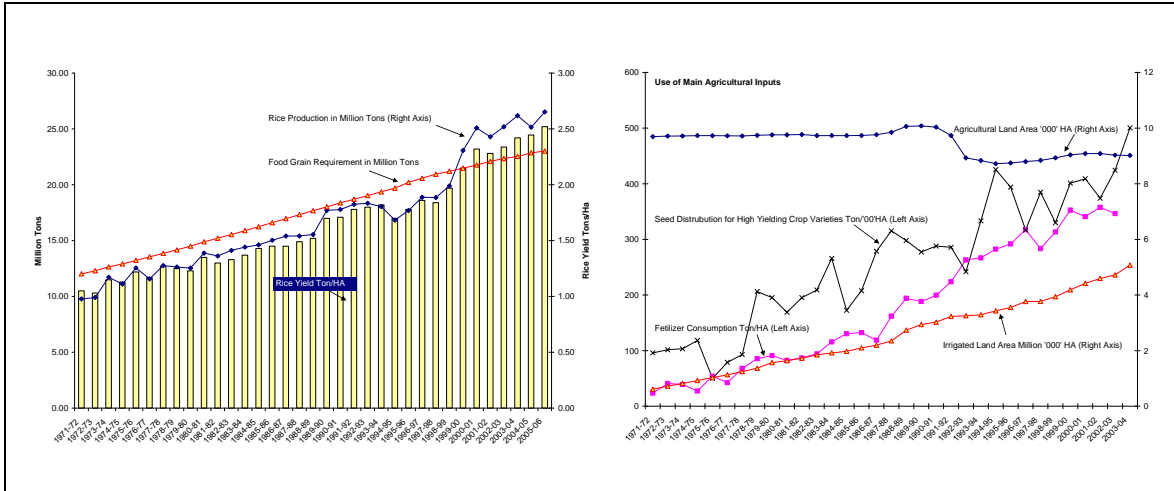
172. Crops account for some 60 percent of total agricultural GDP, with rice dominating the crop sector— contributing an average 71 percent share of the gross output value of all crops. As a result, agricultural growth largely reflects performance in rice production, which is highly vulnerable to adverse weather conditions and natural disasters. The sector is showing rapid diversification, particularly in the livestock and poultry sectors. The contributions of fisheries and livestock have grown to 22 percent and 13 percent owing to changing dietary preferences and domestic food demand for higher-value products, as well as producers successfully tapping into lucrative export markets. Inland fishery has experienced a higher growth rate due mainly to the cultivation and export of shrimp.

173. Agricultural exports, both bulk commodities and higher-valued processed products, grew by nearly 5 percent over the last five years and now account for about 10 percent of the total value of exports. Shrimp exports— the country's second largest export item after ready-made garments— alone equal roughly 5 percent of total export value. As is the case elsewhere in Asia, the sector is dominated by smallholders with an average farm size of only 0.68 ha and more than half of all farms are smaller than 0.4 ha. As a result of rising population, farm size is declining further.

5.2 Sector Outcomes: Productivity-led Growth

174. Achieving self-sufficiency in food grains and, particularly in rice production, has been the overriding objective of agricultural policy in Bangladesh. It has realized impressive productivity-led growth of agricultural production over the past three decades. Rice production almost tripled from 9.8 million tons in 1972 to 26.6 million tons in 2006, making Bangladesh largely self-sufficient in its main staple. Growth resulted from steady increases in productivity as yields increased from 1.05 to 2.2 tons/per hectare (ha), although yield growth has slowed down recently. While arable land area is contracting as a result of urbanization and environmental pressures, enhanced use of other agricultural inputs, mainly high-yielding seed varieties, fertilizer, and irrigation equipment, have played an important role in increasing cropping intensity and yield (Figure 5-1).

Figure 5-1: Enhanced Use of Agricultural Inputs Drove Productivity-led Growth

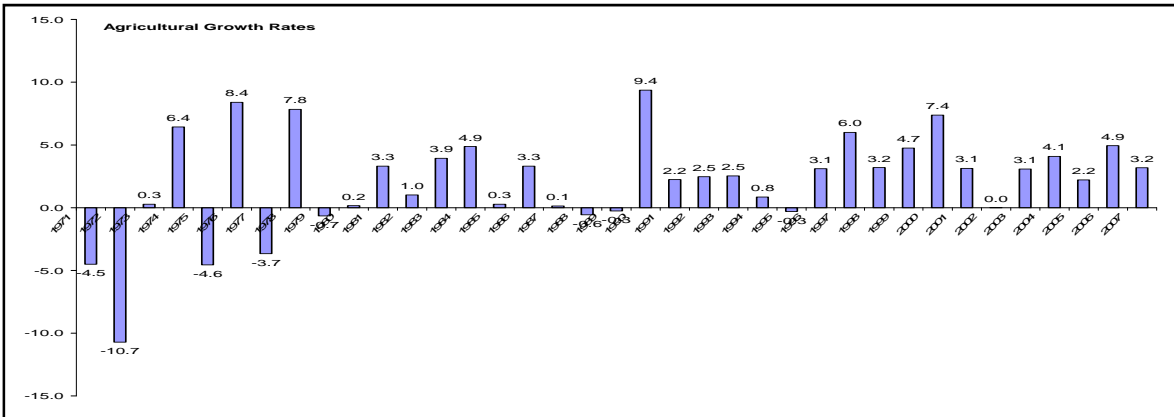


Source: Ministry of Agriculture.

Note: Food grain requirement based on 16 Ounce (453.66 gm) per day per capita.

175. **Agricultural growth rates over the last decade averaged 3.7 percent—markedly higher than during previous decades.** While overall agricultural performance continues to be vulnerable to climate and other environmental shocks, investments in disaster mitigation—mainly drainage—and diversification of the sector have reduced volatility in agricultural growth rates (Figure 5-2). Although agricultural growth rates are lower than that of the industrial and service sectors, they contributed significantly to the decline in poverty rates from 59.2 percent in 1991 to 43.8 percent in 2005. Together with the growing nonfarm rural economy, it also continues to be vital for livelihood sustenance of the country’s 46 million poor who are concentrated in rural areas.

Figure 5-2: Agricultural Output Growth Has Been Robust and Volatility Has Declined



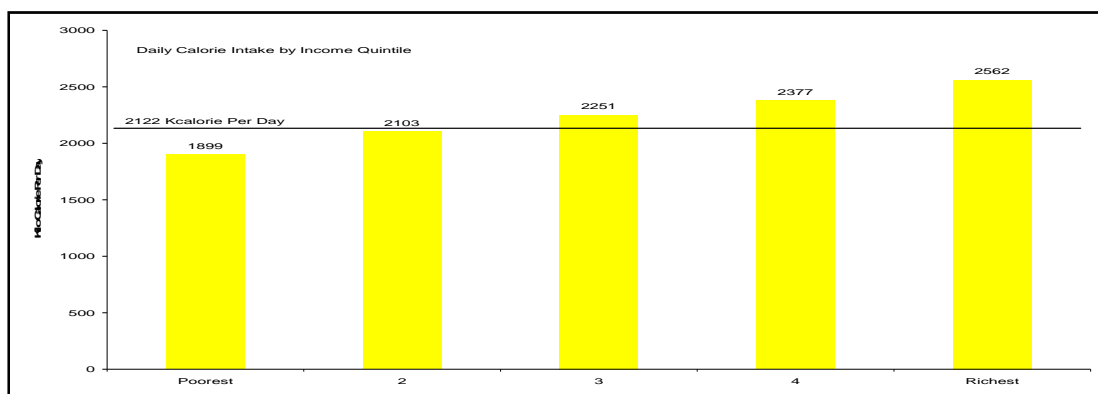
Source: World Bank WDI.

176. **Notwithstanding these achievements, the challenges remain substantial—gains in food security at both the national and household level are frequently threatened by the occurrence of supply and price shocks caused by natural disasters.** Being one of the most disaster-prone countries in the world, Bangladesh has suffered from a tenfold increase in the occurrence of

hydro-meteorological disasters in the last decade. Two prolonged floods and Cyclone Sidr in 2007 caused a 1.1 million ton shortfall in domestic rice production. This precipitated an unanticipated surge in food import requirements that absorbed precious foreign currency, exposing the country to price shocks driven by higher international food prices. In 2008, food grain imports increased to 3.4 million tons (part of which was used to build stocks) worth approximately \$2.9 billion (5 percent of total imports). The cost of these imports was equivalent to approximately 17 percent of total export earnings, putting upward pressure on the trade deficit. This also resulted in the staggering rise in the domestic price of rice and wheat, which shot up by over 60 percent between December 2007 and August 2008.

177. **The impact of frequent natural disasters is compounded by the widespread prevalence of undernutrition and malnutrition.** According to the household income and expenditure survey 2005, 40.4 percent of the population consume less than the 2,122 minimum caloric intake requirement per day set for Bangladesh (Figure 5-3). Undernutrition and malnutrition affect all segments of the community but the poorest suffer the most— with infants, young children and women of reproductive age being at greatest risk because of their higher nutritional requirements.

Figure 5-3: Undernourishment Remains a Concern - Particularly Among the Poor



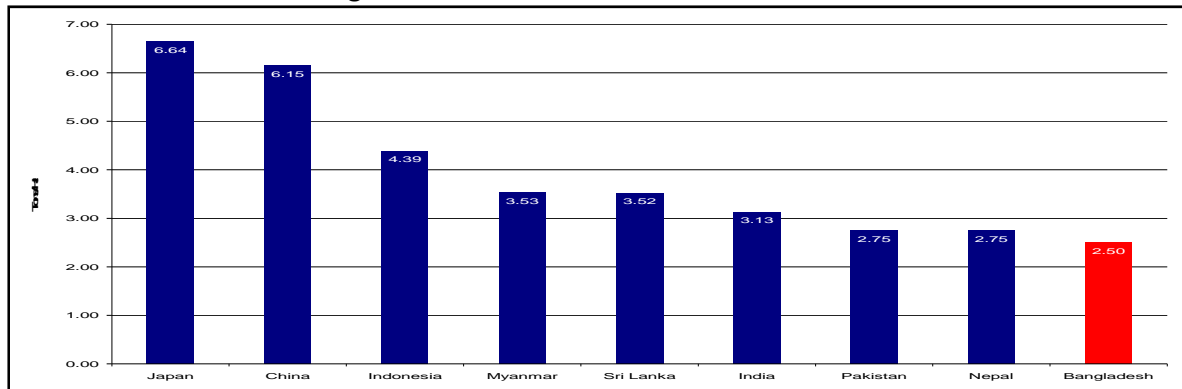
Source: HIES 2005.

178. **Beyond the short term, significant increases in agricultural productivity are required for food supply to keep pace with rising demand. Population and income growth continue to put upward pressure on food demand.** Population growth has slowed down to 1.5 percent at present but, at this rate, about 2 million people are being added to the total population, generating demand for 350,000 tons of additional food grain every year. Projections of food grain supply and demand indicate a widening supply gap.

179. **Being one of the world's most densely populated countries, there is little scope for area expansion, as most of the arable land of Bangladesh is already under cultivation.** Future growth will continue to rely on raising yield on major food grains, but yield growth of most crops— including rice— has been stagnating. Average yield rates in Bangladesh are low in comparison with other countries in the region and far below potential yields of modern rice production (5-7 tons/ha) (Figure 5-4). Undersupply and underutilization of agricultural inputs, including high-yielding crop seeds, fertilizer, and irrigation contribute to wide gaps between the potential and the realized yields for all crops in the country. Only slightly more than half of the country's total arable land is currently under irrigation, and only 40 percent of the irrigated area is covered by modern seed varieties. In addition, there are fertilizer use gaps between actual

and recommended doses for all three major fertilizers. Domestic yield gaps are substantial, varying on average between modern irrigated production at 3.45 tons/ha and rain-fed agriculture using local rice cultivars at 1.16 tons/ha.

Figure 5-4: Rice Yields Continue to Be Low



Source: FAO Statistics.

5.3 Public Expenditures on Agriculture have increased, but Subsidies dwarf Expenditures on Public Goods

180. **Agricultural policies have undergone structural changes over the past three decades. The government has made some progress in reducing distortions in key input markets for agricultural production, including the fertilizer, minor irrigation equipment and seed sectors.** At the same, the public food supply and management system was also reformed, including Open Market Sale (OMS), procurement of food grains from farmers at market prices, abolition of the rural rationing system and allowing import of food grains by the private sector. These measures, together with public investments in research and development, extensions services, and rural infrastructure, have resulted in more efficient allocations of resources within the sector and led to significant gains in agricultural productivity.

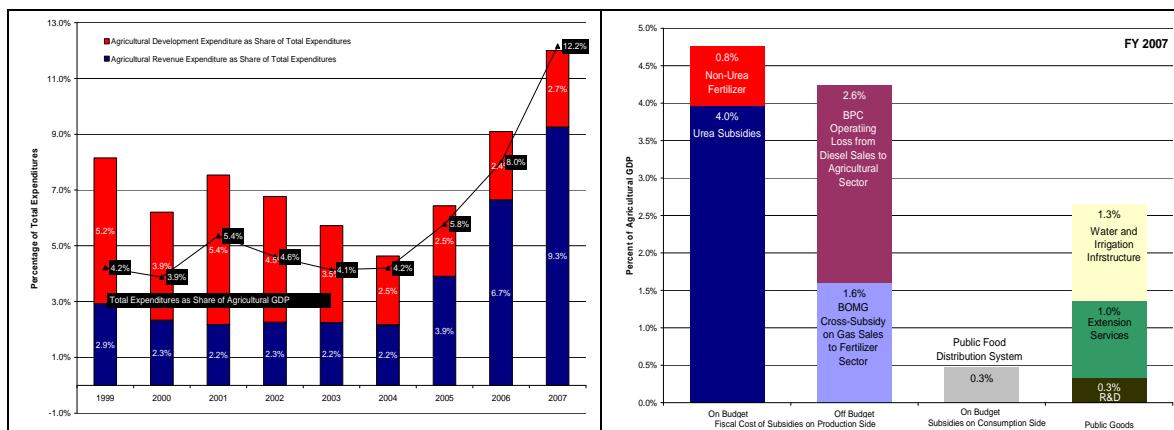
181. **Greater scope and opportunities for private sector participation and a more suitable environment towards promoting agro-business and investment have been created.** Nevertheless, the public sector continues to play a major role in the agricultural sector. Firstly, the government continues to intervene in markets for important agricultural inputs through subsidies on seeds, fertilizer, electricity and diesel for irrigation pumps. Secondly, to meet its overall objective of ensuring food security for all households, the government undertakes several activities in markets for agricultural outputs to provide price stability and protect the poor and vulnerable from food insecurity. Thirdly, the government is leveraging public investments in key public goods, such as agricultural research and development, extension services and rural infrastructure (including irrigation systems), water management control (especially drainage), and rural roads to improve farmers' access to markets.

182. **Public expenditures on agriculture have grown significantly over the past three years and the sector now absorbs about 12 percent of total public expenditures equal to 12 percent of agricultural GDP.** Revenue expenditures have expanded rapidly from 2.9 percent of total expenditures in FY91 to 9.3 percent in FY07, mainly as a result of agricultural subsidies ballooning in response to rising international commodity prices— oil and fertilizer in particular. Subsidies on inputs now account for roughly 40 percent of the total budgetary expenditures on

agriculture. In addition, off-budget liabilities are incurred as a result of subsidization of fertilizers and diesel, mainly stemming from cross-subsidies provided in the form of subsidized gas supplies from BOGMC to Bangladesh Chemical Industries Corporation (BCIC) and operating losses incurred by BPC in diesel sales to the sector.

183. **Increasing subsidies have crowded out investments in core public goods such as research and development, extension services and water and irrigation infrastructure.** Investment in these sectors has fallen from 5.2 percent of total expenditures to 2.7 percent over the same period. In particular, spending on research and development is low at only 0.3 percent of agricultural GDP, compared to 0.62 percent for other developing countries and 2.80 percent for developed countries as a group. Given the geomorphological environment– with large parts of the country’s productive agricultural land being flood-prone– Bangladesh has traditionally invested heavily in water control and irrigation infrastructure, in particular flood control and drainage projects, which continue to absorb about half of the development budget (Figure 5-5).

Figure 5-5: Public Expenditures on Agriculture Have Increased, but Agricultural Subsidies Dwarf Expenditures on Public Goods



Source: MoF

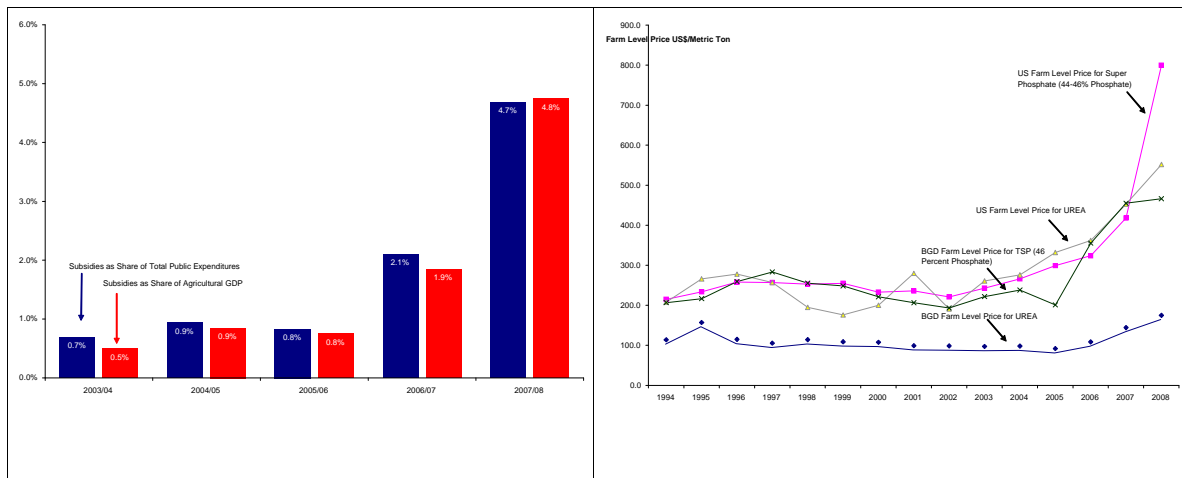
5.3.1 Direct Government Interventions in Markets for Agricultural Inputs

184. **While the state-controlled distribution system for agricultural inputs has been gradually dismantled and the sector has been opened up for private sector participation, the government continues to play a major role, and numerous market interventions on the production side remain.** Prices for important agricultural inputs, such as electricity and diesel for tube wells and irrigation pumps, and fertilizer are still subsidized either at the retail or the wholesale level. These subsidies are intended to reduce farming production costs, improve farm profitability and encourage production increases at the margin. This will, in turn, improve food security and bring down food prices, but these subsidies also put a substantial financial burden on budgetary resources.

185. **The rise in subsidies following substantial increases in international commodity prices since 2004 has amplified budgetary pressures.** In FY07, total budgetary subsidies on agricultural inputs, including fertilizers and the cash subsidy for diesel, amounted to a staggering Tk 40.5 billion or \$594 million, which is equal to 4.8 percent of agricultural GDP and 4.7 percent of total

public expenditures (Figure 5-6). In addition, there are implicit cross-subsidies, in particular subsidized gas supplies by BOGMC to fertilizer factories and power plants and operational losses incurred by the state-owned BPC and the electricity companies, which add another Tk 36 billion or \$521 million. This brings the total fiscal cost of agricultural subsidies to Tk 76 billion or \$1.1 billion, which is equal to 9 percent of agricultural GDP. The fiscal burden of fertilizer subsidies, in particular resulting from imported urea, has significantly decreased, not because of the doubling of the farmer price (from Tk 5 to Tk 10/kg) effected by the government but because of the decrease in the international price of urea, currently about \$270/ton, which is down from nearly \$800/ton in August 2008.

Figure 5-6: Budgetary Subsidies on Agricultural Inputs Have Increased Fiscal Pressures

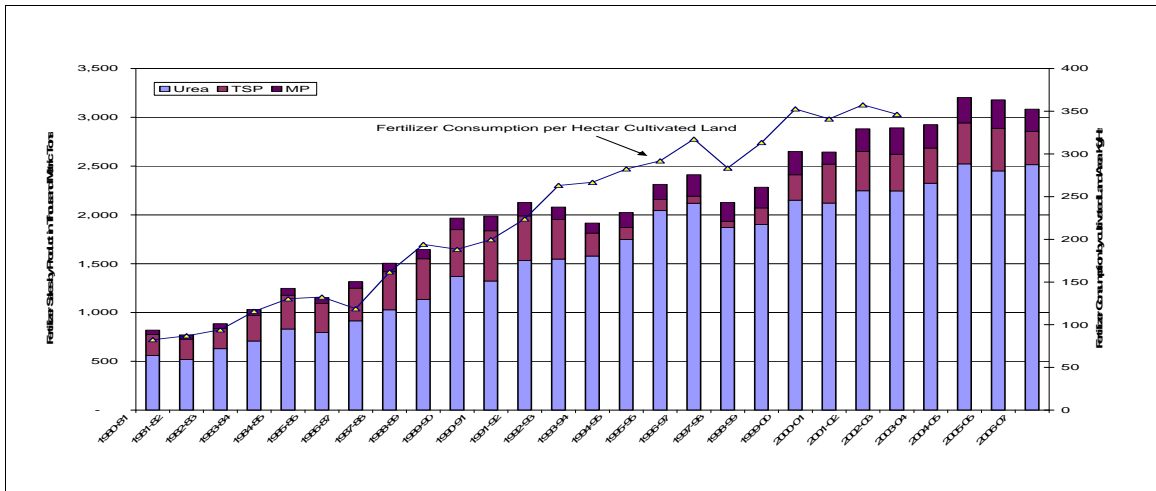


Source: MoF, Ministry of Agriculture, USDA.

186. **The new government has made political commitments to further lower prices for agricultural inputs to ensure food for all, and has— as one of its first acts in office— slashed prices for diesel and nonurea fertilizers.** These policies exacerbate risks to future fiscal stability should international commodity prices rebound from their recent downturn. Moreover, the pricing and distribution mechanisms for agricultural inputs are critical determinants for the desired and sustained growth of agricultural production. While low prices have generally increased usage— and thus contributed to productivity gains— underpricing and mistargeting of subsidies have led to major inefficiencies, such as wastage, imbalanced application of fertilizer and undersupply of important inputs, for example electricity. Moreover, a significant part of the fertilizer subsidies is captured by traders instead of farmers and the inefficient distribution system has led to restrictive access to fertilizer at the official subsidized rate.

187. **Fertilizer is one of the most important agricultural inputs, and availability and use of chemical fertilizers is critical for boosting yields and sustaining soil quality.** Fertilizers used in Bangladesh are mainly urea, triple super phosphate (TSP) and muriate of potash (MOP). The increased cultivation of high-yielding variety (HYV) crops and expanding irrigation facilities more than tripled the consumption of fertilizer in Bangladesh from 870,000 tons in 1980 to 3.3 million tons in 2007 (Figure 5-7). Bangladesh meets only part of its total fertilizer consumption needs by domestic production. The state-owned BCIC factories produce about 2.4 million tons of urea, TSP and Single Super Phosphate (SSP), with the additional requirements being met through imports.

Figure 5-7: Consumption of Fertilizers Has Increased



Source: Ministry of Agriculture.

188. **Fertilizer markets continue to be subjected to numerous government interventions and— while the retail level has been privatized— production and distribution of fertilizer at the wholesale level continues to be dominated by the public sector.** The government also continues to play a major role in importing the country’s most important and most heavily subsidized fertilizer— urea— while imports of nonurea fertilizers are done by private sector entities. Urea, which provides nitrogen, a key nutrient critically deficient in the country’s soils, accounts for 78 percent of fertilizer use. Urea also has the highest subsidization rates and the public sector continues to have a major role in its production, import and distribution. Total use of urea fertilizer in FY07-08 is estimated at 2.8 million tons per year— of which 1.7 million tons are domestically produced and the remainder is imported.

189. **The government regulates the wholesale prices at which accredited dealerships purchase urea from factories or government warehouses.** At current levels, these prices are below long-term marginal costs of domestic production and far below the import parity price. As a result, the government has to inject significant subsidies to cover operational losses on urea sales. In 2007, the subsidization rate for imported urea was in the range 83 percent, resulting in total subsidies in the range of Tk 28.3 billion, or about \$410 million. Production costs for domestically produced fertilizer, which is sold at an average Tk 4.8/kg, range between Tk 7.5 to Tk 8.5/kg. The difference adds Tk 5.4 billion, or \$79 million, to the total explicit subsidies (Table 5-1).

190. **In addition to explicit budgetary subsidies, domestic urea production is cross-subsidized through discounted purchase of natural gas— the most important raw material in urea production— from the state-owned gas utility BOGMC.** The opportunity cost on foregone profit in natural gas sales to fertilizer factories is estimated at roughly Tk 13.63 billion.⁴⁴ The total cost of implicit and explicit subsidies on urea in 2007 amounts to roughly Tk 47.3 billion, or US\$685 million, equaling roughly 5.5 percent of agricultural GDP. In 2008, the government increased the average wholesale price of urea to Tk 10.0/kg, slightly reducing the financial burden stemming from urea subsidies.

⁴⁴ See Chapter 3.4 on the energy sector.

191. **The private sector plays a more significant role in the import and distribution of nonurea fertilizers, such as TSP, MoP and DAP.** While BCIC produces some limited quantities of TSP and MOP, the current requirement for nonurea fertilizers at 1.5 million tons far exceeds domestic production capacity. Bangladesh imports about 1.1 million tons of nonurea fertilizer annually, mostly by private importers, although the Bangladesh Agricultural Development Corporation (BADC), to a limited extent, also continues to procure directly from foreign producers. While domestic prices are subsidized, cost structures for these fertilizers are directly exposed to international market prices. The subsidization rates are being set in response to changes in international prices and political pressures. At a subsidization rate of 15 percent, the total cost of price subsidies in FY07 was about Tk 6.7 billion, or US\$97 million. However, delivering on campaign pledges to lower prices of agricultural inputs, the new government has recently increased subsidization rates from 15 to 55 percent, effectively slashing retail prices in half. As a result, the total subsidy on nonurea fertilizers is now projected to increase to Tk 27.6 billion, or \$400 million in FY08-09.

192. **In addition to subsidies on fertilizer prices, the government is also subsidizing operating costs of irrigation pumps and tube wells.** The liberalization of markets for irrigation equipment between 1979 and 1984 unleashed a rapid diffusion of small tube wells (STW) for small and minor irrigation, which today accounts for about 94 percent of the irrigated land. As rural electrification is very limited, diesel-powered irrigation pumps are the primary irrigation technology used in Bangladesh.⁴⁵ It is estimated that the operation of the 1.3 million diesel-powered pumps requires about 1.6 billion liters of diesel per year. In FY07, at a diesel retail price of about Tk 40/liter and an import parity price of Tk 54.1/liter, this implied a direct subsidy of about Tk 22.4 billion, or US\$322 million on diesel for irrigation pumps.

193. **Between February and March 2008 the caretaker government also implemented a cash transfer program, reaching a total of 6.7 million farmers with land holdings below 2 hectares.** This was initially intended to compensate for a planned price hike in diesel, which was never implemented. However, this cash transfer program was subsequently abolished by the new government. Furthermore, there is a subsidy on electricity use in irrigation. However, the cost is marginal given the limited use of power-operated irrigation systems. Agricultural consumption of electricity is only about 8.8 GWh. Farms purchase power at a subsidized tariff of Tk 1.93/kWh. At an average production cost of Tk 2.8/kWh, this implies electricity subsidies to the agricultural sector in the range of Tk7.6 million or US\$0.1 million. Additionally, the power sector is cross-subsidized through subsidized gas supplies from BOGMC. In total, the implicit cost of gas subsidies that were passed through to power users in FY07 were in the range of Tk 38.65 billion, of which roughly Tk 14.7 million, or US\$0.2 million, are captured by the agricultural sector.

⁴⁵ Currently, there are about 1,324,802 diesel-run irrigation pumps comprising 3,284 deep tube wells, 1,189,165 shallow tube wells and 132,353 power-operated pumps.

**Table 5-1: Summing up Implicit and Explicit Subsidies on Agricultural Inputs
(FY 2007 in Billions of Taka)**

Input	Explicit	% A-GDP	Implicit	% A-GDP	Total	% A-GDP
UREA						
Domestic Production	5.40	0.6%	13.60 (Cross-subsidy through gas supplies from BOGMC to BCIC)	1.6%	19.00	2.2%
Import	28.30	3.3%	0	0%	28.30	3.3%
NONUREA						
Diesel	6.70	0.8%	0 22.40 (Operational losses incurred by BPC)	0% 2.6%	6.70 22.40	0.8% 2.6%
Electricity	0	0%	0.02 (Operational Losses BPDB and Cross- subsidy through gas supplies from BOGMC to BPDB)	0.002%	0.02	0.002%
Total	40.40	4.8%	36.02	4.2%	76.42	9.0%

Source: MoF, BOGMC, BPC, World Bank staff estimates.

Note: A-GDP is Agriculture GDP

5.3.2 Government Interventions in Markets for Agricultural Outputs

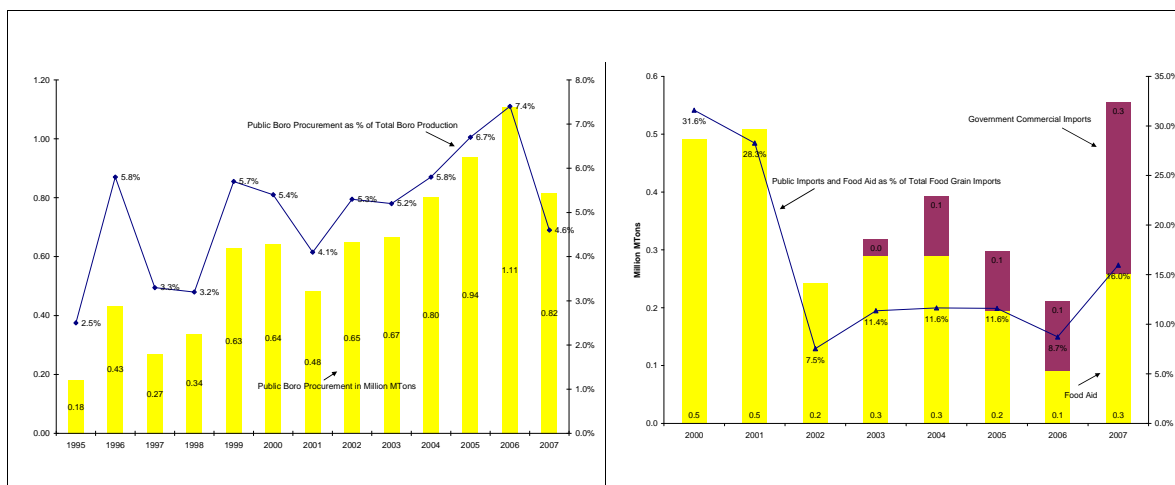
194. **On the consumption side, the Public Food Distribution System (PFDS) is tasked with stabilizing prices for producers and consumers, especially to protect the poor.** PFDS distributes between 1 and 2 million tons of food grains annually. This is equivalent to about 5-7 percent of national consumption of rice and wheat. In addition, the government holds a strategic food grain reserve of between 0.7 and 1.9 million tons. The main objectives of PFDS are to stabilize consumer prices, guarantee producer prices to farmers, and to provide social protection to the country's poor and other vulnerable groups, including mitigation of household-level food access shortfalls in the wake of disasters or seasonal fluctuations in supply.

195. **The PFDS consists of numerous channels, including some 6,700 Open Market Sales (OMS) outlets throughout the country and about 75 Bangladesh Rifles (BDR) outlets in Dhaka.** These outlets sell a maximum of 5kg (per purchase) of relatively low-quality rice to any urban and peri-urban consumer (self-targeted) at Tk 25/kg (this program was activated on January 9 but revoked on May 10). Other so-called "first-tier" programs include the Vulnerable Group Feeding (VGF) program, whose objective is to provide relief in disaster or vulnerable areas, the Vulnerable Group Development (VGD) program, which has a development objective, and the Food for Work (FFW) program, all of which are targeted. So-called "second-tier" programs

include Test Relief (a form of FFW), Gratuitous Relief (small cash distributions as disaster relief), Essential Priorities (mainly to the army), and the Credit Sales program (lends food stocks to private traders). The OMS is the largest program, followed by the VGF, VGD and FFW. Together, these four channels account for about two-thirds of total PFDS off-take.

196. **The major portion of food grains distributed through PFDS channels are procured locally, with the remainder being imported either commercially or through donor food aid programs (Figure 5-8).** The procurement price for Boro rice, the most important food grain, is currently set at Tk 28/kg– slightly above the concessional price at which it is sold at OMS. Food aid contracted over the past five years, mainly as a result of global price rises is putting competing demands on the global food aid distribution system, but government-operated commercial imports made up the shortfall. Import prices fluctuate in response to international market prices, but at current international price levels, the government incurs a negative margin in the range of 10-15 percent on food grain imports. The current fiscal cost of direct food price subsidies was Tk 3.1 billion in FY07.

Figure 5-8: Public Boro Procurement and Food Grain Imports



Source: Food Policy Monitoring Unit.

5.3.3 Investments in Core Public Goods: Agricultural Research and Extension Services and Rural Infrastructure

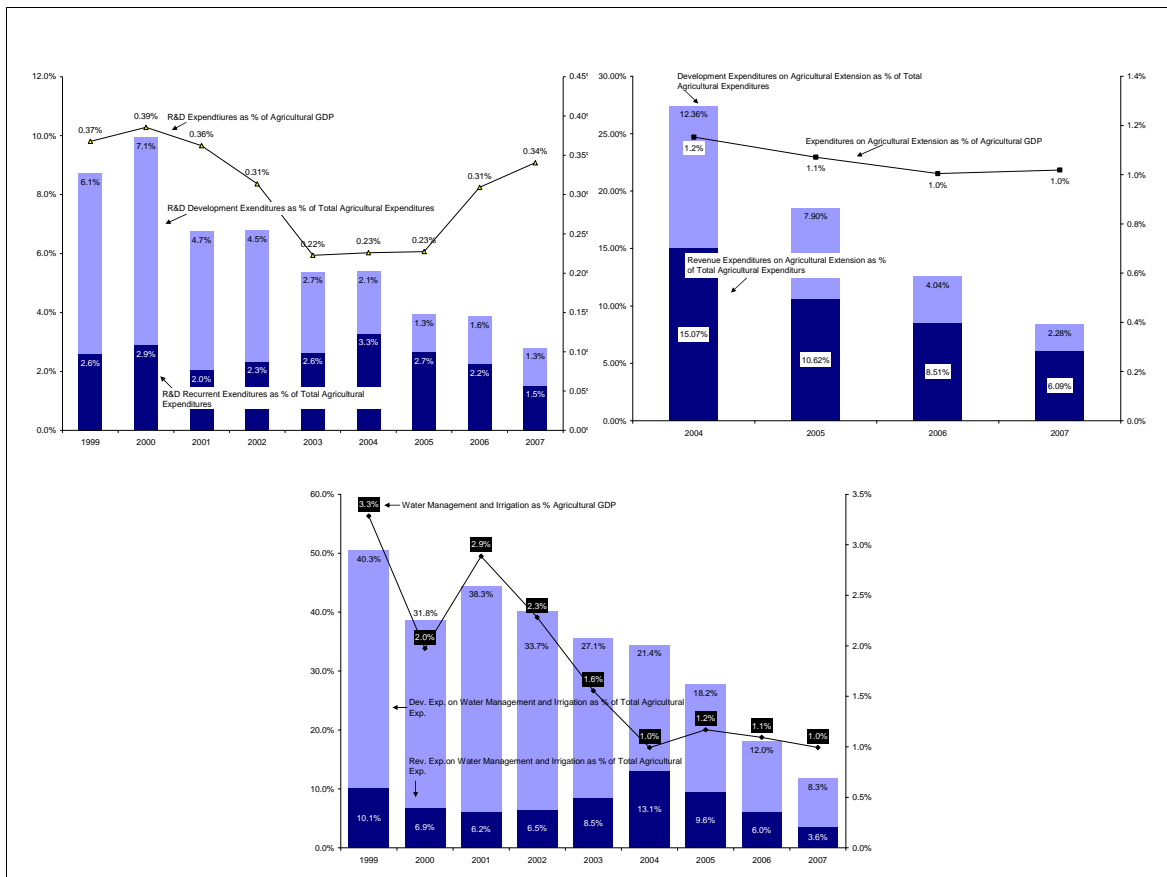
197. **Agricultural growth critically depends on investments in rural infrastructure, including irrigation, flood protection, rural roads, and power, as well as on investments in agricultural research and extension services.** These investments have generally been found to provide high economic returns. However, most of the assets created by such investments have the characteristics of public goods, and tend to be underprovided by the market.⁴⁶ Public expenditures are thus pivotal in their provision.

198. **Expenditures on core public goods in the agricultural sector have been declining as a proportion of total budgetary resources devoted to the sector.** In particular, expenditures on

⁴⁶ Average rates of return on investment in agricultural research and extension, for example, have been documented in the range of 35 percent (Sub-Saharan Africa) to 50 percent (Asia) in 700 studies. See World Development Report 2008 Agriculture for Development.

research and development have contracted from 9.9 percent of total agricultural expenditures in 2000 to 2.8 percent in 2007. Discretionary resources, which fund research projects, have taken the strongest hit, while a large share of research and development expenditures is spent on overhead costs of the 10 research institutes under the umbrella of Bangladesh Agricultural Research Council (BARC). While public expenditures on agricultural research as a percentage of agricultural GDP have remained at roughly the same levels (mainly as result of agricultural growth being slower than growth in overall public expenditure levels), they are low by international standards.

Figure 5-9: Expenditures on Core Public Goods Have Contracted



Source: MOF.

199. **Government expenditure on agricultural research is only about 0.34 percent of agricultural GDP, compared to 0.62 percent for other developing countries and 2.80 percent for developed countries as a group.** Equally, public expenditure on agricultural extension has been declining as a share in total agricultural expenditures and, to a lesser extent, as a share in agricultural GDP. In response to Bangladesh's exposure to natural disaster risks, in particular floods, the government has traditionally invested heavily in flood control and drainage projects, which have absorbed about half of development expenditures in the sector. Despite the significant social and economic costs imposed by frequent floods, expenditures on mitigation have contracted both relative to total agricultural expenditures as well as in proportion to agricultural GDP (Figure 5-9). At the same time, the government has shifted focus and resources

towards the expansion of rural roads, which by improving market access and reducing transportation costs boosts farm profitability and encourages rural economic growth (Chapter 3.3 on Transport).

5.4 Key Policy Priorities in the Agriculture Sector

200. **The new government that assumed office in early 2009 has accorded the highest priority to agricultural and rural development, but it is navigating a complex fiscal and political landscape that will affect reforms aimed at improving efficiency of resource use.** Agricultural policy reforms over the next decade will take place against the backdrop of Bangladesh's transformation from a predominantly rural society and agricultural economy to an increasingly urban society with a strong economic base in the manufacturing and service sectors. This transformation is likely to give rise to competing political pressures that will undoubtedly drive reform priorities, while at the same time setting the political opportunity space.

201. **Agriculture is no longer the major source of economic growth.** However, with 46 million rural poor (83 percent of all poor), poverty remains overwhelmingly rural and the gap between urban and rural incomes is likely to widen because of rapid growth in nonagricultural sectors. As a result, popular demands by rural constituencies to narrow urban-rural income disparities are likely to amplify. At the same time, stagnating productivity growth combined with frequent supply shocks in domestic production and increasing food price volatility globally continue to threaten food security at both the national and the household level. These supply-side pressures will be compounded by rising demand as a result of population and income growth. Resulting risks of food shortages and price increases— that would directly hurt net food buyers (a large and growing constituency in Bangladesh), including both landless rural and urban populations— pose a significant risk to social welfare and political stability.

202. **Fiscally, the level of on-budget public expenditures at 12 percent of agricultural GDP is on par with spending in other countries of similar income levels.** In addition, there are significant off-budget costs accrued in the form of cross-subsidies from the gas sector to the fertilizer sector and operating losses of BPC on subsidized diesel sales (the latter depending on international price levels), bringing total implicit and explicit liabilities to roughly 16.2 percent of agricultural GDP. However, resource use is currently heavily skewed towards subsidies of agricultural inputs, which distort fiscal priorities away from investment in core public goods, such as research and development or rural infrastructure. While these subsidies are politically difficult to reverse because producers are a politically significant constituency, there are, potentially, substantial benefits to be gained from changes in the resources allocation as part of a comprehensive strategy to improve agricultural productivity.

203. **Reforming agricultural input markets, including liberalization of wholesale markets for fertilizer, could be considered to improve availability of inputs and to free up fiscal resources and yield efficiency gains.** While affordable and reliable food supplies are a human right and a legitimate policy objective, the current system of price subsidies for fertilizer and other inputs might not be the most efficient way of achieving this objective. These subsidies are not only costly but they are not targeted and have led to wastage and nutrient imbalances. Price controls at both the wholesale and retail level have undermined the development of commercial distribution systems and have routinely caused undersupply of key inputs. They also distort

price signals on input markets, encouraging farmers to adopt production technologies that would not be viable in a purely commercial environment.

204. **While production incentives might be needed to maintain current production levels, to encourage utilization of inputs and to achieve marginal production increases, there is room for price increases– for fertilizers in particular.** This would have only a marginal impact on average farm-level profitability and thus production levels.⁴⁷ Under any circumstances where input subsidies are deemed necessary, the cost and pricing structure should be made more transparent. Current cross-subsidies through administered prices for natural gas to fertilizer factories and operating losses of BPC on diesel sales are not fully captured in the state budget and, as such, do not compete with alternative expenditure programs. In addition, voucher or coupon systems, instead of direct price controls or subsidies, could improve targeting of subsidies to marginal producers, while at the same time fostering the development of commercially viable wholesale and retail markets for agricultural inputs.

205. **In step with reforms of input markets, policies to achieve food price stability and safeguard food security, especially for vulnerable groups, could be gradually shifted to interventions on the consumption side, such as food aid or cash transfers.** Whether these consumption-side interventions are more efficient than input subsidies depends on the relative costs to the government of acquiring inputs and food and delivering them to eligible households. When food markets work poorly and large parts of the rural poor depend on subsistence farming, distribution of subsidized inputs might be necessary to ensure food security of the rural poor. But when food markets work well, food aid or cash transfers that enable households to purchase food may be more appropriate.

206. **As Bangladesh’s commercial agriculture is growing and food markets develop, shifting support to the consumption side is likely to achieve efficiency gains.** In addition to up-scaling existing food aid programs, this could also pertain to cash transfer programs to poor net consumers to compensate for the income effects of rising or volatile food prices. This would allow households to make dietary choices based on relative costs and nutritional preferences, while at the same time, providing incentives for producers to adjust their outputs to consumer choices.

207. **As reforms of the current system of input subsidies could potentially free up resources, investments in public goods aimed at increasing agricultural productivity could be stepped up and there are a number of areas that promise significant productivity dividends.** However, while the level of expenditure matters, expenditure quality is at least as important, and increases would have to be phased, commensurate with implementation capacity needed to deliver quality expenditure programs. However, in some areas, such as research and development, Bangladesh has an existing infrastructure that has suffered from declining resource availability over the past years and could potentially absorb increases to good effect.

- **Firstly, investments in extension services could help disperse high productivity technologies.** The use of high productivity technologies available in Bangladesh is still limited. As there are significant productivity gaps between modernized and traditional farming, an expansion would potentially raise productivity and production levels. In addition to extension services, some resources could be

⁴⁷ For example, on average, urea fertilizer currently represents only about 2.5 percent of total production costs of rice. If farmers had to pay the current world market price of urea (about Taka 65/kg) Boro rice cultivation would still remain profitable.

invested in the provision of agricultural vocational (for production) and higher education (for research).

- **Secondly, research and development is another area that is likely to produce significant returns, as current spending in Bangladesh is far below that of other countries.** Recent increases in funding allocations to this sector point in that direction.
- **Thirdly, reforms should be introduced aimed at increasing the rural electrification rate.** Since electrically operated irrigation systems are more cost-effective than diesel-powered ones, boosting rural electrification should, therefore, be part of a comprehensive strategy.
- **Fourthly, linking farmers to consumer markets through better rural roads reduces costs of agricultural inputs, as well as marketing costs of outputs, thereby improving farm profitability and reducing consumer prices.** The recent expansion of the rural road network has delivered some returns in this regard, but— as discussed in Chapter 3.3— it is vital to provide sufficient financing to road maintenance that could yield high returns.
- **Finally, the government’s intention to expand the strategic grain reserve is an appropriate response to provide insurance against vulnerability to frequent supply shocks.** The optimal reserve level could be based on a risk profile derived from historic trends in production volatility.