

25192 Vol.1  
2000

**BANGLADESH**

**E D U C A T I O N  
S E C T O R  
R E V I E W**

Volume I

Public Disclosure Authorized

Public Disclosure Authorized

*Also from UPL*

*Zillur Rahman Siddiqui*  
**VISIONS AND REVISIONS**  
Higher Education in Bangladesh 1947-1992

*edited by A Mushtaque R Chowdhury et al.*  
**HOPE NOT COMPLACENCY**  
State of Primary Education in Bangladesh 1999

*edited by*  
*A K Jalaluddin and A Mushtaque R Chowdhury*  
**GETTING STARTED**  
Universalising Quality Primary Education  
in Bangladesh

*Kamal Siddiqui*  
**LOCAL GOVERNANCE IN BANGLADESH**  
Leading Issues and Major Challenges

*edited by*  
*Kamal Siddiqui*  
**LOCAL GOVERNMENT IN SOUTH ASIA**  
A Comparative Study

•  
**LOCAL GOVERNMENT IN BANGLADESH**

*Kamal Siddiqui et al*  
**OVERCOMING THE GOVERNANCE CRISIS IN  
DHAKA CITY**

*Rehman Sobhan*  
**RETHINKING THE ROLE OF  
THE STATE IN DEVELOPMENT**  
Asian Perspectives

*edited by*  
*Hasnat Abdul Hye*  
**GOVERNANCE**  
South Asian Perspectives

*Quazi Azher Ali*  
**DECENTRALISED ADMINISTRATION  
IN BANGLADESH**

*edited by*  
*Abdul Bayes & Anu Muhammad*  
**BANGLADESH AT 25**  
An Analytical Discourse on Development

*edited by*  
*Willem van Schendel & Kirsten Westergaard*  
**BANGLADESH IN THE 1990s**  
Selected Studies

*Mohammad Mahbubur Rahman*  
**BUREAUCRATIC RESPONSE TO  
ADMINISTRATIVE DECENTRALISATION**  
A Study of Bangladesh Civil Service





**BANGLADESH  
EDUCATION SECTOR REVIEW**

**VOLUME I**



# BANGLADESH

## EDUCATION SECTOR REVIEW

Volume I



*Published for The World Bank*

The University Press Limited

The University Press Limited  
Red Crescent Building  
114 Motijheel C/A.  
P.O Box 2611  
Dhaka 1000  
Bangladesh  
Fax : 88-02-9565443  
E-mail:upl@bttb.net.bd  
Website: www.uplbooks.com

First published 2000

© The World Bank 2000

*All rights are reserved. No part of this publication may be reproduced or transmitted in any form or by any means without prior permission of the publisher. Any person who does any unauthorized act in relation to this publication may be liable to criminal prosecution and civil claims for damages.*

*The judgments made in this report do not necessarily reflect the views of the World Bank's Board of Executive Directors or of the governments they represent.*

*Cover design by Ashraful Hasan Arif*

ISBN 984 05 1570 5

Published by Mohiuddin Ahmed, The University Press Limited, Red Crescent Building, 114 Motijheel C/A., Dhaka 1000. The text has been set in Palatino by Shishir Bose of Mark Printing & Packaging, 618/1 North Shajahanpur, Dhaka 1217. Printed at The Laminators, Gandaria, Dhaka.

## Contents

<i>Acronyms</i>	ix
<i>Basic Data</i>	xiii
<i>Definitions</i>	xv
<i>Organization</i>	xv
<i>Preface</i>	xvii
<b>EXECUTIVE SUMMARY</b>	1
<b>I. INTRODUCTION: BANGLADESH IN 2020</b>	7
A. Status and Progress Achieved	7
B. Bangladesh in 2020	8
1. <i>Human Development Requires Sustained Progress in Education</i>	8
2. <i>Economic Development, Depends Importantly on Education</i>	9
<b>II. A VISION FOR EDUCATION AND TRAINING IN 2020</b>	10
A. The Vision	10
B. Implications for Current Strategic Priorities	11
<b>III. STRENGTHEN, WIDEN AND DEEPEN BASIC EDUCATION</b>	12
A. Stronger Basic Education: Raise the Quality of Learning Achievements	12
B. Widen Basic Education: Close the Gaps in Coverage	15
1. <i>Increase Coverage and Completion Rates for School-Age Youth</i>	15
2. <i>Expand and Improve NFE for Those Bypassed by The Formal System</i>	16
C. Deepen Basic Education: Extend it from Five to Eight Years	18
<b>IV. REORIENT AND EQUALIZE THE PROVISION OF SECONDARY EDUCATION</b>	19
A. Strengths	19
B. Issues	19
C. Principles	20
D. Strategy	20
<b>V. TRANSFER VOCATIONAL SKILL TRAINING TO THE PRIVATE SECTOR</b>	22
A. Strengths	22
B. Issues	22
C. Principles	23
D. Strategy	24
<b>VI. RATIONALIZE, REFORM AND REVITALIZE HIGHER EDUCATION</b>	25
A. Status and Strengths	25
B. Issues	25
C. Principles	26
D. Strategy	27

<b>VII. VASTLY INCREASE PUBLIC FINANCING OF EDUCATION AND TRAINING</b>	29
A. Issues	29
B. Principles	30
C. Strategy	30
<b>VIII. MANAGE THE SYSTEM BETTER</b>	32
A. Issues	32
B. Principles	32
C. Strategy	32
<b>IX. SUMMING UP</b>	35
A. Relevance and Quality	35
B. Equity	37
C. Finance and Management	38
<b>X. ANNEX</b>	39
Annex 1: Structure of the System of Education and Training	39
Annex 2: Organizational Chart of the Ministry of Education	40
<b>LIST OF FIGURES</b>	
1 : Inter-Generational Impact of Educating Girls	8
2 : Achievement Levels by Grade Completed (All Four Basic Levels)	12
3 . Basic Minimum Learning Attainments by Subject: Children Completing Fifth Grade (1992)	12
4 : Factors in School Quality	14
5 : Share of Benefits from Public Spending on Education (1994)	27
<b>Part One</b>	
<b>BANGLADESH: SOCIOECONOMIC DEVELOPMENT AND THEIR IMPLICATIONS FOR EDUCATION</b>	41
<b>EXECUTIVE SUMMARY</b>	43
A. Population and Demographic Trends	45
B. Economic Developments	46
C. Poverty Trends	48
D. Labor Market	50
E. Potentials and Constraints	52
F. Implications for Education and Training	53
<b>REFERENCES</b>	55
<b>LIST OF TABLE</b>	
1.1 : Population Projections by School Age Groups (No In Millions)	45
<b>LIST OF FIGURES</b>	
1.1 . GDP Growth	46
1.2 : Structure of GDP	47
1.3 : Poverty Incidence: The Very Poor, 1983—84 to 1995—1996	49
1.4 : Distribution of the Labor Force	50

**Part Two**  
**BANGLADESH: EDUCATION FINANCE** 57

<b>EXECUTIVE SUMMARY</b>	59
A. Spending	62
B. The Composition of Public Expenditure	65
C. Education Expenditure Norms	66
D. Equity in the Distribution of Public Resources for Education	70
E. Private Expenditures on Education	72
F. Developing a Sustainable Strategy for Education Financing	75
G. Conclusions	84
<b>ANNEX</b>	88
A. Private Financial Returns to Education—Evidence from Bangladesh	88
B. Expenditures on Education by Level and Composition	94
C. Results of Surveys of Institutions	97
D. Education Statistics	98
E. Simulations under Different Scenarios	99
F. List of Questionable Education Projects in FY99 ADP	108
<b>REFERENCES</b>	109
<b>LIST OF TABLES</b>	
2.1 : Trends in the Level of Central Government Expenditure on Education	63
2.2 : Percentage Distribution of Public Revenue and Development Expenditures on Education by Sub-Sectors	63
2.3 : Share of Education and Primary Education in Total Development Spending	64
2.4 : Composition of Public Current Expenditures in Primary Education	65
2.5 : Unit Costs in Education by Level	68
2.6 : Tuition Fees in Tertiary Government Institutions	72
2.7 : Distribution of Cumulative Public Spending on Education	73
2.8 : Average Household Expenditure by Gender and Level of Education	73
2.9 : Percentage Composition of Household Expenditure on Education	74
2.10: Resource Requirements for Expanding Coverage and Improving Quality (% of GDP)	79
2.11: Resource Requirements for Expanding Coverage and Improving Quality (% of Budget)	80
2.12: Objectives and Means for Education Finance	82
A-1 : Characteristics of the Sample	90
A-2 : Earnings Functions Results for All and by Sex, Residence, and Age	90
A-3 : Extended Earnings Function Results for All and by Gender and Residence	92
B-1 : Public Recurrent Expenditure by Level of Education	94
B-2 : Public Development Expenditure by Level of Education	94
B-3 : Composition of Public Recurrent Expenditure on Secondary and Higher Education	95
B-4 : Composition of Public Recurrent Expenditure on Technical Education	95
B-5 : Annual Expenditure Per Student in Public Universities	96
B-6 : Mean Student Expenditure and Percentage by Grade Level	96
C-1 : Mini-Survey Results: Primary Schools	97
C-2 : Mini-Survey Results: Secondary Schools	97
D-1 : Number of Students in Primary Schools by Grade & Gender, 1990-95	98

D-2: Secondary Schools (Junior+High) Enrollment by Grade and Sex, 1993-97	98
D-3: No. of Institutions, Teachers and Students of Junior Secondary and Secondary Schools-1997	99
D-4: Ratios of Teachers-Institutions and Students-Teachers	99
E-1 : Maintaining Current Coverage and Quality	99
E-2 : Universal Five Years by 2008 at Existing Quality by 2003	100
E-3 : Universal Eight Years by 2008 at Existing Quality and Trends	101
E-4 : Universal Five Years by 2008 with Investments in Improving Primary Quality	103
E-5 : Universal Eight Years by 2008 with Investments in Improving Primary Quality	104
E-6 : Universal Eight Years by 2008 with Investments in Improving Primary and Lower Secondary Quality	105
E-7 : Universal Eight Years and 50 percent Coverage of Secondary Age Cohort by 2008 with Investments in Improving Primary and Lower Secondary Quality	106
E-8 : Universal Eight Years and 50 percent Coverage of Secondary Age Cohort by 2008	107
F-1 : List of Questionable Education Projects in FY99 ADP (Tk. in million)	108

**LIST OF FIGURES**

2.1 : Trends in Education Expenditure as a % of GDP	62
2.2 : Unit Cost and Enrollment in Primary School	68
2.3 : Unit Cost and Enrollment in some Non-Government Secondary Schools	69
2.4 : Determinants of Unit Costs in Primary and Secondary Schools	69
2.5 : Cost per Student as percent of GNP per capita by Level	72
2.6 : Annual Marginal Rates of Return by Levels of Education	74
2.7 : Resources Required for Education Under Alternative Scenarios	79
A-1: Annual Marginal Rates of Return by Levels of Education	92

**LIST OF BOXES**

2.1 : Options Regarding the Future of the Female Stipend Program (FSP)	86
2.2 : The Food for Education Program (FFE)—Should it Continue?	87

## *Acronyms*

ADAB	Association of Development Agencies in Bangladesh
ADEO	Assistant District Education Officer
ADB	Asian Development Bank
ADP	Annual Development Program
AED	Academy for Educational Development
ATEO	Assistant Thana Education Officer
APNTS	Association of Private Non-Profit Trade Schools
BA	Bachelor of Arts degree
BANBEIS	Bangladesh Bureau of Educational Information and Statistics
BAU	Bangladesh Agricultural University
BBS	Bangladesh Bureau of Statistics
BEd	Bachelor of Education degree
BERNET	Bangladesh Education and Research Net
BGMEA	Bangladesh Garment Manufacturer's Export Association
BINP	Bangladesh Integrated Nutrition Project
BISE	Board of Intermediate and Secondary Education
BIT	Bangladesh Institute of Technology
BMET	Bureau of Manpower, Employment and Training
BOU	Bangladesh Open University
BRAC	Bangladesh Rural Advancement Committee
BSc	Bachelor of Science degree
BUET	Bangladesh University of Engineering and Technology
CAMPE	Campaign for Popular Education
Caritas	Catholic Relief Services
CBN	Cost of Basic Need
CPD	Center for Policy Dialogue
CPEIMU	Compulsory Primary Education Monitoring Unit
DAM	Dhaka Ahsania Mission
DEO	District Education Officer
DFID	British Aid Agency
DIA	Directorate of Inspection and Audit
DNFE	Directorate of Non formal Education
DPE	Directorate of Primary Education
DPEO	District Primary Education Officer
DSHE	Directorate of Secondary and Higher Education
DTE	Directorate of Technical Education
ECCD	Early Childhood Care for Development
ECD	Early Childhood Development
ECE	Early Childhood Education
EER	Education Expenditure Review
EFA	Education for All

EPZ	Export Processing Zone
FWC	Family Welfare Center
FDI	Foreign Direct Investment
FFE	Food for Education
FSP	Female Stipend Program (also known as the Female Secondary Scholarship Program)
FY	Fiscal Year
GB	Governing Body
GEP	General Education Project
GDP	Gross Domestic Product
GNP	Gross National Product
GOB	Government of Bangladesh
GSS	Gono Shahajo Sangstha
HCEF	Human Capital Earnings Function
HDI	Human Development Index
HEI	Higher Education Institution
HES	Household Economic Survey
HSC	Higher Secondary Certificate
HSEP	Higher Secondary Education Project (ADB)
IDA	International Development Association
IGA	Income Generating Activities
IDA	International Development Association
ILO	International Labor Organization
INFEP	Integrated Non formal Education Program
IRR	Internal Rate of Return
IsDB	Islamic Development Bank
KG	Kindergarten
LGED	Local Government Engineering Department
LSMS	Living Standard Measurement Survey
MAWTS	Mirpur Agricultural Workshop and Training School
MCWC	Maternal and Child Welfare Center
MOE	Ministry of Education
MEd	Master of Education degree
MOLM	Ministry of Labor and Manpower
MPhil	Master of Philosophy degree
MPO	Monthly Payment Order
NAEM	National Academy for Educational Management
NAPE	National Academy for Primary Education
NCTB	National Curriculum and Textbook Board
NCSDT	National Council for Skills Development and Training
NEP	National Education Policy
NFE	Non formal Education
NGO	Non-Governmental Organization
NNP	National Nutrition Program
NORAD	Norwegian Agency for Development
NU	National University
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
O&M	Operation and Maintenance
PA	Poverty Assessment
PEDP	Primary Education Development Program
PEM	Deficiency in protein, energy and nutrition

PER	Personal Expenditure Review
PKSF	Palli Karma Shahayak Foundation
PMED	Primary and Mass Education Division
PROMOTE	Program for Motivation, Training and Employment of Female Teachers (EU)
PTA	Parent-Teachers' Association
PTI	Primary Training Institute
SIDA	Swedish International Development Association
SDC	Swiss Development Corporation
SEDP	Secondary Education Development Project
SESIP	Secondary Education Sector Improvement Project
SMC	School Management Committee
SSC	Secondary School Certificate
SSESP	Secondary Science Education Sector Project (ADB)
TEB	Technical Education Board
TK	Taka
TLM	Total Literacy Movement
TNO	Thana Nirbahi Officer
TTC	Teacher Training College
TTC	Technical Training Center (MOLM)
TTTC	Technical Teacher Training College
TVET	Technical-vocational education and training
UCEP	Underprivileged Children's Education Program
UGC	University Grants Commission
UNDP	United Nations Development Program
UPE	Universal Primary Education
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
VTE	Vocational-technical education
VTI	Vocational Training Institute
VTTI	Vocational Teacher Training Institute



### *Basic Data*

1. Total Population (1998) : Total (in million) = 126  
Male (in million) = 64.8  
Female (in million) = 61.2
2. Population Per Sq. Km. (1998) : 854
3. Population Growth Rate (1998) : 1.8%
4. GDP Per Capita (1998) : Tk. 17325 = US\$ 350
5. Administrative Boundaries and Average Population Per Unit:

<b>Administrative Unit</b>	<b>Number</b>	<b>Average population 1991 (000s)*</b>
Division	6	18 566.7
Zila	64	1 741.5
Thana	496	224.7
Union	4 450	25.0
Household	19 980 000	5.6

\* adjusted for undercounting

6. Taka-US\$ Exchange Rate (2000) : US\$ 1.00 = Tk. 52.40



## *Definitions*

Some of the key concepts and definitions used in this review.

- "Quality" of education means levels of student achievement that meet defined minimum standards
- "Management" of education involves defining strategic objectives, setting standards, mobilizing and allocating resources to achieve strategic objectives, monitoring outputs and controlling implementation to achieve priority goals.
- "Administration" of education is concerned with bureaucratic processes, e.g. controlling inputs, handling personnel (e.g. hiring, transferring, control on the job and firing staff), budgeting, etc.
- "Non-governmental institutions". After considerable discussion with government, it was agreed that the term 'non-governmental institution' would be used throughout the Review to denote a range of organizations, namely: community-based organizations (CBO), private voluntary organizations (PVO) and non-governmental organizations (NGOs), many of which accept external financing. Where the term 'NGO' is used it refers explicitly to such organizations that receive external financing
- "Curriculum". Organized learning content This can be viewed from two perspectives, (1) the formal content of education on paper, such as written objectives, syllabus and lesson plans; and (2) the content that is actually transmitted in the classroom, or the 'delivered curriculum.' The two are often not the same.
- "Performance-based incentives". Linking financing to achievement of improvements up to a pre-defined standard. This does not mean to stop financing under- or non-performing institutions, since this cannot be done easily in the public sector, but rather rewards for good results.
- "Normative financing". Provision of finance according to a formula linked to standards, or norms. Per student financing, in which a school receives subsidies for each student enrolled, is an example of normative financing.

## *Organization*

This comprehensive Education Sector Review has been printed in three separate volumes. Volume I contains the Main Report and additional papers on Socioeconomic Development and Its Implications For Education and Education Finance. Volume II describes Primary and Pre-Primary Education, Non-Formal Education and Secondary and Higher Secondary Education. Volume III focuses on Technical-Vocational Education and Training and Higher Education.



## *Preface*

This education sector review sets out a possible vision for education and training in Bangladesh through the year 2020, analyzes the main issues in the sector, and presents some principles and options by which to bring the vision into reality.

**Origins and Process of the Review.** This review is the product of two missions and multiple discussions with interested parties in Bangladesh. The inspiration for the review stemmed from an agreement between the President of the World Bank, Mr. James Wolfensohn, and the Prime Minister, the Hon. Sheikh Hasina, in October 1997. They agreed that a long-term vision should be prepared for the education sector. This vision would serve as a basis for discussion among Bangladesh stakeholders and between the government of Bangladesh and its development partners on the priorities for development of the sector. The work on the education sector review was carried out under contract with the Academy for Educational Development in Washington, D.C. Two missions took place, in June and September 1998, to investigate issues and solicit views about the education system. During those missions it was learned that the government was currently undertaking the formulation of National Education Policy with the collaboration of myriad committees on specific aspects of education and training. The draft Policy was further taken up by an Implementation Committee to work out a plan for putting the recommended policies into place. In addition, the Asian Development Bank had commissioned a broad survey of secondary education, including a review of management, evaluation, decentralization, planning, information systems and teacher training. The schedule of work for the education sector review by the World Bank was deferred to allow time for these other activities to be completed and thus inform its work.

A preliminary review of the findings of the education sector review was held in Dhaka in December 1998 and concentrated on the three sub-sector reports available at the time, namely non formal education, technical-vocational education and training and higher education. The sector review was used as the basis for preparation of an overall education policy note in February 1999 for discussions at the Bangladesh Development Forum meeting in Paris in April, 1999. The review also benefited from a wide range of consultations with stakeholders in Dhaka in July 1999 on the draft report, including government officials, business representatives, private sector providers and donors.

**Purposes and Limitations of the Review.** The main purpose of the review is to identify issues and alternatives, and to stimulate debate about priorities. Ultimately it may also serve as a basis for identification of future investment priorities both for the government and for its development partners. The review takes a long term perspective, the next two decades up to 2020. It looks both at strengths and achievements as well as pointing out weaknesses and areas for improvement. It makes no pretense of setting policy, which is the sole prerogative of government. It suggests strategic directions, but does not say how to get there. It is not a road map or an implementation plan. After consideration of the issues, alternatives and possible strategies, the review needs to be followed by extensive action planning for areas identified as priorities and for which such plans do not yet exist.<sup>1</sup>

---

<sup>1</sup> Action plans do exist in some areas that are the subject of external donor assistance, e.g. PEDP and the SESIP

**Organization of the Report.** The Review is organized into two major parts:

- **Main Report:** The Main Report synthesizes the findings from the detailed review of the various parts of the system of education and training. The Main Report starts with a look at Bangladesh in 2020 from which is derived a vision for education and training in 2020. Six main areas for action are identified to realize this vision. The current status, issues, principles and strategy for change are discussed under each area. It concludes by summing up the principal themes of the analysis.
- **Background Reports:** The background papers of the education sector review present a detailed analysis of the various parts of the system. The first background paper analyzes socioeconomic developments and the second analyzes education finance. The subsequent five papers look at the key sub-sectors, including primary, non-formal, secondary, technical-vocational and higher education. Each sub-sector paper concludes with a possible strategy of objectives and means.

The Bank wishes to express its appreciation to all persons in Bangladesh who participated in the work of the education sector review, provided assistance and gave their time and views. However, any errors of fact or interpretation are those of the authors. The views expressed herein do not necessarily reflect the views of the World Bank Group.

This report was prepared initially under the task team leadership of Himelda Martinez and carried through by Richard Johanson (Consultant, Education Specialist, technical-vocational training and higher education). Contributing members of the team included: Zahid Hussain (Bank Senior Economist, socioeconomic background and education finance); Scherezad M. Latif (Bank Education Specialist, primary and secondary education); Sumaiya Andaleeb (Bank Research Assistant); Milia Ali (Bank Education Specialist, non-formal education); Habibur Rahman (Bank Education Specialist, early childhood education); Ana Maria Jeria (Bank Senior Human Resources Specialist, non-formal education) and Nazma Sultana (Bank Program Assistant). The authors acknowledge the very useful comments received from the peer reviewers Peter Russell Mook (Bank Principal Economist); Adriaan M. Verspoor (Bank Lead Specialist, Education); John Middleton (Bank Lead Specialist, Education); and Muzaffer Ahmed (Professor, Dhaka University). Overseeing the report were Wm. Bradford Herbert, Bank Social Sector Team Leader in Dhaka, who is also the contact point for matters related to this report, and Ralph W. Harbison, Bank Sector Director, Education Sector, South Asia Region.

## EXECUTIVE SUMMARY

Bangladesh has come a long way since independence nearly 30 years ago. Per capita income has grown from \$100 to \$350 and social indicators have improved. Bangladesh has also recorded outstanding progress in education. Enrollments cover 90% of the primary school age group, 44% at lower secondary and 27% at secondary. Almost as many girls are enrolled as boys in primary and lower secondary. Yet Bangladesh has a long way to go in terms of human development in the 21<sup>st</sup> century. Among other things, 70% of the children under the age of five are underweight.

By 2020 Bangladesh will have a population of 170 million, almost a quarter more than at present. Despite reducing the population growth rate from more than 3% to 1.8%, it is necessary to reduce the rate further to 1.15%. Education, especially of girls, is an important means to this goal, and will also help reduce infant mortality rates and shrink the proportion of very poor in the population from 36% at present to a target of 11% by 2020. Growth prospects are favorable and GDP/capita could reach \$650 by 2010 and \$1200-1300 by 2020. One of the biggest challenges will be to accommodate a labor force twice the size of today, and create 2.3 million new jobs per year. As the structure of the economy orients itself to manufacturing and the global market substantially greater investment in human capital is needed to ensure the transformation from low to high growth, responding to the demand for a more literate and numerate workforce.

A clear vision for education and training flows from this view of Bangladesh in 2020. The benefits of reduced population growth will mean five million fewer children age 6-13. Bangladesh will have achieved universal primary enrollment of five years by 2010 and of eight years by 2020. This will be complemented by extensive non-formal education that is expected to help raise adult literacy to about 90% over the next two decades. One of the biggest challenges will be the move from an elitist system of general secondary education to mass secondary education accommodating about 40% of the age group 12-16. In view of the social benefits, full gender parity will have been achieved. Predominately non-government ownership and management will prevail in secondary education as will large class sizes. By 2020 the government will have gotten itself largely out of vocational training in exchange for employer organization and management and non-government delivery. Private universities will enroll up to a third of students and the government will concentrate its efforts on areas not covered by private institutions, namely science and technology, graduate education and research. At all levels the content will have been adjusted to fit needed life skills for students terminating and entering the labor market.

Six actions are needed to realize this vision for 2020:

- (a) Build a stronger, wider and deeper foundation of basic education;
- (b) Reorient and establish secondary education on a more equitable footing;
- (c) Transfer vocational skill training to non-government providers;
- (d) Rationalize, reform and revitalize higher education;
- (e) Vastly increase public financing of education; and
- (f) Manage the system better.

These are explained in sequence below.

**(a) Strengthen and Deepen Basic Education**

The number one problem in Bangladesh education today is low learning achievements in primary education. Most students leave grade 5 without achieving the minimum basic skills in numeracy and literacy. Insufficient information exists about actual learning, but two studies in the early 1990s showed that only 20-35% of students completing grade five were able to pass minimum tests in reading, mathematics and writing. Girls on average performed 10% below boys on these already low scores. Low effective learning time for students, or "time on task", explains much of the low performance. Low time on task, in turn, is explained by "irregular presence" of teachers. Improving quality across the country is a difficult task, but should involve five cost-effective elements: (1) better measurement of learning outcome, (2) better accountability and supervision through local control, (3) more intensive training of school directors, (4) better and better textbooks, and (4) continuous in-service teacher training. Several home grown non-government organization models have been highly effective using these five key inputs. Elements of a strategy for quality improvement already have been incorporated in the Primary Education Development Program (PEDP). Top priority should be accorded to its implementation, but it will take additional investment and decades to overcome the problems fully.

Another priority is to close the gap in coverage of basic education. About 10% of eligible children do not enroll, including about half of the children of the very poor. About 40% of those who enter drop out before completing grade five. Strategies for closing the gap need not entail major new expenditures, but should focus on reducing the direct and opportunity costs of school attendance. Early childhood programs hold special promise for enrolling the economically hard-to-reach. However, early childhood education is expensive and should be targeted to low-income families. Review of results elsewhere and experimentation should precede expansion of early childhood programs. Improvements in primary school quality is also an effective stratagem to attract and retain more students in the system.

Non-formal education has made an impressive start in addressing the educational needs of adults bypassed by the formal system. Four investment projects currently under implementation target 34 million learners. More than three hundred non-government institutions currently deliver non-formal programs on behalf of the government with public financing. However, the rapid expansion of non-formal programs has stretched the capacity of both the government and private providers and the current lack of evaluation results makes it difficult to ascertain the learning outcomes of each program. Actions to ensure broader coverage and quality of nonformal education in the future include: development of better information and evaluation systems; staff training programs of the DNFE partner institutions, and the development of post-literacy, continuing education and equivalency programs. The success of primary and non-formal education programs will cause the focus to shift to new areas in the medium to long term, such as skills for income generation. Efforts should therefore be made to develop a long term vision and strategy to chart the future course for non-formal education.

It is not an immediate priority over the next decade, but basic education will need to be extended from five to eight years. This change is complex, involving difficult questions of structure, management and financing. Planning should start early, including experimentation with different models, to ensure effective implementation of the extension.

**(b) Reorient and Equalize Secondary Education**

The second overall priority, after basic education, is to reorient secondary education and equalize access to it. The most important issue for secondary education is the irrelevance of the curricula. Secondary education functions almost exclusively at present to ration access to higher education. It has no independent purpose of its own. Fewer than one in ten entering students completes the full secondary program. The other nine

leave the system without preparation in life skills<sup>2</sup>. Bangladesh also fails to provide equal access to quality secondary education and outcomes in terms of equal geographical coverage and distribution of inputs. Fees for out-of-school tutoring place an undue burden on poorer parents and undermines equity goals. Poor quality is a function of exceptionally large class sizes averaging 56 students coupled with lack of sufficient teaching materials, lack of accountability for results and perverse incentives (e.g. subventions by government not linked to performance or even minimal results). A strategy for secondary should be based on the principles that secondary should prepare the terminating students with useful life skills; quality should take precedence over expansion; equal access should be ensured to resources and outcomes, especially for girls and poorer segments, and private ownership and management should be preserved in view of its flexibility and innovation. The strategy should seek: (1) greater relevance and equity through reform in programs and content; reform in examinations including reorientation to problem solving; rechanneling private spending on outside tuition into more productive in-school purposes and maintain the Female Scholarship Program; (2) improve quality through techniques for teaching large class sizes more effectively, establishment of incentives for innovation and school improvement plans and investment in better and better textbooks; (3) strengthen management and finance by rationalizing public spending through normative financing and equalizing allocations per student; linking subventions to performance criteria and better spatial planning of schools. Finally, the government should work hard at training headmasters in view of their pivotal role in quality of school outcomes.

#### **(c) Transfer Skill Training to the Private Sector**

The main problem with technical-vocational education and training (TVET) is lack of linkages to employers and the job market. In contrast with relatively weak performance of government institutions, the private sector has demonstrated (albeit on a very small scale) its capacity to achieve high quality and employment rates. TVET is provided at present almost exclusively to males in grades 9-10 of the formal system. Underprivileged youth do not have access to the skills they could help improve their incomes and standards of living. Over the medium to long term the best hope for a vibrant system of skill training is to turn it over to the private sector. This would mean (a) establishment of an independent training authority, owned, managed and financed for the most part by enterprise associations; and (2) non-government delivery of publicly financed skill training for disadvantaged youth. The government would concentrate on development of policies, instructors, teaching materials, standards and monitoring and would continue to finance training to be delivered through other organizations. In the interim, the government should decentralize authority to public training managers, letting them find their own markets and financing.

#### **(d) Rationalize and Reform Higher Education**

Despite its traditional strengths, higher education is in deep trouble. The composition of outputs is particularly weak in science and technology, producing only 2% of the graduates in these fields in 1996. Research absorbs only about one percent of public university budgets. Equity is an issue. Non-poor households capture about 85% of the benefits of higher education even though they occupy only about a third of the population. In addition, these beneficiaries tend not to share the costs. Universities receive only one percent of their income from student tuition. Within universities governing bodies are dominated by teachers and lack representation of society at large that financed their activities. Centralized bodies, such as the UGC are relatively powerless in enforcing standards. Weak accreditation of degree colleges by the NU allowed a proliferation of degree colleges of indifferent quality, with class sizes averaging about 70 students. Equipment and teaching materials are in short supply. In short, the gap is widening rapidly between institutions in Bangladesh and those abroad. The strategy for the future should be based on four principles: (i) the government should actively promote private universities as a partner in the higher education process because of innovation, quality and savings they entail for public expenditures; (ii) the government should concentrate its efforts on those areas not typically addressed by private institutions, including science and

technology, graduate studies and research; (iii) beneficiaries should share in the financing of higher education because it helps mobilize resources and is equitable; and (iv) quantity without quality is a prescription for national disaster. The strategy should, accordingly, (1) rationalize higher education by implementing a clearer division of labor between the public and private sector; ease the current restrictive regulations controlling private universities; rationalize degree colleges through stricter accreditation and consolidation; reduce the dependence on public financing by mobilizing non-public resources including cost sharing with students; make expenditures more efficient through normative financing; (2) reform management by strengthening the powers of the UGC, reviewing and modernizing university statutes and strengthening the role of the vice chancellor; (3) revitalize higher education by investing heavily in information technology and using it to keep pace with knowledge generation worldwide.

#### **(e) Vastly Increase Public Financing of Education and Training**

Spending on education has leveled off and even decreased slightly as a percentage of budget and GDP in recent years after significant increases in the first half of the 1990s. Spending goes almost exclusively for teachers and little is left for spending on essential pedagogical inputs. The costs per student in primary schools, non-government secondary schools and colleges are among the lowest in the world, both absolutely and in relation to GDP/capita. Even this low spending per student varies widely among schools. Essentially the government has been able to increase enrollments by following a "low-cost, low quality" strategy that places an inordinate burden on parents. Private spending on education is enormous, but is not directed at the most fruitful investments, particularly private out-of-school coaching for examinations that starts even at the primary level. The good news is that the government can probably achieve universal primary education as well as needed quality improvements at that level without increasing the proportion of GDP devoted to education. This possibility is explained mainly by the projected decrease in primary school-age population over the next 20 years. This optimistic scenario, however, does not allow for badly needed quality improvements at the middle and higher levels. Principles on which a new strategy can be based include the following: (i) the duty of the state is to finance quality basic education for all, help underprivileged students attend higher levels and ensure equal distribution of resources in the system; (ii) public payments for education should be linked to performance; (iii) beneficiaries should help finance post-basic education to the maximum extent possible; and (iv) the government should enable private institutions to flourish. A financial strategy to achieve the vision for 2020 should have three elements: (1) Public resource mobilization: Increase budgetary allocations from the current 2.1 percent of GDP to about 3 percent by 2003 and 4 percent by 2008 to achieve universal eight years of basic education and improvements in quality. Quality improvements at post-basic levels would be additional. (2) Private resource mobilization: Finance improvements in post-basic education through greater cost sharing with beneficiaries. This is equitable because of the substantial private benefits realized and the higher family incomes of students at those levels. (3) Free resources through improved efficiency: Resource allocations should be linked to performance, and normative schemes—such as paying schools for each student enrolled—could both reduce waste and increase equity. Spending should also be concentrated on the most cost-effective inputs, such as better textbooks and training of school directors.

#### **(f) Manage the System Better**

This review does not underestimate the difficulty of taking action on these broad fronts. It is relatively easy to identify what needs to be done, but hard to get organized to do it. In the final analysis, virtually everyone agrees that the most pressing constraint and challenge is better management of the sector. At present management is highly centralized for primary education and technical-vocational education, practices only loose supervision at secondary level and weakly controls the university level. In the future management control should shift gradually from inputs to outputs from the system. Incentives should be used more to achieve higher outputs. Management control should be moved from the center to be located as close as

possible to where teaching takes place. The role of the central government should shift to focus on policy, establishment of standards, performance measurement and less on the actual delivery of educational services. The government should see its role change from the exclusive delivery of education to financing the best delivery from a wide range of educational providers, both public and non-government.

### **SUMMING UP**

Bangladesh has an excellent record of progress in education since independence, but it has to press even harder to achieve the vision for education and training in 2020. Simply expanding coverage at present levels of quality will not be a challenge for Bangladesh's resources. The biggest challenge for the future is quality at all levels and in all meanings of the word. Acceptance of present quality levels rather than pushing ahead, would be a prescription for national disaster and would ensure that Bangladesh could not survive and prosper beyond the first few decades of the twenty-first century in an open, interdependent, and knowledge- and skills-driven global economy. Quality improvement means that students at all levels of the system need to learn markedly different things from what they are currently being taught, and—above all—they must vastly improve their mastery of the reoriented teaching programs. At present, less than half the primary school graduates attain basic literacy and numeracy by the end of grade five. This is nothing short of a national tragedy. Achieving better quality requires many things, but the starting point is a systematic assessment of learning—measuring outcomes of the system at all levels on a continuous basis and feeding the results into the educational process. Another significant challenge is to root out inherent inequities in education that still discriminate against girls and children from poorer families. More finance and better management are the means to better quality and equity. The government's previous policy of low cost and low quality simply will not suffice for the next generation. Public spending on education must double as a share of GDP over the next decade. Better management means organizing delivery of education differently. The Ministry should focus on policy, standards and measuring performance; devolve authority as closely to schools as possible, use effective non-public institutions to deliver publicly-financed services, and hold all providers accountable for results.



## I. INTRODUCTION: BANGLADESH IN 2020<sup>1</sup>

### A. STATUS AND PROGRESS ACHIEVED

1. Bangladesh has come a long way in the nearly 30 years since independence. Real GDP/capita has grown at about two per cent per year over the past two decades. Per capita income has grown from less than \$100 to \$350. Social indicators, such as infant mortality, fertility rates, life expectancy, and access to safe drinking water have also improved remarkably. Bangladesh has had by far the most successful population program among the world's 20 poorest countries. The population growth rate has fallen from over 3 percent per year in the 1970s to less than 2 percent in the 90s. Bangladesh achieved impressive results in the 1990s in increasing the child immunization rate from 10 to 70 percent.

2. Bangladesh has also recorded outstanding progress in education. Perhaps the greatest strength of education in Bangladesh is the consistent high level national commitment and consensus on the priority of primary education. As a result of this commitment and the programs it spawned, Bangladesh has achieved one of the largest centralized systems of primary education in the world. In the five years between 1992 and 1997 the number of primary schools burgeoned by more than half from 50,300 to 77,600 and enrollments increased by 41%. Enrollments net of overage students now cover 85% of the age group in regular schools. If schools run by non-government institutions are included, enrollments increase by a further 2 million to a total of almost 20 million. Secondary education doubled from 18% of the age group to about 35% over the past 15 years. Progress in girls' education stands out. The proportion of girls enrolled at primary level increased from 37% in 1980 to virtual parity with boys in 1995, and the share of girls in secondary education nearly doubled from 24% to over 45% during the same period. Bangladesh does much better than other countries in South Asia in enrolling students from poor families. About 70 percent of the eligible children from poor families enroll in primary education. These achievements are all the more striking given that most of the parents are illiterate. About 70 percent of the mothers and 50 percent of the parents of children currently enrolled in school cannot read or write. In comparison with neighboring countries, educational attainment is much more evenly spread among income groups. A comparison of the median grade completed by income groups shows that the gap between richest and poorest children is about five grades, compared with a gap of nine grades and ten grades in Pakistan and India, respectively. Other noteworthy areas include establishment of an extensive network of non-formal education centers for adult education. Another major innovation has been the use of non-government institutions for delivery of government and donor-financed non-formal programs. In higher education, private universities were allowed for the first time in the early 1990s and currently enroll about 10% of all university students.

3. Yet, Bangladesh has a long way to go in the 21<sup>st</sup> century in developing its people, its economy and its education system. Bangladesh is still one of the poorest countries in the world. Nearly 35 percent of the population live in hard core poverty, 8.5% of newborns die at birth, 67 percent of children under five are underweight and only 15 percent of the population has access to electricity. The infant mortality rate—an

---

1 See Volume I, Socio-Economic Development and Its Implications for Education

indicator also closely related to female literacy—is one-third above India's and six times that of Sri Lanka. Malnutrition among children is particularly acute. About 70 percent of Bangladeshi children below age five are underweight, compared with 40 percent in Pakistan and Sri Lanka. "Child malnutrition is so pervasive that it amounts to a natural disaster. Over 90 percent of all children suffer some degree of malnutrition. More than one-quarter of them are stunted."<sup>2</sup>

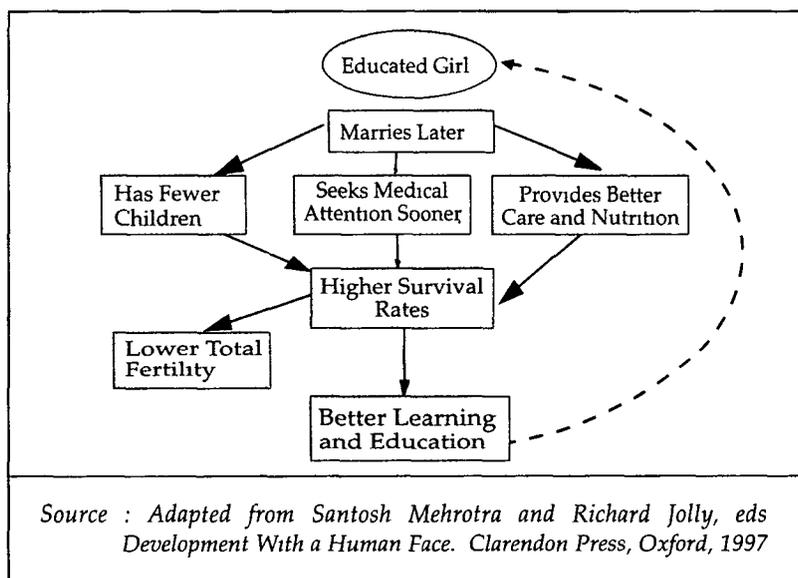
**B. BANGLADESH IN 2020**

**1. Human development requires sustained progress in education.**

4. The education of girls is particularly crucial for the achievement of targets in population reduction, health and poverty reduction. The intergenerational power of girls education is shown below in Figure 1.

5. Reductions in the rate of population increase must be sustained and accelerated. The target is to reach a replacement fertility rate by 2010 (about 1.15 percent compared with the current 1.82 percent). Achieving this objective would still mean 40 million more people and a population of 170 million by 2020. The role of education in reduced fertility is clear: reductions in fertility rates are noticeable even among women with minimal education. Women with primary education have fewer children than mothers with no education and this is especially true for women with secondary education.

**Figure 1: Inter-Generational Impact of Educating Girls**



6. The vision for 2020 calls for reducing the infant mortality rate from about 73% to 38%, and halving the malnutrition rate from 80 per thousand live births in 1995 to 38 per thousand and the elimination of micronutrient malnutrition through dietary changes and food fortification. Since disease patterns, morbidity, and mortality are related to poverty, public health initiatives have to focus on the basic needs of poor families with special emphasis on maternal and child health. Education of girls and mothers is an essential ingredient in the formula for such improvements. Health practices and participation in health clinics increase with education.

7. The overall target is to reduce the incidence of the very poor from 36% of the population at present to 11% by 2020. Even a modest exposure to education has been found to reduce poverty levels substantially in Bangladesh. When the head of a household has only one to four years of schooling, the likelihood of that household being below the poverty line declines by as much as 37 percent and per capita consumption increases by 20%, even though the education raises the household incomes only modestly. Lower secondary education reduces the probability of living below the poverty line by over 50%.

2 The World Bank and Bangladesh Centre for Advanced Studies 1998 *Bangladesh 2020. A Long Run Perspective Study* The University Press Limited, Dhaka, pp 33-34

**2. Economic development, too, depends importantly on education**

8. Bangladesh may be in position to achieve the kind of economic growth rates needed to break out of the low growth, low investment, and low income cycle and become a middle income country by 2020. Per-capita GDP could reach about \$650 by 2010 and \$1200 to \$1300 by 2020.

9. One of the biggest challenges will be to accommodate a labor force almost double the present size, from 55 to 100 million. Bangladesh will have to create two and one-quarter million jobs per year. Agriculture, which has practically reached saturation with high population densities, is expected to add only 9 million of the needed 45 million new jobs (growing at 1.3 percent per annum). This will require intensification to garner higher yields from rice and diversification to garner new earnings from higher value crops. Industry will need to add 16 million jobs by 2020 (a 5.5 percent increase per annum). The target for the industrial sector for 2020 is 35 to 40 percent of GDP compared with less than 25 percent at present. Much of the gains in industrial production are likely to come from labor-intensive export-oriented production based on private enterprise and global integration. The largest portion of the needed new jobs over the next two decades (20 million, or a 5.0 percent increase per annum) will have to come from the services sector, from work in wholesale and retail trade, and in construction, transportation, and communications. These activities require minimal skills and will continue to be labor-intensive processes for the foreseeable future. Rural nonfarm activities hold the best hope for the rural labor force that cannot be absorbed by the agricultural sector.

10. Substantially greater investment in human capital is needed to ensure the transition from low to high growth. The composition of labor demand in the medium terms is likely to shift in favor of a more literate and numerate labor force as the structure of the economy orients itself toward manufacturing for the global market and services sector. The skill intensity of future jobs, even in labor-intensive manufacturing will become progressively higher. Various kinds of skill training will be needed to support greater productivity and income in the rural nonfarm sector, including entrepreneurship.

## II. A VISION FOR EDUCATION AND TRAINING IN 2020

### A. THE VISION

11. A clear vision for education and training in 2020 flows from this overall vision for Bangladesh in twenty years. The benefits of reduced population growth can be foreseen in declining school-age population projections. By 2020 there will be over 5 million fewer children in the primary and lower secondary school (6–13) age group than in 1998. Only in the higher education (18–22) age group will increases be seen (of about 3 million). This will enable the achievement of broader coverage of the system, particularly at lower levels. Bangladesh will have achieved universal primary enrollment by 2010 for primary education with virtually all eligible children attending primary school. By 2020, basic education will have been extended to incorporate classes 6-8. Lower secondary education will have become a compulsory part of basic education and will provide the majority of students their terminal education before entry into the labor force. The content of education will stress life skills and problem solving rather than the predominantly rote memorization that prevails at present. A strong majority of students completing basic education will have achieved at least minimum levels of competency directly related to life skills.

12. Bangladesh by 2020 should have achieved a strong system of non-formal basic education for those previously bypassed by the formal system. A variety of non-formal programs will be available that combine literacy with continuing education. Adult literacy rates should have increased from about 50 percent to 80 percent, based on increased school attendance of youth and successful literacy programs for adults provided through non-formal education. As non-formal programs are successful in reducing the number of illiterates, the emphasis for non-formal education will shift to continuing education, equivalence programs, life skills and skills for income-generation.

13. One of the biggest changes to be seen in education over the next two decades will be the move from an elitist system of general secondary education to a system of mass secondary education. By 2020 Bangladesh will have undertaken a major restructuring, reorientation and expansion of its secondary education system. Secondary (classes 9–10) and upper secondary (classes 11–12) will be merged into one structure and will accommodate about one-half and one-third of the age group, respectively. This implies a major expansion of enrollments over the coming two decades. Enrollments at each level of secondary education will have doubled, adding a total 6–7 million additional student places and 120,000 teachers. Equitable distribution of resources and access will have been reached. In view of the strong benefits of secondary education for girls, by 2020 Bangladesh will have achieved full gender parity at both cycles of secondary education, and the proportion of females in the teacher force will have increased substantially. Large class sizes will still prevail, averaging from 50-60 students, but will be compensated by teachers specifically trained for such conditions as well as by ample availability of well designed textbooks and teaching materials. The content of secondary system will provide relevant and practical preparation for the majority of students for whom it is terminal education.

14. For the most part the Government will have gotten itself out of the business of delivering vocational skills training. Employers will have formed an organization to take over the direction, financing and delivery

of skills training closely linked to employment opportunities in the formal sector. Instead of providing training directly, the government will concentrate on the functions and activities not easily done by non government providers, such as development of policies, standards, curricula, teaching materials, instructor training and information systems. Public financing of training for the non-formal sector will have expanded substantially, delivered for the most part through cost-sharing arrangements with non-governmental providers.

15. Government will have promoted substantial growth in private higher education so that by 2020 at least one-third of university education is provided by private institutions. The Government will have concentrated its resources increasingly in the critical areas for national development that cannot easily be taken up by the private sector, namely science and technology education, graduate studies and research. In the interest of both equity and resource mobilization higher education will be financed increasingly through greater cost sharing with beneficiaries, thereby also making it less dependent on public sources. Higher education will also have ended its isolation by establishing better linkages to markets and the world. Within Bangladesh, higher education will have created close links to economic markets, and the composition of enrollments and course contents will respond to changes in demand. Outside Bangladesh, higher education will have tapped into worldwide knowledge generation and applications by using networks and information technology. By 2020, a revitalized and strengthened University Grants Commission will generate strategic information on the system and play a key role in allocating public resources to higher education on the basis of performance. The National University will have raised the quality of degree colleges substantially through rationalization, development of a rigorous accreditation system, and widespread use of information technology. Information technology will make independent study much more the norm: the general population will have ready access to continuing education or alternative degree programs through the auspices of the Bangladesh Open University. Well before 2020, violence spawned by criminal activities will have been eliminated from campuses.

## **B. IMPLICATIONS FOR CURRENT STRATEGIC PRIORITIES**

16. The key question, to which this Review is addressed, is: what should Bangladesh do to realize this long term vision for education? Building on the considerable progress already achieved, the answer is that Bangladesh should:

- (i) Build a stronger, wider and deeper foundation of basic education;
- (ii) Reorient and establish secondary education on a more equitable footing;
- (iii) Transfer vocational skill training to non-government providers;
- (iv) Rationalize, reform and revitalize higher education;
- (v) Vastly increase public financing of education; and
- (vi) Manage the system better.

Each of these priorities is discussed in sequence in the next six sections.

### III. STRENGTHEN, WIDEN AND DEEPEN BASIC EDUCATION

17. Overall, the top priority is to concentrate public resources where the potential for public good is highest and inequities are greatest, i.e., ensuring free access to eight grades of quality basic education and ensuring that any subsidies for post-basic education are heavily targeted toward poorer students. The highest priority for education as a whole should remain basic education over the first two decades of the twenty-first century. First, basic education can continue to contribute to reductions in fertility, improvements in health, and reductions in malnutrition. These are essential elements in Bangladesh's overall development strategy. Second, most jobs in the formal and informal sectors will require basic education.

18. The challenge to strengthen basic education involves three separate objectives: to (a) raise the quality of learning achievements in basic education, (b) close the gap in the population without basic education, and (c) eventually to extend basic education from five to eight years. Each objective is presented in series below.

#### A. STRONGER BASIC EDUCATION:

##### RAISE SHARPLY THE QUALITY OF LEARNING ACHIEVEMENTS<sup>3</sup>

19. The number one problem in Bangladesh education today is low learning achievement in basic education. In the end what matters is not whether children enroll and attend, but that they learn of lasting value by departure from school. The stress should be on outputs/outcomes, not inputs. The biggest tragedy today is that students who complete five years of education leave school without the basic minimum literacy and life skills.

20. Insufficient information exists on student achievement. However, the few available studies paint a picture of appallingly low achievement. An assessment<sup>4</sup> of basic learning skills using test data from 1992

Figure 2: Achievement Levels by Grade Completed (All Four Basic Skills)

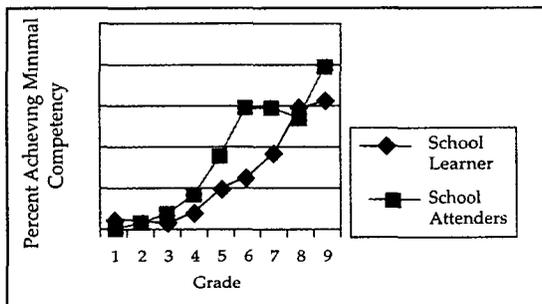
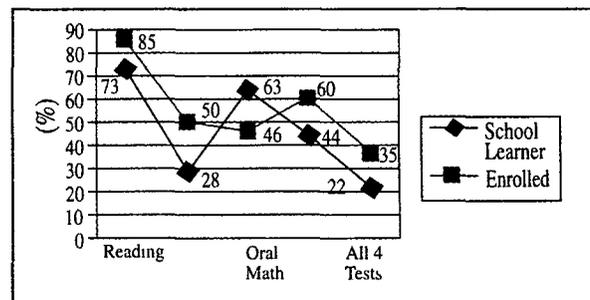


Figure 3: Basic Minimum Learning Attainments by Subject: Children Completing Fifth Grade (1992)



Source Vincent Greaney, Shahidur R Khandker, and Mahmudul Alam, *Bangladesh Assessing Basic Learning Skills*, The World Bank, Dhaka, University Press, 1999, pp 18 and 17 respectively.

3 See Volume II, Primary and Pre-Primary Education

4 Vincent Greaney, Shahidur R Khandker, and Mahmudul Alam, *Bangladesh Assessing Basic Learning Skills*, The World Bank, Dhaka, University Press, 1999, pp 16-20 The person had to answer correctly at least three out of five literal comprehension questions, three of four simple oral and three of four simple written mathematics problems involving the four basic functions and write a short (twelve word) understandable text in six minutes

found exceptionally low levels of achievement among those who had completed five years of school, as shown in Figures 2 and 3.

21. Mastery of minimum basic learning was 73% in reading, 28% in writing, 63 % in oral mathematics and 44% in written mathematics. Only 22 % were able to achieve minimum levels in all four subjects. The rates for achieving minimum basic skills levels were somewhat better for students that were currently attending primary school and had completed grade five at the time of the testing, but still low: 85% for reading, 50% for writing, 46% for oral mathematics and 60% for written mathematics, but only 35% passed all four tests. Thus, the majority of those tested had not achieved the level of minimum competency in writing and written mathematics by the end of primary school. Only one student in three (35%) had achieved the minimum level in all four basic skill areas. Significantly, girls on average performed considerably less well than boys, achieving passing rates averaging about ten percentage points less than boys for the four tests. Another study conducted among children age 11-12 years corroborated the findings. Only 46% of primary school graduates satisfied the criteria of basic education.<sup>5</sup>

22. Learning achievements probably have improved some since the tests were administered in the early 1990s. Currently, nearly 60 percent have completed at least 12 years of education and nine of ten teachers have completed one or two years of teacher training. Virtually all the primary students in public institutions receive a free set of textbooks of reasonably good quality. The textbooks are based on a revised curriculum centered on 53 competencies designed in consultation with stakeholders. However, it is still widely held that at present students complete five years of primary education with a mastery of only about two or three years of the content.

23. Why should learning achievements be so poor in a system that has wide distribution of reasonable quality textbooks and a large number of trained teachers in government schools? For one thing, factors outside the school system clearly have an adverse effect on student learning, especially the exceptionally high rates of child malnutrition. Within the school system low achievement may be explained by low effective learning time for students ("time on task"). This is a combination of the time spent in learning activities and the effectiveness of the teaching methods. The total number of official instructional hours in Class I and II at two-and-a-half hours per day is low compared with other Asian countries (only 444 hours per year versus 1100 in Indonesia and 1235 in China). The actual, effective time in teaching may be much less. A study published in 1992 found that effective time devoted to actual teaching-learning activities in formal schools was less than 40 minutes per day.<sup>6</sup> Another study in 1996 found that the last two periods of a school day were held regularly in only 40 percent of government primary school. Low attendance, or "irregular presence," of teachers is a major factor limiting teaching time. Primary teachers tend to spend a considerable portion of their time conducting other official duties unrelated to teaching, such as collecting data on child surveys, health and immunization, work, the total literacy movement, as well as census and voter ID distribution. There are few, if any, sanctions for teacher absenteeism or shortchanging instructional time. Teachers tend to be isolated professionally, poorly motivated and lack supervision and support. Low learning achievements can also be attributed to ineffective teaching methods that stress copying and rote memorization. Continuous assessment of student learning, an essential tool for improving student performance, is almost absent. One of the causes of comparatively low learning achievements among girls may be the lack of female teachers who account for only 28% of the primary teacherforce. Studies in other countries have found that achievement levels for girls increase by 25% when taught by females. A high proportion of female teachers is an important factor in promoting enrollment of girls in schools. Female teachers have been found to be more effective in terms of regular attendance and creating a caring environment in the classroom.<sup>7</sup>

5 Unicef, 1992, *Assessment of Basic Competencies of Children in Dhaka, Bangladesh*.

6 A H M Karim, (1992), *School based Primary Education in Bangladesh Review* Unicef, Dhaka

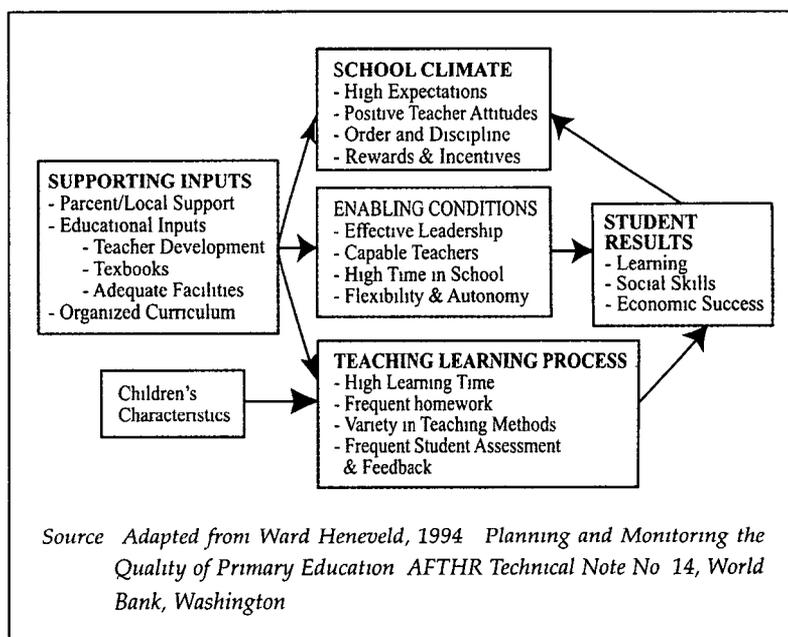
7 Oxfam (1999), *Education Now: Break the Cycle of Poverty*, p 75; and Jalaluddin and Mushtaque, (1997) *Getting Started Universalizing Quality Primary Education in Bangladesh*, p. 125

24. A top priority for Bangladesh will be to define, refine and improve its strategy for quality improvement in basic education. Building schools is easy. Quality improvement is complex and difficult, as shown in Figure 4, below.

25. The question is what should be done? Which of the factors are most cost-effective for Bangladesh? From the above list there are five key interventions:

- Start with better measurement of learning outcomes compared with expected standards and provide this information systematically to all interested parties, including parents and school administrators;
- Local control and parental involvement: Increase local participation in the management and control of schools so that teachers and managers can be held accountable for results;
- Leadership: train school directors and supervisors. This is the single most important intervention to establish standards, high expectations, guidelines and motivation for teaching staff.
- Better and better textbooks. Bangladesh has accomplished much, but the textbooks need continuous refinement and improvement, based on field testing with students and teachers.
- Continuous in-service training of teachers close to the classroom so as to provide academic coaching and support as well as help increase motivation.

**Figure 4 : Factors in School Quality**



26. One critical way to leverage change in the system is to create a capacity to measure, rigorously and systematically, educational outcomes at all levels. This information should then be used to drive quality improvement through its dissemination to parents, teachers, principals, and civil society in general. Without a focus on outcomes, the real performance of the system, little can be achieved in terms of quality improvement. The place to start is in changing the nature and content of examinations and the use made of the results. In this context, consideration should be given to the establishment of an independent testing agency, such as an educational testing service, as a means to ascertain student learning objectively. Development of assessment capacity by teachers in the classroom is also urgent for monitoring and improving learning performance of students.

27. The above five key measures would not entail great cost. Given what Bangladesh has already accomplished and the projected decline in the primary school age population, achieving better quality is not mainly a matter of finance, but of organization and will. These five interventions could address the key problem of low time on task. Greater accountability to parents and better oversight by directors and supervisors will help ensure teacher attendance. In-service training of teachers can concentrate on more effective learning methods and assessment of student learning. Outcomes and assessment provide benchmarks and incentives to improve. Better textbooks are a cost-effective means to provide effective learning.

28. Above all, the country is fortunate to have several home grown alternative methods of primary education developed and perfected by non government organizations such as BRAC and Proshika. These methods have successfully produced valuable experience for improvement of public primary education. The most important non government organizations use all the above five interventions successfully.

29. Elements of a quality improvement strategy are already implicit in the Primary Education Development Program (PEDP) that the government has embarked upon with assistance by external donors. This comprehensive investment program for 1998-2003 includes measures and investments to increase enrollment in underserved areas, expand the provision of textbooks, develop and apply better methods of teaching, undertake continuous measurement of learning achievements, and reorganization of central and local management. The highest priority for the government, therefore, should be on implementing the package of interventions included in the PEDP. If PEDP is implemented vigorously, the outcomes evaluated and the lessons internalized, then a significant number of the issues in primary education will have begun to be addressed. However, it will take decades for the problems to be overcome fully.

## **B. WIDEN BASIC EDUCATION: CLOSE THE GAPS IN COVERAGE**

30. A second fundamental challenge and priority is to provide basic education to the out-of school population. This involves two different target groups: (a) ensuring enrollment and completion rates for school-age youth currently outside school; and (b) non-formal education for the population beyond school age who have been bypassed by the education system. Each objective is discussed below.

### **1. Increase Coverage and Completion Rates for School-Age Youth**

31. Despite the considerable progress about 10% of the primary age group never enroll in school. For the most part these are the children of very poor families – only about 40% of the children of very poor families enroll in school. The reasons for non-enrollment are mainly economic. First, parents cannot afford the direct costs of attendance, which include uniforms, transport, learning materials and donations to the school. These private costs average Tk 500 per student per year. Second, parents of very poor children cannot afford the opportunity costs of school attendance: their children must work in the home cooking, gathering fuel or child-rearing, or outside in petty trading. Several studies have found that children in Bangladeshi villages were economically active from the age of six. Other reasons for non-attendance include lack of nearby school facilities. In part the hard-to-reach are difficult to reach geographically. They live in remote or inaccessible areas, such as the Chittagong Hill Tracts. Villages in remote areas sometimes have no schools at all.

32. The government's program for accommodating the hard-to-reach 10 percent includes a large school construction program to cover under-served areas of the country. This, however, is not enough for the poorest of the poor. In several districts the government has instituted a "Food for Education" program that pays poor students in foodstuffs (up to 15 kg. of wheat per student enrolled per month) for school attendance. However, the program is expensive and controversial. The Food For Education program absorbs 23 percent of total development expenditures on education. It has been difficult to administer, but it has been found to strongly influence the probability of poor children being in school. The government, the Bangladesh Garments Manufacturing Association and several international agencies have also cooperated to provide 360,000 former working children with non-formal education leading to primary equivalency. Programs of some non-governmental institutions have successfully provided non-formal education of three grades in villages to girls who otherwise would not have been enrolled.

33. Another requirement to reach the vision is for students that enroll in school to progress upward through the primary cycle and complete their studies on time. The rate of progress of students is often referred to as the "internal efficiency" of the system. In the 1970s dropouts from primary education before completion of grade five were huge and amounted to about 80 percent of entering students. Substantial progress has been

made in improving throughputs. Dropout has decreased dramatically in the 1990s. More than half the student cohort entering Class V in 1994 entered the system in 1991, and about 60% of the initial entering cohort reached Class V in 1995. The progression rates between all grades in 1995 are even more hopeful: they would yield a progression rate of about 73% if carried forward to future years. Still, taking the most complete cohort statistics available, 40% of the entering students dropped out before reaching the fifth year. This is a huge waste of resources. On average it took 8.7 years of instruction for each graduate from the five-year cycle, or 74% more than would otherwise have been the case with perfect efficiency.

34. The causes of dropout are much the same as those for not enrolling: unsustainable costs for poor parents, both direct costs and opportunity costs. In addition, the parents must weigh the value of education being obtained in relation to these costs. Poor quality of schools and instruction are important additional causes of repetition and dropout.

35. A strategy for closing the gap and enrolling all eligible children in school need not entail costly programs of new school construction. Another finding of the review is that needs for expansion in coverage of basic education are relatively small, manageable, and not a top priority for the future. Simply expanding coverage at present levels of quality will not be a challenge for Bangladesh's resources. This is because efforts over the past two decades have heavily emphasized coverage and because the school age population is beginning to decline. Except for specific geographical pockets, the present total enrollment capacity of the system will be sufficient to enroll all students in the near future.

36. Strategies for enrollment should focus on reducing the direct and opportunity costs of enrollment for poverty groups. One element of the strategy should be the provision of early childhood pre-school programs<sup>8</sup> for targeted groups based on income. Poverty alleviation must target children at younger ages because by the time they arrive at school age, they are too far behind in nutrition or in learning readiness. A child's major developmental patterns are set by four or five years of age. Consequently, integrated interventions aiming to improve a child's learning readiness, health, and nutrition can have lasting positive effects. Such programs can promote multiple objectives, such as maternal health, nutrition for children, and preparation for primary education. Such programs elsewhere have resulted in better enrollments and achievements in regular schools for poverty groups. This implies the importance of developing early childhood education programs targeted at the very poor, combined with nutrition and maternal programs. The government clearly could not afford to finance such services for all children by 2020, and should target the programs carefully based on income and wealth. It should start with (a) an analysis of what works in the field of early childhood care and development, by examining the few programs currently working in Bangladesh and surveying experience elsewhere, and (b) funding a wide array of experimental programs. It should not attempt to organize its own programs but should finance programs by non-governmental institutions and select the best for expansion.

37. Expenditures on quality improvement are likely to go a long way toward correcting problems of inefficiency in the system. As found in other environments of extreme inefficiency and under-financing, as in Northeast Brazil,<sup>9</sup> quality enhancements can actually help address remaining deficiencies in coverage and greatly improve completion rates.

## **2. *Expand and Improve NFE for those Bypassed by the Formal System***<sup>10</sup>

38. Equity reasons also compel greater investments in those bypassed by the formal primary system. These tend to be the segments of the population most in need of new skills and empowerment. Investments to

8 See Volume II, Annex to Primary and Pre-Primary Education

9 Ralph W Harbison and Eric Hanushek, 1992, *Educational Performance of the Poor Lessons from Northeast Brazil*, New York, Oxford University Press

10 See Volume II, Non-Formal Education

extend and improve basic education through non-formal means therefore should have a high priority claim on resources. However, additional investment for greater coverage will not suffice: the effectiveness of learning retention needs to be sharply increased first. In addition, training programs for the informal sector—based on models developed by non-government training institutions—should have priority. They should include training for self-employment and gainful income as well as for wage employment.

### **39. Strengths**

The NFE system has several strengths on which it can build. In 1996, the Integrated Non-Formal Education Program (INFEP) was upgraded and the Directorate of Non-Formal Education (DNFE) was established to implement four projects totaling \$277 million over five years (1996-2001). More than 34 million learners are targeted in the four projects. In addition, 415 non-government organizations currently are active in the education sector, 330 of which are directly implementing NFE programs for the DNFE. The government's decision to finance the delivery of educational services through non-governmental institutions is an essential foundation for bringing higher quality programs to national scale, particularly for hard-to-reach populations. The Fifth Five-Year Plan (1997-2002) aims to increase the adult literacy rate to 80 percent by the end of the plan period.

### **40. Issues**

The challenges to achieve the vision of NFE as a fundamental component of the learning society are as follows:

- Each NFE program will need to specify its length, curriculum, learning outcomes, and targeted populations in order to articulate and implement its complementary role to primary education and on-the-job training. The current lack of NFE evaluation results makes it difficult to ascertain the learning outcomes of each program, the acquisition and retention of skills by populations served, and, consequently, the precise contribution of NFE in the education and work sectors.
- There is an overall absence of an integrated NFE program with linkages between literacy, post-literacy and continuing education leading to the job market. Viable post literacy models need to be developed. Coverage for continuing education should be expanded to include livelihood and income generation skills. Equivalency programs with a set of standard competencies are also needed to enable learners to make the transition to the formal system or the job market.
- A real government-non governmental institutions partnership role has yet to be established. Non governmental institutions work as contractors, but they are not seriously involved in formulating policy, preparing plans, and designing the national program. The DNFE will need to establish a meaningful and participatory relationship with the non governmental institutions to effectively promote a sustainable learning environment at the community level, including provision of government inputs (such as textbooks) for center based NFE programs.
- Rapid expansion of the NFE program stretches the capacity of the DNFE, district administration (TLM), and non governmental institutions. The first casualty of rapid program expansion is quality, which suffers from overburdened trainers and supervisors. The mechanisms for program delivery and their contributions to quality should be clearly defined so that expansion plans explicitly include strategies to support them, such as support for training and supervision.

### **41. Strategy**

The main elements of a strategy for improvement and expansion of non-formal education are:

- Develop an integrated and comprehensive NFE vision and strategy. The success of primary education will cause the focus of NFE programs to shift to new areas, such as continuing education and skills for income generation. These opportunities should be considered and planned for.

- Enhance the institutional capacity of the DNFE and partner institutions by (a) improving the information base, and (b) strengthening staff training programs to build expertise—specifically strategic planning and management at the central level, and planning, monitoring, and supervision skills at the district level.
- Develop and implement post-literacy and continuing education programs to sustain investments in literacy.
- Develop an equivalency program under NFE covering basic literacy through lower secondary education.
- Explore the introduction of cost recovery and resource mobilization schemes to ensure the long term sustainability of the NFE program.

### **C. DEEPEN BASIC EDUCATION: EXTEND IT FROM FIVE TO EIGHT YEARS IN LENGTH**

42. The Government is considering extending compulsory basic education from five years to eight years. This is not an immediate priority, but will doubtless become one for the second decade of the 21<sup>st</sup> century. However, planning for the change has to be started soon with experimentation. The proposed structure seems simple, but the requirements and implications are vast. One issue is how to add lower secondary onto primary education. Physically, should three additional classrooms be built at existing primary schools? Is it administratively and pedagogically appropriate to merge lower secondary with primary schools? Administratively should teachers and principals be transferred from the DSHE to DPE? Should DSHE staff be transferred to DPE? If lower secondary becomes part of compulsory basic education, what are the financial implications? Would fees that are now paid for lower secondary education need to be assumed by the government, and also payments for textbooks? What will happen to existing secondary schools? How would the lower cycle be phased out and an upper cycle added? Similarly, how would the intermediate classes be phased out of degree colleges? What would become of intermediate colleges—how would they incorporate grades X and XI? Instead of lowering the entry requirements, would they not seek to upgrade themselves to degree colleges? What kind of curriculum would be needed for grades IX-XII?

43. Providing a greater proportion of students with 8 years of education seems to be a worthwhile objective and one that makes sense once primary education becomes universal. However, priority should be given to raising quality in lower secondary education as it inevitably expands. Whether the 8 years are provided under the same roof called primary school, or in a 5-year primary cycle followed by a 3 year secondary cycle needs further thought and discussion. Adding three classrooms to all existing primary schools would involve costs that could not be justified in terms of improved management or pedagogy. Managing 8 grade schools is more difficult than managing 5 grade schools. Pedagogically, an 8 grade school, with age differences and diverse curriculum requirements, requires more sophisticated systems of teacher and classroom allocations. The 5-3 system for grades I-VIII is functional. It is well known and does not present any problems for either the children or the parents. It is similar to the system in neighboring countries. It allows for manageable school size. It groups children who are more homogeneous. On balance, it would seem more appropriate from a cost and pedagogical viewpoint to expand the number of separate lower secondary schools rather than attaching grades VI to VIII to primary schools. Under this structure they could still be considered part of compulsory basic education.

#### IV. REORIENT AND EQUALIZE THE PROVISION OF SECONDARY EDUCATION<sup>11</sup>

44. The second overall priority, after basic education, is to reorient secondary education and equalize access to it.

##### A. STRENGTHS

45. The system of secondary education has many strengths and achievements to its credit. These provide a solid foundation on which to build. Virtually all the teachers in the system have degrees at present, and half have master's degrees. The supply of reasonably educated teachers should support the expansion of the system. Textbooks are readily available for purchase by parents and provide an excellent basis for diversification of titles and revision of content over the next decade. Households on average pay about two-thirds the total cost per secondary student, a substantial contribution of private resources to secondary education. Secondary school management is mainly non-governmental and tends to have more leeway to hire staff in response to increasing enrollments. Between 1990 and 1996 enrollments doubled to over 6 million students. A girls' scholarship program financed by the government and supported by external assistance has increased girls' enrollments from 35 percent to about half of total enrollments at the lower secondary level, and from 31 to 43 percent in classes 9–10. Expanded female enrollments promise substantial benefits in terms of lower fertility rates and better health and nutrition of the next generation.

##### B. ISSUES

46. Bangladesh must eliminate fundamental distortions in the secondary school system and face the following challenges:

47. **Reorienting content:** The most important issue for the early twenty-first century is the irrelevance of secondary level curricula. At present the main function of secondary education is to ration access to higher levels of the system, having no independent purpose of its own. Incentives to pass through this funnel are tremendous because post-secondary education improves the chances for sharply higher incomes. However, fewer than one in ten entrants completes the system and proceeds to higher education; the other nine leave the secondary system unable to advance in the academic system and ill prepared for the lives they face—mainly in the informal sector. One particular issue is the sharply declining proportion of students in secondary education who take science. Current practices of streaming in secondary education mean that two thirds of the students are channeled into non-science streams as early as grade IX. Moreover, those that do continue to higher education have not been well prepared in terms of thinking and analytical skills. The content of secondary education, as reinforced by the terminal HSC examination, overemphasizes rote memorization of factual information.<sup>12</sup> This content is a poor use of public and private investment in education.

---

<sup>11</sup> See Volume II, Secondary and Higher Secondary Education.

<sup>12</sup> The National Curriculum and Textbook Board takes exception to these conclusions. In its view curricula introduced from 1995-97 are a great improvement and the main problem is the poor delivery of the curricula in the classroom owing to inadequate teacher training. As shown in the background paper on secondary education, however, even the revised curricula contain excessive numbers of objectives and stress factual knowledge. All parties do agree that curricula development is a continuing process, and serious evaluation will be made of the results and effects of the new curricula as a basis for further improvements.

**48. Reducing inequities:** Bangladesh fails to provide equal access to quality secondary education and outcomes. Access is uneven geographically because schools have been established where parents can afford them, not where the most needy children live. Among existing schools major disparities exist in provision of inputs, such as allocation of trained teachers, class sizes and facilities. Poorer students cannot afford the costs necessary for success in secondary education. Private tutoring is common throughout secondary education to prepare for the final examinations. Fees for out-of-class tutoring—often by the same teachers—costs private households substantially more than public tuition fees. Such payments discriminate against the poor and payments for private tuition are a bad use of the private willingness to invest. Private tuition undermines the equity goals of public expenditure on secondary education.

**49. Raising incentives for quality:** Poor quality is the product of multiple factors such as large class sizes (which burgeoned from an average of 22 to 56 students in the 1990s), untrained teachers, lack of self-teaching materials, curricula with excessive objectives and overloaded textbooks. However, perhaps the most basic causes are lack of accountability and perverse incentives in the system. Government subventions are not linked to performance. In addition, the lack of effective supervision at the local level means that schools are not held accountable for results. Incentives for quality are largely absent within the system. School owners are driven by the need to maximize fee income and teachers seek to maximize out-of-school income. These distorted incentives need to be rationalized.

### C. PRINCIPLES

50. Each level of the system should have a purpose of its own, so that graduates who terminate at that level leave the system with useful life skills.

- Expanding coverage of lower secondary education is also a desirable medium-term objective from a social point of view. This needs to be achieved through the less costly non-governmental secondary schools. Making lower secondary education universal at existing quality levels, while financially feasible, would not be desirable without vastly increased investment in improved quality.
- The aim should be to ensure equal access to resources, regardless of place of residence or level of parental income. In particular, girls should have parity in enrollments with boys at each stage of secondary education.
- Private management of secondary education has benefits, including greater flexibility and innovation in management and savings of public financing for other priorities. Private management ought to continue

### D. STRATEGY

51. An action plan for overcoming these issues would include the following key elements:

#### 1. *Greater Relevance and Equity*

- The purpose and content of secondary education need to be reoriented to preparation for life<sup>13</sup> and problem solving, not exclusively vertical mobility. A new purpose should be developed for grades 9–12 that focuses on the knowledge, skills, and attitudes needed to lead productive lives for the majority of students who terminate at this level. Matching curricula and instruction to local needs would vastly improve the returns to both public and private educational investments. This reform should start with an examination of the generic abilities required by employers in both formal and informal sectors, e.g., problem solving, ability to follow instructions and learn on the job, and oral and written communication. Textbooks should be revised accordingly.

---

13 Providing more realistic secondary education directed at life skills and problem solving does not mean vocationalizing secondary education. Vocational education as part of secondary education has proved costly and often ineffective in other countries. Instead, investments in skill training should be deferred until completion of schooling when such training can be adjusted better to market demands

- Reform of the examination system is also essential for improving secondary education, because the examination system drives teaching at the secondary level. Greater relevance in teaching content cannot be achieved without such a reform. External examinations should be reoriented to test more useful skills such as problem-solving rather than exclusively recall of factual information. The SSC should be replaced by a certificate issued by individual schools, and the content of the HSC should be re-balanced towards higher order skills.
- Moreover, the distortion of private expenditures through payments for out-of-school tuition needs to be stopped and channeled into more productive in-school investments. Private financing should be redirected away from out-of-school tuition toward direct expenditures that build school quality. Private tuition should be institutionalized and controlled so as not to discriminate against poorer students.
- Compensatory programs should be expanded for important target groups, particularly the poor and girls. The programs should address mainly the financial reasons for nonattendance.
- As a basis for improving the equity of the system, analytical work is needed in (a) identifying the present variations in per student expenditures and the reasons; and (b) examination results by type of school, location, sex and income of participants.

## 2. *Quality Improvements*<sup>14</sup>

- Techniques must be identified and disseminated to achieve better quality of learning within the inevitable context of large class sizes, as has been done by other high density countries, such as China and Korea.
- An incentive-based strategy for quality improvement should be devised. Subsidies should be linked to performance measures within a concept of "education value added". Standards for good schools and teachers should be developed and disseminated. School improvement plans should be developed and financed, and teachers should be encouraged to propose innovations.
- Greater investments should be made in teaching materials, including better and better textbooks which are highly cost-effective in achieving learning gains.

## 3. *Management and Finance*

- Serious planning should be done for the complex logistical changes involved in transforming the system from a 5+3+2+2 structure to an integrated 8+4 structure.
- Public spending on secondary education should be rationalized. Public expenditures need to achieve better results. Budget allocations for secondary education should be linked with performance incentives, such as school improvement plans and performance indicators. For public subsidies, this means (a) equalizing public allocations per student through normative financing; (b) linking payments to performance by reformulating the subsidy system; (c) better spatial planning of new schools; and, after the reforms, (d) more spending per student, especially at what is now lower secondary level.
- The non-governmental character of the system should be preserved, but better management support (as opposed to control) should be provided at lower levels of the system, e.g., continuous in-service coaching and support for teachers by head teachers and new thana education officers.
- Finally, special concentration should be made on training secondary school headmasters in view of the pivotal role they play in quality of school outcomes.

The Secondary Education Sector Improvement Project, recently approved by the ADB, promises to make a comprehensive start in addressing these issues.

---

14 One of the more powerful ways to improve the quality of secondary education is to raise the level of intake, i.e. to raise the level of learning achievements of entering students by increasing learning achievements in primary schools

## V. TRANSFER VOCATIONAL SKILL TRAINING TO THE PRIVATE SECTOR<sup>15</sup>

52. The public sector, in most countries, finds it extremely difficult to provide quality skill training that is linked closely to the job market. In the long run, the public sector in Bangladesh should concentrate on formal education and transfer vocational skill training to employers and non-government training institutions.

### A. STRENGTHS

53. The current system of technical-vocational education and training (TVET) has several advantages it can build on to attain the overall vision. First, the system is small, absorbing only about 2 percent of the education budget and enrolling only about 30 thousand students at the certificate and diploma levels combined. This makes for easier structural changes. There are a few reasonably good quality public training institutions, including some TTCs under the Ministry of Labor, and Rural Training Centers under the Ministry of Youth. Several TTCs and VTIs have become more flexible in their non-regular programs offering short term training on a cost-recovery basis. Good models exist for skill training by some non government organizations. The Technical Education Board is a small, self-supporting, and relatively effective organization for curricula, teaching materials, and trade tests.

### B. ISSUES

54. Four overlapping issues stand out as the most important problems in TVET.

55. **Lack of linkages to the job market.** The main problem with formal and non-formal TVET is lack of linkages to employers and the job market. Employers complain that training programs do not produce the skills they require. No incentives are given to managers or instructors to consult with employers. Moreover, the centralized training system imposes rigidities on managers of institutions and limits the possibilities of capitalizing on local responsibilities and initiatives.

56. **Lack of impact on poverty reduction.** The second issue is lack of diversification in training clientele. TVET is almost exclusively geared to in-school male youth in grades 9–10 as part of SSC Vocational. Underprivileged youth outside the school system, especially girls, do not have access through the TVET system for the skills they need to help them raise incomes in the informal sector.

57. **Ineffectiveness of training support and delivery.** In contrast to the relatively weak performance of the government-financed and operated institutions, the non-governmental sector has demonstrated—albeit on a very small scale—the capability to develop local needs-based curricula customized to the experiences of trainees, and has achieved strong employment rates for graduates. On the other hand, government support needs to be strengthened for key functions of policy development, information and evaluation, standards development, and the development of teaching materials and trainers.

58. **Underfinancing.** TVET is expensive, but the beneficiaries—students and enterprises—share virtually none of the costs. The government shoulders all the expense, including providing trainees with stipends and

---

15 See Volume III, Technical-Vocational Education and Training.

subsidizing their accommodations. At the same time, equipment and consumable supplies are chronically underfinanced in most public institutions. The training establishment looks to the central government to solve this problem, but the government lacks the funds. External financing is seen by some as an alternative, but a one-shot injection of external support would not be sustainable.

### C. PRINCIPLES

59.

- Most skill training should be provided outside the school system. In other terms, the school system should not aim to provide occupational skills to students. The reasons are that school systems typically do not do a good job in providing occupational skills and the students are often not serious about entering the occupation for which they are being trained. Within the school system vocational training also tends to be excessively lengthy. It is preferable that skill training be provided after completion of formal schooling for those already in, or about to enter, the labor market. The training should be short and intensive, with opportunity for continuous upgrading and updating.
- The best hope for a vibrant skill training system in the long run is to turn it over to the private sector. The public sector in most countries finds it difficult to provide relevant, quality vocational training related to current needs in the labor market and Bangladesh is no exception. The necessary reforms of TVET cannot be achieved by tinkering with somewhat more interaction with industry. It requires a decisive role for the private sector in identifying training requirements, adjusting skill supplies to markets and managing training delivery. The best long term solution would be to develop an independent training authority owned, managed and financed by enterprise associations, as has been done with great success in Brazil (SENAI).
- This does not mean that the government would cease to have a role in vocational skills training. Rather, it means that its focus would shift to the things that are typically not done (or not done well) by private vocational providers, such as development of policy and standards, development of training materials and instructors, collection of statistics, monitoring of results, and financing but not on delivery of training.
- Public financing and private delivery. Financing and delivery of TVET should be separated. A fundamental change of view is needed. A government case for financing vocational training does not confer monopoly powers also to deliver it. Instead, efficiency suggests that the public sector "purchase" the outputs of TVET from the least costly sources for a given standard of training (or, for a given expenditure, from the training institutions that maximize the outputs). Private training providers frequently can be more efficient in delivering outputs to standard than public institutions, and this should be tried in Bangladesh.
- Privatization should be undertaken gradually, but deliberately. This Review does not recommend changing all TVET institutions at once, but rather experimentation, evaluation of results, modifications in policies/practices, then proceeding further if warranted. It is recommended to start with a few specialized institutions (e.g. leather technology training or textile training for which there are corresponding industrial associations that could take over responsibility), and subcontracting the management of a few new VTIs or TTCs to the private sector.
- Private and public training institutions can be held accountable for results through the monitoring of outputs to determine whether they meet predefined standards (for example, completion rates for trainees, performance on exit skills tests and employment rates). Institutions would be rewarded or penalized according to the extent to which standards were met. The ultimate sanction would be to replace the management of the training institution.

- An alternative to privatization—perhaps second best and an interim measure—would be to decentralize authority to the management of existing public training institutions and hold them accountable for results.

#### **D. STRATEGY**

##### **60. More specifically, the reform of TVET should:**

- Establish an employer-controlled training authority. The authority could gradually take over the operation of current public training institutions. Given the fundamental changes required in legislation and instructor employment, such a change could only be accomplished over the medium term after extensive consultation with interested parties. Employers would be expected to contribute much of the financing for the new authority.
- In the interim, greater linkages could be established with job markets by delegating authority to managers of public training institutions, requiring them to find their own training markets, encourage them to be more self-sufficient, and hold them accountable for results. Where possible the management of public training institutions should be subcontracted to the private sector.
- In parallel, the role of the central government should be reoriented to support functions that non-government institutions cannot do easily, e.g., instructor training, standards development, information, and policy.
- Broaden the impact of TVET through diversification of clientele and programs, including greater resources for vocational training of underprivileged groups in income generation skills. Delivery of this expanded training should be through effective non-governmental institutions and policies that encourage the development of quality non-governmental TVET.
- Mobilize resources to overcome chronic underfinancing by introducing beneficiary financing, establishing partnerships with enterprises, and generating income from existing TVET facilities.

## VI. RATIONALIZE, REFORM AND REVITALIZE HIGHER EDUCATION<sup>16</sup>

61. The present system of higher education has some strengths on which to build towards the vision of 2020, but is deeply affected by fundamental problems of relevance, governance, quality and efficiency. A strategy to overcome these problems should be based on clearer division of roles between the public and private sector, on the primacy of quality over expansion, and resource mobilization from non-public sources. These points and the elements of a strategy for rationalization, reform and revitalization are presented in sequence below.

### A. STATUS AND STRENGTHS

62. Pressed by lack of employment opportunities at lower levels and attracted by high rates of return for higher education, about three out of four students who pass the class 12 leaving examination (the HSC) go on to some form of higher education. The lucky few, about 10% of the entrants, are admitted to universities and the rest are channeled into the nearly 800 degree colleges, most of which are non-government. The number of degree colleges proliferated by 60% in the 1990s, including the addition of over 100 new government-recognized degree colleges in 1993/4 and in 1994/5.

63. The key strengths of the higher education system on which this vision for 2020 can be built include: pockets of excellence in teaching among key institutions; a relatively high proportion of Ph.D. holders among teaching faculty; the existence of key intermediary organizations, including the UGC, National University, and Open University; and private management of much of higher education, including 80 percent of degree colleges and the newly-established sixteen private universities.

### B. ISSUES

64. The functions of higher education in Bangladesh, as elsewhere, are to (1) prepare high level manpower for professional, technical and administrative positions in the labor market; (2) generate new knowledge through research; and (3) extend that knowledge to the society at large. By all counts the system of higher education is not performing these functions sufficiently well at present. Higher education is in deep trouble.

The issues include:

65. **Overcoming problems of external efficiency of the system**, such as distortions in the allocation of students by field of study (only 2 percent of bachelor's degrees in 1996 awarded in technical fields); structural rigidities that impede the flow of funds to open, close, expand, and contract courses in response to market demand; and inadequate research output (research consumes only 0.5 to 1.5 percent of university budgets). Inadequate support for poor students is also an issue. A 1996 review estimated that poor households—that make up about half the population—receive only 15 percent of public spending on higher education, the remainder is allocated to non-poor households. Female students made up only one-fourth of enrollments.

---

<sup>16</sup> See Volume III, Higher Education

66. **Restructuring sub-sector management.** Within universities, governing bodies tend to be dominated by teachers and lack outside representation from society at large, guardians and employers. Vice chancellors have few resources to supervise staff, allocate resources, and hold departments accountable for funds spent. Department chairpersons, who are rotated routinely, have little if any authority over teaching staff. The UGC is also weak in enforcing standards and holding institutions accountable for funds received.

67. **Quality issues.** The gap in knowledge between Bangladesh universities and those in advanced countries is widening, particularly in science-based disciplines. University managers complain unversally about the absence of staff development programs for keeping them up-to-date. Most institutions lack current periodicals, information technology and international linkages. Salaries account for about three-fourths of all spending at university level; however, salaries are reportedly low, which leads to multiple employment and reduced dedication to teaching. The proliferation of degree colleges, without adequate control over standards, has eroded quality. Class sizes average 70 students in degree colleges, and teaching staff are reportedly below standard in subject-matter knowledge and teaching skills. Teaching materials are in short supply. The examination system favors factual knowledge over higher-order skills and is subject to widespread unfair practices.

68. **Managing costs and improving efficiency.** Low per-student expenditures account for much of the low quality at degree colleges. Unit recurrent expenditures in government degree colleges were only 13 percent of the level of those at universities. Per-student expenditures in non-governmental degree colleges were only half that, i.e., under 6 percent of the cost per student in public universities. The allocation of funds within the system tends to be based on precedent or influence, not per-capita averages by field of study and result in wide variation in costs per student. Moreover, the beneficiaries of higher education tend not to share the costs. University tuition charges make up less than 1 percent of the costs per student and have been declining. Government provides about 95 percent of total public university costs. Finally, conditions imposed by the government on private universities are onerous – including excessive capitalization and land acquisition requirements – and discourage their development.

### C. PRINCIPLES

69. The strategy for reform and revitalization of higher education should be based on the following principles:

70. **Delineating the role of private universities:** Better results could be achieved by rationalizing the roles of the private universities and public universities. The Government should actively promote private universities. The benefits of private higher education to the whole education system can be substantial. It provides a relief valve for the unsatisfied social demand for higher education and relieves the public sector of paying for the education of thousands of students. Over time, as quality improves, private provision of education can provide healthy competition for the public sector. Already there is evidence that the quality of some private university graduates is reasonably high, as indicated by the quality of entry level job offers received by the first generation of graduates. Private universities can also be an effective means of bringing innovation in both content and methods of teaching in higher education. Some regulation of private universities is necessary by the state, but a case can be made that private universities are currently over-regulated, or at least the government's regulation is misplaced. Current regulations excessively control inputs. The government should move much more and increasingly in the direction of controlling outputs from the system.

71. **Rationalizing the government role in higher education:** The Government should concentrate its financing on those types of activities that are important for national interest and development but where the private sector is not likely to intervene. This includes much of science and technology education, graduate studies and research.

72. **Cost recovery and beneficiary financing.** Cost recovery is equitable in higher education (and not at the lowest levels of education). Contrary to common belief, cost recovery at higher levels of education actually supports the achievement of greater equity. The beneficiaries of higher education tend to be from the comparatively wealthier segments of society. They can more afford the costs of better preparation for entrance to higher education and can afford the opportunity costs of attendance i.e. not to work while studying. The poor and extremely poor, almost invariably, have been selected out of the education system before higher education starts. This phenomenon applies to Bangladesh as well as other countries, as shown in Figure 5 for rural areas.

73. Second, higher education confers enormous benefits that are captured mainly by the individuals through increased income and living standards following graduation. For these equity reasons cost recovery from the direct beneficiaries of higher education is appropriate. The equity effects of cost recovery can and should also be enhanced by combining cost recovery through tuition and other fees with scholarships for more underprivileged students based on means tests. Cost recovery, it should be added, also helps achieve efficiency objectives. Students who have to pay for their education tend to value it more highly and complete their studies in less time than if it is cost-free without limits.

74. **Quality vs. Quantity.** Government should strive for quality over quantity. In a resource constrained environment any expansion of capacity (especially in colleges, polytechnics and universities) inevitably means further erosion of quality unless there is both significant resource mobilization from non-government sources and improvements in the efficient use of current public provisions. Expansion is desperately needed, but expansion at public cost is certain to compromise the even more important goal of reversing the erosion of quality. In an increasingly global economy the range of acceptable quality standards becomes increasingly narrow and higher. There is really only one standard of quality – the global one. What sense does it make for Bangladesh deliberately to choose low quality by over-expanding university education? Quantity without quality is the prescription for a national disaster. Quality without quantity is at least a possible basis for survival and one on which to build. Meeting even the minimal quality goals beyond basic education will require resource mobilization from non-public sources. Bangladesh has no choice in this unless it wishes to muddle through with things as they are now – which is to set the nation up for failure and its people for continued poverty. Restraint is therefore recommended on expansion of places in public universities.

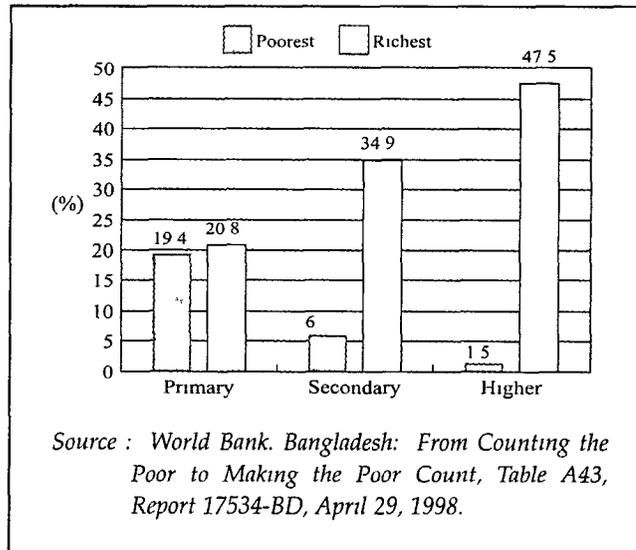
#### D. STRATEGY

75. The strategy to rationalize, reform and revitalize higher education should include the following elements.

1. *Rationalize the system and management of higher education:*

- Implement a clearer division of labor between public and private universities by (a) concentrating public resources in science and technology, graduate studies and research; (b) by easing the restrictive regulatory framework on private higher education and thereby strengthening the provision of private higher education;

**Figure 5 : Share of Benefits from Public Spending on Education (1994)**



- Rationalize the system of degree colleges through stricter accreditation by the National University, link financing with performance, provide financial incentives for improvements, and reform examination systems;
  - Reduce dependence on government by mobilizing non-public resources, including cost sharing with student beneficiaries (increased tuition charges in parallel with loan funds, scholarships, and investment in better learning conditions);
  - Make public expenditures more efficient through adoption of per student (normative) financing and linking subsidies to performance.
2. *Reform management of higher education:*
- Strengthen the powers of the UGC, including accreditation of sub-units within universities,
  - Review and modernize university statutes to introduce outside representation on governing bodies;
  - Strengthen the management role of the Vice Chancellor.
3. *Revitalize higher education and reduce the divide in quality with other countries by:*
- Changing teacher recruitment, development and incentives;
  - Investing resources in new teaching technologies, including information technology;
  - Improving linkages with knowledge generation and applications in the rest of the world.

## VII. VASTLY INCREASE PUBLIC FINANCING OF EDUCATION AND TRAINING<sup>17</sup>

76. More and especially better primary and secondary education are needed to achieve priority social goals (fertility and poverty reduction) as well as economic objectives (increasing labor intensive, export-oriented industrial production). Increased public spending is unavoidable to achieve quality and expansion. Bangladesh needs vastly to increase its public investment in human capital.

### A. ISSUES

77. After significant increases in education spending in the first half of the 1990s, spending has leveled off and even decreased. The share of education in the revenue budget declined from a high of 20% in FY 93 to 17.7% in FY99. As a share of GDP, public spending for education in Bangladesh is just over 2%, compared with 3.7% for India, 3.4% for Sri Lanka and even 2.9% in Nepal. East Asian countries typically invest 4-6% of GDP in education and training. Allocations for primary education in Bangladesh have declined as a percentage of the total from 49% in 1991/92 to 40% in 1998/99. Spending at the lower levels of the system is concentrated almost exclusively on emoluments for teachers, which consume an astounding 97% of the budget at the primary level. Little is left over for spending on necessary pedagogical inputs. The costs per student in primary schools, non-government secondary schools and colleges are among the lowest in the world, both in absolute and relative terms (1 % of GDP per capita). Expenditures per student vary widely among schools, in part due to inconsistently applied allocation rules, with rural and non-government schools substantially worse off than their urban and government counterparts.

78. Essentially the government has been able to achieve dramatic increases in enrollments by following a low-cost, low quality strategy that places an inordinate burden on parents. Private spending on education is enormous, and covers 50-70% of the costs of secondary education. However, this private spending is not always directed at the most productive investments, such as private out-of-school tuition that starts even at the primary level. These outside payments discriminate against children from poor households and help explain why the extremely poor still have limited access to education.

79. Another issue of financing and equity should be addressed. The matter of corruption was raised frequently in the conversations with knowledgeable people in the course of preparation of this review. Assertions were made that crucial aspects of education are rife with corruption. Corruption reportedly occurs in myriad ways: teachers who have to "buy" appointment to their positions; teachers who have to pay kickbacks to receive salary payments; administrators who charge recipients for "free" textbooks or other services; financial corruption in contracting practices. Corruption is not just manifest in finances, but also favoritism in teacher appointments, favoritism in admissions, cheating on examinations, diversion of aid funds to less deserving beneficiaries, etc. The scope of the review did not permit the verification of any of these allegations, but the widespread concern about corruption among informed observers is nonetheless clear.

80. The good news is that Bangladesh can probably achieve universal primary education and needed quality improvements at that level without increasing the proportion of GDP devoted to education. This is

---

17 See Volume I, Education Finance

explained mainly by the success of Bangladesh's population program the fruits of which will be steady or decreasing primary school-age population over the next 20 years. This optimistic scenario, however, does not allow for needed quality improvements in the middle and higher levels of the system. The Government's previous policy of low-cost, low-quality mass education will not suffice for the beginning of the 21<sup>st</sup> century. Business as usual at the existing 2.1 percent of GDP will not generate the resources required to achieve all of these priorities.

## B. PRINCIPLES

81.

- The duty of the state is to ensure that all children receive basic education (primary education and eventually lower secondary) of reasonable quality. It should finance all the necessary costs.<sup>18</sup> In addition, it must provide supplementary financing to ensure that underprivileged students can attend higher levels of education, and that resources are spent evenly and equitably in the system.
- Payments for educational services should be linked to performance. This applies in particular to government subventions of the majority of costs of non-government secondary education and higher education (degree colleges and universities).
- Beneficiary financing: To the maximum extent possible the beneficiaries of education should be responsible for sharing the costs. This applies mainly to higher education in which students from wealthier households tend to benefit disproportionately, but could also be applied selectively in technical-vocational education.
- The government should create and reinforce an enabling environment in which private provision of education can flourish and expand. This applies mainly to post-basic education. This is important because (a) private education provides an innovative alternative from which the public sector can benefit, and (b) private financing saves public resources.

## C. STRATEGY

82. A strategy to support achievement of the vision for 2020 consists of three basic elements, as follows:

83. **Public Resource mobilization.** The government should therefore commit itself to increased spending on education, with a concentration on primary and secondary education. Projections of alternative financial scenarios<sup>19</sup> as part of the education sector review found that budgetary allocations to education have to be increased from the current 2.1 percent of GDP to about 3 percent of GDP by 2003 and around 4 percent of GDP by 2008 to achieve universal eight years of basic education and minimum improvements in quality. Needed quality improvements for grades 9-12, in TVET and higher education would be additional. Allocating a greater share of the incremental revenues from GDP growth to education would help achieve the targeted share by 2008.

84. **Private Resource Mobilization.** In a constrained financial environment essential improvements in technical-vocational and higher education for equity reasons will have to be financed not from greater public spending but through greater cost-recovery from beneficiaries. This means both increasing student tuition and non-tuition fees in parallel with financial assistance to meritorious poor students and encouraging financial contributions by employers and the population at large through tax breaks. There is scope for much greater cost sharing by beneficiaries of public university education. This does not mean full cost recovery, but it does mean significant partial cost recovery –perhaps up to a third of total costs. Cost recovery at higher

---

18 The government does not finance all the costs of basic education at present. For example, it does not finance the costs of educating students in non-government institutions, nor does it finance textbooks for students outside government recognized schools.

19 See Volume I, Education Finance

levels of the system would be equitable since students tend to come from families with higher incomes and reap substantial private benefits. A ceiling could be imposed on public spending in universities along with a relaxation of restrictions on self-financing and cost sharing by beneficiaries. Given the political resistance to increasing tuition fees, innovative ways of improving cost recovery from beneficiaries need to be devised. It is also necessary to channel current private contributions into more fruitful avenues. A significant part of private expenditures goes for out-of-school tuition to prepare for terminal examinations. This distorted and inefficient spending should be redirected toward more productive investments in improving the quality of secondary schools. This requires, among other things, reforming the examination system, which is responsible for the overwhelming demand for outside tutoring. Finally, resources can be mobilized by allowing enrollments to expand in private education, which reduces the financial burden on the public sector

**85. Improved efficiency.** Existing public expenditures have to be used to greater effect. A powerful way to exert comprehensive leverage for system improvement is to change the way resources are allocated to educational establishments.

- The main requirement is link payments to performance.<sup>20</sup> Good performance should be rewarded. Managers must be held accountable for measurable results. At present non-governmental institutions—the vast majority at both secondary and degree levels—receive heavy government subsidies (up to 90 percent of salaries) regardless of school performance. A balance must be struck in favor of rules that reward good performance and penalize poor results while taking the equity considerations into account.<sup>21</sup>
- Reforms in norms for budget allocation could build incentives to reduce waste and monitoring education expenditures better. Funds currently are distributed throughout the system based on historical precedent or influence, which results in gross distortions in per-student expenditures. Funding formulas based on per-student allocations would help eliminate disparities and create incentives to use resources more efficiently. Specifically, the government could (a) allocate resources to schools on the basis of students enrolled (capitation grants, or normative financing) along with a formula that compensates underprivileged areas; (b) establish normative financing for university education based on per student grants according to field of study.
- Spending should be concentrated on those factors known to have powerful effects on quality in relation to cost, such as better and better textbooks, systematic assessment of student learning, continuous in-service teacher training, effective academic support and supervision and training of school directors, as well as the hiring of more female teachers.

---

20 PMED has made strides lately in beginning to establish incentives for quality improvement. It collects indicators of school input quality. It withholds grants for the Food for Education Program from those schools that rank in the lowest category and do not send at least 10% of their students for the secondary scholarship examination

21 Reform of educational financing mechanisms does not mean ceasing to finance schools because of poor performance. The state cannot do that. Rather, it would involve incentives and rewards for good performance, and remedial support for those institutions that cannot, despite their best efforts, raise educational outcomes. Performance measures cannot be applied equitably in an absolute sense, since performance is usually linked to the existing levels of resources of the school and the community, i.e. schools for better off children tend to have better inputs and better achievement scores. Instead, performance incentives should be based on a concept of "educational value added" by the school, i.e. schools that, say, make the best relative gains between entrance and exit examinations

## VIII. MANAGE THE SYSTEM BETTER

86. The review does not underestimate the difficulty of taking action on these broad fronts. It is relatively easy to identify what needs to be done, but hard to get organized to do it. In the final analysis, virtually everyone agrees that the most pressing constraint and challenge is better management of the sector.

### A. ISSUES

87. Bangladesh has one of the largest centralized systems of basic education with about 18 million students enrolled and controlled from the headquarters in Dhaka. Bangladesh's compact geographical size makes this possible, but it is not necessarily desirable. Too many decisions are made at the capital rather than devolving authority and responsibility to local communities. The lack of local community political structures, of course, is an obstacle to such devolution. TVET is also overly centralized with training institutions reporting to the center rather than being self-supporting and responsive to local markets. The problems are different at the secondary level. Secondary education is almost exclusively delivered in non-governmental institutions. The government plays a limited role and exerts little influence and control. The central department responsible, the DSHE, is ill-equipped to provide policy guidance and program development for the subsector. The Ministry does not have sufficient staff to monitor even the financial aspects of the teacher subvention system, let alone the quality of instruction. A district education officer may take three years to inspect all of the schools in a district. In effect, active management of local schools by district and zone officials is so thin that local schools essentially operate on their own with financial input from the central government. In higher education the management problems include relatively weak or inexperienced key central organizations — the UGC and National University — and major problems of internal governance within universities.

### B. PRINCIPLES

- The stress of government management control should shift gradually from inputs to outputs from the system. For example, the stress should be on successful completion with at least minimum quality standards met, rather than focusing exclusively on enrollments, teachers and teaching materials.
- Incentives should be used more to achieve higher outputs.
- Management control should be moved from the center to be located as close as possible to where teaching takes place
- The role of the central government should focus on policy, establishment of standards, performance measurement and less on the actual delivery of educational services
- The government should see its role change from the exclusive delivery of education to financing the best delivery from a wide range of educational providers, both public and non-government. This means partnerships with the private sector should be cultivated and strengthened.

### C. STRATEGY

88. The education system must become far better managed than it is at present in terms of defining strategic objectives, mobilizing resources, and controlling implementation to achieve priority goals. Far too much effort is focused on administration of the system, e.g. controlling inputs, and enormous resources are wasted

on incomplete and inadequate results. Resources need to be applied much more efficiently to achieve the desired learning outcomes. They must also be able to be moved around within the system with much greater flexibility to achieve priority objectives. The capacity to manage must be developed in three respects, as follows.

89. **Shifting Managerial Control.** One of the best ways to get better educational results is to make those who deliver education accountable to stakeholders and beneficiaries. One way to make a big impact on system performance would be to shift the locus of managerial control over educational institutions to those closest to the place of learning. This would enable better adjustment of available resources to local needs and circumstances. Decentralization means different things in different sub-sectors. In primary education this means devolution of authority to lower levels of the administration. Real power over teacher appointments and school budgets should be put in the hands of local school boards or management committees provided they are genuinely representative of the local communities. A corollary requirement would be to work hard on training school principals/headmasters and school management committees.

90. Decentralization in technical-vocational education and training means devolution of authority for the management of public training institutions, or—better—turning over management to private enterprises. Managers of public vocational training institutions must be given the freedom (and the training) to find their own markets and be held accountable for results. In public universities shifting managerial control means greater representation in the controlling bodies from the society at large. It also means greater autonomy for private universities in terms of personnel appointments. At all levels it means full powers to organize and operate the educational establishment (hire, fire, set pay standards, decide on teaching materials, etc) subject only to achievement of specified standards of performance. In short, it means greater freedom by school managers to act and greater 'accountability' by them to guardians and the community for results. This is not easy to accomplish and is by itself no panacea. However, the impact of increased community ownership and accountability of schools to the community could be earthshaking.

91. As a corollary to devolution, the role of the central government needs to change vis-à-vis the lower level administrative authorities, including less direct administration and more policy planning, information analysis, standard setting, and system evaluation. Far too many decisions inhere at the top levels of the administration that could be handed down for greater effectiveness. Rapid decentralization of authority could also help overcome roadblocks to effective investment project implementation. This does not imply that the state should cease to provide educational services directly, particularly at sub-national levels of the administration. It means that the balance continues to shift in the direction of channeling public resources through high performing non-governmental institutions.

92. **Deepening Public-Private Partnerships.** The public sector cannot do everything that is needed. Non-governmental institutions must be mobilized to help. Partnerships with the private sector have two aspects. The public sector must increasingly finance service delivery by non-government institutions where such organizations have demonstrated the capacity to provide quality services at reasonable cost.<sup>22</sup> The government has already made an excellent start in fostering collaboration with the private sector at lower levels of the system. Non-government institutions are used to deliver public training in both non-formal education and, to some extent, in primary education, where the government has started to finance delivery by non-governmental institutions in hard-to-reach areas. Publicly financed vocational training could also be delivered to a much greater extent through private sector institutions. However, the capacity of non-government institutions to provide quality educational services on a large scale should not be taken for granted. Efforts will also need to be made to build capacity in the private as well as public sectors. The public sector should also consider incorporating practical innovations in public education based on the

22 The view of the government and PMED is that non-governmental institutions should raise some of the funds required, rather than just implementing government-financed programs

experience of non-governmental provision of education. Not all innovations will be applicable or feasible in the formal public system, but the content, structure, and approach of non-government-delivered basic education has much to offer to the system at large.

93. **Private education and training.** Impressive shares of education at primary, secondary, higher secondary and degree levels are provided through state-supported institutions that are privately owned.<sup>23</sup> However, the state has to become more active in promoting two particular types of private education: private universities and vocational training. It should create positive incentives and adopt or revise regulations to facilitate the establishment and operation of private institutions. This is not currently the case. At present regulations on private universities are onerous and the government has taken an ambivalent approach to approval of new private institutions, despite ample demand. In some cases, especially for sector-specific training, current institutions could be considered for privatization to industry groups, or the management of new institutions could be contracted out to the private sector.

23 As shown in the table below (1997 data).

(private as a % of total)

Level:	Primary	Junior Secondary	Secondary	Higher Secondary	TVET	Degree Colleges	University
Institutions	40	100	97	99	0	70	59
Enrollments	28	85	83	62	0	53	8

Source: BANBEIS. Note: all junior secondary schools are non-government, but some lower secondary enrollment takes place in government secondary schools. TVET refers to certificate and diploma studies.

## IX. SUMMING UP

94. Several priority themes emerge from the detailed analysis of the education system. In order for the education system to help Bangladesh realize its vision for 2020, major changes and reforms are needed in three key, overarching areas: *relevance, quality and equity*.

### A. RELEVANCE AND QUALITY

95. Bangladesh has achieved remarkable progress in education over the past decade, especially in terms of enrolling more children at lower levels and in increasing the proportion of girls enrolled in both primary and secondary education. These achievements were accomplished through a low-cost, low-quality strategy that greatly increased class sizes and counted on considerable private contribution to the costs. The government's own financing for education also increased, but the government still spends relatively little on education and training, in terms of percentage of GDP and per-student expenditure. In fact, public spending per student in primary and secondary schools and degree colleges ranks among the lowest in the world. Yet even this low level of expenditure is often wasted. It is wasted on students who drop out before they complete their studies in primary education. It is wasted on lack of mastery of basic literacy skills among a high proportion of students who complete basic education. It is wasted on students in secondary schools who follow a curriculum designed for a higher education they will never attain. Private spending on secondary also tends to be wasted on private tuition to prepare for external examinations that stress memorization of facts rather than problem-solving and analytical skills.

96. Better quality for Bangladesh education means both greater relevance of content (to knowledge, skills, and attitudes needed for living) and better mastery of that content. To achieve this, the government will need to spend more on essential inputs, get better results for existing expenditures, mobilize greater private expenditures (already considerable in non-governmental schools), and direct them at more productive purposes. Expenditures on quality improvement are likely to go a long way toward correcting problems of inefficiency in the system. As found in other environments of extreme inefficiency and underfinancing quality enhancements can actually help address remaining deficiencies in coverage and greatly improve completion rates.

97. Another finding of the review is that needs for expansion in coverage of basic education are relatively small, manageable, and not a top priority for the future. Simply expanding coverage at present levels of quality will not be a challenge for Bangladesh's resources. This is because efforts over the past two decades have heavily emphasized coverage and because the school age population is beginning to decline.

98. The main finding of the review is that the biggest challenge for the future, both in terms of deficits to be addressed and required resources, is quality at all levels and in all meanings of the word. Top priority must be given to improving quality—throughout the system but especially in primary and secondary education. Acceptance of present quality levels rather than pushing ahead, would be a prescription for national disaster and would ensure that Bangladesh could not survive and prosper beyond the first few decades of the twenty-first century in an open, interdependent, and knowledge- and skills-driven global economy

99. Quality improvement, consequently, must be accorded top priority. This has two aspects. First, students at all levels of the system need to learn markedly different things from what they are currently being taught.

Higher order skills need to be emphasized—such as analysis and problem solving—rather than mainly rote memorization.<sup>24</sup> People need to acquire the ability to learn on their own, so they can continue to learn after completion of schooling, and they need to know how to work in groups. What are needed are broad skills, not just the memorization of specific facts. The curricula in basic education, both primary and lower secondary, need serious reworking and not only on the cognitive front, but also in the domain of attitudes and values. Models exist in Bangladesh of content that emphasize analytical skills, particularly in some of the basic education programs of non-governmental institutions.

100. Above all, students must vastly improve their mastery of the reoriented teaching programs. At present, only a minority of primary school graduates attain basic literacy and numeracy by the end of grade five. This is nothing short of a national tragedy. In addition, half the secondary students fail the terminal examinations after class 10 and even more after class 12. The focus must shift from getting children enrolled to ensuring that all enrolled children have mastered the basic academic skills. At the primary level this requires vastly increased effective teaching time in class. In secondary schools and degree colleges, particular issues of quality must be faced in the context of inevitably large class sizes. Techniques must be developed for quality teaching within this constraint. Quality problems also apply to non-formal education programs. Achievement in current basic literacy programs is not sufficient to achieve sustained literacy. End-of-course tests by the government show an overall pass rate of 92 percent in reading, writing, and numeracy, but pass rates dropped to 32 percent upon re-testing. In short, much more emphasis has to be given throughout the system to mastery of the revised learning content.

101. Achieving better quality requires many things, but the starting point is a systematic assessment of learning—measuring outcomes of the system at all levels on a continuous basis and feeding the results into the educational process. Continuous assessment, which is almost totally absent at present, requires the development of a national capacity for learning assessments that is practical and workable at the classroom level. The present terminal examinations (SSC, HSC, and degree) test the wrong things and distort the teaching process toward factual material rather than analytical skills. The second key ingredient for quality improvement is establishment of incentives for teachers and school managers to improve learning outcomes. The characteristics of good schools and good teaching need to be defined at the institution level as a standard for improved performance.<sup>25</sup> Parents and communities need to become more involved in school management to ensure responsiveness to local concerns and to hold paid personnel accountable for results. Financial incentives can be provided for innovations initiated by teachers and schools. This bottom-up model of innovation is crucial to establishing the demand at the classroom level for the necessary supporting inputs (e.g., teaching materials, in-service teacher upgrading, etc.). This contrasts with the more typical top-down approach of merely providing better inputs for the schools on the assumption that they will automatically be delivered and used effectively

102. At the upper levels of the system, better quality means greater relevance of course content to requirements in the economy, i.e., better market linkages. Lack of market linkages is the single greatest weakness at present in the system of technical and vocational training. Higher education also tends to be isolated from and immune to market forces, perpetuating the majority output of graduates in general subjects, while less than 2 percent come from the fields of science and technology. Solutions to better market linkages require employer participation in the management of institutions, especially in TVET. In fact, the best hope for a vibrant system of skills training linked to labor market requirements would be for the

---

24 Memorization forms an essential part of learning at all levels. What is wrong at present is the preponderance of emphasis on rote memorization to the exclusion of learning higher order skills

25 A good start has been made in systematically grading all primary schools based on ten criteria. The worst rated schools are not eligible to receive assistance under the Food for Education program. See Volume II, Primary and Pre-Primary Education

government to shift control, management and financing of TVET to employers and non-government institutions. At present, barriers in higher education prevent the free flow of funds into programs in high student and market demand and out of those in low demand. Budgets tend to perpetuate obsolescence.

103. Quality improvement is not a simple process. In fact, this is precisely where the government and donors have had the least success in the past. Targets on expansion are relatively easy to meet. It is relatively easy to build more schools and the government and donors in Bangladesh have considerable experience in school construction. They do not know equally well how to raise quality — that is a much more demanding task. This dilemma is highlighted in a recent review of past IDA lending in Bangladesh. It found that provision of physical plant and equipment was often satisfactory in IDA projects, but insufficient time and resources were spent on improving the quality of instructional delivery and classroom effectiveness. "Despite statements about quality and management of education in project documents, implementation paid little attention to instructional delivery and institutional functions that would enable students to acquire useful skills."<sup>26</sup>

## B. EQUITY

104. The government has improved access recently, particularly for girls. However, a major claim on public financing is the financing of access to education for disadvantaged groups. Currently, education provision is not equally distributed. About 10% of the primary school age group never enrolls and these tend to be children of the very poor and those in remote rural areas. Only about 40% of the children of very poor families enroll in school. Parents simply cannot afford either the direct or opportunity costs of attendance. One of the major issues with secondary education is the unequal chances that different income groups have to attend and complete secondary education successfully. The schools themselves tend to be established where parents can afford them, not where the most needy live. A small sample survey for this Review found an astounding variation in expenditures per student that suggests major disparities in the allocation of available resources. Finally, fees for almost mandatory out-of-school tutoring for the SSC/HSC examinations discriminate against the poor and undermine the equity goals of public expenditures on secondary education. Vocational skills training is provided almost exclusively for male children within the formal school system. Underprivileged youth outside the school system, especially girls, do not have access to acquisition of skills they need to raise incomes in the informal sector. Finally, university students stand to benefit enormously in the labor market from their studies, but pay less than one percent of the costs of their education. The upper quintile of the population in terms of income captures the majority of the benefits of higher education while the poorest quintile only receives a small fraction of the benefits. This system of financing is inherently inequitable.

105. Achieving better equity in the system will involve diverse interventions, including a continuation of the most successful programs of the past. The government should accelerate its experimentation with and financing of early childhood care and development, mainly through non-governmental institutions. Such programs can promote multiple objectives, such as maternal health, nutrition for children, and preparation for primary education. They can also free school-age children from the child-rearing duties that often prevent school attendance. Bangladesh cannot afford wide coverage of such pre-school programs and they should therefore be carefully targeted at the poorest families. More equitable secondary education can be attained through (a) continuation of the Female Scholarship Program which has expanded the enrollment of girls at the secondary level and is widely recognized as a stellar success; (b) adoption of per-student (normative) financing to spread resources more evenly in the system and (c) elimination or reduction in the private costs to poor families for out-of-school tuition. The public sector should diversify the clientele served by vocational skills programs including greater financing of training for underprivileged groups in income generation skills particularly in the rural non-farm sector. Public financing with delivery through private

---

26 *Country Sector Review Bangladesh: IDA's Role in 35 Years of Lending for Education*, The World Bank, Operations Evaluation Department, draft, May 6, 1999

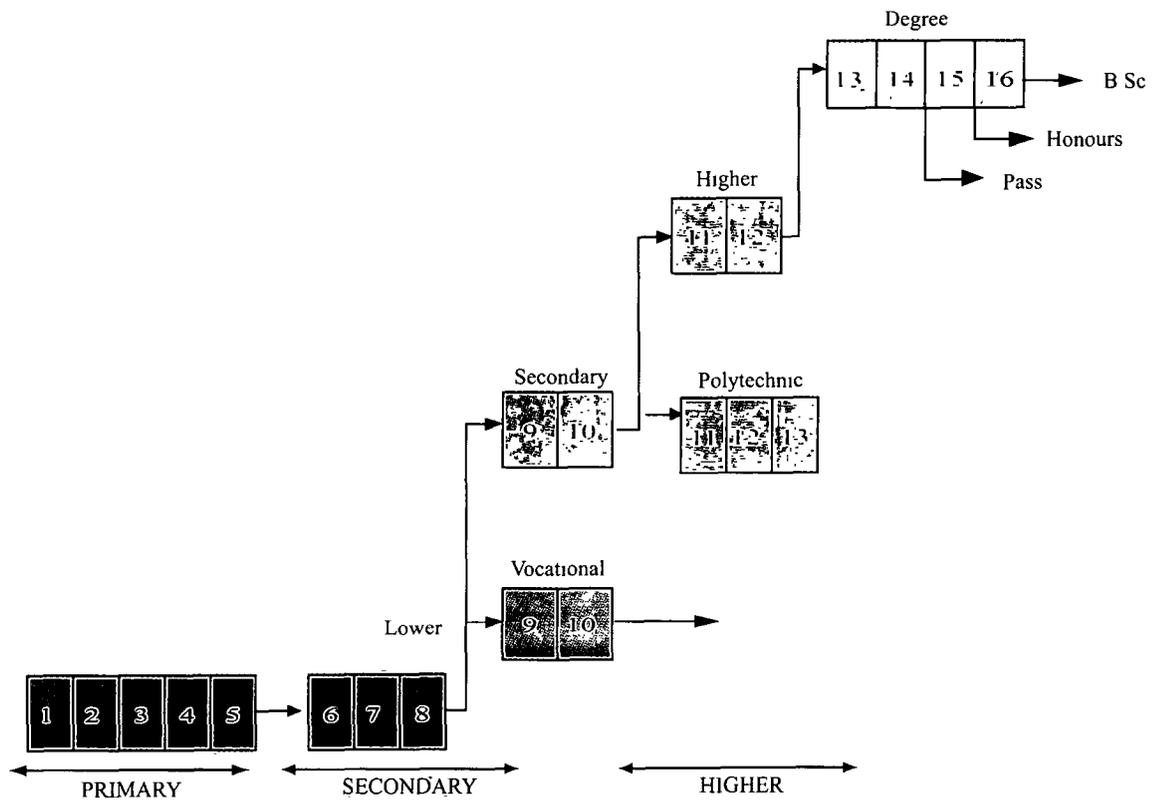
sector institutions would seem particularly appropriate. Cost sharing with students should be greatly expanded in university education both for reasons of equity and mobilization of non-public resources.

### **C. FINANCE AND MANAGEMENT**

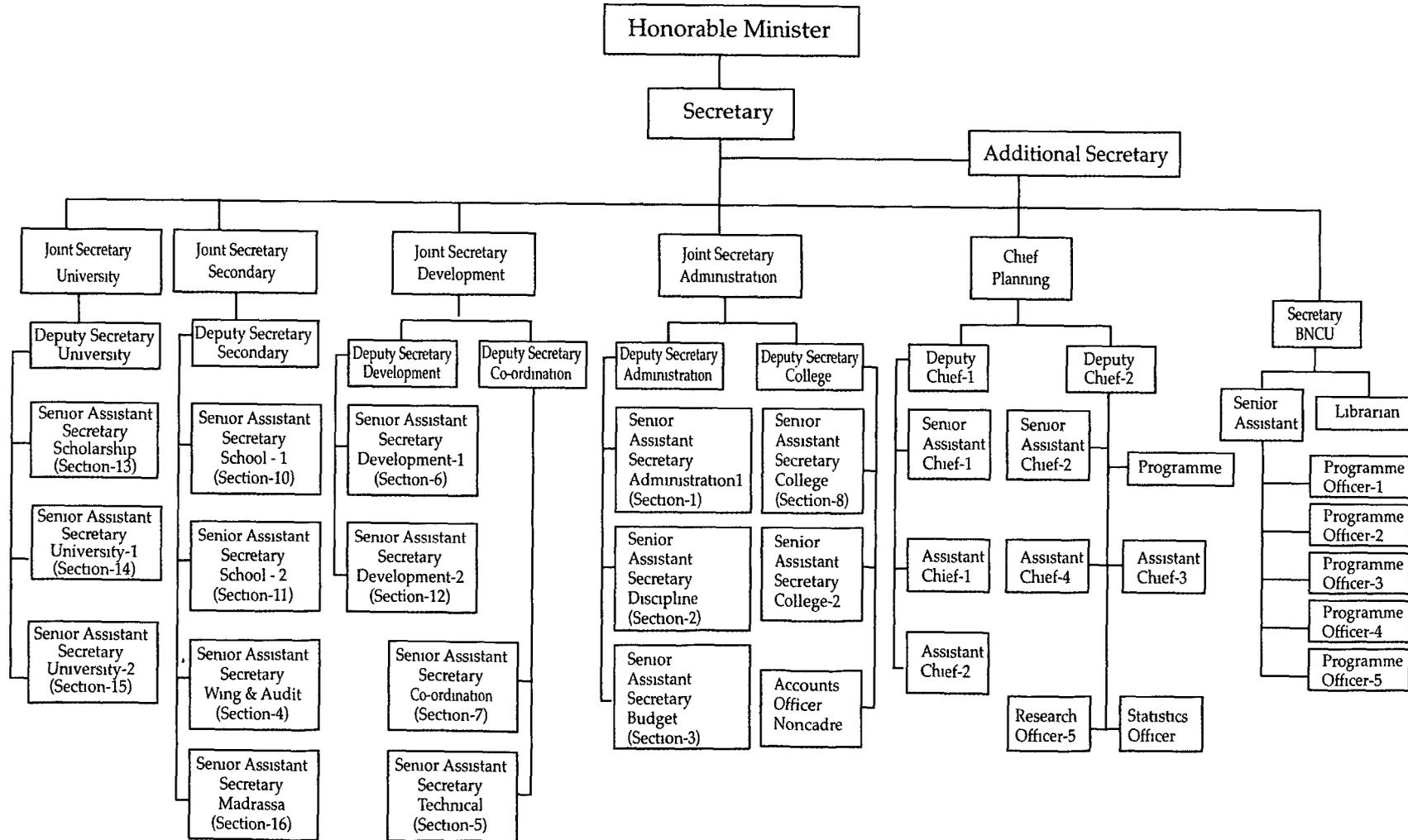
106. More finance and better management are the means to better quality and equity. The government's previous policy of low cost and low quality simply will not suffice for the next generation. Public spending on education must double as a share of GDP over the next decade. Better management means organizing delivery of education differently. The Ministry should focus on policy, standards and measuring performance; devolve authority as closely to schools as possible, use effective non-public institutions to deliver publicly-financed services, and hold all providers accountable for results.

# ANNEX

## Annex 1 : Structure of the System of Education and Training



Annex 2 : Organizational Chart of the Ministry of Education



**Part One**

**BANGLADESH  
SOCIOECONOMIC DEVELOPMENT AND  
THEIR IMPLICATIONS FOR EDUCATION**

**Zahid Hussain**



## EXECUTIVE SUMMARY

Bangladesh has come a long way since the country gained independence in 1971. Its per capita income has grown from less than \$100 to \$350. Social indicators, such as life expectancy, adult literacy rate, primary school enrollment rate, gender parity in education, and access to safe drinking water also have improved remarkably. The improvement in policies since the mid-1980s has enabled Bangladesh to grow faster and reduce poverty. Yet in the new millennium Bangladesh has a long way to go in terms of human development. It is still one of the poorest countries in the world: nearly 35 percent of the population live in hard core poverty, 8.5 percent of newborns die at birth, 67 percent of children under five are underweight, 40 percent of children drop out of primary school, and only 15 percent of the population have access to electricity.

Although the economy suffered a temporary setback in 1998 due to the worst floods in recent history, Bangladesh's medium term economic prospects are reasonably good. Growth had picked up to 5.5 percent over the past couple of years, and export growth, led by garments, was healthy at more than 15 percent in 1997/98. Foreign direct investments (FDI) soared from a meager \$30 million in 1993 to an average \$320 million in 1994-97. Massive gas reserves have been discovered, and foreign investor interest has surged, not just in gas, but also in the power and telecommunications sectors. Some weakening of FDI inflows has occurred after the East Asian crisis. But the more important economic challenges for Bangladesh are to place the highest emphasis on human development; improve governance and build strong institutions; enhance the competitiveness of the private sector; manage FDI; establish the soundness of the financial system; and maintain a stable macroeconomic environment.

One of the main developmental challenges for Bangladesh is to provide employment for entrants into the labor force as well as for the large number of currently underemployed labor. The composition of labor demand in the medium term is likely to shift in favor of a more literate and numerate labor force as the structure of the economy orients itself toward manufacturing for the global market and services sector activities. An equally important challenge will be to stabilize the political, economic, and social conditions of poor populations. This poses a formidable challenge for educational policy. Educational policy will not only have to be firmly grounded on the productive purposes of education and be attuned with the new "knowledge economy" where knowledge is the principal resource, but it must also address more directly the role of education in poverty alleviation and human development. Bangladesh's education system will have to adjust adequately to revolutions in science and technology, economic and political conditions, and demographic and political structures.



## A. POPULATION AND DEMOGRAPHIC TRENDS

1. **Bangladesh's changing demography implies mounting pressure on the post-primary education sector in the medium term.** In the 27 years since its independence in 1971, Bangladesh's population has more than doubled to 125 million. Excluding the city-states, Bangladesh is the most densely-populated country in the world. However, the demographic transition has begun. The total fertility rate has been halved over the past two decades. The result of this remarkable achievement is that the natural growth rate of population has declined from over 3 percent per annum to nearly 1.8 percent. Even if the replacement level fertility—two children per family norm—is achieved by the year 2010, as per the official target, demographic pressure will continue to be a major problem for at least the next 50 years. For every decade of delay in achieving the replacement level fertility, an additional 20 to 50 million will be added to the country's eventual population. Due to the population momentum built up in earlier years, about 45 million will be added to the present population and 50 million to the labor force in the next 25 years. The challenge this poses for the production and education systems is formidable. According to World Bank estimates, Bangladesh had 16.3 million children in the primary school age group (6-10 years) in 1998. The size of this group is expected to decline, but will still be over 15 million from 2010 through 2020. The lower secondary cohort (11-13 years) in 1998 numbered 11.4 million. This is expected to decline to 8.6 million in 2010 and then rise to over 9 million in 2020. In the secondary age cohort (14-16 years), there were 7.4 million children. This number will decline to nearly 5.5 million in 2010 and then rise to over 6 million by 2020. The number of boys and girls in the higher secondary cohort (17-18 years), which stood at around 6.6 million in 1998, is expected to decline to 5.7 million in 2010 and then rise to over 6 million by 2020. The decline in the first decade of the new millennium for the school age groups below age 17 will attenuate the demographic pressure on the lower levels of the system in the short term and facilitate greater relative emphasis on quality improvements.

2. There will be considerable pressure on the expansion of higher education with an increase in the size of the 18-22 age cohort from 11.3 million in 1998 to 18.4 million in 2005. The pressure on tertiary education will begin to decline beyond 2005 and yet remain substantial at about 14 million from 2010 through 2020.

**Table 1.1: Population Projections by School Age Groups  
(No. in Millions)**

Year	6-10	11-13	14-15	16-17	18-20	21-22	23-24
<b>1998</b>	18.5	10.9	6.2	5.2	6.9	4.4	4.1
Male	9.4	5.6	3.2	2.7	3.5	2.2	2.0
Female	9.1	5.3	3.0	2.5	3.4	2.2	2.1
<b>2000</b>	15.2	10.6	7.6	7.3	9.5	5.0	4.5
Male	7.7	5.4	3.9	3.8	4.9	2.5	2.2
Female	7.5	5.2	3.7	3.5	4.6	2.5	2.3
<b>2005</b>	14.2	8.8	6.2	6.9	11.2	7.2	6.5
Male	7.2	4.5	3.1	3.5	5.7	3.7	3.3
Female	7.0	4.3	3.1	3.4	5.5	3.5	3.2
<b>2010</b>	15.2	8.6	5.5	5.7	9.1	6.7	7.3
Male	7.7	4.4	2.8	2.9	4.6	3.4	3.7
Female	7.5	4.2	2.7	2.8	4.5	3.3	3.6
<b>2015</b>	15.4	9.1	6.0	5.8	8.2	5.7	6.1
Male	7.8	4.6	3.0	2.9	4.2	2.9	3.1
Female	7.6	4.5	3.0	2.9	4.0	2.8	3.0
<b>2020</b>	15.5	9.2	6.1	6.0	8.9	5.7	5.4
Male	7.9	4.7	3.1	3.0	4.5	2.9	2.7
Female	7.6	4.5	3.0	3.0	4.4	2.8	2.7

Source: World Bank

3. Can Bangladesh meet the demand for education and jobs coming from such a sizable number of different education age cohorts? The critical factors determining this will be the size and composition of economic growth, poverty, and labor market trends. Bangladesh's recent performance and future directions in these areas are discussed below

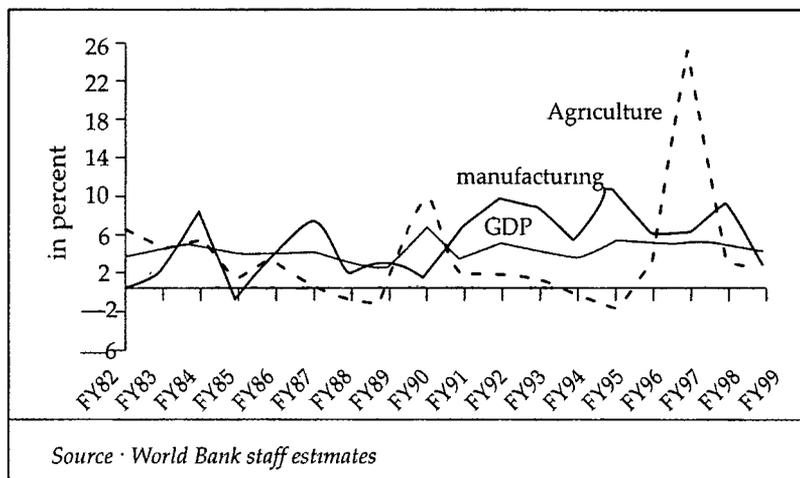
## B. ECONOMIC DEVELOPMENTS

4. **Bangladesh has come a long way, but not far enough.** From a constant nominal per capita income of about \$70 per annum from 1947 to 1971, Bangladesh's per capita income increased to \$350 per annum from 1972 to 1998. In the context of Bangladesh's low inflation record, this represents an impressive compound annual growth rate of about 2 percent in real dollar terms. This growth was made possible by a dynamic services sector, an emerging private enterprise-led industrial sector, and by a significant reduction in population growth that enabled the achievement of between 4 to 5 percent persistent real GDP growth (Fig.1.1). Bangladesh's Human Development Index (HDI) improved from about .2 in 1970 to .368 in 1994. Also, the rate of reduction in HDI shortfall increased from 4.4 percent from 1970 to 1980 to 9.7 percent from 1980 to 1992.<sup>1</sup> These indicate that there have been significant improvements in the overall quality of life of the population in general. Yet, **Bangladesh has a long way to go.** It is still one of the poorest countries in the world. Even within the South Asia region Bangladesh only ranks above Nepal and Bhutan in terms of HDI. It lagged behind all the countries in the South Asia region in terms of the rate of reduction of HDI shortfall from 1980 to 1992. Over 35 percent of the population is still living in hard-core poverty; 85 out of every 1,000 newborns die at birth; 67 percent of children under 5 are underweight; two out of five students drop out of primary school; only 15 percent of households have access to electricity; and only 1 percent have access to a daily newspaper or a television.

5. Although many studies have demonstrated the strong links between education and an individual's income, more evidence is emerging that links education and a country's economic growth. According to a recent study, educated labor played a greater role in Bangladesh's growth than physical capital, and total factor productivity growth was virtually absent.<sup>2</sup> This study found that public expenditure on education, health, and research and development encourage private investment because of positive externalities. A 10 percent increase in public expenditure on education added over 1 percentage point to GDP growth in three years.

6. **The structure of the economy has changed.** The Bangladesh economy has become increasingly open to global competition in recent years. The merchandise trade to GDP ratio increased from 17.6 percent in FY90 to 30 percent in FY98. Remittances from Bangladeshi workers abroad have doubled during the last ten years—from \$737 million in 1987/88 to about \$1.5 billion in 1997/98—so much so that it now exceeds the annual official aid flows. There is hard evidence that the growing openness of the economy as well as the growing importance of workers' remittances favored economic growth by facilitating access to foreign know-

Figure 1.1: GDP Growth



1 UNDP, *Human Development Report 1997*, Statistical Appendix, Table-6

2 Auguste-Tano Kaoume, *Bangladesh: Sources of Long Run Economic Growth*, World Bank, July 1997

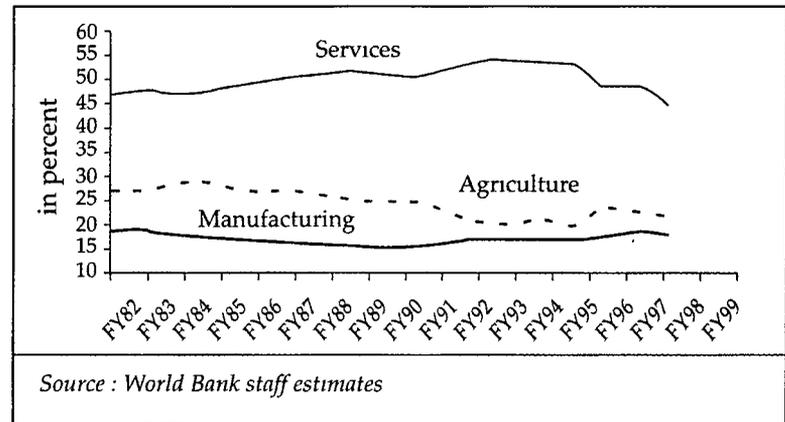
how and foreign markets. The share of agriculture in total GDP has declined while the share of manufacturing and services have tended to increase (Fig.1.2).<sup>3</sup> Bangladesh's domestic goods, financial, and labor markets are still subject to a variety of state interventions, but have also become relatively freer. The share of the private sector in the formal economy has been increasing. Evidence from other transition economies suggests that returns to education are likely to increase in Bangladesh as labor market reforms take full effect.<sup>4</sup> In Vietnam for instance, where

significant labor market reforms were introduced in 1986, returns to education for younger Vietnamese workers (14 percent) are considerably higher than for older workers (4 percent).

7. **There is enormous scope for harnessing the gains from free international capital mobility by capital scarce economies like Bangladesh and this has begun to happen.** Notwithstanding the crisis in East Asia, Bangladesh's considerable natural gas reserves have attracted the attention of leading global oil companies who are already engaged in, or are bidding for rights to, gas exploration and development. With the opening up of the energy sector for private investment, foreign power companies are negotiating contracts with the Power Development Board to set up independent power plants. Foreign investors have also shown keen interest in the telecommunications sector apart from the investments in export-oriented manufacturing within the Export Processing Zones (EPZ). The East Asian crisis could weaken or delay private capital inflows into the EPZs. However, it is unlikely to have a major effect on FDIs in energy and telecommunications sector. When the latter investments come to fruition, the dynamics of the Bangladesh economy in general, and labor markets in particular, will change dramatically. The demand for technical, vocational, and managerial labor will then rise, as will demand for unskilled labor.

8. **Economic growth is unlikely to come from agriculture, which contributed 28 percent of the country's growth in the 1980s. That share is down to 11 percent in the 1990s.**<sup>5</sup> Even with diversification from the present pattern of subsistence rice farming into higher value crops, Bangladesh cannot expect agricultural production to grow at more than 3 to 3.5 percent a year on a sustained basis. This too would require significant increases in yields through variety improvement of rice and wheat, increased irrigation coverage, and better water management. Thus, **the contribution of manufacturers will have to increase very sharply.** Currently manufacturing contributes about 16 percent to growth, and Bangladesh is only at the threshold of industrialization. Despite severe constraints imposed by a shortage of financial capital, weaknesses of physical infrastructure, and underdeveloped human and social capital, the domestic stage is set for significant private sector-led industrial growth. The search for employment will bring more workers and their families to the industrial and services sectors where growth is strongest and can become even stronger—the cities. Two out of three urban jobs are at present in manufacturing, trade, and hotel/restaurant activities; 28 percent are in such peri-urban agro enterprises such as poultry and other livestock raising, food processing, and forestry.

Figure 1.2: Structure of GDP (Percent of GDP)



3 Many observers are puzzled by the nearly 50 percent share of total GDP of the services sector, since it makes Bangladesh look like an advanced economy. Note, however, that Bangladesh is not the only poor economy with such a high share of total GDP in the services sector. Sri Lanka is another instance. See World Bank, *Sri Lanka Recent Economic Developments and Prospects*, Report No. 17761-CE, May 1, 1998 Table A-2, p. 22.

4 Peter R. Moock et al, *Education and Earnings in a Transition Economy (Vietnam)*, 1998.

5 World Bank, *Bangladesh 2020: A Long Run Perspective Study*, 1998

9. The stage is also set for the emergence of Bangladesh as a successful exporter of more than ready-made garments, leather goods, jute, and frozen foods. This is evidenced by rapidly increasing export earnings from knitwear and ceramics. Footwear, leather products, toys, jewelry, sports equipment, and data processing appear to be next in line. The possibility of expanding cooperation with India after the signing of the water sharing treaty and of participation in a range of regional initiatives has further strengthened Bangladesh's future export growth prospects. Recent financial turbulence in East Asia and its effect on global markets provide grim reminders of the risks in the external economic environment of Bangladesh. While these short term risks have yet to disappear, it seems that the preconditions for recovery in the longer term are beginning to emerge. The interest rate cuts in the United States and adoption of a financial stabilization package in Japan contributed to improved investor confidence. Even if the global economy remains somewhat depressed for a prolonged period, Bangladesh's current export markets are unlikely to be seriously affected. This is because Bangladesh's exporters operate mostly in the low value added, low price segments of the European and U.S. markets. Demand for Bangladesh's exports are likely to be less procyclical than demand in the high value added, high price segments of global markets. However, Bangladesh's ability to diversify its narrow export base could be adversely affected in the absence of world economic recovery in the medium term.

10. Given the scarcity of land and the pressure on the environment, there are strong incentives for people to move from the subsistence economy to the formal and informal non-farm economy. Labor supplies to these economies would keep growing, thus keeping wages low for many years to come. Low wages may be a necessary condition for attracting foreign investment, but are not by themselves sufficient. For low wages to translate into low labor costs, the labor force needs to have minimal levels of literacy and numeracy so that it can function in a globalized environment. Expansion of the formal production sectors will also lead to growth of support services where the standards of required literacy and numeracy are much higher.

11. In view of above trends, the **Fifth Five-Year Plan** rightly envisions limiting the role of the government mainly to the establishment of the educational, technological, financial, physical, environmental, and social infrastructure of the economy.<sup>6</sup> An average annual 7 percent real GDP growth target has been set for next five years. Even though 7 percent growth rate has been rather rare in Bangladesh's history, it certainly has the potential to achieve this growth rate with accelerated reforms in the financial, infrastructure, administrative and legal institutions and by providing the masses the wherewithal for growth through improving access to education and health services.

### C. POVERTY TRENDS

12. Bangladesh's record on decreasing poverty has been somewhat mixed and controversial. There is now broad agreement that the cost of basic needs (CBN) method captures the poverty phenomenon better than the conventional head count index method. According to the CBN method, **the incidence of poverty was relatively stable from 1983/84 to 1991/92 and has declined since 1991/92 as measured by both the lower and upper poverty lines** (Fig. 1.3). The drop in poverty in recent years was larger in urban than in rural areas. Rural poverty has consistently been higher than urban poverty. In 1996, rural poverty incidence (40 percent) had grown to more than twice as high as urban poverty incidence (14.3 percent). Other independent evidence suggests that malnutrition in rural areas has been declining. However, it is estimated that about one-fifth of the potential poverty reduction from growth was lost due to rising inequality.<sup>7</sup> In other words, had inequality not increased, poverty reduction would have been 20 percent higher than what was actually achieved. This rise in inequality is not unusual compared to other countries over the short to medium term. During the transition from an economically backward to a progressive sector, technical change, migration,

6 GOB, *The Fifth Five Year Plan 1997—2002*, Chapter II.

7 World Bank, *Bangladesh. From Counting the Poor to Making the Poor Count*, April 1998, p-17.

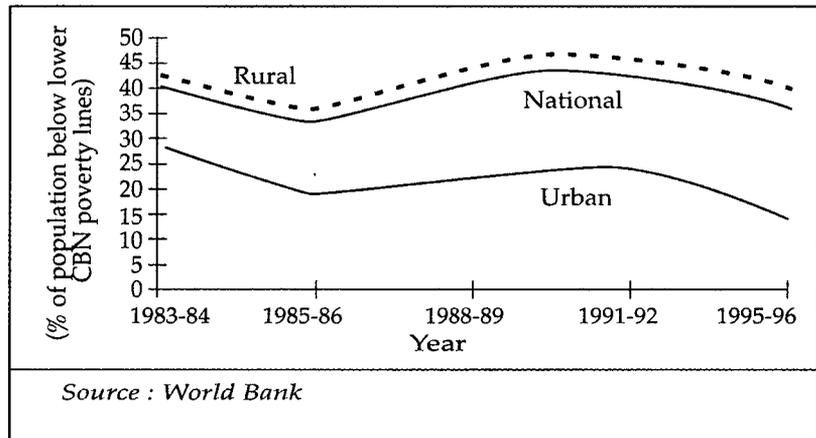
saving behavior, and asset and labor markets may all increase inequality. A long term trend of rising inequality, however, is relatively unusual.

13. Despite some recent positive changes, levels of malnutrition in Bangladesh remain among the highest in the world. Only 10 percent of children are nutritionally at or above 90 percent of median weight of a reference population. Unlike their well nourished peers, malnourished children not only have lifetime-weakened immune systems, they also have diminished capacity for learning. In young children, malnutrition dulls motivation and curiosity and reduces play and exploratory activities. This in turn impairs mental and cognitive development by reducing the amount of interaction children have, both with their environment and with those who provide care.<sup>8</sup> Over 70 percent of pregnant women in Bangladesh are anemic. Malnutrition in an expectant

mother produces varying degrees of mental retardation in her infant. The incidence of low birth weight is 45 percent, the highest in the world.<sup>9</sup> While the underlying causes of malnutrition are closely linked with poverty, the practice of new behaviors and appropriate use of nutritional services by individuals could significantly improve the situation. These new behaviors include: increased practice of exclusive breastfeeding of infants during the first six months of life; increased initiation of timely and complementary feeding; quantitative and qualitative improvements in food intake during pregnancy; increased practice of hygienic behavior; and increased use of related health and other services.

14. **Education plays an important role in mitigating the adverse effects of poverty and malnutrition.** Even a modest exposure to education has been found to reduce poverty levels substantially in Bangladesh. When the head of a household has had only one to four years of schooling, the likelihood of that household being below the poverty line declines by as much as 37 percent even though education raises the household incomes only a very modest amount.<sup>10</sup> Internationally, education has been linked to a number of poverty reducing behaviors. There is noticeable reduction in fertility rates even among women with minimal education. The World Development Report, 1993, found that in Africa, for instance, increasing female literacy by 10 percent could lower infant mortality by 10 percent. Health practices and use of health clinics increase with education. Market activity increases in areas where education has been widespread over a period of time. Educated farmers tend to be more productive farmers. There is some evidence that education creates a cross-generational synergy. Children of educated mothers have a much higher probability of attending and completing school. This is confirmed by econometric evidence based on Bangladesh's recent household level data. While these correlations are well established, it is still not clear **how** education changes behavior.<sup>11</sup> Anecdotal evidence suggests that people exposed to education view themselves and their role within the community differently, tend to have a greater sense that they can take control of their lives, and also tend to share a bond with others who have participated in the schooling experience. Perhaps education gives people structures for understanding how their home-based world links with larger community structures. These effects are over and above the effects of literacy and numeracy. Access to a few years of

**Figure 1.3: Poverty Incidence: The Very Poor, 1983-84 to 1995-96**



8 UNICEF, *The State of the World's Children 1998*, Oxford University Press.

9 World Bank, Bangladesh National Nutrition Program, Project Concept Document

10 *Ibid*

schooling reduces poverty levels even among populations that do not use the reading, writing, and numeracy skills acquired in schools.

15. Evidence is overwhelming that increasing the human capital of the poor is a key to reducing poverty.<sup>12</sup> Basic education is an essential element in developing the human capital of the poor. This in turn requires investing in early childhood development, primary education, and girls' education. A child's major developmental patterns are set by the time they reach 4 or 5 years of age. Consequently, integrated interventions aiming to improve a child's health and nutrition can have lasting positive effects.

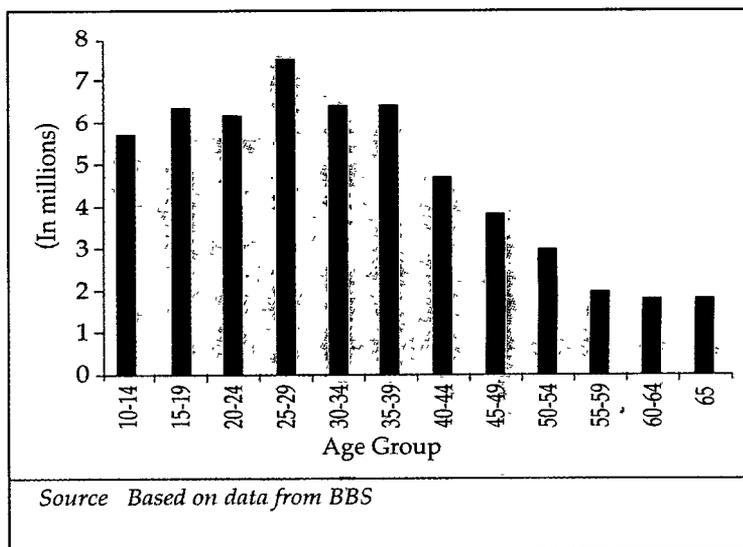
16. There are six crucial areas for ensuring that the poor are able to maximize the benefits from growth.<sup>13</sup> These include: (1) providing the necessary framework for broad-based growth; (2) helping to ensure access to key assets such as credit and land; (3) increasing the productivity of the poor; (4) investments in basic education and health, agricultural extension, and demand driven business training to help increase the productivity of the poor; (5) making markets work for the poor; and (6) removing discrimination against the poor. In each of these areas education plays a crucial role—growth cannot be sustained in the absence of a literate and numerate labor force; access to credit is facilitated by education; education enhances the ability of the poor to gain access to information in order to be more productive and more effective market participants; and education empowers the poor to fight discrimination. However, education needs to be complemented by other interventions to achieve these outcomes.

#### D. LABOR MARKET

17. One of the main developmental challenges for Bangladesh is to provide employment for entrants into the labor force and the large current underemployed labor force. According to the 1996 Labor Force Survey, Bangladesh has over 56 million people in the labor force. Of these, 62 percent are males and 38 percent are females. The annual average growth rate of the labor force is 2.3 percent. Nearly 50 percent of the labor force is less than 39 years old (Fig. 1.4), 51 percent had no schooling experience, and another 25 percent had only between one to five years of schooling. Only 13.8 percent had between six and ten years of education, 7.6 percent had SSC/HSC and equivalent and 3.2 percent had bachelors degree and above. A minuscule 0.4 percent had received vocational/technical or some kind of commercial training.

The young, largely illiterate and unskilled labor force in Bangladesh makes education investment socially and economically more beneficial for marginalized groups than would be the case if these characteristics were absent.

**Figure 1.4: Distribution of the Labor Force**



11 Asian Development Bank, *A Proposed Secondary Education Sector Development Plan, Draft, 1998*

12 Research has shown that each additional year of schooling brought a 16 percent rise in the wages of men, an 18 percent increase in the wages women, and a 5 percent increase in farm output in Malaysia. In Thailand, the corresponding numbers are 7 percent, 13 percent and 3 percent. D T. Jamison, and Lawrence Lau, quoted in World Bank's 2020 perspective study.

13 World Bank, *Poverty Reduction and the World Bank: Progress and Challenges in the 1990s*, Washington, D C , 1996 p. viii-x

18. The World Bank projects the labor supply to the year 2000 at 64.3 million people (37.7 million men and 20.1 million women).<sup>14</sup> This assumes no significant change in the structure of the labor force. It may be more appropriate, however, to assume an increasing female labor force participation rate, which would result in a labor force larger than 64.3 million. On the other hand, because of increased school attendance, the participation rate for the 10 to 16 year age group may decline, and this would yield a lower estimate of the size of the labor force in the year 2000. The projections also show that for the underemployment rate to decrease to any significant extent, Bangladesh needs a minimum 6 to 7 percent annual GDP growth rate and higher employment elasticities.

19. There are three types of labor markets in Bangladesh: formal, rural informal, and urban informal. The formal market is characterized by the presence of contractual employment relationship, labor laws and regulations, and unions. The informal sectors, which are not covered by protective labor regulations and unions, dominate the labor market. Only about 30 percent of the labor force works for wages, salaries, and commission. Over 62 percent of the labor force is in agriculture (which accounts for 29 percent of GDP) and only 9.5 percent is in industrial activities (18 percent of GDP). The proportion employed in agriculture has been declining over time. During the last five years, employment as "sales workers" has grown by 10.7 percent, and this has occurred largely among female workers. The number of professional and technical workers has grown by 5 percent, and here too female labor dominated the growth pattern. It is clear that the composition of employment is changing in favor of occupations where literacy and numeracy are critical success factors. There is also hard evidence that the labor market in Bangladesh, the agricultural labor market in particular, is integrated both spatially and across industries.<sup>15</sup> This means that labor is mobile between regions and industries and as a result wage schedules are highly correlated regionally and across industries.

20. **Underemployment is the most significant problem in Bangladesh's labor markets.** Considering the size of the labor force, the rate of open unemployment is not significant. Each round of labor force surveys since 1983/84 and the population censuses (1981 and 1991) indicated fairly similar levels of open unemployment rates, in the range of 1 to 3 percent.<sup>16</sup> A more realistic definition of unemployment includes those who are absolutely out of work as well as those who worked less than 15 hours or as unpaid workers during the reference week. This gives an unemployment rate of 5.5 percent. The rate of underemployment, defined to include those working less than 35 hours during the reference week, was 34.6 percent. This rate is higher in rural areas (37.9 percent) and among rural females in particular (74.6 percent). Note that while open unemployment is not yet a major issue, unemployment among educated youths is one of the major social and political problems in Bangladesh.

21. The **competitiveness** of Bangladeshi labor varies by sectors. In the garment and leather sectors, where public enterprises are absent, unit labor costs are low. According to the World Bank's above-cited labor market report, "Sectors that have been used to operating behind protective tariffs and import quotas (textiles) or with important explicit and implicit subsidies (jute) and with a significant public enterprise presence (jute and textiles) are not competitive." Since wages in Bangladesh do not appear to be out of line with those of its neighbors, the lack of competitiveness in these sectors is clearly due to low productivity.

22. **Bangladesh also has a sizable child labor force, although its growth has slowed in recent years.**<sup>17</sup> About 6.3 million children between the ages of 5 and 14 are economically active. They constitute 19 percent of the total number of children in that age group and 12 percent of the total workforce. More than 80 percent of child

---

14 World Bank, Bangladesh. *Labor Market Policies for Higher Employment*, The University Press Limited, 1996 p 5

15 Azam, Jean Paul, *Labor Market Integration in Bangladesh*, 1994.

16 The absolute number of openly unemployed persons was still a sizable 1.4 million in 1995/96, whereas it was only 1 million in 1990/91

17 Latif, S M, *Situation Analysis of Child Labor in Bangladesh*, paper presented at the World Bank regional workshop at Delhi, July 16-17, 1998.

labor is in agricultural activities. The children are engaged in the same economic activities as the adults. Only 4 percent—of whom a larger proportion are boys engaged in factory work, sales, transportation and construction—are engaged in the formal sectors; the rest are involved in the informal sectors. The 1995 Rapid Assessment Survey<sup>18</sup> found children working in 80 kinds of activities in the rural areas. It is assumed, as a consequence of increased rate of enrollment in primary schools after the Compulsory Primary Education Act of 1993, the Food for Education program, and other interventions that the size of the child labor force has decreased somewhat during the last seven years. However, not all those who are in the child labor force are out of school. According to the above survey, there are some children who work as well as attend school, and a greater proportion of such children tend to be girls. Thus, the child labor problem is not just a challenge of getting working children back to school. Also, in Bangladesh, despite the existence of an impressive network of non formal education, ways have not been found to reach the hard-to-reach child laborer. This remains a formidable challenge for non formal education interventions.

## E. POTENTIALS AND CONSTRAINTS

**23. The role of education is particularly critical in realizing Bangladesh's development potential.** The ultimate basis of wealth in today's world is not land or natural resources or even physical and financial capital. Meredith Bagby, a young American writer, makes a potent case for education in her recent book.<sup>19</sup> "Every great civilization has put a premium on the education of its members. Whether the greatest value was attached to education as a soldier, a farmer, or a politician, human history has shown that acquisition of the appropriate skills are vital to the continuance of a nation-state. But it is not enough to say that our populace must be 'educated.' That is as true and established in our society as it was in Plato's. The more important question is *how* should we be educated?"

**24. Bangladesh has several advantages in educating its population that many other developing countries do not have.** It is culturally homogeneous, with one language, one dominant religion, and no ethnic conflict. Family life is highly valued and families serve as the principal center for learning basic social ethos, thus making the job of teachers in the formal education system relatively easier from a disciplinary standpoint. Teachers are held in high esteem by parents as well as students. Bangladesh's very high population density leads to economies in school location as well as size. There is widespread awareness of the benefits of education. Even the very poor list children's education as one of their top investment priorities. Those who can afford to appear to be willing to spend a sizable portion of their income on their children's education.

**25. Realization of the benefits of an educated labor force in Bangladesh is subject to some very serious constraints.** The country—a land of rivers—is prone to natural disasters. Massive rainfall and peak-season flows through the Ganges-Brahmaputra-Meghna river system cause seasonal flooding. Each of these rivers usually peaks at different times of the year. However, when the peaks synchronize, major flooding occurs as several flood waves pass through the country. Bangladesh suffered from such major flooding in 1954, 1955, 1974, 1987, and 1988. The most recent 1998 floods in Bangladesh were the worst in living memory. It inundated two-thirds of the country for over nine weeks, killed over 1,200 people, rendered 30 million people homeless, damaged 500,000 homes, 15,000 kilometers of roads, 6,500 bridges and culverts, 4,200 kilometers of embankments and 14,000 schools. Crop production was severely affected, and 5,000 industrial units were damaged. Restoration of the economy to the pre-flood state is likely to cost 2 to 4 percent of GDP. Also, Bangladesh's economic institutions have several weaknesses. The bureaucracy is corrupt and inefficient; markets do not function properly due to regulatory failures; political myopia is the rule rather than the

---

18 Conducted jointly by ILO, UNICEF and the GOB. This survey defined child labor as those below age 18 who are involved in economic activities.

19 Bagby, Meredith, *Rational Exuberance: The Influence of Generation X on The New American Economy*, A Dutton Book, 1998, p. 94

exception; political leaders do not provide a kind of leadership that facilitates economic development, and there is very fragile application of the rule of law. Political opposition in the form of frequent general strikes ("hartals") disrupts life in general and productive activities in particular. School days are lost, workers cannot make it to the work place without risking personal injury, and the administration is largely paralyzed. Also, "hartals" discourage foreign private investors from committing resources to Bangladesh on a long-term basis. Investors end up limiting their search for quick-profit, easy to fly out type of investment opportunities that are not necessarily to the long term benefit of the country. These constraints could preclude Bangladesh from using productively the acquired and inherent talents of its labor force and translating the potential returns to education into realized returns.

26. A major weakness of Bangladesh's education system is its inability to adjust adequately to revolutions in science and technology, economic and political conditions, and demographic and political structures. As a result, issues of obsolescent curriculum content vis-à-vis advancement of knowledge and learning needs in a fast changing world have continued to remain at the center of the education policy debate. There is a mismatch between the development need and the basic form, content, and orientation of the education system. The cost of education has increased, is likely to increase further, and the mobilization of both public and private resources remains well below what is needed. The GOB is well aware of the need for change in policies and the governance of the institutional fabric of the education system. **Addressing the weaknesses in Bangladesh's education system will not be easy in the presence of constituencies benefiting from past policies that are now considered to be inefficient and ineffective in meeting the current and future economic challenges.** The Education Ministry lacks the capacity to develop a conceptual framework that can adequately capture the multifarious tradeoffs. It is apparent that the NEP exercise was done without keeping the resource constraints in mind, and the proposals of the various committees were not subjected to any ranking of intrasectoral priorities. There is also a disagreement among the ministries on who should regulate the scientific, technical, and vocational institutions.

## F. IMPLICATIONS FOR EDUCATION AND TRAINING

27. Achievement of the overall vision for Bangladesh in 2020 depends heavily on substantial progress in education. As stated in the Bangladesh 2020 report, "Bangladesh's people are her greatest asset. Nurturing them intelligently, utilizing their vitality to the fullest, the country can grow at speeds to match those achieved elsewhere in Asia. Neglecting them and the investments they require means forgoing growth, perpetuating poverty."<sup>20</sup>

### 28. Social Priorities

- Basic education for all. Basic education serves multiple objectives. Socially, it supports improvements in health and nutrition as well as reduced fertility rates. Even a modest exposure to education has been found to reduce poverty levels substantially in Bangladesh. When the head of a household has only one to four years of schooling, the likelihood of that household being below the poverty line declines by as much as 37 percent even though the education raises the household incomes at a very modest rate. Besides primary education, basic education also means the continued importance of adult literacy programs provided through non formal means. Targeted programs will be needed for hard-to-reach disadvantaged groups.
- Targeted early childhood education for the most disadvantaged groups. Poverty alleviation must target children at younger ages because by the time they get to school age, they are too far behind in nutrition or in learning readiness. A child's major developmental patterns are set by...four or five years of age. Consequently, integrated interventions aiming to improve a child's learning readiness, health and nutrition can have lasting positive effects. This implies the importance of developing early

---

20 World Bank, *Bangladesh 2020*, p 24

childhood education programs targeted at the very poor, combined with nutrition and maternal programs.

- Secondary education for girls. Fertility rates are highly correlated with female literacy rates, but the strongest linkage is seen among females with at least secondary education. The implications for education are clearly to continue progressing toward gender parity in secondary education.

## 29. Economic Priorities

- Again, improved basic education for all. Substantially greater investment in human capital is needed to ensure the transition from low to high growth. Labor-intensive export industries need workers with basic literacy and numeracy to follow instructions and carry out job assignments. Moreover, the increasing skill intensity of future jobs (even in labor-intensive industries) suggests the need to increase, over time, the amount of basic education the school-age population receives (from 5 years to 8 years).
- Widespread training for markets in the informal sector. Various kinds of skill training will be needed to support greater productivity and income in the rural nonfarm sector, which will need to absorb a substantial number of new entrants to the labor market. Development of local markets depends on entrepreneurial talent. Microbusinesses can be supported, among other things, through entrepreneurship training, and workers can become more productive through skill development focused on the informal sector.
- Selective demand-driven skill development for needs of industry as skill intensity of future jobs becomes progressively higher. One very specific educational priority arises from the key challenge of developing appropriate skills to match the growing demands of industry. Employment opportunities will rise primarily in relatively labor-intensive occupations, but the knowledge and skill intensity of future jobs throughout the world, even in Bangladesh, will become progressively higher. Quite apart from the high priority task of ensuring universal primary and lower secondary education by 2020, resources need to be directed as well toward training for appropriate skill development. These resources should be provided for the most part by beneficiaries and employers.
- Sub-economies will develop that depend on high level manpower with increasing technological orientation. Bangladesh must adequately invest in its people now in order to take full advantage of the "knowledge-based" growth of the future. For example, future success in developing an information technology sub-industry will rest in part on adequate infrastructure and investment in scientific and technical education.

30. Finally, one clear implication is that the government does not have—and will not have by 2020—the financial and administrative (i.e., delivery) capacity to meet the requirements from these educational priorities. Government simply cannot meet all the priorities by itself. Financing must be shared with beneficiaries, and delivery must be shared with non-governmental organizations (NGOs) and the private sector.

31. The following papers analyze the specific weaknesses in the different education sub-sectors, identify the central issues that need to be addressed, and indicate alternative strategies that can be used to address these issues.

## REFERENCES

- Adam, Jean Paul, 1994. *Labor Market Integration in Bangladesh*.
- Asian Development Bank. 1998. A Proposed Secondary Education Sector Development Plan, Draft.
- Auguste-Tano Kaoume. World Bank. 1997. *Bangladesh: Sources of Long Run Economic Growth*. July.
- Bagby, Meredith. A Dutton Book. 1998. *Rational Exuberance: The Influence of Generation X on the New American Economy*.
- BANBEIS.1997. *Bangladesh Educational Statistics*.
- Government of Bangladesh. 1998. *Primary Education in Bangladesh*, Directorate of Primary Education. July.
- Government of Bangladesh. 1998. *Fifth Five Year Plan 1997-2002*.
- Latif, S.M. 1998. Situation Analysis of Child Labor in Bangladesh, paper presented at the World Bank regional workshop at Delhi.
- OED. 1999. *IDA'S Role in 35 Years of Lending for Education*, draft, Country Sector Review.
- Peter R. Mook et. al. 1998. *Education and Earnings in a Transition Economy* (Vietnam).
- Rahman (ed ) Fazlur. 1997. *Administrative and Management Manual for Non-Government Educational Institutions*. September.
- UGC. 1997. *Annual Report* (Bangla version).
- UNDP. 1997. *Human Development Report*.
- UNICEF. 1998. *The State of the World's Children*, Oxford University Press.
- World Bank. 1996 *Priorities and Strategies for Education*, Washington, D.C.
- World Bank. 1996. *Education Financing Sector Study* October.
- World Bank. 1996. *Bangladesh: Public Expenditure Review*, Report No. 15905-BD.
- World Bank. 1996. *Poverty Reduction and the World Bank: Progress and Challenges in the 90s*, Washington, D.C.
- World Bank. 1996. *Bangladesh: Labor Market Policies for Higher Employment*, The University Press Ltd
- World Bank. 1998. *Primary Education Development Project*. Project Appraisal Document.
- World Bank. 1998. *Bangladesh: From Counting the Poor to Making the Poor Count*.
- World Bank. 1998. *Sri Lanka: Recent Economic Developments and Prospects*, Report No. 17761-CE.
- World Bank. 1998. *Bangladesh 2020. A Long Run Perspective Study*.
- World Bank. 1999. *World Development Indicators*.
- World Bank. 1999. *Bangladesh: Challenges for the Next Millennium*. April.
- World Bank. *Bangladesh: National Nutrition Program*, Project Concept Document.



**Part Two**

**BANGLADESH  
EDUCATION FINANCE**

**Zahid Hussain**



## EXECUTIVE SUMMARY

Bangladesh has one of the largest and lowest cost education systems in the world. At the primary level, cost per student is only \$13 and 3.6 percent of GNP per capita. Cost per student in non-governmental secondary schools is only \$16 and 4.7 percent of GNP per capita. A noteworthy feature, not too well understood, is the wide variation in unit costs across schools at both the primary and secondary levels. Such low costs are achieved through exceptionally large class sizes, low teacher salaries, and minimal spending on pedagogical inputs such as teaching-learning materials and in-service teacher training. Consequently, the quality of education at all levels is very poor. There is nearly universal access at the primary level, except for the very poor who cannot afford schooling because of high opportunity costs. Also, the dropout rate at the primary level remains high and access at the secondary level is still rather limited.

Bangladesh's education system depends heavily on public financing both for recurrent and development expenditures. One major exception is secondary education where there is significant private financing. At the primary level too there is substantial private financing in schools run by CBOs, PVOs, and NGOs. The distribution of public spending between different levels of education is more unequal than the distribution of income. Households spend a substantial amount on education, but a large part of it is to compensate for low quality of instruction in the primary and secondary schools. Large private spending is both a strength and a weakness of the system. It is a strength in the sense that it reflects a high willingness on the part of parents to invest in education. It is a weakness in that the spending is for out-of-school tuition, where the focus is to prepare the students to pass examinations. The demand for private tutoring arises in part from the "holding back" of instructions by teachers in the classrooms. This spending also exacerbates the inequities in education, since the poor cannot afford the out-of-school tutoring.

Although Bangladesh's public spending on education as a proportion of GDP has increased over time, it is still one of the lowest in the world. However, education constitutes one of the largest items in both the revenue and development budgets and education's share in the government's total budget has also increased over time. The government has been broadly consistent in the recent past in giving priority in allocations to primary education in both the revenue and development budgets. However, the composition of spending, particularly recurrent spending, needs improvement. As in most developing countries, only a miniscule proportion of the revenue budget at all levels of education is available for non-salary spending financed by the government, most of it absorbed in non-discretionary activities such as exam expenses. Not enough is spent on pedagogical inputs, a factor which explains prevailing low levels of quality.

The demographic pressure on Bangladesh's education system is expected to ease considerably. As a result, maintaining the current system at the existing low quality is well within Bangladesh's financial means. The good news is that Bangladesh can probably achieve universal primary education and some of the needed quality improvements without increasing the proportion of GDP devoted to education. This is explained mainly by the success of Bangladesh's population program the fruits of which will be steady or decreasing primary school-age population over the next 20 years. This rosy scenario, however, does not allow for needed quality improvements in middle and higher levels of the system. Existing quality at these levels is

highly inadequate for meeting Bangladesh's social and economic priorities as hoped for by 2020. Investing in improving quality and equality at the primary and lower secondary levels ought to be the topmost priority. Budgetary allocations to education would have to be increased gradually from the current 2.1 percent of GDP to around 4 percent of GDP by 2008 to finance 8 years of universal basic education and to achieve minimum acceptable improvements in the quality of primary and lower secondary education. As noted in the higher education section (Volume III) any expansion of capacity, especially in colleges, polytechnics, and universities inevitably means further erosion of quality unless there is both significant resource mobilization from non-government sources and significant efficiency improvements in current public provision.

There is an urgent need for systemic improvements in the process of making decisions on Bangladesh's education. At present allocations to different education sub-sectors in the revenue budget are based on historic trends and allocations in the development budget are determined by personal and political influence. There is no linkage between finance and performance measured on the basis of educational outcomes. Managers in Bangladesh's education system therefore have little financial incentive to minimize inefficiency and waste. While equity considerations preclude making financial allocations totally contingent on performance outcomes, the situation existing at present is not acceptable. The balance must be struck in favor of rules that reward good performance and penalize poor results while taking the equity considerations into account.

1. There are several sets of questions. The first set refers to spending: how much is spent on education, who spends it, what is it spent on, and how efficiently is it spent? And how adequate is the financing in relation to national objectives? The second set concerns sources of revenue: what financing instruments are used? What is the extent of public subsidies, cost recovery, and private sector provision? How much does education cost parents? The third is a narrow economic question that can help explain household choices with respect to education: how beneficial is education investment, from a private point of view, in Bangladesh? Finally, what would it cost the government to maintain the existing education system, expand it to improve coverage of the hard to reach poor in primary education, increase enrollment in secondary education and improve quality and equality of the education system as a whole? What are the priorities and tradeoffs?

2. **Bangladesh has a centralized system for financing education.** The primary instruments for financing education expenditures are the revenue and development allocations in the national budget. For the revenue budget allocations, the government draws from internal revenue sources. External aid finances more than 50 percent of the government's development expenditures on education. The country has received loans from multiple donors, including IDA, ADB, IsDB, and OPEC. External aid in the 90s from all major donors amounted to \$1.14 billion, of which about 32 percent consisted of grants from several bilaterals. This high level of external dependence is unavoidable in a country which has one of the lowest revenue-GDP ratios in the world<sup>1</sup> (9 percent). The full cost of government, non-government and special schools at the primary level is borne by the government. However, parents and the local community provide space for classrooms in rented buildings for a satellite school. They also contribute towards the construction of school facilities in cash or kind. While educational institutions at the secondary level are privately managed for the most part, they too depend heavily on the government for financing the majority of their operating as well as capital expenditures. These comprise government salary subvention payments for teachers and staff; government block grants for construction and maintenance and training provided at teacher training institutes; government stipend grants for grades VI to X female students in non-municipal areas; student fees, community donations; and income from various school assets. Tertiary education too is mainly run through government grants, although in recent years private sector participation in the provision of tertiary education has shown remarkable increase.

3. World Bank's 1996 Education Expenditure Review (EER) identified low level of learning achievements, low internal and external efficiency, and inequitable access as the fundamental problems facing the education sector. The discussions in the previous papers clearly indicate that this assessment remains generally valid to this day. The 1996 EER also identified addressing the efficiency issues as the most important and urgent policy for financing education. It recommended increased government spending, particularly for primary and secondary education, in order to meet the country's development goals and stressed the need for linking increased allocation to efficiency improvements. The report further stressed the need for increased parental and community financing in order to provide additional and much needed resources for the sector and also to enable the targeting of government expenditures to poorer households. Budgetary allocations to education during 1996-99 have been broadly consistent with these recommendations, as noted in the Bank's 1996 Public Expenditure Review, the 1997 Public Expenditure Review Update and other Bank policy notes

---

1 Current central government revenue was 11.5 percent of GDP in 1996.

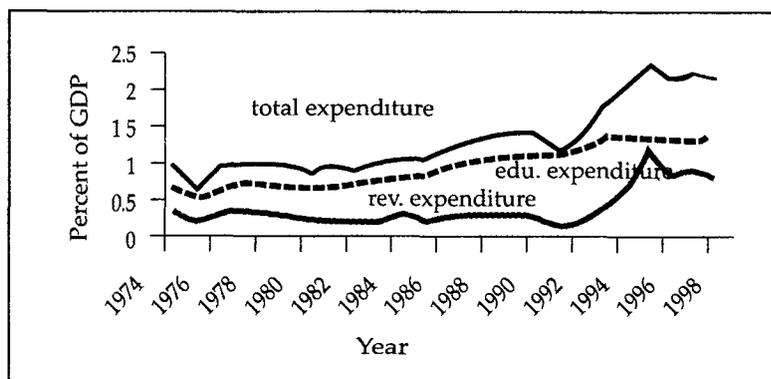
on the government budget. A more detailed discussion of issues in education finance in Bangladesh follows in the rest of this paper.

## A. SPENDING

### *Trends in the Level of Education Financing*

4. During the last 26 years of Bangladesh's existence as an independent nation, the level of central government recurrent and development expenditures on education have more than doubled.<sup>2</sup> Growth in nominal education expenditure outpaced growth in national income. As a result, total government expenditure on education as a ratio of nominal GDP increased from 0.9 percent in 1973-80 to 2.2 percent in 1997/98, as shown in Table 2.1. This increase was needed to keep up with rapid growth in school-age population due to a high fertility rate in the past and to follow up on the commitments made in the 1990 Education for All Conference in Jomtien. The level of total expenditure still remains low, compared to 3.7 percent in India, 3.4 percent in Sri Lanka and 2.9 percent in Nepal. The average for South Asia in 1996 was 3 percent. Note also that since 1995, when the education expenditure peaked at 2.4 percent, the ratio had stagnated at around 2.1 to 2.2 percent primarily due to lower development expenditures.

**Figure 2.1: Trends in Education Expenditure as a % of GDP**



5. The priority given to education in public resource allocation has also increased over time. As a share of total government expenditures, education averaged 9.4 percent during the First Five Year Plan (1973-78), 7.5 percent during the Second Five Year Plan (1980-85) and 10 percent during the Third Five Year Plan (1985-90). The increase in Bangladesh's fiscal effort on education was most impressive in the 90s. Nominal development expenditures grew at an average rate of over 28 percent between 1990/91 to 1998/99 and nominal revenue expenditures grew at an average rate of 13.6 percent between 1991/92 to 1998/99. Education's share in total government expenditures increased to nearly 16 percent of the government budget in 1995/96, equal to the average for all developing countries, and has remained stable at this level through FY99.

6. The level of government financing in education is still inadequate relative to international norms. It is generally accepted, both by the donors and the government, that the government should increase its educational expenditure to increase access of the poor and, especially, to improve quality and relevance at all levels of the education system. The share of education in the revenue budget has declined from a high of 20 percent in 1992/93 to 18.6 percent in FY98 and to 17.7 percent in FY99. Growth in education expenditures has not kept pace with growth of nominal GDP of late. This is inconsistent with the high priority given to education in all the policy and planning documents. Further, real public spending per student per annum in primary education declined from Tk. 570 in 1993/94 and 1994/95 to Tk. 525 in 1995/96. This indicates that the government has achieved the recent dramatic increases in primary enrollments without proportional

<sup>2</sup> Recurrent/revenue expenditures are expenditures on personnel, education materials and consumables, utilities, and so on. Development expenditures are investments on buildings, laboratories and other facilities, equipment, and land. Development expenditures also include incremental expenditures on personnel, textbooks, and student support during the period of investment activities in education.

increases in the number of teachers and supply of textbooks. The opposite trend occurred at the secondary level where real spending per student per annum increased from Tk 756 in 1991/92 to over Tk. 1200 in 1994/95.

7. The government has been broadly consistent in the recent past in giving priority in allocations to primary education. Until 1994/95, as in most countries, the share of primary education in total development expenditures in education had been nearly 60 percent (Table 2.2). The number of government primary schools has remained constant at 37,710 since 1994. With the completion of the General Education Project, the share of primary in development expenditure.

declined significantly in 96/97. The share of primary has decreased since then to below 50 percent. A sizable part of development allocations have been used as grants to increase the number of non-government schools from 18,400 in 1994 to 25,300 in 1996. The share of primary education in total revenue/recurrent expenditure declined steadily from over 45 percent in 1991/92 to about 40 percent in 1998/99. The under-financing by the public sector has been partly compensated by substantial non-government financing of primary and non formal education. Most NGO schools at the primary level are targeted to the poor. These also provide alternative cost effective models of teaching and learning.

8. The share of education in the total development budget and the share of primary education in the education development budget are distorted by the inclusion of the controversial Food for Education (FFE) program in the primary education development budget. Table 2.3 shows these shares with

**Table 2.1: Trends in the Level of Central Government Expenditure on Education (Percentage of GDP\*)**

Fiscal Year	Revenue Expenditure	Development Expenditure	Total Expenditure
1973-1980 average	0.63	0.27	0.9
1981-1985 average	0.73	0.23	1.0
1986-1990 average	1.03	0.30	1.3
1991	1.06	0.16	1.2
1992	1.14	0.21	1.4
1993	1.34	0.47	1.8
1994	1.36	0.66	2.0
1995	1.30	1.06	2.4
1996	1.30	0.83	2.1
1997	1.30	0.90	2.2
1998	1.39	0.77	2.2

\*Based on the revised national accounts series  
Source: BBS and various budget documents

**Table 2.2: Percentage Distribution of Public Revenue and Development Expenditures on Education by Sub-Sectors**

Fiscal Years	Primary	Secondary	Technical	University	NFE	Others	Total
<i>Revenue Expenditures</i>							
91/92	48.5	36.8	2.4	8.5	.	3.7	100
92/93	45.5	40.6	2.3	7.9	.	3.7	100
93/94	47.0	41.1	2.2	7.9	..	1.8	100
95/96	44.2	42.5	2.1	8.0	..	3.3	100
96/97	43.5	42.9	2.1	7.9	..	3.6	100
97/98	42.6	46.0	1.5	7.3	..	2.7	100
98/99	40.4	47.6	1.4	7.0	..	3.7	100
<i>Development Expenditures</i>							
90/91	62.1	10.7	3.3	10.1	1.5	12.3	100
92/93	66.7	20.4	2.1	7.1	1.2	2.4	100
94/95	56.5	34.1	0.4	0.7	2.3	6.1	100
95/96	57.6	34.9	0.4	3.0	2.3	1.8	100
96/97	51.9	34.4	1.0	6.5	3.8	2.2	100
97/98	46.0	33.7	1.6	9.9	6.9	1.9	100
98/99	46.7	29.5	3.1	1.7	9.2	9.9	100

Note: See Annex, Tables B-1 and B-2  
Source: Revised budget estimates from Demands for Grants and Appropriations (Non-Development) 1991-99 and ADP 1991-99.

and without FFE. The inclusion of FFE makes a significant difference to the shares. When FFE is excluded the share of education in the FY99 ADP drops by 3 percentage points and the share of primary education in the total ADP for education is reduced exactly by half. FFE is as much a health expenditure or an in-kind transfer payment as it is an education expenditure. However, it is targeted to the poor and has been found to have strong effects on the poor's probability of being at school.<sup>3</sup>

**Table 2.3: Share of Education and Primary Education in Total Development Spending with and without FFE**

	FY96/97	FY97/98	FY98/99
<b>Share of Education in ADP*</b>			
Including FFE	14.1	13.1	12.6
Excluding FFE	11.8	10.5	9.6
<b>Share of Primary Education in Education ADP</b>			
Including FFE	47.2	45.8	46.8
Excluding FFE	31.3	25.6	23.4
*Annual Development Program			
<i>Source Based on original budget estimates</i>			

9. Development allocations to secondary education increased significantly since 1992/93 and these too have led to growth in the number of non-government secondary schools. The number of non-government secondary schools grew at an average rate of 3.6 percent during 1993-97. In the revenue budget, the share of secondary education increased steadily from about 37 percent in 1991/92 to over 47 percent in 1998/99 so that it absorbed the largest share in the revenue budget. This growth largely reflects growth in subventions to secondary schools, colleges, and madrasas in absolute terms. Budgetary allocation for subventions constitutes about 75 percent of the recurrent budget of the Directorate of Secondary and Higher Education.<sup>4</sup> There is substantial private financing of education at the secondary levels now relative to the beginning of this decade.<sup>5</sup> Yet financing for secondary education is still inadequate relative to what is needed.

10. Development allocation to technical education has declined over time from over 3 percent of total development expenditure on education in 1991/92 to 1.6 percent in 1997/98. This reflects a decline in the availability of donor financing for technical education. Development allocations to the universities increased from 3 percent in 1995/96 to 9.9 percent in 1997/98. Both technical and university education in Bangladesh have severe lacunae in terms of external efficiency, relevance, and responsiveness to changing labor market needs, but the rise in development allocation to universities and the decline in allocation to technical education is inconsistent with the stated education sector priorities of the government, namely to increase the enrollment capacity of technical and vocational institutions. Underfunding the completely subsidized technical education sector has perpetuated the low quality and low desirability of vocational education. The revenue budget allocations show a similar pattern for technical education, although the shares of the two sectors in the revenue budget have been much more stable. Revenue budget allocation to technical education declined from 2.4 percent in 1991/92 to about 1.4 percent in 1998/99. If the government had chosen not to invest in public technical education institutions and at the same time continued running the existing institutions, one would expect to see a stable, not declining, share in the revenue budget. These institutions impart capital-intensive training. They need to procure raw materials on a regular basis to provide hands-on training to the students and spend on O&M to keep their equipment functional. The existing technical education system is clearly under-financed. It is also puzzling that while over the past five years (1992-1997),

<sup>3</sup> Ravallion, Martin and Quentin Wodon, *Does Child Labor Displace Schooling? Evidence on Behavioral Responses to an Enrollment Subsidy*, Draft, 1999

<sup>4</sup> World Bank, Bangladesh. *Public Expenditure Review*, Report No. 15905-BD, July 31, 1996 p 23

<sup>5</sup> Reliable data on the extent of private financing in secondary schools do not exist. This precluded estimation of the ratio of private to government financing per student

university total enrollment has increased at an average 5.5 percent per annum, the student-teacher ratio declined, and costs per student increased at 6.6 percent per annum, the revenue budget allocation to universities declined from 8.5 percent in 1991/92 to 7 percent in 1998/99. One answer to this puzzle may be that development expenditures were increasingly absorbing some of the burden of the revenue budget due to revenue budget resource constraints.

## B. THE COMPOSITION OF PUBLIC EXPENDITURE

11. As in most countries, **recurrent spending in primary education is dominated by teacher salaries**. Staff compensation in nominal terms grew by over 9 percent per annum during 1991-98. However, its share in total current expenditures in primary education declined from 97.4 percent in FY92 to 87.4 percent in FY98 (Table 2.4). This does not mean that the share of spending on pedagogical inputs increased correspondingly. The share of grants for paying teachers salaries in non-government primary schools increased from 2.5 percent in FY92 to 9.3 percent in FY98 bringing total expenditures on teachers back to 96.7 percent. This is attributable to the inclusion of an increasing number of non-government primary schools for subventions from the revenue budget. The number of non-government registered primary schools increased from 6,300 in 1990 to 19,700 in 1996.<sup>6</sup> As a result, the responsibility of paying teachers' salaries shifted from the private to the public sector. Administrative overheads also appear to have increased due to increase in the educational bureaucracy and rise in the compensation package for administrators and staff. After increasing from 1.1 percent in FY92 to 5.4 percent in FY98, the share of O&M declined to 3.3 percent in FY98. Information collected directly from eight schools in two different areas near Dhaka confirm the dominance of staff salaries in recurrent costs at the school level. Salaries as a proportion of total recurrent expenditures ranged from 84 percent to 95 percent. Interviews with school managers confirm that allocations for O&M are highly inadequate and that very little is provided for spending on pedagogical inputs other than textbooks (Annex: Table B-3 to B-5).

**Table 2.4: Composition of Public Current Expenditures in Primary Education**  
(percent of total current spending on primary education)

	92	93	94	95	96	97	98
Staff Compensation	96.4	95.7	94.7	93.7	92.2	88.8	87.4
Operations & Maintenance	1.1	1.2	1.6	2.0	2.0	5.4	3.3
Grants for salary subventions	2.5	3.1	3.7	4.3	5.8	5.8	9.3
<i>Source: Ministry of Finance</i>							

12. The relatively high rate of growth in the level of staff compensation during FY92-98, which partly reflects the effect of four pay increases and partly reflects the growth in the number of teachers on government payroll, is not undesirable per se, particularly if it strengthens motivation to provide better quality of education. Unfortunately, there is little evidence of any qualitative improvement in primary education. In the light of the much superior quality of education provided by teachers in the NGO schools, where pay scales are in fact lower than in the government primary schools in many cases, it is not obvious that increasing teacher salaries is a critical factor in improving teacher performance.<sup>7</sup> Development expenditures in primary education are largely spent on building physical facilities, including renovation of damaged schools and improving physical facilities.

<sup>6</sup> GOB, *Primary Education in Bangladesh*, Directorate of Primary Education, July, 1998, p 13

<sup>7</sup> It is important to understand why it is that teachers in the good NGO schools—who are paid less than government teachers—work harder and are more effective than government teachers. Is the explanation related to their teaching materials, teacher training, monitoring, follow up and evaluation system, or is it that there is a self selection of dedicated and loyal people in the NGO system? This has implications for what needs to be done to improve the incentives for efficient resource utilization in

13. Staff compensation dominates recurrent spending at the post-primary levels as well. The largest portion (79 percent) of revenue expenditures at the secondary level is on teacher subvention payments to non-government secondary schools and almost all of the grants from the development budget are for construction, not including the stipend grants.<sup>8</sup> While in theory the subvention payments have some linkages with school performance, in practice these linkages are not enforced. In technical education, the share of staff compensation increased from 56 percent in FY93 to 74 percent in FY98. The share of O&M in technical education declined from 44 percent in FY93 to 26 percent in FY98. This has severely constrained the ability of these institutions to provide hands-on training to the students due to shortage of raw materials.

14. In higher education, staff compensation accounted for 67 percent of total recurrent expenditures in FY97.<sup>9</sup> According to the 1997 UGC annual report, this has been increasing due to lax implementation of staff (faculty as well as non-faculty) promotion/upgradation policy and increases in paid leave. In many cases, actual number of staff appointed exceed the number of sanctioned posts. Pension payment burden has also been increasing due to a generous promotion policy followed in the past. This led to large increase in the number of higher level staff - the majority (51 percent)<sup>10</sup> of faculty in the public universities are currently either full professors or associate professors - who are now beginning to retire. Staff contribute 10 percent of their basic pay to pension fund, which is highly inadequate relative to the payment burden from this fund that is now arising. University recurrent expenditures have also increased due to large increases in utility bills resulting from the use of appliances by students in their rooms in the dormitories and increases in electricity tariffs. For example, electricity bills in FY97 were 27 percent higher relative to the FY96 electricity bills.

### C. EDUCATION EXPENDITURE NORMS

15. The **allocation rules** that underlie the observed pattern of revenue and development expenditures on education appear to be rather ad-hoc. There is little evidence of planning either in the revenue or development budget for education. Revenue expenditures appear to be set by precedent rather than rational planning and tend to follow the previous year's pattern. This is reflected in the stable shares of different sub-sectors in the education revenue budget (Table 2.2). Development expenditures, however, show large variations in sub-sectoral shares. This is largely due to varying commitments of donor and lending agencies. It is difficult to discern any pattern from the fluctuating sub-sectoral shares in development spending.

16. Budgetary allocations at the level of schools for recurrent spending are based on rules that do not necessarily encourage efficient use of resources. For instance, allocations for O&M to government primary schools are based on the number of teachers. The registered non-government schools are given a lump sum of Tk. 30 per month for O&M. Both the government and non-government school managers profusely complain about the inadequacy of O&M allocations. An arbitrary amount of Tk. 150 is given to each primary school for carrying textbooks from the thana offices irrespective of distance.

17. There are well documented guidelines for allocation of teacher subvention payments to privately managed secondary schools and colleges.<sup>11</sup> Entitlement of a school or college for subvention payment is conditional upon recognition of the institution by the government; recruitment of teachers according to specified rules; number of students; use of government approved curriculum; use of government approved

---

primary and secondary schools. As an example, the BRAC schools, all located in rural areas, employ people from the villages with lower levels of qualifications. These teachers do not have many other opportunities for wage employment. They are initially trained for two weeks and given a day-long refresher training every month. The effectiveness of BRAC approach may also be attributable in part to the cap on class sizes at 30 students

8 Note however that the stipend grants constituted over 30 percent of development allocations to the Ministry of Education in FY99.

9 UGC *Annual Report 1997*, p 81 (Bangla version)

10 *Ibid*, p 103.

11 *Administrative and Management Manual for Non-government Educational Institutions*, Fazlur Rahman (ed.), September, 1997

accounts and audit systems; student performance in examinations; and the presence of a properly constituted School Management Committee (SMC). Although a school/college inspection system exists to ensure that institutions receiving subvention payments actually satisfy the specified criteria, it is not clear how effective the inspection system is in performing its functions. The logistic support provided for inspection is highly inadequate. Consequently, school inspectors have very little incentive to do proper inspection. There is anecdotal evidence on the failures of this system leading to payment of subventions to schools that fall far short of the standards set in the guidelines. Renewal of recognition every three years is another device used to ensure that subventions are paid to deserving schools. The financing constraint at the school level is exacerbated by delays in teacher salary subvention payments due to procedural complications. With the recent introduction of the Monthly Pay Order (MPO) system salaries are paid directly to teachers' accounts in the nationalized commercial banks. This has helped correct the problem of payment delays and avoid payments to 'ghost' teachers.

18. The Female Stipend Program in secondary education, while successful in increasing female enrollments, has caused financial problems for some schools. Schools are not allowed to charge any tuition fee to students receiving the stipends. The government pays Tk. 30 per month for grade VI-VIII and Tk. 40 per month for grade IX-X female students. Of these, 50 percent is retained by schools and 50 percent is paid to the students. Typically, a secondary school charges Tk. 30-40 per month as tuition fees depending on grade. The school loses the income from fees for every female student in the stipend program. For a grade VI student, for example, the school loses Tk. 15 per month assuming a monthly tuition of Tk. 30. Thus, if in grade VI a school has 30 females, it loses Tk. 450 per month with their inclusion in the stipend program. Recouping this loss would require doubling the enrollment of fee-paying students in grade VI which is unlikely. Thus, on balance, the stipend program may have been a financial loss-making phenomenon for secondary schools. As a result, schools which mostly cater to affluent students are reluctant to get themselves included in the program. This is not an option for schools with a lot of poor and middle class students. These schools are under tremendous community pressure to accept the program. Many schools not able to opt out have compensated for lost income by increasing non-tuition charges such as building fees, exam fees, session charges, first admission fee and so on. These practices negate the size of the financial benefits to the stipend recipients and increase the payment burden for male students. Other things equal, schools have an incentive to select boys (and rich girls) and to restrict the admission of poor girls participating in the program. Empirically, there is some evidence, though not conclusive, that the program hurts the school financial position and that at least some schools charge higher non-tuition fees, even from girls, to make up the loss incurred due to lower tuition fees from girls.<sup>12</sup>

19. The government administratively separated primary education from secondary and higher education in 1992. This had the unintended consequence of weakening the education sector's ability to plan. As a result, at present the MIS system, the budgeting system, the school mapping system, and the management system lack coordination between the primary and post-primary education sectors. These coordination failures allow the existing patterns to continue.

20. In the higher education sub-sector, budgetary allocations to public universities are made on the basis of recommendations of the University Grants Commission (UGC). The UGC in turn makes the recommendations on the basis of demands placed by the universities themselves through their annual budgets. Most often, the revenue expenditure allocations—which include three account heads: pay, allowances and pensions; education contingencies; and general contingencies—are based on precedence. Typically the universities get 70 percent of what they demand. Historic rules also determine the allocation of non-salary revenue budget allocations between departments within a university. The universities can not

---

12 Pathmark Associate Limited et al, *Economic Attractiveness of FSSAP Schools*, Final Report, May, 1997 Pages vi and 59

transfer money between account heads, except for the contingencies. The development expenditure allocations follow the government's Five Year Plan and are also influenced by the bargaining power of the universities and personality factors. Unused revenue and development budget allocations remain with the government. Universities therefore have every incentive to make sure that the amounts provided by the government are all spent by the end of each fiscal year. In technical education, the Directorate of Technical Education (DTE) prepares annual budgets for the TVET institutions under its purview and allocates funds in the approved budget.

### Efficiency of Resource Use in Education

21. The internal efficiency in Bangladesh's education system is poor. An analysis of unit costs reveals wide variations in the efficiency of resource use in Bangladesh's educational institutions. This analysis takes into account only recurrent expenditures in primary, secondary, technical and university education. These include expenditures on staff salaries, the cost of administration, maintenance of school buildings and facilities, and pedagogical inputs. The results of the analysis are presented in Table 2.5 in summary form. Cost per student in primary education may be the lowest in the world, in both absolute terms and as a percentage of per capita GNP.

Table 2.5 : Unit Costs in Education by Level

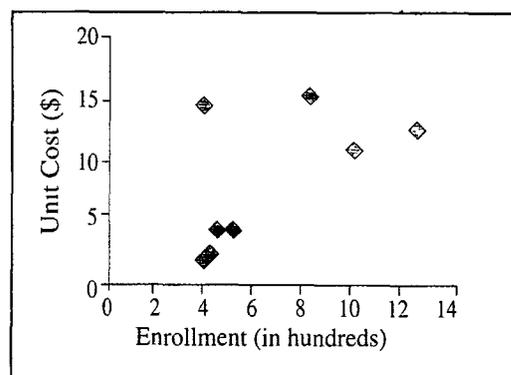
Level	Annual cost per student (\$)	Cost per student as percent of GNP per capita ( percent)	No. of student years to produce a graduate	Cost per graduate (\$)
Primary	12.7	3.6	8.7	110.5
Secondary				
Government	67.9	19.4	13	882.7
Non-Govt.	16.3	4.7	13	211.9
Madrasah (Govt)	161.6	46.2	18	2909.0
Govt. College	88.6	25.3	3.3	292.0
Technical	300.0	85.7	Na	Na
Degree College	93.0	26.5	Na	Na
University	731.1	210.0	Na	Na

Source: BANBEIS and staff estimates

22. Cost per student in secondary education in government secondary schools is over 5 times the cost per student in primary education. This is very high by international standards. In Indonesia, for instance, it is only 2.5. However, cost per student in non-government secondary schools - that accommodate 96 percent of all students - is only 1.28 times the cost per primary school student. Cost per student in the nine public universities is over 57 times the cost per student at the primary level. This too is extremely high, though it reflects mainly the fact that unit cost in primary education in Bangladesh is extremely low. In 1990 this ratio was 44.1 in Sub-Saharan Africa, 14.1 in East Asia and the Pacific & South Asia, 7.4 in Latin America and the Caribbean, 8.2 in the Middle East and North Africa, and only 2.5 in the OECD countries.<sup>13</sup>

23. In primary education costs per student vary widely. Data collected from eight government primary schools near Dhaka show that recurrent costs per student in these schools in 1993 ranged from \$2.1 per student to \$14.5 per student (Annex: Table C-1 and C-2). These differences are largely attributable to differences in the quality

Figure 2. 2: Unit Cost & Enrollment in Primary Schools

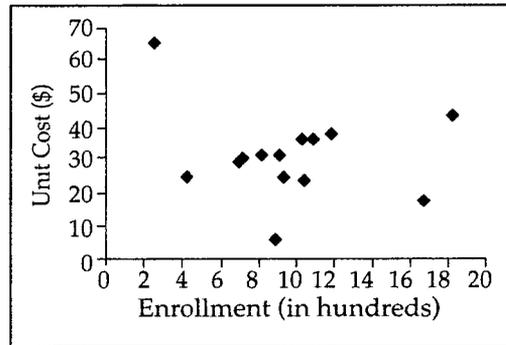


13 See World Bank, *Priorities and Strategies for Education*, Washington, p 58

and quantity of school facilities, student : teacher ratios, and salaries per teacher (see Figure 2.4a-c). They do not appear to be related to school size in terms of total enrollments (see Figure 2.2). Unit costs in government primary school is higher than non-government primary schools because of higher pay per teacher, and relatively lower number of students per classroom and students per teacher.

24. Recurrent spending per student in secondary education also varies widely by type of institutions. It is highest in government madrasas (\$161.6) and lowest in non-government secondary schools (\$16.3). Both the student-classroom ratio and the student:teacher ratio in government madrasas are one of the lowest in the country. In 1997, the average number of students per classroom in madrasas was only 29 and the student:teacher ratio was only 22.<sup>14</sup> Data collected from 13 non-government secondary schools also show wide variation by school, including recurrent cost per student ranging from \$29 to \$43.<sup>15</sup> In a non-government madrasa, unit cost was found to be about \$65. These variations also appear to be reflecting differences in salaries per teacher, students per classroom, and student:teacher ratio (see Figure 2.4d-f). Unit costs appear to be unrelated to school size in terms of total enrollments (see Figure 2.3).

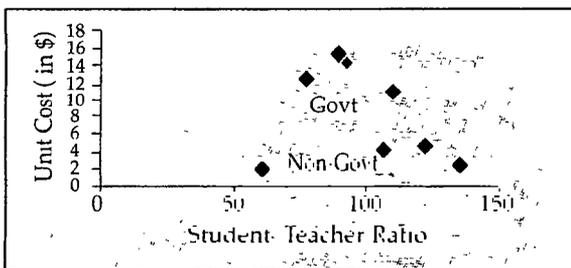
**Figure 2.3: Unit Cost & Enrollment in Some Non-Govt. Secondary Schools**



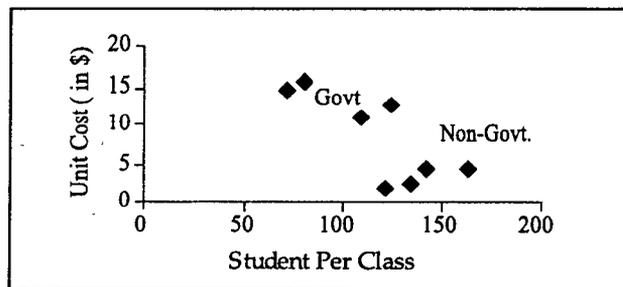
25. Cost per graduate in primary and secondary education are much higher than would be the case under perfect efficiency. In primary education, under ideal conditions, cost per graduate would be \$63.5. However, cohort analysis<sup>16</sup> reveals that it takes provision of 8.7 student years of educational services to produce a graduate (Annex: Tables D-1 and D-2). Vietnam, which has the same five-year long primary cycle, this was 6.8 years in 1994.<sup>17</sup> The extra years over and above the number required if there were no dropouts or repetition may or may not be "efficient" in terms of maximizing the learning per unit of money spent. But they do make the cost per graduate \$110.5, which is 74 percent higher than the ideal. Or, for every Taka spent,

**Figure 2.4: Determinants of Unit Costs in Primary and Secondary Schools**

**Figure 2.4a: Unit Cost & Student: Teacher Ratio of some Govt. & Non-Govt. Primary Schools.**



**Figure 2.4b. Unit Cost & Student Per Class of Some Govt. & Non-Govt. Primary Schools.**



14 BANBEIS, op cit, p. 28

15 The schools were selected on the basis of convenience. No inference can therefore be made about the pattern of variation in units costs at the school level for the country as a whole

16 Cohort analysis tracks enrollment for a given level of education over subsequent grades and years to determine how many total student years of instruction were given each year and in total for the group of entering students, the "cohort" The total number of student years of instruction are then compared to the total number of students who completed the level on schedule

17 The World Bank, *Education Financing Sector Study*, October 1996, p 77

Continued from Figure 2.4

Figure 2.4c: Unit Cost &amp; Salary Per Teacher of Some Govt. &amp; Non-Govt. Primary Schools.

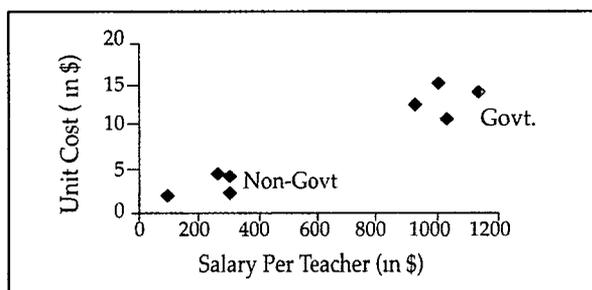


Figure 2.4e: Unit Cost &amp; Student per Class of some Non-Govt. Secondary Schools.

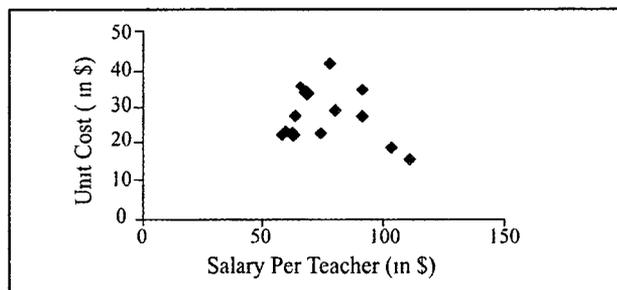


Figure 2.4d: Unit Cost &amp; Student :Teacher Ratio of some Govt. &amp; Non-Govt. Secondary Schools.

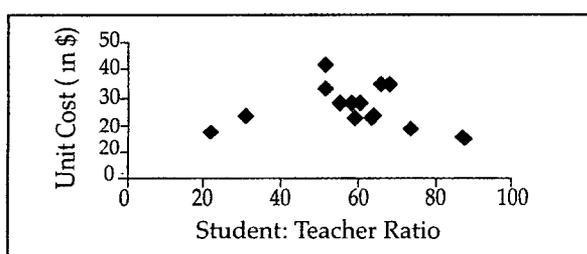
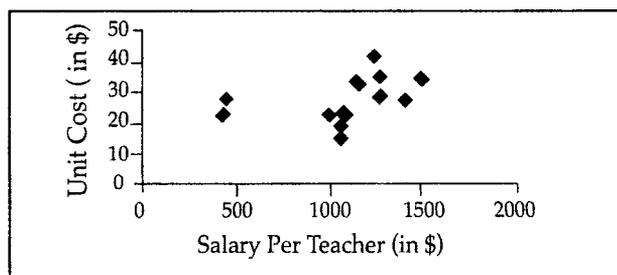


Figure 2.4f: Unit Cost &amp; Student per Class of some Non-Govt. Secondary Schools.



Tk. 0.74 is wasted. Still, Bangladesh's primary education system looks better than Vietnam where cost of producing a primary school graduate was \$143 in 1994. This is because less is spent per student year in Bangladesh relative to Vietnam. In government secondary schools cost per graduate is \$882.7; the extent of waste being 160 percent. Again, this is due to a very high 13 student years per graduate as compared with the ideal 5 years to finish grades VI-X. Because of both high unit costs and a very high number of student years per graduate (18), the cost per graduate at the secondary level in government madrasas is nearly 3.3 times the cost per graduate in government secondary schools and nearly 14 times the cost per graduate in non-government secondary schools.

26. Resources are also wasted because of corruption in the system. A detailed analysis of corruption in education finance is beyond the scope of this work. Surveys done by the Bangladesh Chapter of Transparency International indicate the presence of corruption in the provision of textbooks and teacher payments and in civil works and procurement. In Transparency International surveys, 33 percent of the urban households and 15.4 percent of rural households reported that their children attending primary school did not receive books from the schools. It appears that corruption in the distribution of textbooks is also gender biased. About 32.3 percent of households headed by females reported non-receipt of books as compared with 13.8 percent for households headed by males. The affiliated community primary schools reported that incidents of not receiving grants or assistance in time is quite frequent. At times they even have to pay the officials of the thana education offices for books, education materials, and scholarship money.<sup>18</sup>

#### D. EQUITY IN THE DISTRIBUTION OF PUBLIC RESOURCES FOR EDUCATION

27. There has been significant improvements in gender parity, particularly in primary and secondary education, but the extremely poor still have very limited access to the public education system. World Bank's

18 OED, IDA'S Role in 35 Years of Lending for Education, draft, Country Sector Review, 1999, p 8

1998 *Poverty Assessment* finds education has contributed to increasing inequalities, particularly in urban areas. The share of benefits from public spending on education rises with income at all levels of education, particularly in secondary and higher education.<sup>19</sup> According to World Bank's 1996 PER, the bottom 20 percent of rural households have only 13.8 percent of public spending on rural education. The top 20 percent, in contrast, have 28.8 percent of such expenditures. High levels of government subsidies to tertiary education continue to benefit only the upper and middle income groups and the political constraints continue to preclude cost recovery from the beneficiaries in higher, technical and vocational education. The 1996 PER estimated that poor households, who make up 54 percent of total households, receive only 15 percent of public spending on higher education, the remaining 85 percent being allocated to the non-poor households.

28. There is some good news. According to the 1996 PER, the distribution of benefits from primary education has a progressive pattern. "The share of benefits accruing to households at different income levels roughly correspond to their share in overall household distribution." The expansion of primary education in rural areas had pro-poor orientation. Also, an analysis of longer term developments revealed significant changes in the re-distributive effects of public expenditure on education. While there was a very high degree of regression in the 1980s, the trend towards a gradually less regressive pattern was apparent in the 1990s. The main reason was the vigorous expansion of enrollments in and expenditures on primary education. This progressive pattern could also be due to special programs for the poor undertaken by the government. The Food for Education program, which constitutes over 30 percent of ADP allocation to primary education, is cost effective, though suffers from program leakage and is not as well targeted as the other food safety net programs (Box 2.2). There is also the Female Stipend Program which is well targeted and appears to have contributed to improving gender parity in secondary education (Box 2.1).

29. The low quality of instruction in the schools puts those who cannot afford private tuition at a substantial disadvantage and at risk of losing the investments made in their education. Secondary schools in rural and urban areas differ in terms of quality. Such differences are essentially a reflection of a privately managed system without adequate public supervision and compensatory financing. But they are also a result of systemic flaws such as centralized management leading to weak supervision and limited institutional capacity. Parents attempt to supplement their children's secondary schooling by arranging private tutoring so that their child can get high marks in the SSC and HSC exams. Private tutoring is the largest item in household expenditures on education. Anecdotes suggest that parents spend nearly ten times more on private tuition than on school fees. Not surprisingly the high performers in the SSC and HSC exams generally tend to be the ones who had most access to private tutoring.

30. The system's inequities are exacerbated by low and declining cost recovery in Bangladesh's tertiary education sector. Tertiary education is heavily subsidized. Over 90 percent of their operating cost is financed via the revenue budget. Tuition fees and hostel charges have remained constant in nominal terms for over two decades. As a result, tuition fees for bachelors and masters' level education have been declining in real terms. Most significantly, fees represent only a small fraction of total costs, less than 1 percent. Note from Table 2.6 that in 1994/95 relative to 1986/87, tuition fee for masters in science declined by 32 percent; for masters in commerce declined by 20 percent; and for masters in arts declined by 20 percent. Similarly, in 1994/95 relative to 1986/87 at the bachelor's level, tuition fees for honors in commerce declined by 34 percent and for honors in arts declined by 20 percent. Thus, the relatively affluent families who can afford to make reasonable investments in the secondary and higher secondary private tutoring gain access to virtually free tertiary education from the public institutions.

31. Ironically, some of the very affluent choose not to compete for these subsidies because of delays in completing academic programs due to political disruptions; poor quality of instruction; and the insecurities

19 World Bank, *Bangladesh. From Counting the Poor to Making the Poor Count*, 1998, Table-A4 3, p 63

**Table 2.6: Tuition Fees in Tertiary Government Institutions**  
(Taka per student per month in 1984/85 prices)

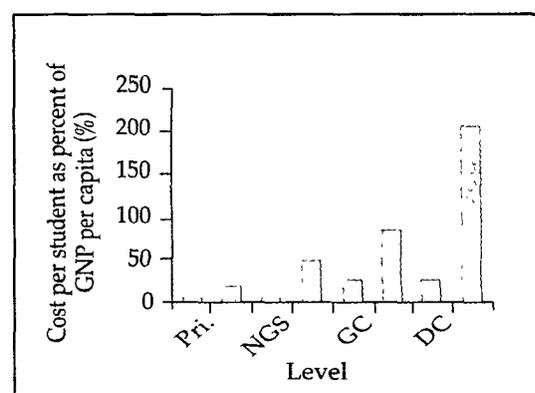
Subjects	86/87	87/88	88/89	89/90	90/91	91/92	92/93	93/94	94/95
<b>Masters Degree</b>									
Science	24.6	23.1	21.3	20.5	19.0	18.1	17.6	17.1	16.8
Commerce	21.1	19.8	18.3	17.6	16.3	15.5	18.9	14.6	16.8
Arts	21.1	19.8	18.3	17.6	16.3	15.5	18.9	14.6	16.8
<b>Bachelor's Degree with Honors</b>									
Commerce	17.6	16.5	15.2	14.7	13.5	13.0	15.8	15.3	14.0
Arts	17.6	16.5	15.2	14.7	13.5	13.0	15.8	15.3	14.0

*Source: BBS, Statistical Yearbook of Bangladesh 1996, p. 564*

in the campuses of public higher education institutions. Instead they choose to pay much higher fees to send their children to India or Bangladesh's growing number of private universities.

32. The inequities in public recurrent spending on different levels of education is glaring as revealed by cost per student as percent of GNP per capita (Fig. 2.5). It is 210 percent for university education, 19.5 percent for secondary education in government schools, and only 3.6 percent for primary education (see Table 2.4). Most poor students never make it to higher education. Students in Bangladesh's higher education system are mostly from middle and high income classes and they receive a larger absolute subsidy than those at lower levels. Only the Dominican Republic (3.3 percent of GNP per capita in 1996) and Venezuela (2.2 percent of GNP per capita in 1996) had lower public spending per student as a percent of GNP in primary education compared to Bangladesh. In 1996, in India this was 11.6 percent and in China 6.5 percent.<sup>20</sup>

**Figure 2.5: Cost per student as percent of GNP per capita (%) by Level**



33. The unit costs (quality) and enrollment ratios (quantity) determine the distribution of public resources for education. How does the enrollment pyramid affect the distribution of education (in terms of the number of years of schooling received) among people in the same generation and how does this distribution in turn interact with the structure of unit costs to determine the distribution of accumulated public spending on the education system as a whole? Results of this analysis,<sup>21</sup> presented in Table 2.7, show that about 60 percent of the students leaving the primary school-age range obtained about 30 percent of the accumulated public spending on education. The Gini-coefficient for the distribution of public spending between different levels of the education system is 0.42. This is higher than the Gini-coefficient of 0.31 for the overall income distribution in Bangladesh.<sup>22</sup> Thus the distribution of public expenditure in education is more unequal than the distribution of income.

#### E. PRIVATE EXPENDITURES ON EDUCATION

34. The only comprehensive set of data on private expenditures on education is available from 1996 Household Expenditure Survey which had a rotating education module. Table 2.8 presents annual total

<sup>20</sup> World Bank, 1999 *World Development Indicators*, pp.74-76.

<sup>21</sup> Based on a framework recommended in Mingat, Alan and Jee-Pang Tan, *Analytical Tools for Sector Work in Education*, A World Bank Publication, The John Hopkins University Press, Baltimore and London, 1988, p. 136-139

<sup>22</sup> World Bank, *Bangladesh: Challenges for the Next Millennium*, April, 1999, p. 64

Table 2.7: Distribution of Cumulative Public Spending on Education

Highest educational attainment	Number of students (in million)	Costs per cycle (\$)	Cumulative public expenditure per student (\$)	Aggregate cumulative expenditure (\$)	Share of total aggregate expenditure (percent)
No schooling	5.8	0	0	0	0
Primary	17.6	63.5	63.5	1117.6	29.8
Secondary	5.6	339.5	403.0	2256.8	60.3
Higher secondary	0.23	135.8	538.8	122.9	3.3
Degree	.07	177.2	738.8	51.7	1.4
University	.07	2193.3	2932.1	196.5	5.2
All	29.4			3745.4	100

Source: Staff estimates.

private expenditures per household by levels of education and by gender. Household expenditure on schooling increases with the level of schooling. It is lowest at the primary level. Government primary schools provide free textbooks and tuition is free. The government also provides free textbooks to registered non-government schools. Yet the amount spent by household on boys and girls is not insignificant—over Tk. 500 per annum. Parents have to pay other school fees and spend on student supplies, reference books, uniform, and private tutoring. Interestingly, the amount spent is independent of gender. HES data provide no evidence in favor of gender discrimination in private expenditures on education. The observed difference in mean expenditures between males and females is not statistically significant. While the amount spent at the primary level—slightly over \$10 per year—may appear to be small, it is not so in the context of an economy where the annual per capita income is only \$350 and the average family has four children.

35. The increase in private expenditures on education with the level of education for both males and females reflect the fact that post-primary education is not free and that completion of various levels of secondary education is largely a function of resources spent. Private expenditures at the lower secondary level are more than twice that of the primary level and private expenditures at the higher secondary level are more than 6 times the expenditures at the primary level.<sup>23</sup> Of all the items on which households spend for education—uniform, books, exam fees, tuition, transport, private tutoring, hostel, and others—private tutoring is the largest item. Of the total Tk. 2,451 spent on males and Tk. 2,503 spent on females at the secondary level, more than one third was on private tutoring alone. The ratio of expenditure on private tutoring to total private expenditure on education is the highest at all levels of education (Table 2.9).

Table 2.8 : Average Household Expenditure by Gender and Level of Education (Taka per annum)

Level of Education	Male	Female
Primary	502	540
Lower Secondary	1483	1464
Secondary	2451	2503
Higher Secondary	3395	3670

Source: Compiled from BBS, HES 1995-96.

<sup>23</sup> Private spending by level of education derived from HES data are close to the amounts found by other studies. A study by Rahman in 1993 found that in secondary education, direct private costs range from Tk. 2,000 for a boy in grade VI to about Tk. 3,700 for grade X girls. This study also found that direct private costs at the primary level in urban areas range from about Tk. 1,000 to Tk. 1,600. Since the HES uses a nationwide sample where rural households dominate, it is not surprising that the amounts spent at the primary level, derived from HES data, are much lower. See Rahman H. Z. and Sen, B. Rural Poverty Update 1992: Improvement, but..., Bangladesh Institute of Development Studies, Dhaka, 1993.

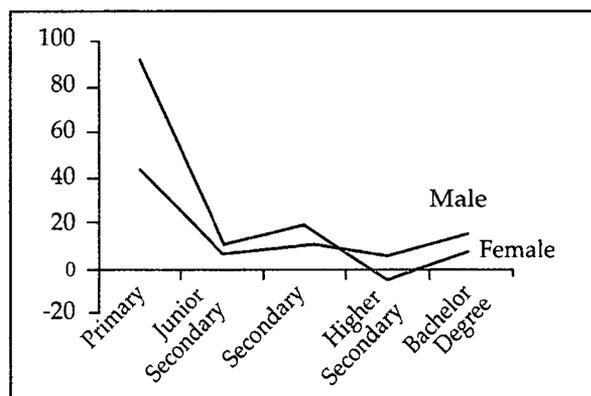
**Table 2.9 : Percentage Composition of Household Expenditure on Education**

Level	Private Tutoring	Admission	Uniform	Books	Tuition	Transport	Others
<b>Primary</b>							
Male	39.6	4.9	12.4	13.2	10.6	6.2	13.1
Female	39.5	5.6	11.1	12.1	11.7	5.8	14.2
<b>Lower Secondary</b>							
Male	34.2	6.7	10.4	16.8	11.7	7.9	12.3
Female	37.4	5.5	10.3	17.4	10.9	6.5	12.0
<b>Secondary</b>							
Male	36.3	5.5	8.2	18.4	10.4	7.9	13.3
Female	36.0	5.3	8.3	18.4	9.7	8.0	14.3
<b>Higher Secondary</b>							
Male	26.3	7.2	6.0	16.2	8.6	12.8	22.9
Female	27.5	6.9	6.4	15.7	8.6	14.1	20.8

Note: Annex B-6  
Source : Staff estimates based on HES 1996 data.

36. The above findings are consistent with the widely held view that in recent years there has been a phenomenal growth in private tuition at various levels of education, SSC and HSC in particular. There are coaching services even for entrance examinations in public and private universities. There is a need for better understanding of this phenomenon. Why do parents need to spend so much in tuition? Does this indicate a decline in the quality of classroom teaching in secondary schools? What environmental changes have contributed to these? Total private expenditures can be quite burdensome to poorer households. It has an impact on access and participation. It is economically wasteful to the extent the need for such expenditures arises from governance failures in the education system. With weak accountability and performance monitoring systems, teachers clearly have an incentive to make students seek private tutoring by not expending effort in high quality classroom teaching. There is anecdotal evidence that parents are compelled to spend on coaching services because teachers "hold back" on instruction in the classroom in order to ensure a demand for their after-hour services.

37. Private resource mobilization in primary and secondary education is quite significant. Due to inadequate public resource allocation for non-salary expenses at the school level, the school managers are forced to seek resources from local communities to build essential facilities (such as latrines for female teachers and students) and do the essential repairs. Data collected directly from primary schools show large variations in the extent of own resource mobilization from school to school. In some schools it was found to be as low as 0.1 percent while in some others it was as high as 30 percent. Data collected from 14 non-government secondary schools show that the extent of self-financing may be in the range of 50 to 70 percent of total recurrent expenditures.

**Figure 2.6: Annual Marginal Rates of Return by Levels of Education**

38. Applying the data in Table 2.8 on total enrollments at the corresponding levels, the estimated annual aggregate private expenditure on primary and secondary education is Tk. 20.8 billion in 1996 prices. This is about 1.2 percent of Bangladesh's GDP—compared with 2.1 percent for public expenditures. In other words, private expenditures are at least 50 percent of total expenditures on education which is high by international standards. Private spending is stretched to the limit at primary and secondary levels. However, there are potentials for greater private contributions at technical and university levels.

#### *Private Financial Returns to Education*

39. How important is education as a determinant of earnings in Bangladesh? World Bank research<sup>24</sup> based on Bangladesh Household Expenditure Survey 1996 data, and using the (Mincerian) Human Capital Earnings (HCEF) function models, found that **on average, across all levels and types of schooling, for both males and females, schooling yielded about a 10 percent** private rate of return on the earnings foregone by the household. Interestingly, the estimated rate of return is higher for the female household heads (16.5 percent) than the male heads (9.2 percent). This is not unusual and does not imply that, as education goes up, women begin to earn more than men. What it probably means is that the earnings of women are lower than for men at all levels of education because of wage discrimination and less time devoted to paid work. As a result, the foregone earnings for women are lower. Note also that the rate of return for the household heads in rural area was 9.5 percent, whereas the rate of return for those in urban area was 10 percent. Private returns to primary education are significantly higher than the overall average. These findings are broadly consistent with the World Bank findings on Vietnam (1996) which is at a similar level of economic development.

40. **An extended analysis found significant variation in private rates of return across different education categories.** The estimates showed that the earnings of a primary school completer is on average 14.3 percent higher than those who have no schooling and those who did not complete primary schooling. The rate of return to junior secondary school completers goes up to 21.7 percent, which means that the junior secondary completer earns about 7 percent higher per additional year of schooling relative to those who have not completed junior secondary education. It is fair to say that investing in junior secondary schooling as well as primary schooling has a very positive effect on earnings in Bangladesh.<sup>25</sup> However, the average rate of return for the secondary school completer (additional 2 years after junior secondary level) is 15.6 percent, which is only 1.3 percent higher than primary school completers, and 6.1 percent lower than junior secondary school completers. This could mean that for the secondary school completers, there are few appropriate job opportunities in the labor market. For the higher secondary school completers, the average rate of return becomes even smaller at 7.6 percent. This shows that if one chooses to continue schooling after completing junior secondary, the earning prospects deteriorate until graduating from post higher secondary education. The average rate of return jumps to 30.8 percent for the bachelor's degree holders. The exceptionally strong returns for degree holders explains the strong incentives for parents and students to pass the HSC examination for entry into higher education.

#### **F. DEVELOPING A SUSTAINABLE STRATEGY FOR EDUCATION FINANCING**

41. Bangladesh needs a dynamic and sustainable education financing strategy to meet the challenges of poverty reduction and increased competition in an emerging outward oriented market economy. These challenges are related directly to quality of life improvements that education can make now rather than later. A long-term vision to guide the formulation of such a strategy is immediately needed. In this process all the stakeholders—the Education Ministry, education institutions (both public and private), non-government institutions, employers, and parents—need to be involved. A consensus already exists that everything in

<sup>24</sup> See Annex

<sup>25</sup> It ought to be kept in mind that the estimated private rates of return are backward looking and do not predict the value of current investments. The market for primary and secondary school graduates could have been saturated in the meantime.

education cannot be financed from the public budget, but the implied critical choices are yet to be made. There is no room for saving resources by lowering quality. The authorities therefore need to get serious about developing mechanisms for private resource mobilization at higher levels and increased community contributions at the primary and secondary levels. Otherwise the planned expansion of Bangladesh's education system will be hard to sustain in the long run. Financing of higher secondary, tertiary, and technical education by 2020 should be based on the *beneficiary must share principle*. In these sectors the benefits to education are to a large extent privately appropriable. Public financing is still needed, but the case ought to be made more explicit. Public financing is justified in areas with strong externalities, e.g., basic education for all; secondary education for girls; technical and vocational training in areas that cannot be taken up by the private sector but for which there is clear demand; research that is in the public interest, and possibly graduate education and teacher training in critical fields such as science and mathematics. Public financing is also justified to equalize access and outcomes for all segments of the population through scholarships or other means to ensure equal access and outcomes for disadvantaged groups. There is not a strong case for public financing of technical and higher education in Bangladesh particularly in view of the fact that quality and access to basic education is very low and access is not universal. At this juncture Bangladesh cannot afford to deflect public spending from the basic levels. Public expenditure on education needs to grow at least at the same pace as nominal GDP growth.

**42. Macroeconomic context.** Successful reform in Bangladesh's education system requires concentration on a manageable number of factors that affect learning, creation of a climate conducive to implementation and sustaining it over time, and making resources available to support change. The latter will depend critically on economic policy reforms, which proceeded at an impressive pace in early 90s and subsequently slowed down, that foster growth. Without policy reforms, growth performance would depend on the kindness of nature and a continuation of current trends. By 2000, the economy is expected to recover from around 4 percent growth in FY99 (due to prolonged floods) to its more normal 5 plus percent level experienced in recent years. But beyond 2005, the growth rate is expected to moderate with the economy facing energy shortages by 2004. Thus growth is projected to settle at around 5-5.2 percent for most of the first decade of the next millennium. This performance implies that the 6-7 percent average growth rate expected for 2000-10 will not materialize as, among other things, energy shortages and lack of reforms in the energy and financial sectors hold back growth.

43. The fiscal deficit is projected to remain at about 4.5-5 percent of GDP until 2010.<sup>26</sup> The government is unlikely to succeed in achieving the often recommended 0.5 percentage point a year increase in the revenue-GDP ratio. The deeply embedded weaknesses of the tax and non-tax revenue administration will preclude the sizable and sustained revenue growth implied by this target. The revenue-GDP ratio is unlikely to increase much in FY2000 or anytime thereafter. Significant improvements would require reforms in the taxation structure, tax administration, and in the collection of non-tax revenues and upward revision of administered prices to keep up with inflation. In the backdrop of declining (or at best static) concessional aid, the problem will be the financing of a rising fiscal deficit (in absolute terms). Increasing domestic borrowing would be the likely consequence, with adverse results for private investments and domestic inflation.

**44. Maintaining the existing system.** Given a declining demographic pressure on primary and secondary education, Bangladesh has the financial capacity to continue funding the education system at existing inflation-adjusted unit costs, enrollment rates, and the share of public education expenditures as a proportion of GDP. In fact the resources required to maintain the existing system at present levels of low unit cost and low quality decline from 2.1 percent of GDP in FY99 to less than 1 percent of GDP in FY08. The decline is

---

26 The FY91-98 average deficit was about 4.8 percent, with a declining trend.

attributable to declining primary and secondary age group population. As a result enrollments at these levels decline since the rate of enrollments are held constant at current levels. If the government keeps education expenditure constant at the present 2.1 percent of GDP, total financial resources available for education would increase from Tk. 46 billion in FY99 to Tk. 116.1 billion in FY08 (Annex. Table E-7). At current enrollment rates and unit costs, the resources required to maintain the system will increase from Tk. 46 billion in FY98 to Tk. 52.2 billion in FY08. The annual rate of increase of about 1.4 percent in education expenditures to maintain the current system is significantly less than the 10.8 percent annual growth in resources available for education. This also implies that development spending in education can grow at over 18 percent annual rate in the next decade. However, this is lower than the 22 percent annual rate of increase in education development spending achieved in the past decade. These resources can be spent to expand the system to provide basic education (up to grade VIII) free to all; invest in expanding primary school enrollment to reach the hard core poor; invest in improving the quality of primary and secondary education; and invest in improving access to technical and higher education.

**45. Expanding coverage.** Simply maintaining existing coverage and quality will not help achieve the overall vision for Bangladesh in 2020 of reaching \$650 per capita GDP in 2010 and doubling it in the next decade to reduce the incidence of the very poor from 36 percent to 11 percent by 2020. Expansion will be necessary not only to provide enough school places to the entire primary and lower secondary school age cohorts, but also, in the medium term, to provide places for overage students. In calculating the annual costs of expanding coverage, it is assumed that the investment program adopted by the government under the PEDP will be fully implemented by 2003 and the PEDP school construction program will create adequate number of school places for achieving universal coverage in primary education. At existing unit costs, expanding primary enrollments from the current 95 percent to 100 percent by 2008 would require spending only 1 percent of GDP for education in 2008 (scenario-1, Annex: Table E-2). Education's share in the government's total budget can decline to 6.2 percent by 2008 in this scenario (Table 2.11). Again, the decline is due to declining primary and secondary age group population and constant enrollment rates at the post-primary levels. However, apart from additional schools places, further investments are still needed to improve primary quality.

**46.** Coverage can also be expanded by making lower secondary education free for all. Grade VI enrollments are at present 65 percent of grade V enrollments. Given a trend of gradually increasing transition rate and rapidly increasing participation in secondary schooling, it can be assumed that the transition from grade V to grade VI would exceed 90 percent by 2010 with or without an expansion of compulsory basic education to grade VIII. Existing classrooms are too crowded in the primary and secondary schools. However, this is true with or without a new definition of basic education. There may also be some under-utilization of classrooms in existing classes VI-VIII but their proportion is unlikely to be of much significance in the aggregate. The student-teacher ratio in secondary schools currently is high (45), but with increasing transition and retention rates with or without the new structure, the number of teachers would have to increase any way. Thus, the proposed new structure would not require large additional resources that would not otherwise be needed under the existing system. It will certainly require reorientation of the revenue and development allocations to what currently are known as secondary schools. School expansion will be required to accommodate enrollment growth. The switch to the new definition of basic education will influence decision on which schools need to be expanded, not whether schools expansion is needed. More and better trained teachers will have to be assigned to teach upper level primary classes. In particular, mathematics, English and science teachers will need training on content and teaching techniques. Textbooks and learning aids will have to be provided free to students of lower secondary level whereas these are now purchased by parents. Systems of student assessment will need improvement. The curriculum needs to be better aligned with that of grades I to V. Investment in all these will be needed irrespective of expanding basic education to grades I-VIII.

47. Even though the proposed new structure will not require large additional resources that otherwise would not be needed under the existing structure, it will shift the burden of financing entirely to the central government budget. How much? It is assumed that the schedule of expansion proposed by the Policy Formulation Committee will be followed. This calls for provision of compulsory education for class VI by 2003, for class VII by 2006, and for class VIII by 2010. Making VI-VIII compulsory has the following consequences for public financing: (a) elimination of student fees at lower secondary; (b) public financing of textbooks in place of private purchases; and (c) payment of all teacher salaries and the non-salary operating expenses of the lower secondary classes. Consequently, the public recurrent expenditure per student will increase in lower secondary education. Also, expanded enrollments would require construction of additional classrooms since existing classrooms are already overcrowded. It is assumed that the existing student:classroom ratio of 56<sup>27</sup> will be maintained and that building each classroom will cost \$5,262 adjusted annually for inflation.<sup>28</sup> Enrollments at the secondary and higher secondary levels are assumed to grow at their trend 7.6 percent annual rate; in technical education it is assumed to grow at its historic 1.1 percent annual rate; and in university education at a 5 percent annual rate.

48. These assumptions imply that the estimated annual cost for expanding the system, at existing low quality and unit costs to accommodate all primary and lower secondary age children would grow from Tk. 47.3 billion for the first year of the accelerated expansion program to Tk. 83.5 billion for the last year (see Annex, Table E-3). Notwithstanding this expansion in coverage, the share of education expenditure can still decline from the present 2.1 percent of GDP to 1.5 percent of GDP by 2008 (scenario-2, Annex, Table E-3). The cost of expansion would still be high—in 2008, equal to about 1.6 times the cost of maintaining the existing system. However, education's share in the government's total budget can still decline to 9.8 percent by 2008 (Table 2.11). This will only bring all the primary and lower secondary age group to schools. It will not provide them education of adequate quality. Given that the outcome of the present system of education is often low learning achievements and high dropout rates, particularly for the poor rural boys and girls, the expansion is likely to simply lead to a larger inefficient system. It would be more desirable to invest in improving quality.

49. **Improving quality.** National policy explicitly recognizes the need for sustained and systemic efforts to improve the quality of teaching and increase learning achievements. Improving quality in primary and secondary education would require more relevant curricula, more and better textbooks, better academic supervision, incentives for teachers to teach more hours per day, hiring of additional teachers to reduce the student:teacher ratio, more intensive supervision, provision of school instructional materials for both the students and teachers, provision of in-service training to the teachers, rehabilitation of existing classrooms, construction of additional classrooms to reduce the number of students per classroom, and provision of adequate sanitation facilities. It is assumed that the program adopted under the PEDP will be adequate to meet the quality improvement needs in primary education. However, there would still be the need to continue financing what PEDP starts and to increase spending on quality improvement interventions. Currently the government spends less than 41 cents (Tk. 20) per student on primary teaching-learning materials. If this is increased to \$5 per student and primary coverage is expanded to 100 percent by 2003, with enrollments at other levels remaining constant at their current rates, the resources required for education would still decline from the present 2.1 percent of GDP to 1.7 percent of GDP by 2008 (scenario-3, Annex, Table E-4). Education's share in the government's total budget would have to be 10.7 percent by 2008 in this scenario (Table 2.11). Combining this with universal coverage of lower secondary by 2008 raises the

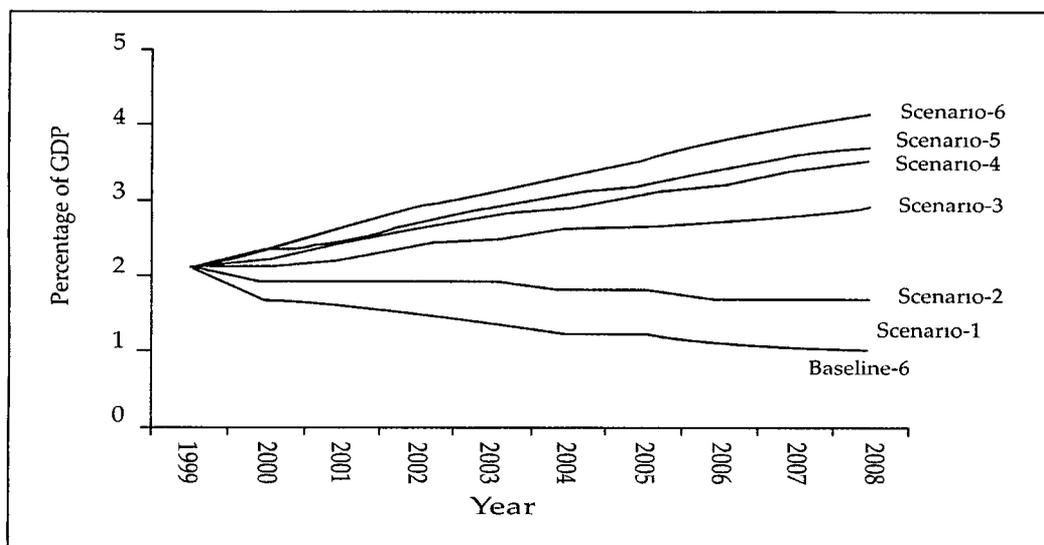
---

27 BANBEIS, Bangladesh Educational Statistics, Table-17, p 8

28 PEDP Project Appraisal Document, p 15

resource requirement substantially to 2.9 percent of GDP and 18.6 percent of the government's budget by 2008 (scenario-4, Annex, Table E-5).

**Figure 2.7 : Resources Required for Education under Alternative Scenarios**



**Table 2.10 : Resource Requirements for Expanding Coverage and Improving Quality (percent of GDP)**

Scenarios	FY00	FY03	FY06	FY08
Maintaining current coverage and quality (Baseline)	1.7	1.4	1.1	0.9
1. Universal five years at existing quality by 2003	1.7	1.4	1.1	1.0
2. Universal eight years at existing quality	1.9	1.7	1.6	1.5
3. Universal five years with investments in improving primary quality	1.9	1.9	1.7	1.7
4. Universal eight years by 2008 plus investment in improving primary quality	2.1	2.5	2.7	2.9
5. Universal eight years by 2008 plus investment in improving primary and lower secondary quality	2.2	2.8	3.2	3.5
6. Universal eight years and 50 percent coverage of secondary age cohort by 2008 plus investments in improving primary and lower secondary quality	2.3	2.9	3.4	3.7
7. Universal eight years and 50 percent coverage of secondary age cohort by 2008 plus investments in improving primary and lower secondary quality with enrollments at other levels growing at their historic trend rate	2.3	3.1	3.8	4.1

*Source: Staff estimates*

Note: Needed quality enhancements in higher education and TVET are not considered in these scenarios. These quality enhancements would be additional to the projected costs

50. Yet another option is to invest in universal coverage through grades I-VIII, and in improving the quality of primary and lower secondary education. Improving quality in lower secondary education would ideally require reduction in the number of students per classroom and number of students per teacher, provision of teachers' guides and textbooks, and appropriate training and incentives to the teachers to enable redirection of their efforts from private tutoring to teaching in the classrooms. It is assumed that the student:teacher ratio was 33:1 in lower secondary schools and 40:1 in secondary schools in 1997 with 56 students per classroom. These estimates are likely to be on the low side. It is also assumed that student:teacher ratio and the number of students per classroom will remain unchanged in lower secondary and secondary levels. On teaching-learning materials, it is assumed that the government will spend \$5 per student per year at the lower secondary level.<sup>29</sup> Currently, the government does not invest anything on teaching-learning materials at the secondary levels. When the above investments on improving quality are assumed over and above the investments needed to expand coverage as discussed earlier, the resource requirements rise to 3.5 percent of GDP and 22.3 percent of the government's budget by 2008 (scenario-4, Annex, Table E-6).

51. Building in an increase in coverage at the secondary level to 50 percent of the age group by 2008, the resources required increase further to 3.7 percent of GDP and 24.2 percent of the government's budget by 2008 (scenario-6, Annex, Table E-7). These calculations assume that enrollment rates at the higher secondary, tertiary, and technical education remain constant at their current levels. Allowing, enrollment growth at these levels at their historic trend rates, the resources required to expand coverage and improve quality at the primary and lower secondary levels increase to 4 percent of GDP and 26.7 percent of the government's budget by 2008 (scenario-7, Annex E-8).

**Table 2.11: Resource Requirements for Expanding Coverage and Improving Quality  
(percent of budget)**

Scenarios	FY00	FY03	FY06	FY08
Maintaining current coverage and quality (Baseline)	11.6	9.0	7.0	6.1
1. Universal five years at existing quality by 2003	11.7	9.1	7.1	6.2
2. Universal eight years at existing quality	13.2	11.3	10.5	9.8
3. Universal five years with investments in improving primary quality	12.7	12.3	11.3	10.7
4. Universal eight years by 2008 plus investment in improving primary quality	14.7	16.4	17.8	18.6
5. Universal eight years by 2008 plus investment in improving primary and lower secondary quality	15.3	18.4	21.0	22.3
6. Universal eight years and 50 percent coverage of secondary age cohort by 2008 plus investments in improving primary and lower secondary quality	15.6	19.1	22.3	24.2
7. Universal eight years and 50 percent coverage of secondary age cohort by 2008 plus investments in improving primary and lower secondary quality Improving the quality of lower secondary education with enrollments at other levels growing at their historic trend rate	16.0	20.5	24.6	26.7
<i>Source : Staff estimates</i>				

29 This figure is taken from *A World Bank Policy Paper—Improving Primary Education* (1990), which recommended raising the level of per student expenditure to \$5

52. The above need to be seen as minimum estimates because they do not take into account the need to provide schooling for the many overage children now in primary schools, to develop necessary institutional capacity, or to satisfy above trend growth in demand for post lower secondary education. These will increase the competition for government resources and could limit the resources available for primary and lower secondary education. Even without these additional demands, clearly **both quality and coverage cannot be expanded at the same time above the primary level in the next decade without significant increase in the share of education expenditures as a percentage of GDP.**

53 **Summary of resource requirements under different scenarios** The results of above calculations are only approximations that convey a sense of the order of magnitudes involved. These results show that in a business as usual macroeconomic context, Bangladesh can comfortably sustain the existing coverage and very low quality of the education system. Expanding coverage to provide universal free basic education up to class-VIII at existing quality is also within Bangladesh's financial potential. However, existing quality at all levels of the education system are highly inadequate for satisfying Bangladesh's social and economic priorities over the medium term. There is, therefore, no room for complacency. Improving quality and equality has to be the top most priority. So far the emphasis has been on improving participation. But this is only the beginning. To make this participation socially meaningful the education must be of adequate quality in order to provide the skills needed to operate successfully in complex, democratic societies with changing labor market needs. Some improvements in the quality of primary education with universal eight years by 2008 can be afforded if budgetary allocations for education are increased gradually to 2.9 percent of GDP with enrollments at other levels of education remaining constant at their current rates. Further expansion of the coverage at the secondary level and continuation of the trend rate of enrollment growth at higher secondary, technical, and tertiary education would require increasing the education budget to 4.1 percent of GDP by 2008.

#### *Bridging the Financing Gap*

54. **Plans for resource mobilization.** The Fifth Five Year Plan recognizes that the resources available for education are inadequate to meet the commitments made for compulsory primary education, and enlargement of the base of science and technical/vocational education.<sup>30</sup> Accordingly, the proposed NEP has recommended increasing allocations to education by one percent of GDP each year to achieve 5 percent of GDP allocation by the year 2000 and increase this further to 7 percent by 2010.<sup>31</sup> The increases should be made conditional on improvements in quality and efficiency. The increase is justified since the percentage gain in per capita consumption from education (of household head) ranged from nearly 19 percent for primary completed to 48 percent for secondary completed in 1995/96.<sup>32</sup> Ideally, the increase should be financed by cutting wasteful public expenditures in other sectors, such as reducing budgetary financing of SOE losses and defense expenditures. Also there is a need to increase reliance on private financing and management at higher and technical levels of education. This is already emphasized in the draft NEP. However, it shies away from proposing a plan of action. In which areas would increased fees be politically acceptable? Where binding political constraints exist on increasing fees, what other options for cost sharing with beneficiaries are available? The draft NEP proposes an *education tax* on the affluent for financing primary education. Given the severe weaknesses in Bangladesh's tax administration, this is highly unrealistic.<sup>33</sup> The proposed NEP also proposes creating an *education bank* with the initial capital collected

<sup>30</sup> GOB, Fifth Five-Year Plan 1997-2002, p. 427.

<sup>31</sup> These targets are based on the old National Accounts series in which the GDP levels are 27 percent lower compared to the new series.

<sup>32</sup> World Bank, Poverty Assessment, Table-A3.1, p. 60.

<sup>33</sup> According to a recent estimate, the total number of individual income taxpayers in Bangladesh in 1996/97 was a paltry 2,11,380. Of these, only 731 individuals accounted for 56 percent of total income tax paid.

from the deposits of government and non-government educational institutions. This too is not a viable proposition. Bangladesh does not need another public sector specialized bank at this stage.

**55. Resolving the tradeoffs.** How then can the tradeoffs between expanding coverage and improving quality be resolved? Faster economic growth would certainly help. This means vigorous pursuit of reforms in some key areas such as the financial system, energy, infrastructure and in governance. Higher growth automatically reduces the financing shortfalls. However, the education system in Bangladesh is so large and the need for improvements are so enormous that even in the high case growth scenario, the resources available for education will not be adequate for expanding quality and coverage. One alternative is to postpone the achievement of 8 years of basic schooling to another decade. In fact, the government appears to be considering this option. But tradeoffs and resource shortage will still remain. The other option is to expand the government's revenue base so that more resources can be made available for education. There is some potential there since Bangladesh's revenue-GDP ratio is low even by the standards of low income countries. Recent IMF estimates suggest that, under the present tax system, increasing the VAT compliance rate alone would raise an additional 1.2 percent of GDP in revenue. However, given the political and institutional capacity constraints and other demands on public revenues, the extent of the actual tapping of tax revenues is unlikely to be sufficient to fully accommodate both quality and quantity expansion in education. Review of the existing public development expenditure program for education could lead to finding some additional resources for improving the quality of lower secondary education. The FY99 ADP contained 21 projects whose priority are highly questionable in terms of their development impact (see Annex F). The total cost of these projects is estimated at Tk. 13.5 billion. This is equivalent to about 16 percent of the total investments needed to reduce the number of students per classroom in the lower secondary and secondary schools. Other sources, namely households, the private sector and foreign aid will also need to be tapped. Households already contribute a substantial portion of the current and capital costs of the primary and secondary schools. The private sector in recent years has accounted for the majority of growth in new schools. If economic growth picks up and incomes rise, private education will probably continue to rise as a share of schools and students. Although not undesirable per se, this accentuates the need for quality and quantity improvements in the public schools where the poorer majority of the population will continue to attend school.

**56. Strategy:** The following strategy presents objectives and means to achieve them in education financing:

**Table 2.12: Objectives and Means for Education Finance**

Objective	Means
<p><b>1. Increase public financing:</b></p> <p>Public investment in education in Bangladesh is low by international comparisons and in relation to the high returns, especially in basic and secondary education. The education system does not provide reasonable quality levels. Yet under pressure expansion is planned at all levels. There is no scope for savings to finance expansion by lowering quality.</p>	<p>1. Increase public education spending to 3.5 percent of GDP by 2003 and 4.0 percent by 2008. In particular, spend increases on:</p> <ul style="list-style-type: none"> <li>• the factors that produce quality outcomes, e. g. more and better textbooks, design and application of continuous student assessment and feedback systems; continuous in-service teacher training near the classrooms; effective academic support and supervision</li> <li>• early childhood education for targeted low-income groups as a means to overcome current non-enrollment of poverty groups in primary education.</li> <li>• Investments in making the education more equitable for the poor and disadvantaged groups, including stipends for the poor, continuation of the FSP, etc.</li> </ul>

*Continued*

Continued from Table 2.12

Objective	Means
	<ol style="list-style-type: none"> <li>2. Increase spending on secondary education through non-government institutions to accommodate expected enrollment increases. This requires streamlining payments to these institutions, elimination of constraints on processing increases and avoidance of delays in approving new teachers.</li> <li>3. Increase public spending on (a) non formal TVET delivered by non-government institutions for underprivileged groups, and (b) after necessary reforms and decentralization, in public TVET.</li> </ol>
<p><b>2. Mobilize non-public resources to complement public financing. :</b></p> <p>Lack of cost-sharing with beneficiaries is noteworthy in TVET and university education (which contrasts with secondary and non-government degree colleges)</p>	<ol style="list-style-type: none"> <li>1. Impose a ceiling on public spending in universities and technical education and relax the means for self-financing.</li> <li>2. Institute significant cost-recovery in public university and technical education.</li> <li>3. Expand the provision of private higher education</li> <li>4. Authorize new private universities whose applications are pending and recommendations have been given by the UGC</li> <li>5. Provide stipends for attendance of poorer students in private higher education</li> <li>6. Privatize some key TVET institutions</li> <li>7. Encourage employer contributions to operation of TVET institutions</li> </ol>
<p><b>3. Improve efficiency of resource use :</b></p> <p>One way to free up resources is to make more efficient use of existing resources. The challenge is to improve the outputs of the system by investment in key inputs.</p>	<ol style="list-style-type: none"> <li>1. Continue to work through non-government institutions at secondary and degree levels because they cost the government less per student and tend to be more flexibly managed.</li> <li>2. Finance performance incentives as a means to leverage quality improvements, e.g., school improvement plans, monetary and non-monetary incentives for teachers</li> <li>3. Deliver expanded public financing for TVET through NGOs</li> <li>4. Expand existing institutions rather than establish new ones (in TVET and university education)</li> <li>5. Avoid the nationalization of non-government institutions (as proposed in the 5<sup>th</sup> 5 Year Plan for secondary and degree college levels)</li> </ol>
<p><b>4. Rationalize allocation of resources.</b></p> <p>This involves two separate objectives:</p> <p>a. <b>Greater equity.</b> Counteract the current tendencies where female education continues to receive less financing; urban schools receive greater subsidies per student than their rural counterparts; and schools for financially better-off children</p>	<ol style="list-style-type: none"> <li>1. Reduce the private costs of school attendance for disadvantaged groups. Remove extra costs for school attendance, especially outside private tuition charges for secondary education</li> <li>2. Institute a new system for financing according to norms: <ul style="list-style-type: none"> <li>• Allocate resources to primary and secondary education on the basis of students enrolled (capitation grants, or normative financing) and a formula that compensates underprivileged areas</li> <li>• Establish normative financing for university education based on per student grants according to field of study</li> </ul> </li> </ol>

Continued

*Continued from Table 2 12*

Objective	Means
<p>have higher subsidies per student than those for poorer children.</p> <p>b. Make budgetary allocations more consistent with policy. Recently the share of primary education declined slightly in total revenue expenditures while public investment in university education rose in its share of development expenditures.</p>	<p>3. Continue the FSP</p> <p>4. Continue the Food for Education Program</p> <p>5. In TVET and university education change the basis for stipends from merit to need and introduce means testing.</p> <p>6. Avoid wasteful development expenditures, e.g., costly expansion of TVET and university facilities. Specifically, back off the construction of 12 new universities of science and technology; 12 new VTIs; 12 new TTCs and 12 new polytechnics</p>

## G. CONCLUSIONS

57. Bangladesh has done well, particularly in the recent past, in increasing total budgetary allocations to education with emphasis on expanding the coverage of primary and lower secondary education. These efforts have paid dividends in terms of significant increase in enrollments, remarkable improvements in gender parity, and decreased dropout rates at the primary and secondary levels. The good news is that Bangladesh can probably achieve universal primary education and some of the needed quality improvements without increasing the proportion of GDP devoted to education. This is explained mainly by the success of Bangladesh's population program the fruits of which will be steady or decreasing primary school-age population over the next 20 years. This rosy scenario, however, does not allow for needed quality improvements in middle and higher levels of the system. To achieve those both greater cost recovery and efficiency in education expenditures are required. The challenge for the education system in Bangladesh now is to face the second generation problems in a way as to maximize the development impact of expanded coverage and increased gender parity. These challenges are:

58. **Increasing the internal efficiency and equity in primary education.** Student flow through the system and learning achievements need to be substantially improved. The steps required to achieve these have been discussed in the background paper on primary education. Implementation of these steps would require additional investments in teacher incentive programs, pedagogical inputs, learning assessment, and so on. Special programs are also needed for schooling the hard to reach rural and urban poor. This means that the share of primary education in the revenue and development budget can not be allowed to decline. These investments potentially could induce resource savings substantially larger than their original investment costs.

59. **Increasing the internal and external efficiency of secondary education and expanding coverage of lower secondary education.** This calls for significant reorientation of the secondary education system as outlined in the background paper on secondary education. Expanding coverage of lower secondary education is desirable from a social point of view. This needs to be achieved through the less costly non-government secondary schools. Increases in revenue budget allocations for non-government secondary schools to support teacher salaries and female stipends need to be better linked with school improvement plans and performance indicators. A better system of public support for privately managed schools would be some sort of voucher system that finances institutions not directly, but students, who would then be free to choose which institutions to attend. Presumably, their choices would reflect institutional standards, which students and their families may be in a better position to assess than is government via the current system of centralized standards and local supervision. Government could assist students to choose, by generating and publicizing information about institutions and by conducting or assisting institutions to conduct graduate

tracer studies. The level of the government's financing should be based on need as well as merit, thereby achieving greater equity than under the present system of direct subventions.

**60 Improving the relevance of technical and higher education and making them financially more self reliant.** This is important both for efficiency and equity reasons. Development allocations to existing public institutions in technical education need to be increased for rehabilitation. But this needs to be done together with changes in their management in order to make them more flexible and market oriented. In higher education, the government needs to be very selective in development allocations to the public universities and explore politically feasible ways of greater cost recovery from the beneficiaries.

61. With business as usual in the rest of the economy, the amount of resources available for education at the existing 2.1 percent of GDP would not be adequate for achieving the above. Allocations for education need to be increased to around 3.5-4 percent of GDP by 2008. This does not have to be done all in one go. A gradual increase would be sufficient. It also would not require a decline in allocations to other sectors. Simply allocating a greater share of the incremental revenues from GDP growth to education would help achieve the targeted share by 2008.

#### *Further Research Needed*

62. The dearth of systematic research on education finance in Bangladesh is striking. This is a major hindrance to good education planning and management. One reason for these lacunae is that there are tremendous data gaps. Comprehensive and reliable data on actual public and private expenditures on education, education outcomes, and the quality and quantity of education inputs are lacking. Future research ought to begin with filling these gaps. It is ironic that while primary school teachers are used to collect all sorts of data for different government agencies, data on education itself is lagging behind by 2 to 3 years.

63. Microeconomic studies at the level of households, schools, and communities are particularly lacking. As a result, it is very difficult to arrive at generalizations about the determinants of education outcomes such as completion rates, drop out rates, transition rates, and learning achievements. At present input-output relationships at different levels of the education system and in different types of educational institutions are not known. For instance, it is well known that education quality varies widely by regions and types of institutions. What is the range of variation and why? To what extent can the variation in quality explain the observed large differences in unit costs at the level of schools? What interventions at the school level would maximize quality at a given cost?

64. There is a need for further analysis of private expenditures on education. How much is spent at each level of education by whom need to be comprehensively documented. While BBS has begun to collect data on household education expenditures, information on expenditures by the non-government institutions, who play a very important role in primary, non-formal, and secondary education, are completely lacking. Public expenditures on education need to complement private expenditures. At present the relationships between public and private education expenditures are completely unknown. As a result it is impossible to tell whether public expenditures are crowding-in or crowding-out private expenditures at different levels of education.

65. There is also a need for compiling and analyzing actual public education expenditure data at different levels of the education administration. How much is spent at the HQ, district, and thana levels? How equitably are these distributed across rural and urban areas and within rural and urban areas? On what are these spent at different levels of the education administration? Despite their importance, not much evidence exists on the efficiency of special government programs such as the Female Stipends Program and Food for Education (FFE) or their effectiveness in improving enrollments and retention rates. In studying these

programs it would be important to involve teachers, community groups, parents of children in school who are and are not receiving the incentives, and parents of children who are not in school. It would also be important to use a variety of methodological tools such as focus group discussions and participatory rapid appraisal techniques, not just standard questionnaires.

#### **Box 2.1**

##### **Options Regarding the Future of the Female Stipend Program (FSP)**

The FSP is due to end in the year 2003. The government wants not just to extend but also to expand it to include grade XI and XII. What are the options? The government estimates that in 1998, 2.6 million girls participated at a cost of \$42 million or \$16 per girl. If participation continues apace for grades VI-X, it is projected that some 7.438 million girls would participate by 2009, implying a nearly threefold increase in program costs at current stipend levels. The sustainability of such an increase is very doubtful. An alternative idea is to cap participation at 3.4 million girls in 2003, which would imply an annual program cost of \$50 million. Even this may be difficult to justify given the expansion, access and efficiency goals with which it competes. Most of the poorest and most rural children still do not have access to secondary schools. As basic education expands with the implementation of the NEP, support for grades VI-VIII will phase out. Then classes XI and XII can be added in a phased manner. Yet another option is to phase out FSP in districts which reach gender parity. At present some 4 percent of girls attend secondary schools in districts which have achieved gender parity in enrollments. Gender parity increased at annual rate of 1.8 percent over the last 3 years. This option would result in a substantial reduction of the program costs to \$20 million annually by 2010 while still maintaining support for the neediest girls in areas with the lowest female participation rates.

The idea of extending FSP to grades XI and XII is subject to several questions. Would it increase enrollments since enrollments were already growing due to the positive spillover effects of the VI-X program? Would it not represent a mere cash transfer program to the girls who would have enrolled in grade XI any way? Would it not potentially diminish resources going to quality improvements that are vitally needed in the secondary schools? Should this expansion not be targeted to support merit-based scholarships for SSC pass girls? What will the girls do after graduating from HSC, given the shortage of jobs in Bangladesh's labor market? Last but not the least, is the decision on expansion now a little premature since the lessons from the VI-X program are not in yet? An evaluation of the VI-X program now is not meaningful because it has not been in effect long enough for the stipend recipients to have realized the full range of benefits from secondary education.

**Box 2.2****The Food for Education Program (FFE) — Should Continue?**

Many poor households cannot afford direct schooling costs or the opportunity costs of the children's help. FFE was launched in 1993 to increase enrollment and attendance rates of poor children and reduce their dropout rates. World Bank's 1995 EER stressed evaluating the impact of this program in terms of enrollment, attendance, dropout and cost-effectiveness before committing increased education resources to this program. World Bank's 1998 Poverty Assessment (PA) combined its own analysis with those of others to reach the following conclusions:

FFE "is cost-effective in terms of its program impact." It does raise enrollment and attendance rates. However, it suffers from leakage—the cost of transferring 1 taka in benefits to the poor was Tk. 1.59. It is also less well targeted than other food safety net programs. "Half the beneficiaries come from households with average consumption levels above the lower poverty line." The annual cost of an additional poor child attending primary school is \$66.4, while the cost of one more very poor child attending primary school is \$95. These are higher than India (\$32) and Kenya (\$58) mainly because the calculation takes leakage to the nonpoor into account. The additional per capita consumption enjoyed by the child and his family when the child reaches adulthood is \$52.6 per year for the very poor and \$69.9 per year for the poor. Assuming that the young adult starts earning only at age 20 and that the benefits provided by a better education last for 38 years, the private rates of return to FFE was estimated at 3.61 percent for the very poor and 5.84 percent for the poor.

Noting that cost effectiveness by itself does not imply that FFE should be pursued and that there may be other more cost-effective alternatives, the PA observes "it is not clear what these other programs would be." Some of these alternatives tried in the past had proven to be less cost effective than the FFE. On this basis, the PA recommended that FFE should be continued, given the need to reach the poor. At the same time, the opportunity cost of FFE investments in human capital in terms of the additional investments in classrooms, teaching materials, and teachers should be kept in mind.

Ravallion and Wodon's (1999) analysis of 1996 HES data found that the FFE stipend has a significant negative effect on children's labor force participation and a strong positive effect on the probability of being at school. An extra 100 kilo of rice increases the probability of a boy going to school by 0.17 and by 0.16 for a girl. Assuming a rice price of Tk. 12.5 per kilo, this implies that the marginal cost of enrolling a boy or girl through this program is only Tk. 73.

## ANNEX

### A: PRIVATE FINANCIAL RETURNS TO EDUCATION—EVIDENCE FROM BANGLADESH

66. How critical is education as a determinant of earnings in Bangladesh? This is important for understanding the willingness to invest in education at the individual household level. The positive association between education and earnings is one of the most striking empirical regularities about labor markets in all countries (Blaug 1992). Empirical studies at the international level suggest that an additional year of schooling increases earning by about 5 to 15 percent (Psacharopoulos 1994). How much is it in Bangladesh? In theory, the higher an individual's educational attainment, the higher that individual's expected salary at entry and the steeper is the rise in earning capacity over time. Empirical studies also confirm that returns to education vary by levels of education and the relationship is not necessarily linear and monotonic (World Bank 1996). What is the pattern of return by different levels of education in Bangladesh?

67. There are three different methods for estimating returns to education (Psacharopoulos 1994; Bennell 1998). The standard internal rate of return (IRR) method is used when individual earnings data are available to construct age-earning profiles for each level of education. The IRR for a particular education investment is the rate of interest which equalizes the present value of expected benefits with the present value of expected costs, both public and private. This method has the advantage of comparing explicitly the benefits with the costs of education and enables derivation of returns to the elements of costs such as the costs borne by the government versus the costs to individual households. When data availability does not permit the use of this method, a second short-cut method is employed if earnings data available are average incomes by level of education. This method takes the difference between the mean earnings in a particular level of education, say secondary, and a control group, say primary education. It then expresses this difference as ratio of the total cost per student of that particular educational level plus the foregone earnings during the period of completing that educational level. It is argued that this method gives reasonably accurate rate of return when the post-education period is relatively long (at least 30 years) and where the pre- and post-education differentials remain relatively constant over time; two very strong requirements. This paper uses the third method, known as the Mincerian Human Capital Earnings Function (HCEF) model. The choice of this method, explained in greater detail below, was dictated largely by the nature of data availability.

#### *The Data*

68. Hard evidence on education-earnings link in Bangladesh is practically non-existent primarily due to the lack of appropriate micro-level data. Opportunities for estimating education-earnings linkage opened up with access to Bangladesh Bureau of Statistics' (BBS) Household Expenditure Survey (HES) 1995-96 unit records. The survey design, implementation, data entry, and data processing was done with technical assistance from World Bank experts. The BBS introduced several innovations in its data collection and entry procedures along the lines of the World Bank's Living Standard Measurement Surveys (LSMS). Data quality improved with the use of personal computers in the field. This enabled revisiting households after they were surveyed to correct logical errors or verify unusual entries (World Bank, 1998). In this survey BBS added a special purpose module to its regular household expenditure and income modules. This module was

designed to rotate among different topics and to collect detailed information for each household member on the chosen topic.

69. Fortunately, education was chosen as the special purpose module for the 1995-96 HES. The education module collected information such as educational attainment, income received, and number of hours worked per week by each household member. There are 7,407 observations of household heads with adequate information on income and schooling. Among those observations, basic information of the household heads such as age, sex, the highest class passed, total income, decomposed income, and region (urban or rural) are also available. Income is differentiated into wage and salary income, income from self-employment, property income and rents and so on.

### *The Model*

70. These data allow estimation of Human Capital Earning Function (HCEF) models formally derived and written up by Jacob Mincer (1974). Using these models which are not too data demanding, it is possible to calculate the *private rates of return* to investment in education. The basic Mincerian function is given in the following equation:

$$\ln Y = \alpha + \beta_1 S_i + \beta_2 EXP_i + \beta_3 EXP_i^2 + \eta_i \quad (1)$$

71. Where  $S_i$  is the years of schooling completed by the  $i$ th individual,  $EXP_i$  is the years of work experience of that individual,  $EXP_i^2$  the square of the experience variable, and  $\eta_i$  is the residual error term. The coefficient on  $S_i$  is an *estimate* of the average percentage increase in private earnings per year of schooling. In this version of the model, it is constrained to be a constant for all years and all levels of schooling. This assumption is relaxed in the extended version of the model. Because of the lack of data on work experience, age and age-squared were used as proxies. In the context of rural Bangladesh, where under-employment rather than unemployment is the rule, age is a good proxy for work experience.

72. Chiswick (1997) lists the following advantages of the above specification:

- It is not ad-hoc and the coefficients of the equation have economic interpretations. In other words, the intuition behind the coefficients is not difficult to grasp
- Using the natural logarithm of earnings makes the residual variance less heteroskedastic and the distribution of the residuals is closer to normal, since earnings are positively skewed and inequality in earnings rise with the level of schooling.
- It uses data efficiently by converting "a relationship between earnings and dollar investments in human capital to one between the natural logarithm of earnings and years of investment in schooling and training."
- It allows for easy incorporation of additional variables.
- The coefficients are unit free, thus allowing comparisons across time and space. This means that the estimated rates of return can be compared with the rates of return estimated for other countries and also with estimates made at different periods of time.

### *Summary Statistics*

73. As shown in Table A-1 below, out of the total 7,407 household heads in the sample, over 51.7 percent had no schooling experience, 13.4 percent had some schooling, but did not make it through the primary level, 11.9 percent had completed primary education, 9.1 percent had completed junior secondary education, 6 percent had completed secondary education, 3.8 percent had completed higher secondary education, and 4.1 percent had a bachelors degree. The average age of the household heads in each of these categories is very similar, 42-44 years. There is also significant variation in age, particularly among heads who had no schooling or some schooling. The average annual income of household heads who had completed bachelors' is nearly 5.5

times the average annual income of heads who had no schooling. The average income of heads who completed secondary education, however, is only 2.3 times the average income of heads who had no schooling. Note also that the standard deviation of income in each category rises with the level of education. The standard

deviation of income of household heads who completed bachelors is more than 8 times the standard deviation of income of household heads with no schooling. This indicates that earnings inequality increases with increase in the level of education.

### *The Results*

74. **The Simple Model:** The estimated HCEF results are presented in Table A-2 below. They indicate that on average, across all levels and types of schooling, for both males and females, schooling yielded about a 10 percent return on the earnings foregone by the household. This estimate is statistically highly significant with a p-value close to zero. Interestingly, the estimated rate of return is much higher for the female household heads (16.5 percent) than the male heads (9.2 percent). The rate of return for the household heads in rural areas was 9.5 percent, whereas the rate for those in urban areas was 10 percent. The estimated rate of return is not very different between generations (below 40 years old and above 40 years old). These findings are broadly consistent with the World Bank findings on other developing countries such as Vietnam (1996) and Mexico (1998)

**Table A-1: Characteristics of the Sample**

Schooling	No. of observation	Age Mean Std Dev.	Annual Income (Tk) Mean Std Dev.
None	3,827	43.2 13.74	26,884 35,320
Some, but less than primary	993	43.9 13.87	43,017 59,499
Primary completed	885	42.3 13.37	45,369 42,932
Junior secondary completed	674	43.2 12.24	60,708 90,685
Secondary completed	442	43.3 11.23	76,065 78,063
Higher secondary completed	280	42.2 10.51	88,120 135,805
Bachelors completed	305	43.5 8.98	146,110 287,676

**Table A-2: Earnings Function Results for All and by Sex, Residence, and Age**

Variables	All	Males	Females	Rural	Urban	Below 40	Above 40
Constant	8.53 (84.2)	8.37 (81.1)	9.3 (24.6)	8.61 (74.50)	8.36 (40.4)	9.42 (19.6)	8.42 (26.6)
Years of schooling	.100 (42.2)	.092 (39.2)	.165 (13.4)	.095 (28.0)	.100 (26.3)	.097 (28.0)	.102 (31.5)
Age	.046 (10.6)	.054 (12.2)	.010 (.598)	.043 (8.7)	.055 (6.1)	-.017 (-0.52)	.05 (4.43)
Age squared	-.0003 (-8.2)	-.0004 (-9.3)	-.0002 (-0.98)	-.0003 (-6.6)	-.0004 (-4.71)	.0007 (1.39)	-.0004 (-4.0)
R-squared (adjusted)	.223	.231	.218	.162	.262	.226	.193
No. of observations	7390	6645	745	5031	1568	3206	4180

Note: The dependent variable is the natural logarithm of annual earnings; t-statistics are in parenthesis. 16 observations had to be dropped because of missing data on income.

75. **There is evidence of diminishing returns to experience.** In Table A-2, the coefficient on age-squared is negative in all but the "below 40" columns. Thus, the inference is valid overall, across gender and residence,

but not generations. Note also that though the size of the negative coefficient is small, it is statistically significant in 5 out of the 7 regressions presented in Table A-2. Experience does not seem to matter for females. The coefficients on both age and age-squared are not statistically significant in the female regression. Perhaps this indicates the presence of barriers to upward mobility in the work environment for females in Bangladesh. Experience also does not seem to matter for younger (below 40) males and females, their coefficient on age is negative and not significant. It matters, though not as much as the schooling variable, for the older (above 40) generations. Perhaps experience begins to pay a return only after the individuals mature to a certain age. Note further that in regressions where experience matters, the size of the coefficient is generally smaller than the estimates of the coefficient on schooling, except in the urban regression.

76. The joint effect of years of schooling and years of work experience account for over one-fifth of the observed variance in the distribution of earnings in the overall sample, of males and females, and the below 40 age group. It appears that factors other than schooling and experience have a lot to do with variations in individual income in the rural areas and among the above 40 age group. In the urban regression, schooling and experience account for a sizable 26 percent variance in the distribution of earnings. In the light of international evidence that the joint effect of schooling and experience account for as much as half of the observed variance in the distribution of earnings (Blaug 1992), these results are still somewhat disappointing. However, given the dominance of agriculture and informal service activities in Bangladesh's production structure and the likely presence of dual labor markets, it is not surprising to find that factors other than schooling and experience are also very important determinants of cross-sectional variations in individual earnings.

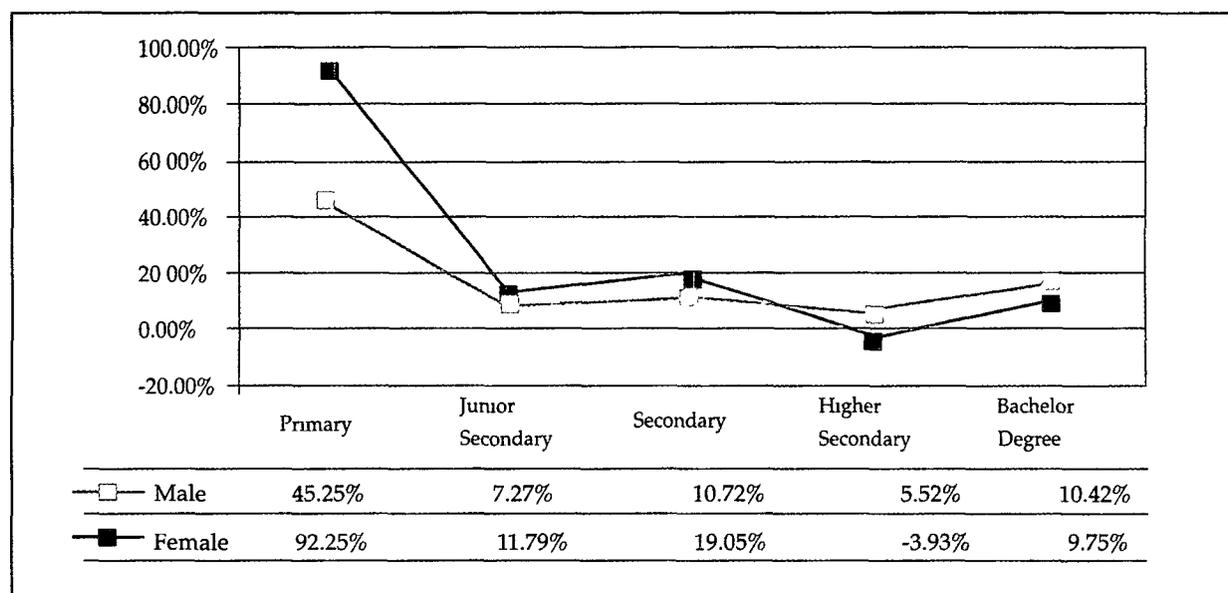
77. **The Extended Model.** In the extended version of the model, earnings are allowed to vary across five education categories: primary education (PRIM) comprising of 5 years of schooling and may include some attendance at the junior secondary level; junior secondary (JUSEC) comprising of an additional 3 years and may include some attendance at the secondary level; secondary (SEC) comprising of another 2 years and may include some attendance at the higher secondary level; higher secondary (HIGHSEC) comprising an additional 2 years and may include some attendance at the bachelors degree level; and the bachelors degree level (HIGHED) comprising additional 2 years and may include some attendance at the post-graduate level of education. In this regression, the continuous schooling variable is converted into five 0-1 dummy variables. The following equation was estimated:

$$\ln Y_i = \alpha + \beta_p \text{PRIM}_i + \beta_{js} \text{JUSEC}_i + \beta_s \text{SEC}_i + \beta_{hs} \text{HIGHSEC}_i + \beta_{he} \text{HIGHED}_i + \gamma_1 \text{AGE}_i + \gamma_2 \text{AGE}_i^2 + \eta_i \quad (2)$$

78. After estimating this extended HCEF, the private average rates of returns are derived by dividing the estimated coefficients on the schooling variable by the number of years it takes to reach a certain schooling level. For primary, the number of years is normalized to 1, implying the assumption that the average rate of return is the same as the marginal rate of return. For post primary education levels, the marginal rate of return is obtained by dividing the difference between the coefficients on the relevant dummies representing successive levels by the additional number of years it takes to complete that level. The estimated coefficients of these five schooling categories are presented in Table A-3 and the marginal rates of return are depicted in Figure A-1.

79. **The results show significant variation in rates of return by levels of schooling.** The overall average rate of return from completing primary education is 52.6 percent. In other words, the earnings of a primary school completer is on average 52.6 percent higher than those who have no schooling and those who have some primary schooling but did not complete it. Primary education appears to be a good private investment. The additional annual rate of return after completing junior secondary school is only 7.4 percent, which means that the junior secondary completer earns about 7.4 percent more per additional year of schooling

Figure A-1: Annual Marginal Rates of Return by Levels of Education



after completing primary education, compared to those who did not complete junior secondary education. This is low and could mean that, for the junior secondary school completers, there are few appropriate job opportunities in the labor market. The marginal annual rate of return for the secondary school completer is 10.8 percent. The marginal annual rate of return drops to a meager 4.9 percent for the higher secondary school completers. This shows that if one chooses to continue schooling after completing junior secondary, the earning prospects deteriorate until graduating from post higher secondary education. It is fair to say that investing in junior secondary and secondary schooling does not have a very positive effect on private earnings in

Table A-3: Extended Earnings Function Results for All and by Gender and Residence

Variables	All	Males	Females	Urban	Rural	Municipal
Constant	8.58 (83.2)	8.41 (80.3)	9.47 (25.6)	8.42 (40.0)	8.64 (73.6)	8.21 (27.9)
PRIM	0.526 (15.7)	0.452 (13.3)	0.927 (7.4)	0.519 (8.4)	0.515 (12.8)	0.529 (6.1)
JUSEC	0.749 (19.9)	0.671 (17.8)	1.281 (7.7)	0.677 (10.6)	0.776 (16.3)	0.884 (9.6)
SEC	0.965 (21.1)	0.885 (19.7)	1.662 (6.3)	1.015 (14.8)	0.851 (13.2)	1.138 (11.21)
HIGHSEC	1.062 (18.82)	0.996 (18.1)	1.583 (4.1)	1.043 (13.9)	0.982 (10.2)	1.143 (9.8)
HIGHED	1.387 (25.5)	1.324 (25.1)	1.68 (3.4)	1.39 (20.5)	1.08 (8.9)	1.288 (12.4)
AGE	0.047 (10.6)	0.055 (12.2)	.007 (0.4)	.056 (6.1)	0.044 (8.7)	.061 (4.7)
AGE <sup>2</sup>	-0.0003 (-8.2)	-0.0004 (-9.3)	-0.0002 (-9.0)	-0.0005 (-4.8)	-0.0003 (-6.7)	-0.0005 (-3.9)
R-squared (adj.)	0.204	0.215	.189	.248	.14	.277
No. of obs.	7,389	6,644	745	2,359	5,030	993

Note: The dependent variable is the natural logarithm of annual earnings, on the right hand side independent variables each individual is only associated with a single dummy =1; t-statistics are in parenthesis

Bangladesh. The marginal rate of return jumps to a handsome 16.2 percent for the bachelor's degree holders. The rewards for those who do make it through the heavily subsidized higher education is indeed high. These findings can explain why the secondary school system in Bangladesh is perceived by the households as the gatekeeper between limited jobs and high rewards. Higher secondary schooling per se is not financially rewarding, but it is a hurdle one must cross to make it to financially lucrative higher education.

80. Private returns to different levels of education also vary significantly by gender and place of residence. Returns to primary education for females is almost twice that of males. Private returns to females are significantly higher than males at the junior secondary and secondary levels as well. But at the higher secondary and bachelors levels, returns to males are higher. In fact, marginal returns to females higher secondary completers is negative. This could be reflecting the lack of better paying work opportunities for females with higher educational qualifications due to gender discrimination. Note also that private returns to post-primary levels of education are much higher in urban and municipal areas relative to rural areas. There is no such difference by place of residence in terms of returns to primary education. This is intuitively plausible since appropriate opportunities for a higher educated workforce are mostly concentrated in urban labor markets.

## CONCLUSIONS

81. **The findings from Bangladesh suggest that private financial rate of return to education is rather modest**, on average 10 percent per additional year of schooling. Considering that one can get over 10 percent annual return by simply investing in a fixed deposit, which has the additional advantage of being more liquid, this cannot be considered a very attractive investment from a private point of view. This does not mean private rates of return to education in Bangladesh may not rise in future, particularly if there are comprehensive structural reforms that improve the external efficiency of the secondary education system, open up new job opportunities, and lead to better utilization of human capital in Bangladesh's economy. It is also worth noting that even under the existing state of the Bangladesh economy, the economic return to investment in education, which also takes into account the entire future stream of intergenerational and intragenerational externalities, may be much higher. Private returns to primary education are, however, significantly higher than the overall average. Primary education is an extremely fruitful private investment. Adding the non-quantifiable externality benefits arising from its effects on reducing income disparities, improving health, and reducing fertility, primary education becomes a very attractive social investment. This is a vindication of the government's policy to ensure access to primary education for all in terms of both public and private rationale. It also suggests that perhaps there is potential for increased private financing at the primary level, since the privately appropriated return to primary education is sizable. The findings also vindicate the priority given to investment in women's education. However, the findings provide little justification for continuing the heavy subsidies to Bangladesh's male dominated higher education system.

82. **A warning is also in order.** The above interpretations of the coefficients on schooling assume that the foregone earnings or opportunity costs is a full-year potential earnings. If the direct costs of schools are fully funded by the government, including books and school supplies, and the student can work after school, as is the case at the primary level for both boys and girls and at the lower secondary and secondary level for most girls in Bangladesh, then the private rate of return to primary and secondary education are actually higher than suggested by the above estimates. However, the "social" (or full) rate of return, not including externality benefits, is lower. To illustrate, suppose foregone earnings constitute 50 percent of potential full year earnings, there are no tuition charges, school fees or other out-of-pocket expenses paid by the individual. Assume also that the cost to the public not paid by the individual is 50 percent of a student's potential earnings. In this scenario, the social rate of return to an additional year of schooling is 10 percent, using the estimate from the All column in Table A-3, but the private rate of return is 20 percent

83. It is indeed striking that empirical research on education in Bangladesh has focused so little on gathering information that would enable the calculation of private rates of return to education. This despite the fact that the case for calculating the private rate of return for shedding light on the private demand for education has always been stronger than the case for calculating social rates of return as a basis for public investment policies in education. There is a need to systematically collect data on costs, both public and private, and earnings; construct age-earning profiles for different levels and types of education; and compute private rates of return using the internal rate of return method.

#### B: EXPENDITURES ON EDUCATION BY LEVEL AND COMPOSITION

**Table B-1: Public Recurrent Expenditure by Level of Education (Tk in Million)**

Year	Primary	Secondary & Higher	Technical	University	Other Educational System	Total
1991-92	6704.1	5089.1	334.0	1170.7	517.9	13815.8
1992-93	7621.6	6803.1	377.0	1330.0	612.1	16743.9
1993-94	8478.8	7422.6	399.9	1434.0	322.2	18057.5
1995-96	9504.4	9146.6	448.7	1713.9	700.8	21514.5
1996-97	9989.7	9854.5	476.3	1817.0	817.9	22955.4
1997-98	11475.1	12398.3	397.9	1961.6	724.5	26957.4
1998-99	11990.0	14130.1	402.6	2072.0	1085.4	29680.0
<i>Percentage Distribution</i>						
1991-92	48.5	36.8	2.4	8.5	3.7	100
1992-93	45.5	40.6	2.3	7.9	3.7	100
1993-94	47.0	41.1	2.2	7.9	1.8	100
1995-96	44.2	42.5	2.1	8.0	3.3	100
1996-97	43.5	42.9	2.1	7.9	3.6	100
1997-98	42.6	46.0	1.5	7.3	2.7	100
1998-99	40.4	47.6	1.4	7.0	3.7	100
Note: Revised Budget Estimates, 1992-98						
Source: <i>Demands for Grants and Appropriations (Non-Development)</i> , 1991-99						

**Table B-2: Public Development Expenditure by Level of Education (Tk in Million)**

Year	Primary	Non-Formal Education	Secondary & Higher	Technical	University	Other Educational Services	Total
1990-91	1939.1	47.5	333.0	103.2	315.5	385.7	3124.1
1992-93	3957.8	70.6	1212.0	125.6	419.7	144.7	5930.4
1994-95	8577.9	350.1	5178.3	53.6	100.0	925.4	15185.3
1995-96	7895.1	318.4	4783.6	61.4	405.0	248.2	13711.7
1996-97	8059.1	594.4	5343.4	162.6	1010.2	348.1	15517.8
1997-98	6821.2	1016.5	4994.5	241.4	1472.1	284.7	14830.4
1998-99	8171.2	1608.8	5156.7	543.6	292.5	1737.2	17510.0
<i>Percentage Distribution</i>							
1990-91	62.1	1.5	10.7	3.3	10.1	12.3	100
1992-93	66.7	1.2	20.4	2.1	7.1	2.4	100

*Continued*

Continued from Table B-2

Year	Primary	Non-Formal Education	Secondary & Higher	Technical	University	Other Educational Services	Total
1994-95	56.5	2.3	34.1	0.4	0.7	6.1	100
1995-96	57.6	2.3	34.9	0.4	3.0	1.8	100
1996-97	51.9	3.8	34.4	1.0	6.5	2.2	100
1997-98	46.0	6.9	33.7	1.6	9.9	1.9	100
1998-99	46.7	9.2	29.5	3.1	1.7	9.9	100

Note: Revised ADP Allocation, 1990-98  
Source: Annual Development Programme, 1990-99

**Table B-3: Composition of Public Recurrent Expenditure on Secondary and Higher Education (Tk in Million)**

Primary Units of Appropriations	1997-98	1996-97	1993-94	1992-93
Pay of Officers	993.31	894.16	933.60	858.45
Pay of Establishment	616.36	559.29	248.50	232.50
Allowances	848.71	836.93	717.73	625.69
Contingencies	135.48	122.74	97.61	102.24
Grants Contribution, etc.	9804.45	7441.40	5400.00	4969.63
<b>Total</b>	<b>12398.30</b>	<b>9854.52</b>	<b>7397.44</b>	<b>6788.51</b>
<i>Percentage Distribution</i>				
Pay of Officers	8	9	13	13
Pay of Establishment	5	6	3	3
Allowances	7	8	10	9
Contingencies	1	1	1	2
Grants Contribution, etc.	79	76	73	73

Note: Revised Budget Estimates  
Source: Demands for Grants and Appropriations (Non-Development), 1992-98.

**Table B-4: Composition of Public Recurrent Expenditure on Technical Education (Tk in Million)**

Primary Units of Appropriations	1997-98	1996-97	1993-94	1992-93
Pay of Officers	77.95	57.53	45.44	63.17
Pay of Establishment	125.60	114.41	89.34	67.25
Allowances	88.37	88.64	83.86	80.70
Contingencies	82.41	84.70	98.60	94.34
Grants Contribution, etc.	23.55	130.99	82.70	72.00
<b>Total</b>	<b>397.88</b>	<b>476.26</b>	<b>399.94</b>	<b>377.45</b>
<i>Percentage Distribution</i>				
Pay of Officers	20	12	11	17
Pay of Establishment	32	24	22	18
Allowances	22	19	21	21
Contingencies	21	18	25	25
Grants Contribution, etc.	6	28	21	19

Note: Revised Budget Estimates  
Source: Demands for Grants and Appropriations (Non-Development), 1992-98.

Table B-5: Annual Expenditure Per Student in Public Universities (in \$)

University	1995	1996	1997
Dhaka University	584.5	633.4	661.5
Rajshahi University	521.0	524.5	603.6
Bangladesh Agricultural University	1330.2	1545.1	1689.5
Bangladesh Engineering University	786.2	885.8	863.8
Chittagong University	556.2	562.4	547.3
Jahangirnagar University	810.9	818.4	792.0
Islami University	195.9	257.8	290.1
Shajalal Science and Technology University	641.6	530.0	500.8
Khulna University		882.0	693.8
Average of Nine Universities	638.8	671.7	731.1

Source: UGC Annual Report, 1997

Table B-6: Mean Student Expenditures and Percentage by Grade Level

Primary (Class 1-5)	Male		Female	
	Mean	Percentage	Mean	Percentage
Admission	46.48	4.9	58.80	5.6
Uniform	117.39	12.4	115.80	11.1
Books	125.64	13.2	126.75	12.1
Examinations	36.64	3.9	38.43	3.7
Tuition	101.00	10.6	121.98	11.7
Transportation	59.16	6.2	60.85	5.8
Private Tutor	375.70	39.6	411.92	39.5
Hostel	12.44	1.3	36.85	3.5
Other	74.03	7.8	72.56	7.0
<b>Total</b>	<b>948.48</b>	<b>100</b>	<b>1043.94</b>	<b>100</b>
<b>Lower Secondary (Class 6-8)</b>				
Admission	154.75	6.7	121.77	5.5
Uniform	237.97	10.4	228.05	10.3
Books	385.78	16.8	384.27	17.4
Examinations	87.27	3.8	86.41	3.9
Tuition	268.41	11.7	240.37	10.9
Transportation	181.62	7.9	144.65	6.5
Private Tutor	785.06	34.2	826.04	37.4
Hostel	56.50	2.5	54.10	2.4
Other	140.24	6.1	125.87	5.7
<b>Total</b>	<b>2297.62</b>	<b>100</b>	<b>2211.53</b>	<b>100</b>
<b>Middle Secondary (Class 9-10)</b>				
Admission	184.48	5.5	180.07	5.3
Uniform	275.56	8.2	281.85	8.3
Books	616.22	18.4	630.00	18.4
Examinations	171.90	5.1	178.87	5.2

Continued

Continued from Table B-6

Middle Secondary (Class 9-10)	Male		Female	
	Mean	Percentage	Mean	Percentage
Tuition	346.40	10.4	330.64	9.7
Transportation	263.25	7.9	272.36	8.0
Private Tutor	1213.62	36.3	1230.64	36.0
Hostel	63.76	1.9	78.03	2.3
Other	208.63	6.2	232.68	6.8
<b>Total</b>	<b>3343.82</b>	<b>100</b>	<b>3415.13</b>	<b>100</b>
Higher Secondary (Class 11-12)				
Admission	337.77	7.2	350.67	6.9
Uniform	279.71	6.0	325.80	6.4
Books	755.55	16.2	797.82	15.7
Examinations	265.84	5.7	289.84	5.7
Tuition	402.58	8.6	436.66	8.6
Transportation	599.87	12.8	716.32	14.1
Private Tutor	1230.67	26.3	1395.34	27.5
Hostel	554.77	11.9	355.78	7.0
Other	251.03	5.4	399.66	7.9
<b>Total</b>	<b>4677.80</b>	<b>100</b>	<b>5067.89</b>	<b>100</b>

## C: RESULTS OF SURVEYS OF INSTITUTIONS

Table C-1: Mini-Survey Results: Primary Schools

Name of Institutions	Unit cost (\$)	Student: Teacher Ratio	Students/ Class	Salary / Teacher (\$)
Savar Manik Chandra Govt. Primary School, Savar	11.1	109.4	109.4	1027.1
Kutub Aiel Model Govt. Primary School, Narayangonj	12.7	77.6	124	923
Narayangonj Ideal Boys Govt. Primary School, Narayangonj	15.4	89.3	80.44	1006.1
Fulhor Govt. Primary School, Narayangonj	14.5	91.5	73.2	1139.9
Palli Unnayan Registered Primary School, Narayangonj	2.1	60.5	121	97.2
Lamapara Registered Primary School, Narayangonj	4.4	106.5	142	304.9
Kalabaugh Registered Primary School, Narayangonj	4.6	122.3	163	266.3
Boliapur Registered Primary School, Savar	2.6	135	135	304.8

Table C-2: Mini-Survey Results: Secondary Schools

Name of institutions	Unit cost (\$)	Student: Teacher Ratio	Students/ Class	Salary/ Teacher (\$)
Alhaj Jafar Bepari High School, Savar	27.9	58.8	64.2	449.6
Hardinge High School, Dhamrai, Dhaka	42.2	51.8	77.7	1238.7
Bowshia M. A. Azhar High School, Gazaria, Comilla	15.8	87.9	111.3	1054.4
Bhaterchar D.A.M Pilot High School, Gazaria, Comilla	27.8	61.0	91.5	1401.3
Bhabyerchar Wazir Ali High School, Gazaria, Comilla	33.5	51.6	68.7	1154.6

Continued

Continued from Table C-2

Name of institutions	Unit cost (\$)	Student: Teacher Ratio	Students/ Class	Salary/ Teacher (\$)
Bhabyerchar Girls High School, Gazaria, Comilla	23.3	30.4	60.7	427.4
Gazaria Pilot Girls High School, Gazaria, Comilla	23.4	64.0	74.7	1078.5
Gazaria Pilot High School, Gazaria, Comilla	35	66.0	66.0	1272.3
Dharmapur Nazir Ali High School, Chaudhagram, Comilla	23.1	62.7	62.7	1006.4
Chaudhagram S. Pilot Girls High School, Comilla	34.8	68.2	90.9	1494.9
Miabazar Tushan-Rafiq Girls High School, Chaudhagram, Comilla	22.9	58.9	58.9	1083.0
Batisa Secondary Girls High School, Chaudhagram, Comilla.	28.7	55.6	80.3	1269.7
Munshirhut Tahera Khatun Girls High School, Chaudhagram, Comilla	19.2	74.1	103.8	1064.0

## D: EDUCATION STATISTICS

Table D-1: Number of Students in Primary Schools by Grade &amp; Gender, 1990-95

Year	Sex	Grade-I	Grade-II	Grade-III	Grade-IV	Grade-V	Total
1990	Boys	1,923,225	1,516,933	1,311,853	1,053,322	857,094	6,662,427
	Girls	1,553,945	1,220,489	1,070,898	857,152	686,261	5,388,745
	Total	3,477,170	2,737,422	2,382,751	1,910,474	1,543,355	12,051,172
1991	Boys	2,017,615	1,580,310	1,338,835	1,077,966	895,366	6,910,092
	Girls	1,651,982	1,308,671	1,120,711	904,598	739,365	5,725,327
	Total	3,669,597	2,888,981	2,459,546	1,982,564	1,634,731	12,635,419
1992	Boys	2,139,359	1,549,180	1,379,114	1,060,999	919,890	7,048,542
	Girls	1,795,506	1,310,557	1,151,121	889,696	821,848	5,968,728
	Total	3,934,865	2,859,737	2,530,235	1,950,695	1,741,738	13,017,270
1993	Boys	2,290,744	1,703,135	1,427,887	1,141,763	962,239	7,525,768
	Girls	1,991,829	1,470,655	1,242,676	1,008,271	827,366	6,540,768
	Total	4,282,573	3,173,790	2,670,563	2,150,034	1,789,605	14,066,565
1994	Boys	2,334,627	1,922,287	1,586,326	1,205,822	199,055	8,048,117
	Girls	2,103,255	1,699,394	1,410,685	1,064,246	854,983	7,132,563
	Total	4,437,882	3,621,681	2,997,011	2,270,068	1,854,038	15,180,680
1995*	Boys	2,577,392	2,112,160	1,836,199	1,379,283	1,149,703	9,054,737
	Girls	2,263,611	1,898,34	1,633,393	1,249,888	1,033,221	8,078,449
	Total	4,841,001	4,010,496	3,469,592	2,629,171	2,182,924	17,133,186

Note: \*Includes Ebtedayee Madrasahs, Ebtedayee section attached to Dakil/Alim/Fazil/Kamil Madrasahs, Primary section attached to High Schools, Kindergarten Schools.

Source: Directorate of Primary Education

Table D-2: Secondary Schools (Junior + High) Enrollment by Grade and Sex, 1993-97

Year	Grades											
	VI		VII		VIII		IX		X		Total	
	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls
1993	1146535	545896	970245	449076	828616	378321	666961	274634	529655	209295	4141612	1857222
1994	1256719	613021	1062665	504748	909396	421501	712972	303235	582944	236548	4524696	2079053

Continued

Continued from Table D-2

Year	Grades											
	VI		VII		VIII		IX		X		Total	
	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls	Total	Girls
1995	1426399	699939	1209619	591840	1009321	475374	782371	341361	630899	264328	5058610	2372842
1996	1575237	775021	1335684	655252	1114419	526307	863862	377890	696604	292604	5585806	2627073
1997	1727103	861899	1464455	728703	1221858	585304	947146	420250	763763	325404	6124325	2921560

Source : Bangladesh Educational Statistics -1997 (BENBEIS-NOV. 1998)

**Table D-3: No. of Institutions, Teachers and Students of Junior Secondary and Secondary Schools, 1997**

Division	Junior Secondary			Secondary		
	Institution	Teacher	Student	Institution	Teacher	Student
Dhaka	606	4192	139621	2753	38454	1667856
Chittagong	312	1994	70706	1922	23493	1102647
Rajshahi	982	5613	193400	3195	39246	1488350
Khulna	614	4254	129757	1446	18497	626847
Barisal	384	2644	80460	996	12471	378671
<b>Total</b>	<b>2898</b>	<b>18697</b>	<b>613944</b>	<b>10312</b>	<b>132161</b>	<b>5264371</b>

Source . Bangladesh Educational Statistics-1997 (BANBEIS NOV.1998)

**Table D-4: Ratio of Teachers-Institutions and Students-Teachers**

Division	Teachers-Institutions	Students-Teachers
Dhaka	6.9	43.4
Chittagong	6.4	46.9
Rajshahi	5.7	37.9
Khulna	6.9	33.9
Barisal	6.9	30.4

Source. Bangladesh Educational Statistics-1997 (BANBEIS NOV.1998)

## E: SIMULATIONS UNDER DIFFERENT SCENARIOS

**Table E-1: Maintaining Current Coverage and Quality**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
GDP at current mp (Tk in billion)	2167.7	2447.6	2715.1	3004.4	3325.8	3682.4	4076.8	4513.0	4995.3	5529.2
Share of education pub. Exp. (percent)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Total resources available (Tk in billion)	45.9	51.4	57.0	63.0	69.8	77.3	85.6	94.7	104.9	116.1
<b>A. Primary education</b>										
Recurrent budget (Tk in billion)	12.2	11.9	12.5	13	13.5	12.2	12.4	12.9	13.4	13.8
Development budget (Tk in billion)	10.6	10.2	10.6	11.1	11.5	12.0	12.2	12.6	13.1	13.5
<b>B. Secondary education</b>										
Recurrent budget (Tk in billion)	1.6	1.7	1.9	1.9	2.0	0.2	0.2	0.3	0.3	0.3
Development budget (Tk in billion)	22	16.8	15.8	16.1	16.4	16.6	16.9	17.4	18	18.6
Total budget (Tk in billion)	14.1	15.6	15.8	16.1	16.4	16.6	16.9	17.4	18.0	18.6

Continued

Continued from Table E-1

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Development budget (Tk in billion)	7.9	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>C. Technical education</b>	0.9	0.9	0.9	1	1	1.1	1.1	1.1	1.2	1.2
Recurrent budget (Tk in billion)	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Development budget (Tk in billion)	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6
<b>D. Higher education</b>	2.8	3.7	4.4	4.6	5.0	5.4	6.0	6.1	6.2	6.4
Recurrent budget (Tk in billion)	2.0	2.5	3.1	3.3	3.6	3.9	4.4	4.5	4.5	4.6
Development budget (Tk in billion)	0.8	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8
<b>E. NFE education (development)</b>	1.4	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.9
<b>F. Education Administration (recurrent)</b>	6.1	6.6	6.9	7.3	7.6	8	8.4	8.8	9.3	9.7
<b>Total resources required (Tk in billion)</b>	45.8	41.5	42.3	43.8	45.4	45.2	46.8	48.5	50.2	52.1
Recurrent	33.4	35.6	37.2	38.5	39.9	41.3	42.7	44.2	45.6	47.3
Development	12.4	5.9	5.1	5.3	5.5	3.9	4.1	4.3	4.6	4.8
Percentage of GDP	2.1	1.7	1.6	1.5	1.4	1.2	1.2	1.1	1.0	0.9
Percent of Budget	14.9	11.6	10.6	9.7	9.0	8.1	7.5	7.0	6.5	6.1
Financing gap	0.0	9.7	14.6	19.2	24.3	32.0	38.7	46.2	54.6	63.8
<b>Assumptions</b>										
<b>Enrollment rates</b>										
Primary	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Lower	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Secondary	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Higher	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Technical	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Higher	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
<b>Population (in millions)</b>										
Primary age	16.8	15.2	15	14.9	14.7	14.6	14.2	14.0	13.8	13.6
Secondary age	24.2	25.5	24.7	24.0	23.3	22.6	21.9	21.5	21.0	20.7
Lower	10.7	10.6	10.2	9.8	9.5	9.1	8.8	8.76	8.7	8.7
Secondary	7.3	7.6	7.3	7.0	6.7	6.5	6.2	6.1	5.8	5.6
Higher	6.2	7.3	7.2	7.1	7.1	7.1	6.9	6.6	6.4	6.4
Higher age	6.9	8.1	9.5	9.8	10.1	10.5	11.2	10.7	10.3	10.0

Table E-2: Universal Five Years at Existing Quality by 2003

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
GDP at current mp (Tk in billion)	2167.7	2447.6	2715.1	3004.4	3325.8	3682.4	4076.8	4513.0	4995.3	5529.2
Share of education pub. Exp. (percent)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Total resources available (Tk in billion)	45.9	51.4	57.0	63.0	69.8	77.3	85.6	94.7	104.9	116.1
<b>A. Primary education</b>	12.3	12.1	12.9	13.4	14.1	12.8	13	13.6	14.1	14.6
Recurrent budget (Tk in billion)	10.7	10.4	11.0	11.5	12.1	12.6	12.8	13.3	13.8	14.3
Development budget (Tk in billion)	1.6	1.7	1.9	1.9	2.0	0.2	0.2	0.3	0.3	0.3
<b>B. Secondary education</b>	22	16.8	15.8	16.1	16.4	16.6	16.9	17.4	18	18.6
Recurrent budget (Tk in billion)	14.1	15.6	15.8	16.1	16.4	16.6	16.9	17.4	18.0	18.6
Development budget (Tk in billion)	7.9	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>C. Technical education</b>	0.9	0.9	1	1	1	1.1	1.1	1.1	1.2	1.2

Continued

Continued from Table E-2

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Recurrent budget (Tk in billion)	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Development budget (Tk in billion)	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6
<b>D. Higher education</b>	<b>2.8</b>	<b>3.7</b>	<b>4.4</b>	<b>4.6</b>	<b>5.0</b>	<b>5.4</b>	<b>6.0</b>	<b>6.1</b>	<b>6.2</b>	<b>6.4</b>
Recurrent budget (Tk in billion)	2.0	2.5	3.1	3.3	3.6	3.9	4.4	4.5	4.5	4.6
Development budget (Tk in billion)	0.8	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8
<b>E. NFE education (development)</b>	<b>1.4</b>	<b>1.3</b>	<b>1.3</b>	<b>1.4</b>	<b>1.5</b>	<b>1.6</b>	<b>1.6</b>	<b>1.7</b>	<b>1.8</b>	<b>1.9</b>
<b>F. Education Administration (recurrent)</b>	<b>6.1</b>	<b>6.6</b>	<b>6.9</b>	<b>7.3</b>	<b>7.6</b>	<b>8.0</b>	<b>8.4</b>	<b>8.8</b>	<b>9.3</b>	<b>9.7</b>
<b>Total resources required (Tk in billion)</b>	<b>46.0</b>	<b>41.7</b>	<b>42.6</b>	<b>44.3</b>	<b>46.0</b>	<b>45.8</b>	<b>47.5</b>	<b>49.1</b>	<b>50.9</b>	<b>52.9</b>
<b>Recurrent</b>	<b>33.6</b>	<b>35.8</b>	<b>37.5</b>	<b>39.0</b>	<b>40.5</b>	<b>41.9</b>	<b>43.4</b>	<b>44.8</b>	<b>46.3</b>	<b>48.1</b>
<b>Development</b>	<b>12.4</b>	<b>5.9</b>	<b>5.1</b>	<b>5.3</b>	<b>5.5</b>	<b>3.9</b>	<b>4.1</b>	<b>4.3</b>	<b>4.6</b>	<b>4.8</b>
<b>Percentage of GDP</b>	<b>2.1</b>	<b>1.7</b>	<b>1.6</b>	<b>1.5</b>	<b>1.4</b>	<b>1.2</b>	<b>1.2</b>	<b>1.1</b>	<b>1.0</b>	<b>1.0</b>
<b>Percent of Budget</b>	<b>15.0</b>	<b>11.7</b>	<b>10.7</b>	<b>9.8</b>	<b>9.1</b>	<b>8.2</b>	<b>7.6</b>	<b>7.1</b>	<b>6.6</b>	<b>6.2</b>
<b>Financing gap</b>	<b>-0.1</b>	<b>9.5</b>	<b>14.2</b>	<b>18.7</b>	<b>23.7</b>	<b>31.4</b>	<b>38.0</b>	<b>45.5</b>	<b>53.9</b>	<b>63.1</b>
<b>Assumptions</b>										
<b>Enrollment rates</b>										
Primary	0.96	0.97	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Lower	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	
Secondary	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Higher	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Technical	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Higher	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
<b>Population (in millions)</b>										
Primary age	16.8	15.2	15.0	14.9	14.7	14.6	14.2	14.0	13.8	13.6
Secondary age	24.2	25.5	24.7	24.0	23.3	22.6	21.9	21.5	21.0	20.7
Lower	10.7	10.6	10.2	9.8	9.5	9.1	8.8	8.756	8.7	8.7
Secondary	7.3	7.6	7.3	7.0	6.7	6.5	6.2	6.1	5.8	5.6
Higher	6.2	7.3	7.2	7.1	7.1	7.1	6.9	6.6	6.4	6.4
Higher age	6.9	8.1	9.5	9.8	10.1	10.5	11.2	10.7	10.3	10.0

E-3: Universal Eight Years by 2008 at Existing Quality and Trends

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
GDP at current mp (Tk in billion)	2167.7	2447.6	2715.1	3004.4	3325.8	3682.4	4076.8	4513.0	4995.3	5529.2
Share of education pub. Exp. (percent)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Total resources available (Tk in billion)	45.9	51.4	57.0	63.0	69.8	77.3	85.6	94.7	104.9	116.1
<b>A. Primary education</b>	<b>12.3</b>	<b>12.1</b>	<b>12.9</b>	<b>13.4</b>	<b>14.1</b>	<b>12.8</b>	<b>13.0</b>	<b>13.6</b>	<b>14.1</b>	<b>14.6</b>
Recurrent budget (Tk in billion)	10.7	10.4	11.0	11.5	12.1	12.6	12.8	13.3	13.8	14.3
Development budget (Tk in billion)	1.6	1.7	1.9	1.9	2.0	0.2	0.2	0.3	0.3	0.3
<b>B. Secondary education</b>	<b>22.0</b>	<b>22.2</b>	<b>21.6</b>	<b>24.0</b>	<b>26.8</b>	<b>29.7</b>	<b>32.9</b>	<b>38.8</b>	<b>43.6</b>	<b>46.6</b>
Recurrent budget (Tk in billion)	14.1	17.1	19	21.1	23.4	26	28.9	32.7	36.9	40.9
Development budget (Tk in billion)	7.9	5.1	2.6	2.9	3.4	3.7	4.0	6.1	6.7	5.7
<b>C. Technical education</b>	<b>0.9</b>	<b>0.8</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1.2</b>	<b>1.2</b>
Recurrent budget (Tk in billion)	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6
Development budget (Tk in billion)	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6

Continued

Continued from Table E-3

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>D. Higher education</b>	2.8	3.9	4.8	5.3	5.9	6.7	7.7	8.0	8.5	9.1
<b>Recurrent budget (Tk in billion)</b>	2.0	2.7	3.5	4.0	4.5	5.2	6.1	6.4	6.8	7.3
<b>Development budget (Tk in billion)</b>	0.8	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8
<b>E. NFE education (development)</b>	1.4	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.9
<b>F. Education Administration (recurrent)</b>	6.1	6.6	6.9	7.3	7.6	8.0	8.4	8.8	9.3	9.7
<b>Total resources required (Tk in billion)</b>	46.0	47.3	48.8	52.8	57.3	60.1	65.2	72.5	78.9	83.5
<b>Recurrent</b>	33.6	37.4	41.0	44.5	48.4	52.5	57.0	62.0	67.6	73.0
<b>Development</b>	12.4	9.9	7.8	8.3	8.9	7.6	8.2	10.5	11.3	10.5
<b>Percentage of GDP</b>	2.1	1.9	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.5
<b>Percent of Budget</b>	15	16	17.4	19	20.5	21.7	23	24.6	25.9	26.7
<b>Percent of Budget</b>	15	13.2	12.2	11.7	11.3	10.7	10.5	10.5	10.3	9.8
<b>Financing gap</b>	-0.1	4	8.1	10.2	12.4	17.1	20.3	22.1	25.9	32.4
<b>Assumptions</b>										
<b>Enrollment rates</b>										
<b>Primary</b>	0.96	0.97	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00
<b>Lower</b>	0.42	0.46	0.51	0.57	0.63	0.70	0.77	0.85	0.94	1.00
<b>Secondary</b>	0.27	0.29	0.31	0.34	0.37	0.39	0.42	0.45	0.48	0.52
<b>Higher</b>	0.20	0.22	0.24	0.25	0.27	0.29	0.32	0.34	0.37	0.40
<b>Technical</b>	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
<b>Higher</b>	0.010	0.011	0.011	0.012	0.012	0.013	0.014	0.014	0.015	0.016
<b>Population (in millions)</b>										
<b>Primary age</b>	16.8	15.2	15.0	14.9	14.7	14.6	14.2	14.0	13.8	13.6
<b>Secondary age</b>	24.2	25.5	24.7	24.0	23.3	22.6	21.9	21.5	21.0	20.7
<b>Lower</b>	10.7	10.6	10.2	9.8	9.5	9.1	8.8	8.756	8.7	8.7
<b>Secondary</b>	7.3	7.6	7.3	7.0	6.7	6.5	6.2	6.1	5.8	5.6
<b>Higher</b>	6.2	7.3	7.2	7.1	7.1	7.1	6.9	6.6	6.4	6.4
<b>Higher age</b>	6.9	8.1	9.5	9.8	10.1	10.5	11.2	10.7	10.3	10.0

Table E-4: Universal Five Years by 2008 with Investments in Improving Primary Quality

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
GDP at current mp (Tk in billion)	2167.7	2447.6	2715.1	3004.4	3325.8	3682.4	4076.8	4513.0	4995.3	5529.2
Share of education pub. exp. (percent)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Total resources available (Tk in billion)	45.9	51.4	57.0	63.0	69.8	77.3	85.6	94.7	104.9	116.1
<b>A. Primary education</b>	12.3	16	20.6	25.3	30.4	33.4	37.7	42.7	47.7	52.9
Recurrent budget (Tk in billion)	10.7	14.3	18.7	23.4	28.4	33.2	37.5	42.4	47.4	52.6
Development budget (Tk in billion)	1.6	1.7	1.9	1.9	2.0	0.2	0.2	0.3	0.3	0.3
<b>B. Secondary education</b>	22	18.4	17.5	17.8	18.1	18.4	18.7	19.3	19.9	20.6
Recurrent budget (Tk in billion)	14.1	17.2	17.5	17.8	18.1	18.4	18.7	19.3	19.9	20.6
Development budget (Tk in billion)	7.9	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>C. Technical education</b>	0.9	0.9	0.9	1	1	1.1	1.1	1.1	1.2	1.2
Recurrent budget (Tk in billion)	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Development budget (Tk in billion)	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6
<b>D. Higher education</b>	2.8	3.7	4.4	4.6	5	5.4	6	6.1	6.2	6.4
Recurrent budget (Tk in billion)	2.0	2.5	3.1	3.3	3.6	3.9	4.4	4.5	4.5	4.6
Development budget (Tk in billion)	0.8	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8
<b>E. NFE education (development)</b>	1.4	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.9
<b>F. Education Administration (recurrent)</b>	6.1	6.6	6.9	7.3	7.6	8.0	8.4	8.8	9.3	9.7
Total resources required (Tk in billion)	46.0	47.2	52.1	57.9	64.0	68.2	73.9	80.1	86.5	93.1
Recurrent budget (Tk in billion)	33.6	41.3	47.0	52.6	58.5	64.3	69.8	75.8	81.9	88.3
Development	12.4	5.9	5.1	5.3	5.5	3.9	4.1	4.3	4.6	4.8
Percentage of GDP	2.1	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.7
Percent of Budget	15.0	12.7	12.6	12.4	12.3	11.8	11.6	11.3	11.0	10.7
Financing gap	-0.1	4.0	4.8	5.1	5.7	9.0	11.5	14.5	18.3	22.8
<b>Assumptions</b>										
<b>Enrollment rates</b>										
Primary	0.96	0.97	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Lower	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Secondary	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Higher	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Technical	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Higher	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
<b>Population (in millions)</b>										
Primary age	16.8	15.2	15.0	14.9	14.7	14.6	14.2	14.0	13.8	13.6
Secondary age	24.2	25.5	24.7	24.0	23.3	22.6	21.9	21.5	21.0	20.7
Lower	10.7	10.6	10.2	9.8	9.5	9.1	8.8	8.756	8.7	8.7
Secondary	7.3	7.6	7.3	7.0	6.7	6.5	6.2	6.1	5.8	5.6
Higher	6.2	7.3	7.2	7.1	7.1	7.1	6.9	6.6	6.4	6.4
Higher age	6.9	8.1	9.5	9.8	10.1	10.5	11.2	10.7	10.3	10.0

**Table E-5: Universal Eight Years by 2008 with Investments in Improving Primary Quality**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
GDP at current mp (Tk in billion)	2167.7	2447.6	2715.1	3004.4	3325.8	3682.4	4076.8	4513.0	4995.3	5529.2
Share of education pub. exp. (percent)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Total resources available (Tk in billion)	45.9	51.4	57.0	63.0	69.8	77.3	85.6	94.7	104.9	116.1
<b>A. Primary education</b>	12.3	16	20.6	25.3	30.4	33.4	37.7	42.7	47.7	52.9
Recurrent budget (Tk in billion)	10.7	14.3	18.7	23.4	28.4	33.2	37.5	42.4	47.4	52.6
Development budget (Tk in billion)	1.6	1.7	1.9	1.9	2.0	0.2	0.2	0.3	0.3	0.3
<b>B. Secondary education</b>	22	23.7	25.2	31	37.4	44.5	52.4	62.7	74.4	85.9
Recurrent budget (Tk in billion)	14.1	20.1	25.2	31.0	37.4	44.5	52.4	62.7	74.4	85.9
Development budget (Tk in billion)	7.9	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>C. Technical education</b>	0.9	0.9	0.9	1	1	1.1	1.1	1.1	1.2	1.2
Recurrent budget (Tk in billion)	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Development budget (Tk in billion)	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6
<b>D. Higher education</b>	2.8	3.7	4.4	4.6	5	5.4	6	6.1	6.2	6.4
Recurrent budget (Tk in billion)	2.0	2.5	3.1	3.3	3.6	3.9	4.4	4.5	4.5	4.6
Development budget (Tk in billion)	0.8	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8
<b>E. NFE education (development)</b>	1.4	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.9
<b>F. Education Administration (recurrent)</b>	6.1	6.6	6.9	7.3	7.6	8.0	8.4	8.8	9.3	9.7
Total resources required (Tk in billion)	46	52.5	59.8	71.1	83.3	94.3	107.7	123.5	141.1	158.4
Recurrent	33.6	44.2	54.7	65.8	77.8	90.4	103.6	119.2	136.5	153.6
Development	12.4	8.3	5.1	5.3	5.5	3.9	4.1	4.3	4.6	4.8
Percentage of GDP	2.1	2.1	2.2	2.4	2.5	2.6	2.6	2.7	2.8	2.9
Percent of Budget	15.0	14.7	15.0	15.7	16.4	16.8	17.3	17.8	18.3	18.6
Financing gap	-0.1	-1.1	-2.8	-8.0	-13.5	-17.0	-22.1	-28.8	-36.2	-42.7
<i>Assumptions</i>										
<b>Enrollment rates</b>										
Primary	0.96	0.97	0.98	0.99	0.100	0.100	0.100	0.100	0.100	0.100
Lower	0.42	0.46	0.51	0.57	0.63	0.70	0.77	0.85	0.94	1.00
Secondary	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Higher	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Technical	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Higher	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
<b>Population (in millions)</b>										
Primary age	16.8	15.2	15.0	14.9	14.7	14.6	14.2	14.0	13.8	13.6
Secondary age	24.2	25.5	24.7	24.0	23.3	22.6	21.9	21.5	21.0	20.7
Lower	10.7	10.6	10.2	9.8	9.5	9.1	8.8	8.756	8.7	8.7
Secondary	7.3	7.6	7.3	7.0	6.7	6.5	6.2	6.1	5.8	5.6
Higher	6.2	7.3	7.2	7.1	7.1	7.1	6.9	6.6	6.4	6.4
Higher age	6.9	8.1	9.5	9.8	10.1	10.5	11.2	10.7	10.3	10.0

**Table E-6: Universal Eight Years by 2008**  
**With Investment in Improving Primary and Lower Secondary Quality**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>GDP at current mp (Tk in billion)</b>	2167.7	2447.6	2715.1	3004.4	3325.8	3682.4	4076.8	4513.0	4995.3	5529.2
<b>Share of education pub. exp. (percent)</b>	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
<b>Total resources available (Tk in billion)</b>	45.9	51.4	57.0	63.0	69.8	77.3	85.6	94.7	104.9	116.1
<b>A. Primary education</b>	12.3	16.0	20.6	25.3	30.4	33.4	37.7	42.7	47.7	52.9
<b>Recurrent budget (Tk in billion)</b>	10.7	14.3	18.7	23.4	28.4	33.2	37.5	42.4	47.4	52.6
<b>Development budget (Tk in billion)</b>	1.6	1.7	1.9	1.9	2.0	0.2	0.2	0.3	0.3	0.3
<b>B. Secondary education</b>	22	25.9	29.8	38.2	47.5	57.9	69.5	84.3	101.4	118.2
<b>Recurrent budget (Tk in billion)</b>	14.1	22.3	29.8	38.2	47.5	57.9	69.5	84.3	101.4	118.2
<b>Development budget (Tk in billion)</b>	7.9	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>C. Technical education</b>	0.9	0.9	0.9	1	1	1.1	1.1	1.1	1.2	1.2
<b>Recurrent budget (Tk in billion)</b>	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6
<b>Development budget (Tk in billion)</b>	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6
<b>D. Higher education</b>	2.8	3.7	4.4	4.6	5	5.4	6	6.1	6.2	6.4
<b>Recurrent budget (Tk in billion)</b>	2.0	2.5	3.1	3.3	3.6	3.9	4.4	4.5	4.5	4.6
<b>Development budget (Tk in billion)</b>	0.8	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8
<b>E. NFE education (development)</b>	1.4	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.9
<b>F. Education Administration (recurrent)</b>	6.1	6.6	6.9	7.3	7.6	8.0	8.4	8.8	9.3	9.7
<b>Total resources required (Tk in billion)</b>	46	54.6	64.4	78.3	93.4	107.7	124.7	145.1	168	190.7
<b>Recurrent</b>	33.6	46.3	59.3	73.0	87.9	103.8	120.6	140.8	163.4	185.9
<b>Development</b>	12.4	8.3	5.1	5.3	5.5	3.9	4.1	4.3	4.6	4.8
<b>Percentage of GDP</b>	2.1	2.2	2.4	2.6	2.8	2.9	3.1	3.2	3.4	3.5
<b>Percent of Budget</b>	15.0	15.3	16.1	17.3	18.4	19.2	20.0	21.0	21.8	22.3
<b>Financing gap</b>	-0.1	-3.3	-7.4	-15.2	-23.6	-30.4	-39.2	-50.4	-63.1	-74.6
<i>Assumptions</i>										
<b>Enrollment rates</b>										
<b>Primary</b>	0.96	0.97	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00
<b>Lower</b>	0.42	0.46	0.51	0.57	0.63	0.70	0.77	0.85	0.94	1.00
<b>Secondary</b>	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
<b>Higher</b>	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
<b>Technical</b>	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
<b>Higher</b>	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
<b>Population (in millions)</b>										
<b>Primary age</b>	16.8	15.2	15.0	14.9	14.7	14.6	14.2	14.0	13.8	13.6
<b>Secondary age</b>	24.2	25.5	24.7	24.0	23.3	22.6	21.9	21.5	21.0	20.7
<b>Lower</b>	10.7	10.6	10.2	9.8	9.5	9.1	8.8	8.756	8.7	8.7
<b>Secondary</b>	7.3	7.6	7.3	7.0	6.7	6.5	6.2	6.1	5.8	5.6
<b>Higher</b>	6.2	7.3	7.2	7.1	7.1	7.1	6.9	6.6	6.4	6.4
<b>Higher age</b>	6.9	8.1	9.5	9.8	10.1	10.5	11.2	10.7	10.3	10.0

**Table E-7: Universal Eight Years and 50 percent Coverage of Secondary Age Cohort by 2008  
With Investments in Improving Primary and Lower Secondary Quality**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>GDP at current mp (Tk in billion)</b>	2167.7	2447.6	2715.1	3004.4	3325.8	3682.4	4076.8	4513.0	4995.3	5529.2
<b>Share of education pub. exp. (percent)</b>	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
<b>Total resources available (Tk in billion)</b>	45.9	51.4	57.0	63.0	69.8	77.3	85.6	94.7	104.9	116.1
<b>A. Primary education</b>	12.3	16	20.6	25.3	30.2	33.4	37.7	42.7	47.7	52.9
<b>Recurrent budget (Tk in billion)</b>	10.7	14.3	18.7	23.4	28.2	33.2	37.5	42.4	47.4	52.6
<b>Development budget (Tk in billion)</b>	1.6	1.7	1.9	1.9	2.0	0.2	0.2	0.3	0.3	0.3
<b>B. Secondary education</b>	22.0	27.1	30.9	40.2	50.9	62.8	76.3	93.7	113.6	133.7
<b>Recurrent budget (Tk in billion)</b>	14.1	22.7	30.9	40.2	50.9	62.8	76.3	93.7	113.6	133.7
<b>Development budget (Tk in billion)</b>	7.9	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>C. Technical education</b>	0.9	0.9	0.9	1	1	1.1	1.1	1.1	1.2	1.2
<b>Recurrent budget (Tk in billion)</b>	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6
<b>Development budget (Tk in billion)</b>	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6
<b>D. Higher education</b>	2.8	3.7	4.4	4.6	5.0	5.4	6.0	6.1	6.2	6.4
<b>Recurrent budget (Tk in billion)</b>	2.0	2.5	3.1	3.3	3.6	3.9	4.4	4.5	4.5	4.6
<b>Development budget (Tk in billion)</b>	0.8	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8
<b>E. NFE education (development)</b>	1.4	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.9
<b>F. Education Administration (recurrent)</b>	6.1	6.6	6.9	7.3	7.6	8.0	8.4	8.8	9.3	9.7
<b>Total resources required (Tk in billion)</b>	46.0	55.9	65.5	80.3	96.8	112.7	131.6	154.5	180.2	206.2
<b>Recurrent</b>	33.6	46.8	60.4	75.0	91.3	108.8	127.5	150.2	175.6	201.4
<b>Development</b>	12.4	9.1	5.1	5.3	5.5	3.9	4.1	4.3	4.6	4.8
<b>Percentage of GDP</b>	2.1	2.3	2.4	2.7	2.9	3.1	3.2	3.4	3.6	3.7
<b>Percent of Budget</b>	15.0	15.6	16.4	17.8	19.1	20.1	21.1	22.3	23.4	24.2
<b>Financing gap</b>	-0.1	-4.5	-8.5	-17.2	-26.9	-35.4	-46.0	-59.8	-75.3	-90.2
<i>Assumptions</i>										
<b>Enrollment rates</b>										
<b>Primary</b>	0.96	0.97	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00
<b>Lower</b>	0.42	0.46	0.51	0.57	0.63	0.70	0.77	0.85	0.94	1.00
<b>Secondary</b>	0.27	0.29	0.31	0.34	0.37	0.40	0.43	0.46	0.50	0.54
<b>Higher</b>	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
<b>Technical</b>	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
<b>Higher</b>	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
<b>Population (in millions)</b>										
<b>Primary age</b>	16.8	15.2	15.0	14.9	14.7	14.6	14.2	14.0	13.8	13.6
<b>Secondary age</b>	24.2	25.5	24.7	24.0	23.3	22.6	21.9	21.5	21.0	20.7
<b>Lower</b>	10.7	10.6	10.2	9.8	9.5	9.1	8.8	8.756	8.7	8.7
<b>Secondary</b>	7.3	7.6	7.3	7.0	6.7	6.5	6.2	6.1	5.8	5.6
<b>Higher</b>	6.2	7.3	7.2	7.1	7.1	7.1	6.9	6.6	6.4	6.4
<b>Higher age</b>	6.9	8.1	9.5	9.8	10.1	10.5	11.2	10.7	10.3	10.0

**Table E-8: Universal Eight Years and 50 Percent Coverage of Secondary Age Cohort by 2008  
Plus Investments in Improving Primary and Lower Secondary Quality  
(With Enrollments at Other Levels Growing at Their Historic Trend Rate)**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>GDP at current mp (Tk in billion)</b>	2167.7	2447.6	2715.1	3004.4	3325.8	3682.4	4076.8	4513.0	4995.3	5529.2
<b>Share of education pub. exp. (percent)</b>	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
<b>Total resources available (Tk in billion)</b>	45.9	51.4	57.0	63.0	69.8	77.3	85.6	94.7	104.9	116.1
<b>A. Primary education</b>	12.3	16	20.6	25.3	30.4	33.4	37.7	42.7	47.7	52.9
Recurrent budget (Tk in billion)	10.7	14.3	18.7	23.4	28.4	33.2	37.5	42.4	47.4	52.6
Development budget (Tk in billion)	1.6	1.7	1.9	1.9	2.0	0.2	0.2	0.3	0.3	0.3
<b>B. Secondary education</b>	22.0	28.3	31.8	41.9	53.6	66.9	82.1	101.3	123.4	146.6
Recurrent budget (Tk in billion)	14.1	23.1	31.8	41.9	53.6	66.9	82.1	101.3	123.4	146.6
Development budget (Tk in billion)	7.9	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>C. Technical education</b>	0.9	0.9	0.9	0.9	1	1.1	1.2	1.2	1.4	1.4
Recurrent budget (Tk in billion)	0.4	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8
Development budget (Tk in billion)	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6
<b>D. Higher education</b>	2.8	3.9	4.8	5.3	5.9	6.7	7.7	8.0	8.5	9.1
Recurrent budget (Tk in billion)	2.0	2.7	3.5	4.0	4.5	5.2	6.1	6.4	6.8	7.3
Development budget (Tk in billion)	0.8	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8
<b>E. NFE education (development)</b>	1.4	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.9
<b>F. Education Administration (recurrent)</b>	6.1	6.6	6.9	7.3	7.6	8.0	8.4	8.8	9.3	9.7
<b>Total resources required (Tk in billion)</b>	46.0	57.2	66.7	82.6	100.4	118.0	139.1	164.2	192.5	222.0
Recurrent	33.6	47.3	61.6	77.3	94.9	114.1	135.0	159.9	187.9	217.2
Development	12.4	9.9	5.1	5.3	5.5	3.9	4.1	4.3	4.6	4.8
<b>Percentage of GDP</b>	2.1	2.3	2.6	2.9	3.1	3.3	3.5	3.8	4.0	4.1
<b>Percent of Budget</b>	15	16	17.4	19	20.5	21.7	23	24.6	25.9	26.7
<b>Financing gap</b>	-0.1	-5.8	-9.8	-19.5	-30.6	-40.7	-53.5	-69.5	87.6	105.9
<i>Assumptions</i>										
<b>Enrollment rates</b>										
Primary	0.96	0.97	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Lower	0.42	0.46	0.51	0.57	0.63	0.70	0.77	0.85	0.94	1.00
Secondary	0.27	0.29	0.31	0.34	0.37	0.40	0.43	0.46	0.50	0.54
Higher	0.20	0.22	0.24	0.25	0.27	0.29	0.32	0.34	0.37	0.40
Technical	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003
Higher	0.010	0.011	0.011	0.012	0.012	0.013	0.014	0.014	0.015	0.016
<b>Population (in millions)</b>										
Primary age	16.8	15.2	15.0	14.9	14.7	14.6	14.2	14.0	13.8	13.6
Secondary age	24.2	25.5	24.7	24.0	23.3	22.6	21.9	21.5	21.0	20.7
Lower	10.7	10.6	10.2	9.8	9.5	9.1	8.8	8.756	8.7	8.7
Secondary	7.3	7.6	7.3	7.0	6.7	6.5	6.2	6.1	5.8	5.6
Higher	6.2	7.3	7.2	7.1	7.1	7.1	6.9	6.6	6.4	6.4
Higher age	6.9	8.1	9.5	9.8	10.1	10.5	11.2	10.7	10.3	10.0

F-1: List of Questionable Education Projects in FY99 ADP (Tk in million)

Sub-sectors and Projects	Total Cost	Cum. Exp.	FY99 ADP allocation	Status
<i>Secondary Education</i>	4002.1	1415.4	300.2	
1. Development of selected Government Degree colleges	611.2	582.3	10	Approved
2. Special Development of Selected Government Colleges at the Greater District HQs for Postgraduate Education.	310	265.8	44.2	Approved
3. Establishment of Home Economics College at Divisional HQ in Chittagong	81.2	46.4	10	Approved
4. Development of Motherbux Home Economics College at Rajshahi	79.8	40.7	1	Approved
5. Construction of 2 <sup>nd</sup> Block of Shikkha Bhaban	99.8	5	30	PCP approved
6. Development of Secondary and Higher Secondary Educational Institutions In Dhaka Metropolitan Area	620.1	460.1	100	Approved
7. Development of Selected Government & Non-Government Colleges	2000	15	100	PCP approved
8. Establishment of an Education Complex Comprising Government Primary & Secondary Schools and a College at Mujibnagar	200	0.1	5	Unapproved
<i>Technical Education</i>	5299.8	0	115.1	
9. Establishment of 13 new VTIs	697.1	0	70	Approved
10. Modernization of 20 Existing Polytechnic Institution & Establishment of 13 New Polytech. Institution.	3630.1	0	5	Unapproved
11. Introduction of Business Management Course at HSC Level in Non-Government. Education Institutions.	379.5	0	40	Approved
12. Establishment of 3 New Polytech. For Women at the Divisional HQ	593.1	0	0.1	Unapproved
<i>University Education</i>	2898.9	5	110	
13. Establishment of Science and Tech. University in Each of the Old District. (6 in phase-I)	1526.1	0	40	Approved
14. Construction of Flats for Teachers and Residential Hall for Students of Dhaka University.	472.8	5	40	PCP approved
15. Further Development of Khulna University.	250	0	10	Unapproved
16. Further Development of Shahjalal Science & Tech. University	260	0	10	Unapproved
17. Further Development of Rajshahi University	390	0	10	Unapproved
<i>Bangladesh Army HQ</i>	875.8	301.3	70.7	
18. Development of Bangladesh National Cadet Corps	139.9	56.3	20	Approved
19. Establishment of Cantonment Public Schools & Colleges for Girls	403.9	245	40.7	Approved
20. Establishment of Girls Cadet College at Feni	332	0	10	Unapproved
<i>Religious Affairs</i>	400	331.8	68.2	
21. Establishment of Permanent Hajj Camp at Dhaka	400	331.8	68.2	Approved
<i>Total</i>	<b>13476.6</b>	<b>2053.5</b>	<b>664.2</b>	
Estimated FY99 GDP	2167744			
As percentage of GDP	1	0.1	0.03	
Total FY Development Allocation	16947.5			
As percentage of development allocation	79.5	12.1	3.9	

## REFERENCES

- BANBEIS. 1997. *Bangladesh Educational Statistics*.
- Bennell, Paul (1998). Rates of Return to Education in Asia: A Review of the Evidence, *Education Economics*, Vol. 6, No. 2.
- Blaug, Mark (1992). *The Economic Value of Education*, Edward Elgar Publishing Limited.
- Chuswick, Barry R. (1997). Interpreting the Coefficient of Schooling in the Human Capital Earnings Function, paper written by the author as a Visiting Scholar in the Education Group, Human Development Department, the World Bank.
- Government of Bangladesh 1998. *Primary Education in Bangladesh*, Directorate of Primary Education. July.
- Government of Bangladesh. 1998. *Fifth Five Year Plan 1997-2002*.
- Lachler, Ulrich (1998). Education and Earnings Inequality in Mexico, The World Bank, Mexico Country Department, Policy Research Working Paper 1949.
- Mincer Jacob (1974). *Schooling, Experience and Earnings*, National Bureau of Economic Research, New York.
- OED. 1999. *IDA'S Role in 35 Years of Lending for Education*, draft, Country Sector Review.
- Psacharopoulos, G. (1994). Returns to Investment in Education: A Global Update, *World Development* 22(9).
- Rahman (ed.) Fazlur. 1997. *Administrative and Management Manual for Non-Government Educational Institutions*. September.
- UGC. 1997. *Annual Report* (Bangla version)
- World Bank. 1996. *Bangladesh: Public Expenditure Review*, Report No. 15905-BD.
- World Bank. 1996. *Education Financing Sector Study*. October.
- World Bank. 1996. *Priorities and Strategies for Education*, Washington, D. C.
- World Bank. 1996. *Vietnam: Education Financing Sector Study*, Report No. 15925-VN, Human Resources Operations Division, Country Department 1, East Asia and Pacific Region.
- World Bank. 1998. *Bangladesh: From Counting the Poor to Making the Poor Count*, PREM Network, South Asia Region.
- World Bank. 1998. *Primary Education Development Project*. Project Appraisal Document.
- World Bank. 1999. *Bangladesh: Challenges for the Next Millennium*. April.
- World Bank. 1999. *World Development Indicators*.







## **Other World Bank Publications from UPL**

**BANGLADESH**  
**A PROPOSED RURAL DEVELOPMENT STRATEGY**  
A World Bank Study

**AN ANNOTATED BIBLIOGRAPHY OF WORLD BANK**  
**REPORTS AND PUBLICATIONS ON BANGLADESH 1972-1998**

**BANGLADESH**  
**ASSESSING BASIC LEARNING SKILLS**

**BANGLADESH**  
**LABOR MARKET POLICIES FOR HIGHER EMPLOYMENT**

**BANGLADESH**  
**RURAL INFRASTRUCTURE STRATEGY STUDY**

**BANGLADESH**  
**PURSUING COMMON GOALS**  
Strengthening Relations Between Government and  
Development NGOs

**BANGLADESH 2020**  
A Long-run Perspective Study

**BANGLADESH**  
**GOVERNMENT THAT WORKS**  
Reforming the Public Sector

**QUEST FOR A HEALTHY BANGLADESH**  
A Vision for the Twenty-First Century

**BANGLADESH**  
**EDUCATION SECTOR REVIEW**  
in three volumes

---

The World Bank  
1818 H. Street, N.W.  
Washington, D.C. 20433, USA  
Telephone: 1 202 477 1234  
Facsimile: 1 202 477 6391

3A Paribag  
Dhaka 1000  
Bangladesh  
Telephone: 880 2 9669301-08  
Facsimile: 880 2 8613220



**The World Bank  
Bangladesh Dhaka Office**

This comprehensive Education Sector Review has been published in three separate volumes. Volume I contains the main report and additional papers on Socioeconomic Development and its Implications for Education and Education Finance.

The main report synthesizes findings from the detailed review of the various parts of the education sector. It starts with a look at Bangladesh in 2020 from which is derived a vision for education and training in 2020. Six main areas for action are identified to realize this vision. The principal themes of the analysis are summarized in the conclusion.

The background reports of the Education Sector Review present a detailed analysis of the various parts of the system. The first background paper analyzes socioeconomic developments in Bangladesh, highlighting the effect of such progress on education and the second is a thorough examination of current education finance, with forecasts for the future under various scenarios.

The subsequent five papers, organized in Volumes II and III, look at the key sub-sectors: Primary, Non-Formal, Secondary, Technical-Vocational and Higher Education.

**Tk. 250.00**

[www.uplbooks.com](http://www.uplbooks.com)

