

Education Watch 2007

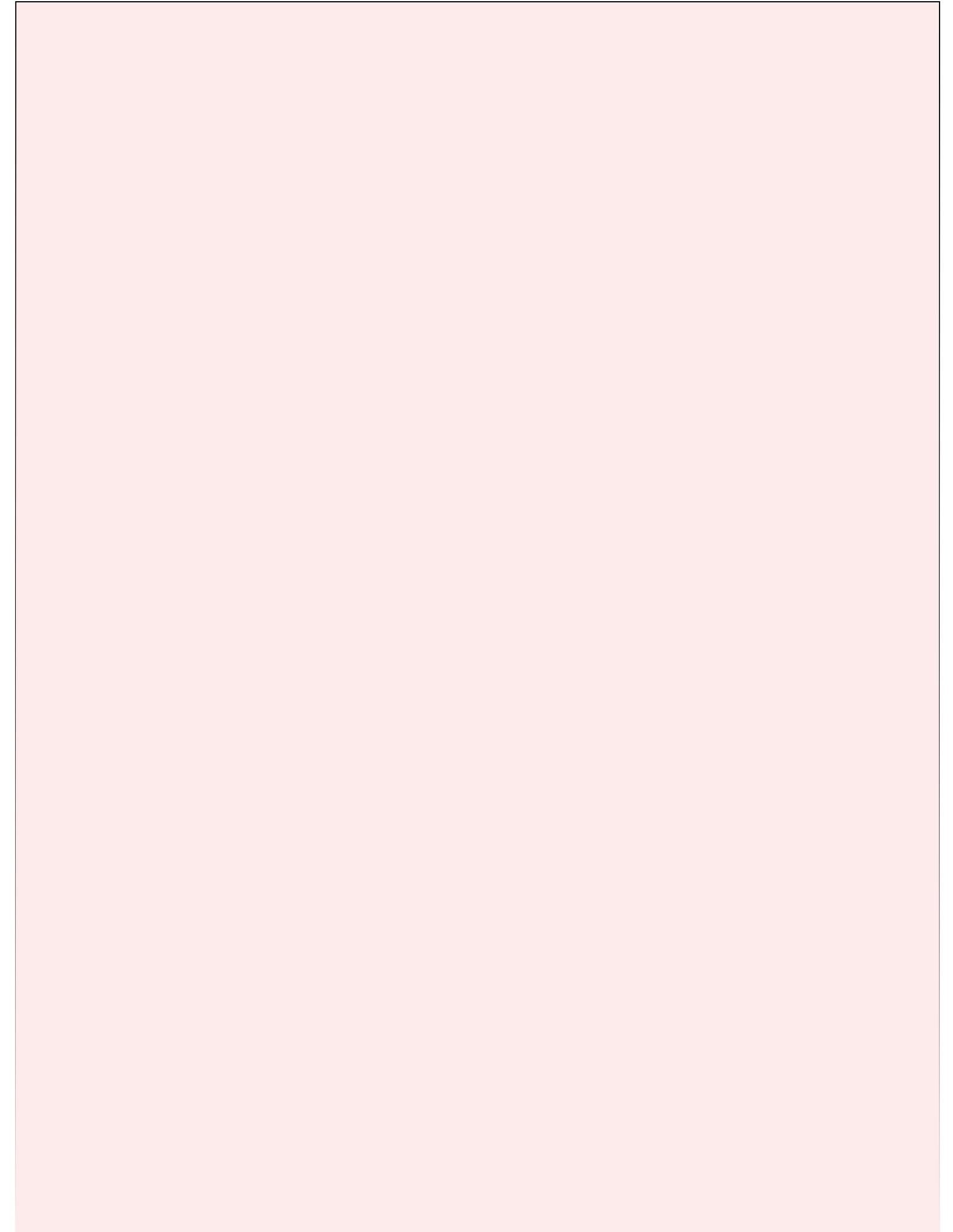
The State of Secondary Education
Quality and Equity Challenges



Campaign for Popular Education (CAMPE), Bangladesh

Education Watch 2007

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Foreword

This is the tenth year of the founding of the *Education Watch*. On this occasion I would like to share my pleasure and excitement with all those involved and concerned in this endeavour. In 1996, we organized a national conference, 'Quality Primary Education for All' to take stock of primary education situation in the country and to chart responsibilities for different stakeholders in developing an education system that can help lead Bangladesh to universal primary education within a shortest possible time. One of the many recommendations of the conference was to establish an independent system that monitors and help understand the educational progress of the nation. The civil society responded to this and the *Education Watch* was founded. As the Chairperson of CAMPE, a unique network of more than 1000 NGOs working in education, it came in my mind that this could be the best institution to host the *Watch*. Over these ten years many researchers, programme implementers, policy analysts, NGO leaders, educationists, journalists and eminent personalities in the country worked together to continue the initiative and to make it a success. I congratulate all of them for their continued commitment to this.

At the beginning we concentrated our efforts only on primary and basic education. But over the period the issues that the *Watch* covered for investigation went beyond this. I am glad that it investigated the secondary education as well. It covered issues as diverse as internal efficiency of primary and secondary education, quality of primary education, literacy assessment, financing in education, curriculum and learning achievement at secondary level, and employment opportunities of secondary graduates. Some of these issues were investigated for the first time in Bangladesh. The strength of *Education Watch* is its uniqueness in field based primary data collection, their analysis, policy recommendations and advocacy. Through the process it has now become an institution in itself for basic research in the field of education. This has filled an important gap of information in our primary, basic and secondary education. I am sure that the *Education Watch* will continue with increased success.

Knowing facts is primary for development. The second level task, for an initiative such as the *Watch*, is to do advocacy and lobbying. I am aware that the findings of *Education Watch* are often referred to and quoted by development agencies, NGOs and the government documents; reports are used as text materials in the education faculty of many universities in Bangladesh and abroad. The *Watch* has also been assessed by external researchers such as those from the Teachers College at Columbia University who found it to conform and meet 'international standard'. Many countries in Asia-Pacific region and Africa have also been inspired by this experience and have successfully initiated their own initiatives. However, unfortunately though, our *Watch*

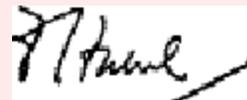
has not yet fulfilled all our expectations. The findings have not been adequately used in the national educational planning and development or advocacy and lobbying for quality education. I believe we have to identify new and innovative ways of how this can be done more effectively.

This is the eighth report of the *Education Watch*. A unique feature of this year's report is the inclusion of madrasas in quality assessment of teaching learning. This compared the general and madrasa students with a common instrument in some basic subjects like language and mathematics. This study opened our eyes with respect to many parameters of our education system. One of these is the existence of a cycle of inequity in secondary education. In addition to type of educational institution, gender or geography, inequity also exists in infrastructure, educational facilities and quality of teachers. All these are reflected in learning performance of the pupils. Secondary education should be capable of creating strong foundation for majority of the students so that they can be prepared for world of work and face the challenges of globalization. For at least a selective section of the students it should provide strong foundation for tertiary education. Well planned and increased investment in secondary education is very much required.

An important finding of this year's report is the difference in learning achievement between the general stream and madrasas, with the latter trailing behind the former. Nearly a fifth of students in secondary education attend madrasas and we need to give more attention to it. Faith-based system is an accepted norm in many countries, even in the North. For example, about a third of basic educational institutions in the UK are said to be faith-based. But the government there made it sure that they followed the basic minimum standard in science and humanities education. We too need to find a way how such a common standard can be ensured in Bangladesh.

Finally, on its tenth anniversary, I congratulate all individuals, institutions and organizations who made their effort in making *Education Watch* a reality. I believe that such a work would have not been materialized without a collective effort of all.

Dhaka
August 2008



Fazle Hasan Abed
Chairperson
Campaign for Popular Education

Preface

The eighth *Education Watch* report for the year 2007 is our third initiative to explore issues related to secondary education of Bangladesh. Its aim is to gain understanding on three specific but interlinked issues, viz., secondary curriculum, learning achievement of students, and further education and employment opportunities of secondary graduates. This *Watch* not only provides better understanding on these issues but also compares general and madrasa streams, rural and urban educational institutions, and government and private schools. As usual, the aim also is to contribute to informed dialogue on policy and actions at the State level and to facilitate civil society participation in the development of education policies and strategies.

This is the tenth year of inception of *Education Watch*. During this period we focused on primary and basic education, literacy, secondary education and financing of education. The *Education Watch* is a civil society initiative exploring key issues of education in the country, now became a unique source of research based information and analyses for all concerned. Nearly fifty people with various capacities such as researchers, educationists, development practitioners, former civil servants, and teachers are involved in the Advisory Board, Working Group and Technical Team of this initiative, where the Campaign for Popular Education (CAMPE) has been playing the role of secretariat. The reports we produce from *Education Watch* are collective efforts of all of them. I congratulate all of them for their continued contribution in the *Education Watch* activities.

This study generated some new information which was not available earlier. The six main messages came out from this year's investigation are: huge difference between general and madrasa streams in terms of what they taught, strong correlation of students performance with school facilities and students home background, inequalities exist by school type, location and gender, due to inequality small portion of students receives quality education and hence get prepared for world of work, and finally, education in Bangladesh increased a lot between two successive generations.

Our sincere request to the policy makers for their careful look at the findings of this study and to take advantage of such readily available information and analyses. If we do not give adequate attention to the preparation of our youths they will not be able to keep space in the era of globalization.

I wish my sincere thanks to Mr. Fazle Hasan Abed, Founder and Chairperson of BRAC and Chair of the CAMPE Council, for his deep interest in and continuing support for the *Education Watch* initiative since its inception. CAMPE is privileged to serve as the secretariat of *Education Watch* and its staff has been providing the

necessary support for producing the annual reports and facilitating its dissemination. Our sincere appreciation goes to them for their unstilted support and tireless efforts.

The research team for this year's *Education Watch* comprised of six persons. They include Mr. Samir Ranjan Nath, Prof. Nazmul Haq, Dr. Umme Salema Begum, Prof. AMM Ahsan Ullah, Dr. Md. Abdus Sattar and Dr. A Mushtaque R Chowdhury. A number of national experts from and beyond the *Education Watch* group, teachers from both the schools and the madrasas (list annexed) cooperated with the research team in reviewing curriculum, preparing test instrument and other questionnaires, analyzing and interpreting data.

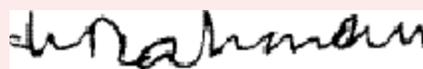
We thank the reviewers of the report, Professor Kazi Saleh Ahmed, Dr. Manzoor Ahmed, Ms. Jowshan Ara Rahman, Ms. Roushan Jahan, and Mr. Nazrul Islam Khan for their valuable comments on the draft. Our sincere gratitude to all those who participated in various sharing sessions on the draft report, provided valuable comments and suggestions on the design, approach and findings of the study. Their contribution in preparing the key messages and policy recommendations of this study is highly acknowledged.

The record of our appreciation will remain incomplete if we do not acknowledge the contribution and willing cooperation of the authorities of the sampled schools and the madrasas, the teachers, their students, the parents and the secondary graduates, who provided all information for this study. The field survey was conducted by 53 research assistants, which was coordinated and supervised by Mr. Anwar Hossain of the Research and Evaluation Division of BRAC. Mr. Goutam Roy, Ms. Rifat Afroz, Mr. Notan Dutta of the same institution and Mr. K M Enamul Hoque of CAMPE played very important roles at various stages of the study. Ms. Layli Uddin of BU-IED assisted us through language editing. We acknowledge their contributions.

Education Watch and its reports have been possible due to the generous support received from the Embassy of the Kingdom of the Netherlands (EKN), Swiss Agency for Development and Cooperation (SDC), Bangladesh and Oxfam-Novib of the Netherlands. We acknowledge their assistance and express our deep appreciation.

Finally, we would ask the readers and users of *Education Watch* reports to send us if they have any suggestions regarding issue selection, improvement of quality of research, presentation style and any other issue related to this.

Dhaka
August 2008



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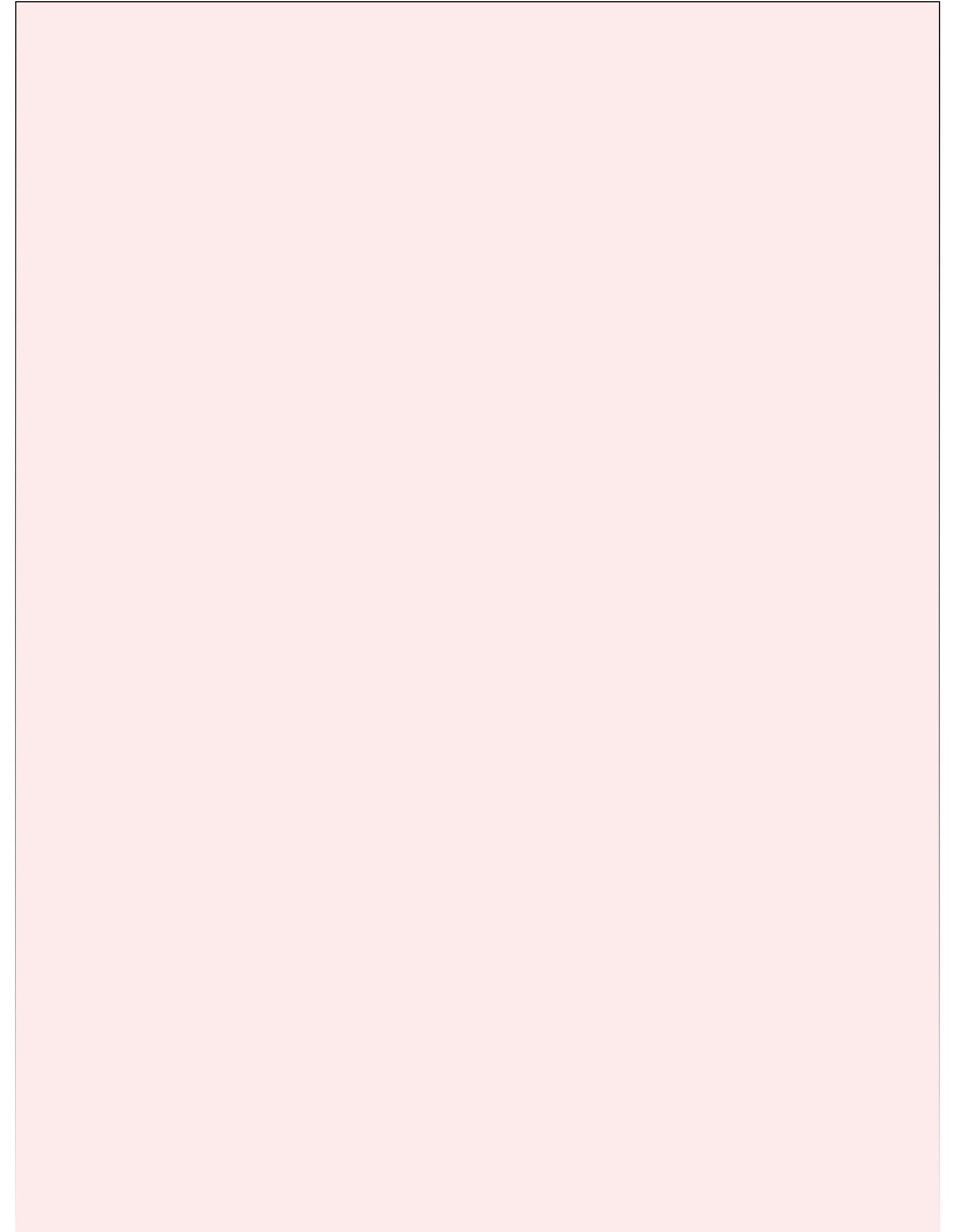
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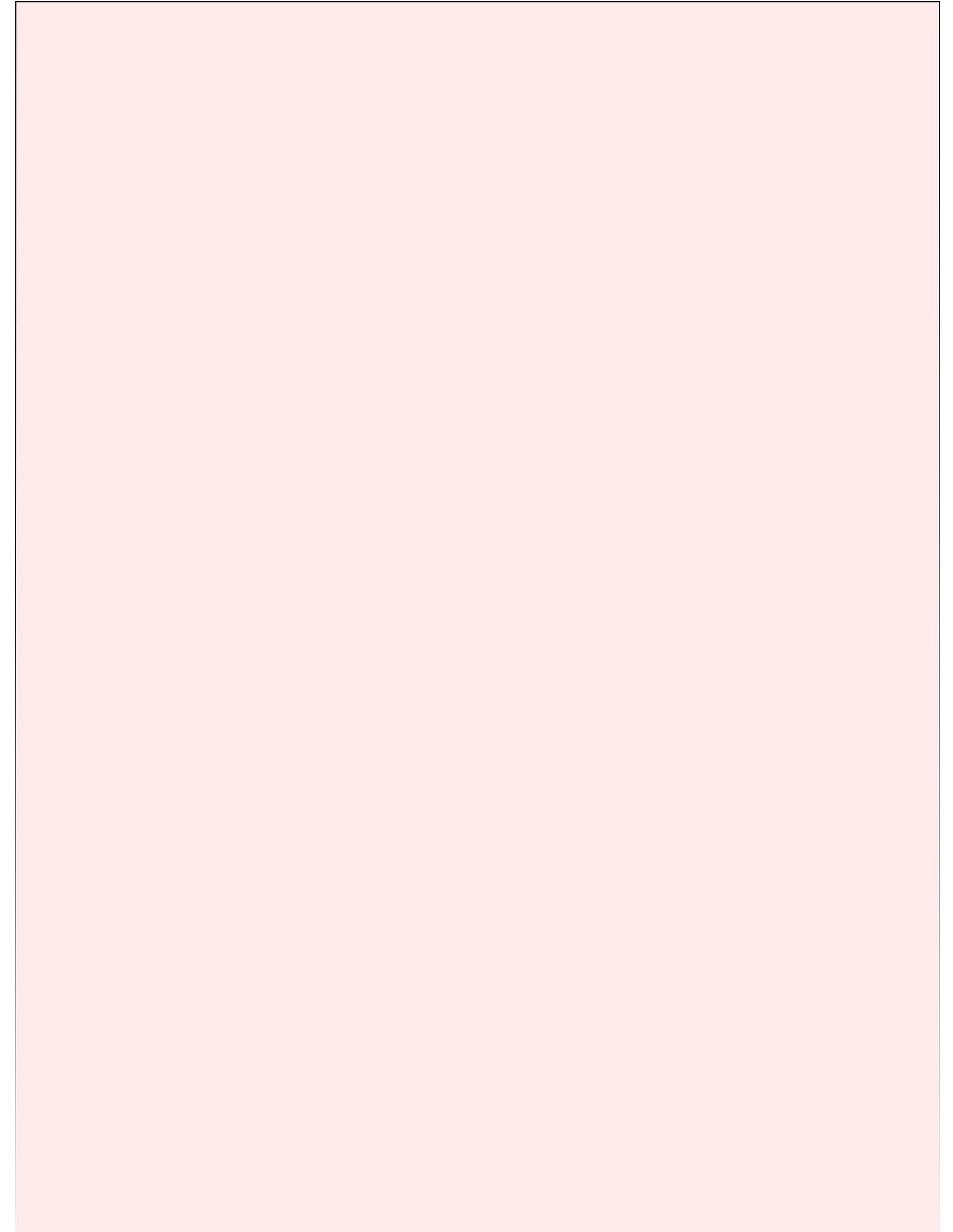
Acronyms

BANBEIS	Bangladesh Bureau of Educational Information and Statistics
BEd	Bachelor of Education
BMEB	Bangladesh Madrasa Education Board
BISE	Boards of Intermediate and Secondary Education
BRAC	An NGO
CAMPE	Campaign for Popular Education
DfID	Department for International Development (of UK government)
DIA	Directorate of Inspection and Audit
DPI	Directorate of Public Instruction
DSHE	Directorate of Secondary and Higher Education
GCPI	General Committee of Public Instruction
GCSE	General Certificate of Secondary Education
GPA	Grade Point Average
HSC	Higher Secondary Certificate
MCQ	Multiple Choice Questions
MDG	Millennium Development Goals
MEd	Masters of Education
NAEM	National Academy for Educational Management
NCCC	National Curriculum Coordination Committee
NCTB	National Curriculum and Textbook Board
RED	Research and Evaluation Division, BRAC
SESIP	Secondary Education Sector Improvement Project
SMC	School Managing Committee
SSC	Secondary School Certificate
TQI	Total Quality Improvement
UIS	UNESCO Institute of Statistics
UNESCO	United Nations Educational Scientific and Cultural Organization
UNICEF	United Nations Children's Fund



Overview





Introduction and Objectives

As a result of domestic and international demand and increased financial commitments, primary education has become universal or near universal in many developing countries. Expansion of primary education has created pressure on the national governments to extend the length of basic compulsory education. The growing aspiration of families' and the national governments' emphasis on preparing the adolescents and youths for tertiary education and competitive market economy as well have put a premium on high quality secondary education. The demand for and expansion of secondary education that we are witnessing today are the result of namely two things, democratization of education and globalization. Three challenges facing secondary education are those of increasing access; improving quality of education and enhancing relevance of curriculum. The *Education Watch* chose to explore selected aspects of secondary education for its eighth annual state of education report.

In Bangladesh, seven years of schooling bridges primary with tertiary education. Secondary education is divided into three stages: junior secondary (grades VI-VIII), secondary (grades IX-X) and higher secondary (grades XI-XII). At junior secondary level, there are two streams, viz., general education and madrasa education. Vocational education is the third stream at the secondary level. In 2005, there were 19,148 general schools, 9,215 madrasas and 1,265 vocational schools in the country. Of the total students enrolled at secondary level, 79.4% are in general stream, 17.9% in the madrasas and 2.7% in vocational schools. The first public examination is held at the end of grade X, which is called Secondary School Certificate (SSC) for general and vocational streams and Dakhil for madrasa stream.

In recent times there have been a few studies on the situation of secondary education. The ones by *Education Watch* have covered both junior secondary and secondary levels and addressed a number of issues such as access, efficiency, equity and financing which included institutions under both general and madrasa streams. However, there has been a dearth of some vital information necessary for policy making, especially from a comparative perspective. Questions often asked about the two major streams are related to *equivalence in curriculum* and the *quality of graduates* produced. Continuation of educational pursuits beyond secondary and opportunities awaiting graduates in the employment market are two other issues that needed further investigation. Lack of information on such vital areas result in poor and/or inadequate planning for future human resource development. The *Education Watch 2007* thus addressed the following issues.

1. Comparative analysis of the origin, development and curriculum of general and madrasa streams.
2. Testing the extent of attainment of the learning objectives by the students of the two streams and identifying factors affecting their attainment.

3. Exploring the upward movement of students to post-secondary and availability of employment opportunities for secondary graduates and its relationship.

Methods

Review of curriculum, textbooks and related secondary documents, workshop with teachers of the two streams and consultation with the experts in the field generated the necessary data to meet the first objective of the study. Development of a uniform test on four subject areas, viz., Bangla, English, Mathematics and Everyday Science through a rigorous process and its administration on the students of grade X in 2007 created the necessary data for the second objective. This test instrument was based on the learning objectives for secondary education set by the National Curriculum Coordination Committee (NCCC) in 1995. The instrument has 80 items equally distributed among the four subjects. In order to achieve the third objective, students who graduated from both the streams in 1997 were traced after 10 years of graduation and a questionnaire was administered to acquire information relating to their background profile and current occupation.

Five strata were considered for the study, which included government schools, urban private schools, rural private schools, urban madrasas and rural madrasas. The Bangladesh Bureau of Educational Information and Statistics (BANBEIS) database of 2005 was used for the sampling of schools and madrasas. Over three thousand students of grade X from 192 schools and madrasas were randomly selected for administering the test. For the tracer study 2,887 graduates from 246 schools and madrasas were selected randomly. In addition, 148 heads of the institutions and 1,478 teachers were interviewed to supplement the findings from curriculum review and test of the students. Fifty-three field investigators collected the field data during April-May 2007. Of the three stages of secondary education, this *Education Watch* concentrated only on the middle one, i.e., grades IX and X.

Findings

Curriculum of Secondary Education

Review of goals and objectives, curriculum, textbooks, and examination systems of two broad streams under secondary education, viz., general and madrasa generated the following findings.

1. The madrasa stream of secondary education is less organized in terms of curriculum, textbook preparation and their implementation when compared to the general stream. There is a general tendency among some stakeholders of madrasa stream to keep a distance from the general stream or vice versa.

2. Although the National Curriculum Coordination Committee (NCCC) adopted a common set of learning objectives for secondary education, these are mostly followed only in the general stream. The Madrasa Education Board needs further capacity and intention to prepare curriculum and textbooks in line with the learning objectives set by NCCC.
3. Close examination of textbooks used clearly shows a difference between the two streams. It is the opinion of the researchers that the content is not adequate for the madrasa students to acquire required skills and competencies in basic subjects like Language, Mathematics and General Science.
4. Sharp distinctions exist between the streams in relation to the examination system, mark distribution among core and elective subjects, question paper preparation and assessment procedures, which is a serious obstacle to establishing equivalency among the streams.

Learning Achievement of Grade X Students

Learning achievement of the students of grade X in 2007 was assessed with an instrument based on learning objectives set by NCCC, which are common to both general and madrasa streams. Bangla, English, Mathematics and Everyday Science were covered in the test. Each subject contained 20 items totalling 80 in the whole test. The students were not previously alerted about the test. The following were the salient findings.

1. Of all the students tested, 7.5% correctly answered 50% of the items in each subject, 17.9% correctly answered 40% of items in each subject and 27.1% correctly answered 33% of the items. According to the 'pass' criteria used in SSC/Dakhil examinations, 27.1% of the students passed our test.
2. Of the four subject areas, the students showed best performance in Everyday Science followed respectively by Bangla, English, and Mathematics. The boys demonstrated significantly better performance than the girls. The gender gap narrowed as the 'pass' criteria became more stringent. In general, the gap was less in Bangla than in other subjects.
3. The students of the government schools representing the general stream were far ahead of all other types in performance. They were followed by urban and rural private schools. The madrasa students lagged behind. The 'pass' rate was 68% for government, 50% for urban private, 24.5% for rural private, 18.8% for urban madrasa, and 7.8% for rural madrasa students.
4. Gender difference with a bias against girls persisted in all types of schools. However, it was lesser in government schools than others. The worst gap was observed in rural madrasas.

5. Out of a total of 80 items, the students correctly answered, on average, 31.4 items in the test; 30.1 for girls and 33.1 for boys. Highest variation among the students in terms of number of correct items (measured through Pearson's coefficient of variation) was found in Mathematics (44.8%) and lowest in Everyday Science (36.7%). The boys were found to be more homogeneous than the girls.

Correlates of Learning Achievement

Students' background characteristics and its relationship with their learning achievement were explored. Instead of various performance indicators presented above, only the 'pass' rate was used in exploring the relationships. Salient findings are presented below.

1. Age of the students enrolled in grade X ranged from 13 to 26 years with a mean of 15.2 years. Twenty-three percent of the students were under-aged, a third over aged and rest were of the appropriate age (15 years) for grade X. On average, the madrasa students were older than their counterparts in general stream, and rural students were older than those of urban areas. The 'pass' rate significantly declined with the increase in age - 34% for 13-14 years old, 29% for 15 years old and 19.7% for 16 years and above.
2. A significant positive correlation existed between years of schooling completed by their parents, with the fathers often more educated than mothers. The parents of the students of government and urban private schools were more educated than others. The madrasa students were the most disadvantaged in this respect. A significantly positive relationship was found between parental education and students' learning achievement. However, the relationship was much stronger with mothers' education than that of fathers. Only about a fifth of the students passed if their parents did not attend any school or had an incomplete primary education. However, the pass rate went up to 52% if the father had a bachelor's/masters degree and to 72.4% if the mother had a bachelor's/masters degree.
3. In terms of food deficit status, a fifth of the students came from 'deficit' households (poor), 26.4% from 'breakeven' households and 56% from 'surplus' households (well-to-do). It seemed that the government schools attracted students of better-off families more. The proportion of 'surplus' households was 68% in government, 58% in urban private, 56% in rural private, 46% in urban madrasas, and 53% in rural madrasas. The 'pass' rate significantly increased with the improvement in household food security status- 21% in 'deficit', 27.3% in 'breakeven', and 29% in 'surplus' households. Gender gap in 'pass' rate narrowed with improvement in food security status.
4. Of the sampled students, 86% were Muslims and about 2% were from ethnic minorities. Seventy percent had electricity available at home. Non-Muslim

students did better than the Muslims in the test (31.3% vs. 26.5%; $p < 0.05$), ethnic minorities than the Bangalis (50% vs. 26.7%; $p < 0.001$), and those having electricity at home than those who didn't (32% vs. 15.3%; $p < 0.001$).

5. Over 86% of the students had private tutors in the previous grade (i.e., IX). It was almost universal among the students of government schools (96%). More of the urban students (both private schools and madrasas) had private tutors than their rural counterparts. The students, on average, received 5.7 months of support from private tutors and spent Tk. 2,775 for this. The average length of using a private tutor and average cost for the same varied according to school type. Use of tutors impacted on the 'pass' rate, it was 29% amongst those who had it and 15.6% amongst those had not ($p < 0.001$). As expected, the duration of private tutoring was positively correlated with the amount of expenditure for it ($p < 0.001$).
6. Nearly two-thirds of the students read some non-academic books, indicating access to this, during the month prior to interview. Majority of them read literary books (48.3%) followed by religious books (16%). In terms of access to media, a third of the students listened to radio programmes, 80% watched TV and 52% read newspapers. Students' access to non-academic books and media had a positive effect on their learning achievements. Learning achievement was significantly effected by student's access to non-academic books, newspapers and television but not radio.

Curriculum Implementation at Institution Level

Interviewing the heads of educational institutions, the teachers and the students an attempt was made to understand various aspects related to curriculum implementation at institution level. The following provides a summary of findings.

1. Two thirds of the government and urban private schools, half of the urban madrasas, 43.3% of rural private and 38% of rural madrasas had annual academic plans.
2. About 60% of the heads of the institutions had a copy of the curriculum and 43% of them received training on curriculum. Three-quarters of the heads of the institutions claimed to have discussed curriculum-related issues with their colleagues. A larger proportion of madrasa superintendents than school heads claimed to have read the curriculum.
3. Seventy-eight percent of the heads of the institutions reported that they were aware of neither the strengths nor the weaknesses of the curriculum, although they were leading its implementation.

4. The head teachers/superintendents rated half of their teachers (who teaches Bangla, English or Mathematics) as 'strong' and 32-38% as 'very strong' in terms of ability to teach. Proportionately more Mathematics teachers were rated in these categories than those of other two subjects. Students of the government and urban private schools recognized that two-thirds of their teachers were knowledgeable in their subjects; this figure was higher (75%) in case of other educational institutions.
5. The students reported that majority of their teachers attended their classes regularly and taught appropriately. However, only 16% of the teachers arranged group work in the classrooms and 42.6% encouraged the students to read books other than textbooks. As the students reported, both verbal and physical punishments were applied on them. A third of the teachers verbally abused the students and 22.7% punished them physically.
6. Thirty-five percent of the teachers reported that they had no training for improving the quality of teaching; over 50% in the madrasas and about 30% in schools. Over 40% of the teachers were involved in private tutoring with urban teachers being ahead their rural counterparts. A fifth of the teachers had no interaction with the students outside classroom.
7. About 10% of the teachers confessed to have no 'study habit'. The school teachers were more likely to read literary books and the madrasa teachers religious books.
8. The students find Mathematics most difficult subject followed by English. Science students in the government schools were more likely to have practical classes followed respectively by those in urban private schools, rural private schools, urban madrasas and rural madrasas. In majority of the madrasas and rural schools, only the teachers demonstrated scientific experiments without the students having any opportunity to do those themselves.
9. Majority of the schools assessed student performance through three formal examinations, viz., first term, second term and annual examinations. *Test examination* to select candidates for SSC or Dakhil examinations was also common. However, some schools and madrasas also introduced monthly, fortnightly or weekly examinations.
10. In co-curricular activities such as annual sports and games schools gave more emphasis. There were, however, very limited provisions for cultural activities like singing, dancing, drama, recitation, etc. or physical exercises.

Further Education and Employment Opportunities

This section presents information on further education and employment opportunities of secondary graduates. It may be recalled that graduates of 1997, 10 years after their graduation, were interviewed to know their current status. Salient findings are presented below.

1. Of the secondary graduates, 7.3% did not enrol in any educational institution for further study and 18.4% did enrol but could not complete higher secondary education. This means that over a quarter of the graduates did not go beyond the secondary level. Nearly a third (31.5%) completed higher secondary, 31.3% bachelors and 11.4% completed masters level education. The females were ahead of the males in attaining further education. Proportion of graduates entering into further education was 90% among government school graduates, 87% among urban private, 71.5% among rural private, 80.8% among urban madrasa, and 62.5% among rural madrasa.
2. Participation in further education of the graduates was found to be positively associated with performance in SSC or Dakhil examination. Ten percent of the graduates received first division in SSC/Dakhil, 43.3% received second division and 57% of those with third division did not enrol in further education. On the other hand, the proportion of graduates joining postgraduate education was respectively 21.8%, 5.6% and 1.9% of these three groups of graduates.
3. Graduates who studied Science at secondary level were more likely to go for further education compared to those who studied Humanities. About a third of the Humanities graduates and 16.4% of the Science graduates did not go for further education. Over 35% of the Humanities graduates and 52.5% of the Science graduates obtained a bachelor's/masters degree.
4. A statistically significant positive correlation was found between parental education and further education of the secondary graduates. However, the effect was less prominent for female graduates except at a high level of parental education- fathers with tertiary education and mothers with secondary level and above.
5. How much have we progressed over a generation? All our sampled graduates had at least 10 years of education by definition; such level of education was attained by 45% of their fathers and only 13% of their mothers. The sampled graduates, on average, had 12.7 years of schooling compared to 5.3 years among their mothers and 8.3 years among their fathers. Years of education received by the female graduates were twice of the years of their mothers' education and about one-and-a-half time of their fathers' education.

6. Regarding inter-stream movement, none from general stream went to the madrasas for further education. On the contrary, over a quarter of the madrasa graduates enrolled in educational institutions under general stream for higher secondary education. Of the madrasa graduates who enrolled in higher secondary education, 17% from rural and 29.3% from urban went to the next level of higher education but a small proportion (2%) shifted back to the madrasa stream.
7. Marriage (22%), lack of money to continue education (14.6%), failure in examination (14.2%), engagement in income earning (29.6%), and lack of interest to study (12.7%) were the major reasons behind secondary graduates' not continuing up to masters level education. Over half of the females reported that they had to stop their study due to marriage in comparison to only 2% of the males. On the other hand, 44% of the males and only 8% of the females reported 'income earning' as the reason for dropout. Marriage was the top reason for dropout among the graduates of government and urban private schools and 'income earning' for those in the other three types of schools. At the time of survey, 48.2% of the graduates were found married; 76.6% females and 31.4% males.
8. In tracing the students of secondary education ten years after they graduated, it was found that over a third of the secondary graduates were in paid jobs in the country, a quarter in housekeeping, 15.6% students, 9.1% running own business, 6.7% in paid jobs abroad, 2% in agricultural activities, 1.9% in private tutoring and 8% were unemployed. Over 57% of the females were in housekeeping and 23.3% in paid job in country. On the other hand, 40.4% of the males were in paid jobs in country, 14.4% ran own businesses, 10.4% in paid jobs abroad and so on. Over a quarter of the graduates of the government and urban private schools, 37% of those of rural schools and madrasas and 45.4% of those of urban madrasas were involved in paid jobs in country. The madrasa graduates were the least likely to be involved in housekeeping or study. Engagement in paid jobs abroad was more likely among the madrasa graduates. Urban graduates were involved more in running their own businesses. Two-thirds of the in country jobholders got jobs in private sector, 19% in public sector and 15% in NGO sector.
9. The paid jobholders earned, on average, Tk. 6,756 per month, males Tk. 7,490 and females Tk. 3,760. The average income was about equal for the graduates of the government and the urban private schools (Tk. 8,764 and Tk. 8,742 respectively). They were at the top of the ranking, followed respectively by the graduates of urban madrasas (Tk. 7,760), rural private schools (Tk. 6,227), and finally the rural madrasas (Tk. 5,853). Statistically significant gender variation with a bias against the females in earnings was observed for all types of educational institutions. Needless to mention, graduates who went abroad for jobs earned more than those who stayed back.

Conclusions and Recommendations

A high degree of inequity exists in the secondary education sub-sector in Bangladesh. Inequity starts with unequal distribution of basic school facilities. All types of secondary educational institutions lack basic minimum requirements for quality education. The government and the urban private schools have better facilities (both infrastructure and educational) than the rural private schools and the madrasas in general. Facilities in the urban madrasas are better than their rural counterparts. Inequity in secondary provisions is reinforced by students' socioeconomic background, since students from poorer families attend schools with poor facilities. The other area of inequity is the curriculum. Students attending madrasas get lesser basic language and Mathematics skills than those under general stream. The above inequalities are clearly reflected in the learning achievements of students of various types of schools. The other dimensions of inequality are the urban-rural gap and the gender gap. As learning performance in secondary education has direct implications for future life, the above inequities persist throughout the life of the secondary graduates, affecting adversely their further education and employment opportunities.

Major messages from the study

There are a few major messages which emanate from the findings of the present study.

The first message is that there is inequality between the educational institutions depending on their management responsibility and location. Schools run by government are mostly in urban areas and are better endowed in respect of facilities, personnel and learning provisions. They are followed by urban private schools. The urban madrasas stand in the third position followed by rural private schools and rural madrasas. The hierarchy of quality among different types of institutions indicate that a small proportion of mostly urban institutions meet acceptable standards for educational provisions and facilities.

The second message is that a poorly implemented curriculum and other factors such as poor facilities and inadequate teacher training has led to poor learning outcomes as evidenced from the test conducted by *Education Watch*. Owing to the competition for entry into secondary education, the children of better-off families choose and manage to enter better schools, which lead to widening social inequity.

The third message is that there is a huge difference between general and madrasa streams in terms of what is taught. There is ample evidence to suggest that secondary level madrasa education is conducted on the basis of a poorly-constructed curriculum in the context of the current competency needs for the young generation. This has a legacy dating back to the days of British occupation but has never been seriously addressed. Faith based educational institutions are present in many countries but it is

the responsibility of the state to ensure uniform curricula and their implementation for all educational institutions. Lack of flow of information and expertise between BMEB and NCTB exacerbate the gap between the two streams.

The fourth message is that the girls who enrol in secondary education equally with the boys, quickly find it un-enabling to move with similar enthusiasm after grade VII. Although there is a special stipend programme to encourage girls, this might not be enough to learn equally well as the boys. Socioeconomic barriers like marriage and poverty pull them away from further education and job market.

The fifth message is that due to the prevailing hierarchy of quality among institutions, a very small portion of the secondary graduates receives the education that prepares them for the workplace or further education. The failure to equip the large majority of secondary students with basic knowledge and competencies for the world of work and further education, damage a better future to our younger generation.

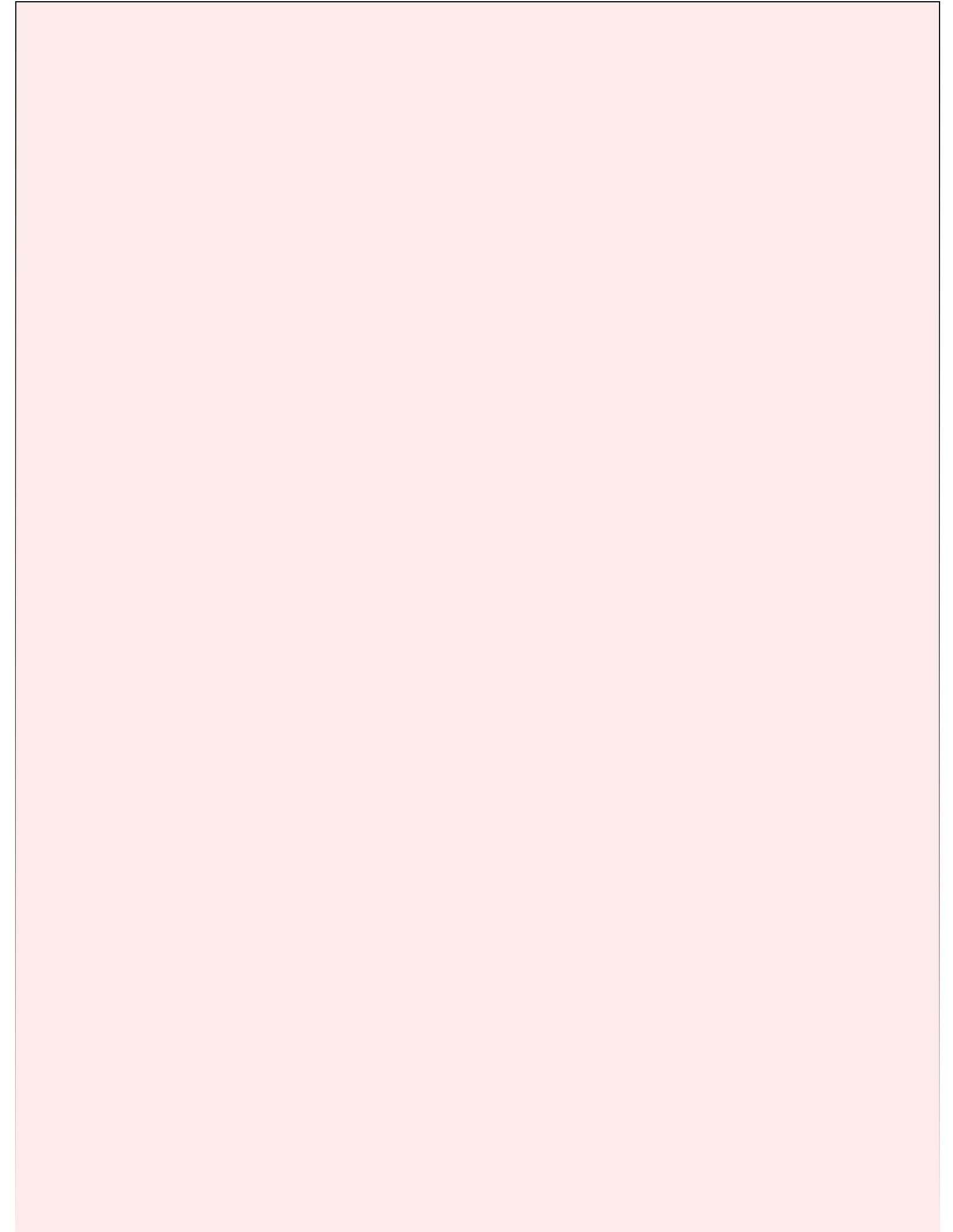
The sixth message is that education in Bangladesh has expanded greatly during the life of two subsequent generations- the present generation and their parents. Significantly positive correlation between the levels of education attained by the two generations indicates influence of the advantages enjoyed by parents carried over to their children.

Policy recommendations

The findings and conclusion of the *Education Watch 2007* study on the state of secondary education raise the following policy issues:

1. Evidence in this study has demonstrated major differences between different streams of secondary education, such as between rural and urban provision. This difference is also evident in the standards of educational provision, facilities and staffing amongst the different streams of secondary education. The resulting inequality of opportunities and its causes and consequences should, therefore, be recognized as a central policy concern. Educational inequity at the secondary level should become the focus of educational development strategies, plans and investments at the secondary level.
2. The development of a unified and common set of standards for learning provisions, teaching personnel and core curriculum content and objectives is a pressing issue for secondary education development. Concomitantly, enforcement mechanisms and a time-bound plan for facilities and provisions need to be set for all types of secondary institutions including government and private schools and madrasas from grades six to ten. This is an essential condition for, and the educationally and ethically defensible approach to, fulfilling the stated national goal of a unified curriculum for secondary education.

3. An appropriate common system of assessment, especially public examination at the end of the secondary stage, should be designed for all institutions. The design and planning should also include plans and investments for technical capacity building, standardization of tests, development of expected grade-wise competency levels for key subjects, and research and trial in learning assessment. This is a necessary condition for establishing meaningful equivalency among different streams and types of institutions.
4. Various studies have highlighted inequality and low level of access to secondary education in the appropriate age group, high drop-out and high levels of 'virtual exclusion' from learning of those nominally enrolled as key areas of concern in secondary educational development. Hence, these should be key considerations when designing and applying common standards, a unified curriculum and the assessment system.
5. The historical development of the parallel streams of madrasas and the general institutions need not be undone; however, policy questions critical to the rational development of secondary education remain. These questions particularly concern public funding of the different streams of education. No institution whatsoever should receive public funding if it does not conform to nationally decided curriculum and learning objectives.
6. A unified system would require equal investment for building curriculum experts in both NCTB and BMEB. It is costly, time consuming and may be undoable as well. BMEB could not build any curriculum expertise during last 30 years since its autonomous entity. A plausible solution is to develop expert in religious curriculum in NCTB. This will primarily be helpful in reducing gap between the streams and as well a meaningful arrangement for unification. A solution on a medium term could be a four groups approach, Under this, Humanities, Science, Business Studies, and Religious Studies would be taught in all educational institutions, whether it is school or madrasa.
7. Address gender related issues in teacher training and school management as well including conceptual clarity about gender and development, e.g., considering it as an issue related to both male and female students and teachers. Specific issues related to the adolescents and youths also need to be addressed with much emphasis.
8. A large proportion of the secondary graduates do go on to further education. Consequently secondary education is seen to be assuming the role of preparing students for higher education. However, what should be the strategy for the majority of students who do not graduate? In order to serve this group effectively, secondary education should change by placing more emphasis on preparation for the employment market. The issue of 'vocational education' is particularly relevant as we find that interest in and opportunities for overseas employment of secondary graduates is growing.

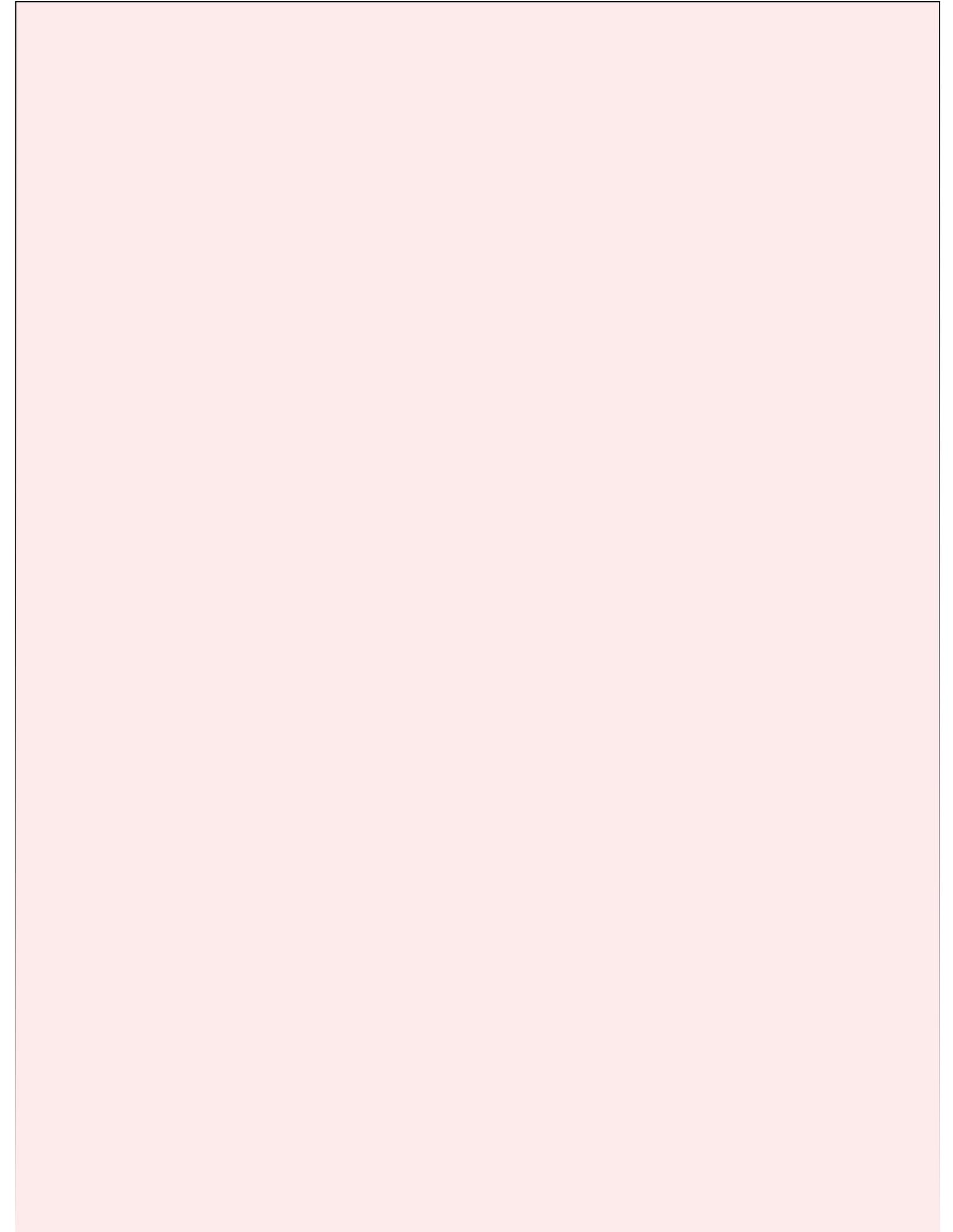


Chapter 1

Introduction

Secondary education bridges primary with tertiary education. Purpose of secondary education is to fulfill the demands of the world of work and to prepare quality students for tertiary education. Although the students start secondary education when they are children but as they proceed they become adolescents and hence primary stage of youth-hood. This is the importance of exploring secondary education in the perspective of youth development in the context of present demand regionally and globally. This introductory chapter provides the background of *Education Watch 2007* with the above perspective.





This chapter provides a background for the main theme of this study, i.e., secondary education. It is divided into six sections. The first section highlights the importance of youth development through education. This is followed by a discussion on the historical development of secondary education globally. Recent development of secondary education, especially its expansion as a result of national and international initiatives for primary education and increased aspiration of people has been discussed in a subsequent section. This chapter also presents the current situation of secondary education in Bangladesh particularly in terms of its various internal efficiency indicators. A brief on the *Education Watch* and organization of this report is placed afterwards.

A. Importance of education for youths

The education of children, adolescents and youths has been a major concern of the nations and the families throughout history. Great thinkers, philosophers and educationists throughout human history have highlighted the importance of education particularly of young people. For instance, in order to differentiate educated from non-educated persons the great philosopher and educator Aristotle said that it is as much as the living from the dead (cited in Haq and Haq 1998). Education of the youths also received significant attention as evident from Aristotle, “the policy makers should direct their attention to the education of youth” (Politics 8.1). Another philosopher Diogenes stated that “the foundation of every State is the education of its youth” (cited in Alvarez 2003). From classical economists to the recent thinkers of development all recognized education as a key to social and economic development (Smith 1776, Marshall 1890, Becker 1993, Sen *et al.* 1995). Despite of this secondary education has not been considered seriously by many countries.

The 2007 World Development Report focusing on the development of next generation emphasised education and skills training for the adolescents and youths. The report identified three major issues for them, viz., creating opportunities for primary and secondary education, increasing their capabilities and providing a second chance for those who have missed out (The World Bank 2006).

B. History and development of secondary education

Historically, secondary education was considered as preparatory to tertiary education in the developed countries. Development of this provision was done as per the need of the tertiary education, which itself was very much elitist in nature. Secondary education has been a long forgotten sector in the developing world (The World Bank 2005).

Expansion of secondary education took place in various different ways in different parts of the world. However, its evolution in Europe and the United States guided the patterns of curriculum development in other parts of the world (Holsinger and Cowell 2000). In Europe, secondary education (including tertiary education) was initially training in religion and philosophy, which would help prepare future social and religious leaders. The curriculum thus reflected this purpose. Empirical data, proofs and validation of knowledge were not used to study the contents. In other words, the process of study was theoretically driven rather than experimental or practical. Liberal arts were added later on. However, the whole system was to create an elitist group of men (not women!). The Enlightenment Period of the eighteenth century and the Industrial Revolution period of the late eighteenth and early nineteenth centuries put a new emphasis on a curriculum concentrated around science, technology and empirical studies. Vocational and technical education was also emphasised afterwards (Holsinger and Cowell 2000).

Private secondary education institutions existed in USA throughout the colonial period. The first public school was established in Boston in 1821. The curriculum of secondary education started to encompass more subjects and become more specific from the nineteenth century to the Second World War. Most governments started thinking of educating a broader segment of their secondary-school age population. John Dewey's influence from the two decades before the Second World War helped in making the curriculum more practical and socially purposeful. Courses on driving, family living, consumer economics, mathematics for everyday life appeared in the curriculum. Students got more freedom in subject choice. The launching of the satellite Sputnik by former Soviet Union in 1957 drove the Western World, especially USA to rethink their secondary curriculum. More specifically Sputnik helped accelerate the 'new curriculum movement' in 1960s and 1970s. To win the cold war through advancement of science and technology was a strong motivation behind this. One important characteristic of this movement was the change in teaching methodologies. Application of inductive teaching methodologies, as opposed to deductive, was associated with inquiry or discovery. Many innovations in curriculum and organization of schools occurred in the whole Western World (both USA and Europe). All these activities actually purported to increase both quantity and quality of knowledge and skills among the students and to meet the needs of more students (Holsinger and Cowell 2000, The World Bank 2005).

Secondary education in the developing world grew in the colonial era. The policy was to develop few individuals who would be helpful for the colonial rulers. The curriculum stressed only subjects which were needed to support the government. Language, arithmetic and accounting ability were the main focus of this. Education was limited to very few. During the post-colonial era, a number of countries attempted to improve their secondary education. Majority of them followed the curriculum developed in 1960s and 1970s at the time of 'new curriculum movement'.

In summary, the major development in secondary education has occurred during the past 60-70 years. It started mostly in the developed countries in the 1940's and in the developing countries in the 1970's with the major expansion in the latter taking place in the 1990's.

C. The present situation

The two global conferences on education were held in 1990 and 2000. The participants discussed and analyzed the situation of global education and came out with calls for democratization of education (WCEFA 1990, UNESCO 2000). The participating nations themselves took the initiative to achieve the goals and reach the targets. The international community came forward to support the national governments in this effort. Although the major emphasis of these international initiatives was to expand primary education with equity and quality including early childhood care and literacy, the issue of secondary education also came in. One of the six goals of the Dakar Framework of Action emphasised equal access of both boys and girls to secondary education by 2015 (UNESCO 2000). Later, the Millennium Development Goals (MDG) reiterated this (The World Bank 2000).

Demand and expansion of secondary education as we see today is the result of the democratization of education and globalization (The World Bank 2005). Owing to continuous international pressure on the national governments for compulsory and free primary education for all accompanied by financial support to them to achieve it, primary education has become universal or nearly universal in many countries (UIS 2005). Such an overflow of primary graduates created pressure on the national governments to expand the length of basic education. Whilst the massive expansion of primary education raised concerns of quality, the corollary has been a growing demand of individual and families for secondary education. At the same time, globalization demanded a knowledge-based and skilled young labour force. The national governments also realised that without preparing young people for global competitive market it would be hard for the individuals as well as the countries to keep a place for them in the world economy. Due to all these reasons secondary education is now increasingly moving into the spotlight through policy debate and analysis all over the world. The implementers of secondary education, however, are facing three challenges, that of increasing access; quality of education and ensuring the relevance of curriculum (The World Bank 2005).

Secondary education is not an independent education provision anywhere in the world. Primarily, it bridges the primary with tertiary education. Duration of both primary and secondary education varies from country to country (Benavot 2004). In most developed countries these together are considered as basic education. In some countries, primary plus a part of secondary (called junior secondary or post-primary) are known as basic education. Table 1.1 provides region-wise duration of secondary

education cycle. In most countries, it varies from five to seven years. It is to be noted that where the length of primary education is short, the length of secondary education is long and vice versa. However, the students mostly receive an equal length of education (11-12 years) before starting tertiary education.

The other importance of secondary education is its link with the world of work. Major work force was provided earlier by the primary education provisions, which gradually shifted to secondary education. For instance, in 1970, the average worker in the world had only three years of schooling, twenty years later it went

up to primary graduates, and now an average worker worldwide has some lower secondary school experiences (Londono and Stekey 1997, cited in Alvarez 2003). New challenges are coming up due to globalization and the structure of the economy, which demands redefining secondary education and reforming curriculum. Table 1.2 provides historical trends in the secondary curriculum in three different times. Classical issues have gradually been discarded from the curriculum but contents on mathematics and science, and comprehensive courses increased significantly. A static status of humanities subjects was also seen in the analysis. Vocational education already received much attention as an important secondary education provision in many countries.

Table 1.2
Distribution of curriculum programmes by type and time periods

Curricular programme type	Historical periods		
	1930s	1960s	1980s
Classical	37	16	9
Mathematics and science	21	28	31
Humanities	19	24	23
Comprehensive	23	32	37
Number of timetables	116	205	163

Source: Holsinger and Cowell (2000)

Table 1.1
Duration (in years) of secondary education cycle by region

Region	Minimum	Maximum	Mode
Africa	4	8	7
East Asia and the Pacific	4	8	6
Eastern Europe and Central Asia	5	9	7
Latin America and the Caribbean	4	7	5
Middle East and North Africa	6	8	6
South Asia	5	8	5
European Union and United States	5	8	6

Source: Benavot (2004).

Total number of students in the schools (both primary and secondary) was 907 million in 1990, which increased to 1.16 billion in 2002 – 673 million at primary and 492 million at secondary level. Of the total increase of students in school education two-thirds occurred in secondary education. Of the total number of students increased between 1990 and 2002, 171 million increased in secondary

education and 86 million in primary education. Although the increase in absolute number was more in Asia than other areas, the rate of increase was higher in Africa than Asia (Table 1.3).

Table 1.3
Absolute number of secondary students (in million) and annual rate of increase by year and region

Region	Absolute number of students				Annual change rate		
	1990	1995	1998	2002	90-95	95-98	98-02
World	321	385	432	492	3.7	3.9	3.4
Africa	24	30	35	42	4.5	5.2	5.3
North America	31	35	38	41	2.2	3.1	2.4
South America	21	30	37	43	7.4	7.8	3.8
East Asia	92	110	129	151	3.6	5.3	4.0
West Asia	89	108	118	137	3.9	3.0	4.0
Europe	63	69	71	73	1.9	1.1	0.5

Source: UNESCO Institute of Education (2005)

D. Secondary education in Bangladesh

Seven years of schooling bridges primary and tertiary education in Bangladesh¹. This period is divided into three stages: junior secondary (grades VI-VIII), secondary (grades IX-X) and higher secondary (grades XI-XII). These are respectively for children aged 11-13 years, 14-15 years and 16-18 years². Similar to primary level, the junior secondary level students are enrolled into two streams: general education and madrasa (Islamic) education. From grade IX students are divided into various streams and groups. For instance, three streams, viz., general, madrasa (Islamic) and vocational are in operation at this time. In the general stream, the students choose one of the three groups, viz., Humanities, Science or Business Studies. In madrasa stream, the students have four choices, viz., General, Science, Mujabbid (specialization in correctly reading Qur'an) and Hifjul Qur'an (memorization of Qur'an). There is no sub-division in vocational education stream. This means that students appear in their first public examination, which is held after 10 years of primary and secondary schooling through eight different groups.

¹ Duration of primary education is five years; children aged 6-10 years are eligible for this.

² It is often needed one more year for two public examinations (conducting exam and result publishing) at the end of later two stages.

Various types of educational institutions based on who manage them are in operation at secondary level. The number of institution also varies by type. For instance, there are 4,322 junior secondary, 317 government secondary, 13,861 non-government secondary, 638 combined school and colleges and 10 cadet colleges under general stream of secondary education. The madrasa education stream comprises of 6,685 Dakhil, 1,315 Alim, 1,039 Fazil and 175 Kamil madrasas³. There are 1,224 private and 41 public vocational institutions providing secondary education. Thus the numbers of educational institutions under various streams are as follows: 19,148 general, 9,215 madrasa and 1,265 vocational totalling 29,587 (BANBEIS 2006a).

In general, the medium of instruction under national curriculum is Bangla. However, a small number of institutions under general education stream follow English as medium of instruction and some have both. Besides, some English medium schools also operate in Bangladesh, who follow separate curriculum and prepare students for British General Certificate of Secondary Education (GCSE; former O-level) or Junior Cambridge examination. The concerned institution of the government, i.e., BANBEIS does not have any information on these schools. Not much information was also available on the cadet colleges either.

According to BANBEIS survey of 2005, there were 276,961 teachers and 2,839,130 students in the 24,331 educational institutions providing secondary education (grades IX-X) in the country (Table 1.4). Proportion of females was 10.2% among the teachers and 51% among the students. Private institutions had more female students compared to their public counterparts but they lagged behind in terms of female teachers. Vocational institutions recruited proportionately more female teachers than the other streams but they had less female students than others. On average, 98.5% of the secondary institutions were privately managed. Ninety-seven percent of both the teachers and the students of grades IX-X were in these educational institutions. Of the educational institutions, 57% provided general education, 38% madrasa and only 5% vocational. Proportion of students was 79.4% under general stream, 17.9% in madrasas and 2.7% in vocational schools.



³ Although Alim, Fazil and Kamil madrasas are higher level of institutions than Dakhil madrasas, all of them offer education from Ebtedayee level (equivalent to primary). Except three Kamil madrasas all other mardasas are privately managed.

Table 1.4
Number of educational institutions, teachers and students at secondary level (grades IX-X) by stream and management type, 2005

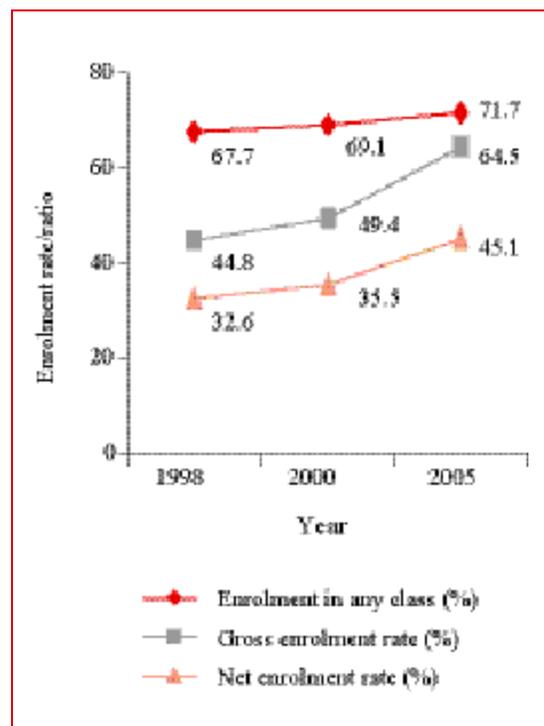
Streams/ management	Number of institutions	Number of teachers		Number of students	
		Total	Females (%)	Total	Girls (%)
Streams					
General	13,851	1,96,859	19,684 (10.0)	22,55,657	11,77,234 (52.2)
Madrasa	9,215	71,901	6,709 (9.3)	5,08,051	2,48,827 (49.0)
Vocational	1,265	8,201	1,964 (23.9)	75,422	21,437 (28.4)
Management					
Public	358	8,124	2,428 (29.9)	92,791	40,734 (43.9)
Private	23,973	2,68,837	25,929 (9.6)	27,46,339	14,06,764 (51.2)
Total	24,331	2,76,961	28,357 (10.2)	28,39,130	14,47,498 (51.0)

Note: Data on 10 cadet colleges were not available

Source: BANBEIS (2006). Bangladesh Educational Statistics 2006

Provision of secondary education has expanded in Bangladesh over time. The expansion occurred in terms of number of educational institutions, teachers and students in both general and madrasa streams. The number of secondary educational institutions increased 1.8 times and the number of students increased 2.25 times during last 15 years. Whereas, the proportion of girls in the general stream schools was about a third in 1990, they have outnumbered the boys in recent past (BANBEIS 2006a). Girls' enrolment in the madrasas also increased in nearly the same pace during this period. Using various methods of calculation, the sixth *Education Watch* reported that the enrolment of children in the secondary educational institutions was increasing (Ahmed *et al.* 2006). The rate of increase was two percentage points per year in terms of net enrolment rate and three percentage points per year in gross enrolment ratio (Figure 1.1).

Figure 1.1
Trends in secondary (grades VI-X) enrolment in Bangladesh, 1998-2005



Source: Education Watch report 2005, CAMPE

The Ministry of Education has taken a number of initiatives to improve secondary education system in the country. The major initiatives underway or completed recently include the following:

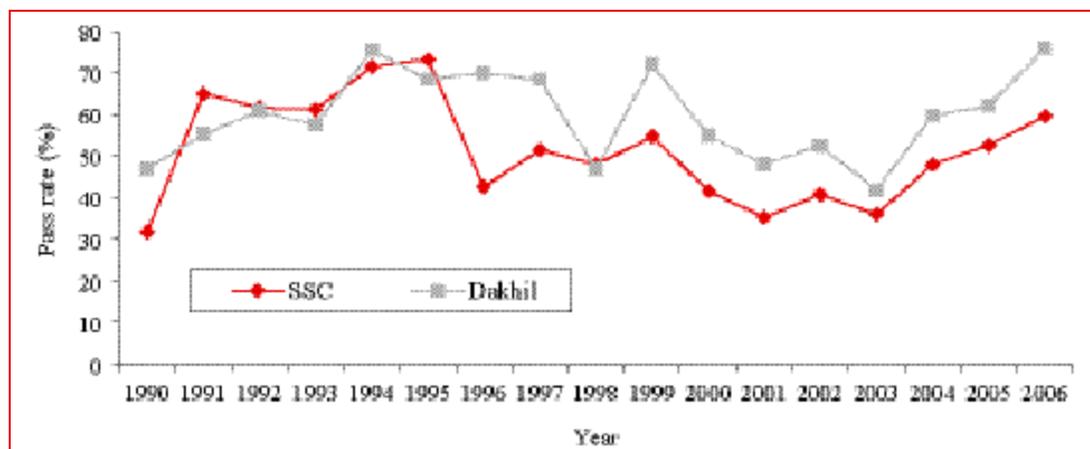
- Secondary Education Sector Improvement Project (SESIP)
- Teaching Quality Improvement (TQI) Project in Secondary Education
- Monitoring schools at the local level and public disclosure of information
- Strengthening use of information for monitoring of performance and decision making
- Coordination of teacher training and registration and accreditation of teachers
- Enforcement of criteria of registration of schools

A short description of each of these is available in the sixth *Education Watch* report (Ahmed *et al.* 2006).

The first public examination held at the end of secondary education is known as Secondary School Certificate (SSC) in general stream and Dakhil in madrasa stream. The number of students appeared in the SSC examination increased 1.8 times from 1990 to 2006. Of the 784,815 SSC examinees in 2006, 43.8% studied Humanities, 25.7% Science, and 30.4% Business Studies. During the same period, the number of dakhil examinee increased 3.5 folds- 46,584 in 1990 to 161,999 in 2006 (BANBEIS 2006). Pass rates in these examinations from 1990-2006 are provided in Figures 1.2 and 1.3. Following observations can be made from these figures.

- A trend was found of pass rates increasing of both the streams from 1990-1994, which then started to decline until 1998 (Figure 1.2). The rates again increased in 1999 and started to decline next year, which continued up to 2003. Thereafter, pass rates were found to be increasing again.

Figure 1.2
Pass rates in SSC and Dakhil examinations in various years

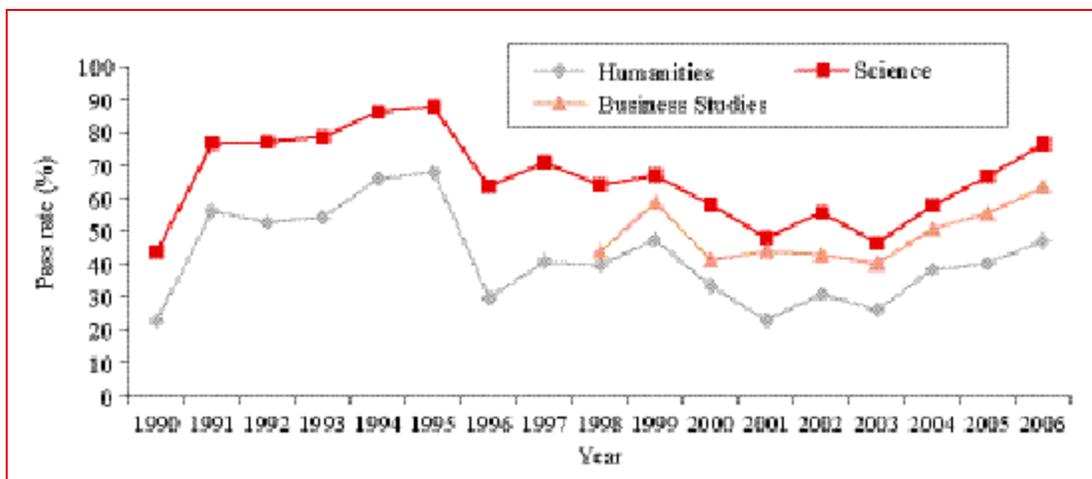


Source: BANBEIS (2006). *Bangladesh Education Statistics 2006*, pages 87, 95

- Pass rate in both the streams was closer to each other only in four years during last 17 years. The Dakhil examinees had higher pass rate than their SSC counterparts in all other years (Figure 1.2).
- Of the three groups of students under general stream (SSC), the pass rates of the Science students were always highest, Humanities lowest and the Business Studies group somewhere in between (Figure 1.3).

Figure 1.3

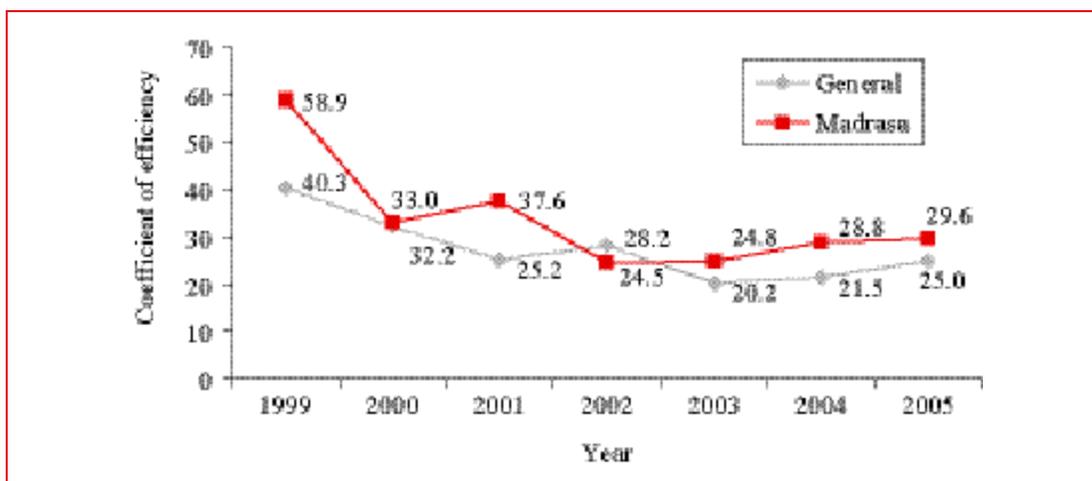
Pass rates among various groups of students in SSC examination by year



Source: BANBEIS (2006). Bangladesh Education Statistics 2006, page 88

Figure 1.4

Coefficient of efficiency in general and madrasa streams by year



Source: BANBEIS (2006). Bangladesh Education Statistics 2006, pages 29, 53

Considering promotion, repletion and dropout rates at various grades of secondary education BANBEIS observed that the internal efficiency of secondary schools and the madrasas gradually declined from 1999 to 2003 (Figure 1.4). A slight increasing trend was observed afterwards. In 2005, the coefficient of efficiency was found 25% for general stream and 29.6% for madrasa stream (BANBEIS 2006a). Another independent study, however, found these figures as 26% and 24.1% (Nath 2006a). The coefficient of efficiency was 20.8% for girls and 32.6% for boys under general stream, and 15.9% for girls and 34.7% for boys under madrasa stream.

Although various types of institutions provide secondary education in Bangladesh, three types could be considered as important in terms of their performance in the public examination; coverage of student population and type of education they provide. These are government school, private school and Dakhil madrasa. Any of the above characteristics signifies each of them. Quality of educational institutions in general is assessed through some indicators like basic infrastructure, teaching learning facilities, teachers' level of education and training. A situational analysis was done of

Table 1.5
Situation of three major providers of secondary education in Bangladesh

Indicators	School type		
	Government school	Private school	Dakhil madrasa
Average number of classrooms in each institution	13.4	10.2	9.5
% of institutions with school building in good condition	90.0	67.5	34.6
% of institutions with electric light and fan in classrooms	88.3	34.6	9.8
% of institutions having tube well	96.7	93.4	86.4
% of institutions having hygienic toilet facility	54.6	26.1	21.6
% of institutions with furnished science laboratory	70.6	32.6	6.5
% of institutions having library with reading facilities	56.7	20.9	5.9
% of institutions having computer education facility	63.3	52.1	24.2
Mean number of co-curricular activities in each institution	8.4	7.0	5.3
Mean number of teachers per institution	18.1	15.3	14.3
Mean years of schooling of the teachers	14.9	14.1	14.0
% of teachers having at least bachelors level training	77.8	59.1	19.7
Student-teacher ratio (number of students per teacher)	37	34	24
Student attendance rate (%)	64.8	50.0	47.7
Coefficient of efficiency (%)	60.6	23.0	40.6

Source: Ahmed M, Nath SR, Hossain A and Kalam MA (2006). *The state of secondary education, progress and challenges*. Education Watch 2005. Dhaka: Campaign for Popular Education.

these three types of educational institutions based on the data available from *Education Watch 2005* (Table 1.5). It shows that a favourable physical condition for quality of education is available in the government schools followed by private schools and the madrasas. This can be seen primarily in terms of number of classrooms, quality of school structure, electricity availability, drinking water facility and hygienic toilet facility. The government schools were also found ahead of the other two in terms of learning facilities like science laboratory, library, computer education and co-curricular activities. The private schools and the madrasas lagged behind. In terms of average number of teachers, teachers' educational qualifications and training received, the government schools were also ahead, followed by private schools and the madrasas. Similar results were found in student teacher ratio and students attendance rate. The only exception was found in the measure of coefficient of efficiency. The government schools were found more efficient than the other two but the madrasas surpassed the private schools. This may have happened due to higher pass rate in the Dakhil examination compared to that of SSC in private schools. We did not consider the combined school and college type of private schools in this analysis because of their smaller number. However, note that in some indicators their performance is better than the government schools (Ahmed *et al.* 2006).

E. Ten years of the *Education Watch*

Education Watch was set up in 1998 by a group of like-minded organizations and individuals concerned with basic education in Bangladesh. The *Watch* aimed to monitor the provisions of education through field based surveys and research. Additional aims were to disseminate the findings for awareness-building purposes amongst the wider public; promote people's participation in education; policy dialogue and policy influence. The Campaign for Popular Education (CAMPE), a forum of over 1000 non-governmental organizations in the country, serves as the secretariat for *Education Watch*. All works are done through a group of about 50 persons called *Education Watch Group* divided into three bodies, viz., Advisory Board, Working Group and Technical Team.

A variety of issues were taken up for research and analysis since its inception. The first report came out in 1999. The first five reports were on primary education and literacy situation of the country. The *Watch* then moved to secondary education. The last report came out in 2007 on financing of primary and secondary education. Year-wise titles of the reports and issues explored are provided in Table 1.6.

Till date, large-scale national surveys are the basis for the *Education Watch* reports. The surveys include household survey, educational institution survey and competency testing of the students. Besides, qualitative research techniques such as classroom observation, focus group discussion, in-depth interview, etc. were also utilised. Along with national estimate, major analysis includes providing estimates by division, school type, urban-rural and gender. Providing policy recommendations is an integral part of each *Education Watch* report.

Table 1.6
Titles of previous Education Watch reports and main issues addressed

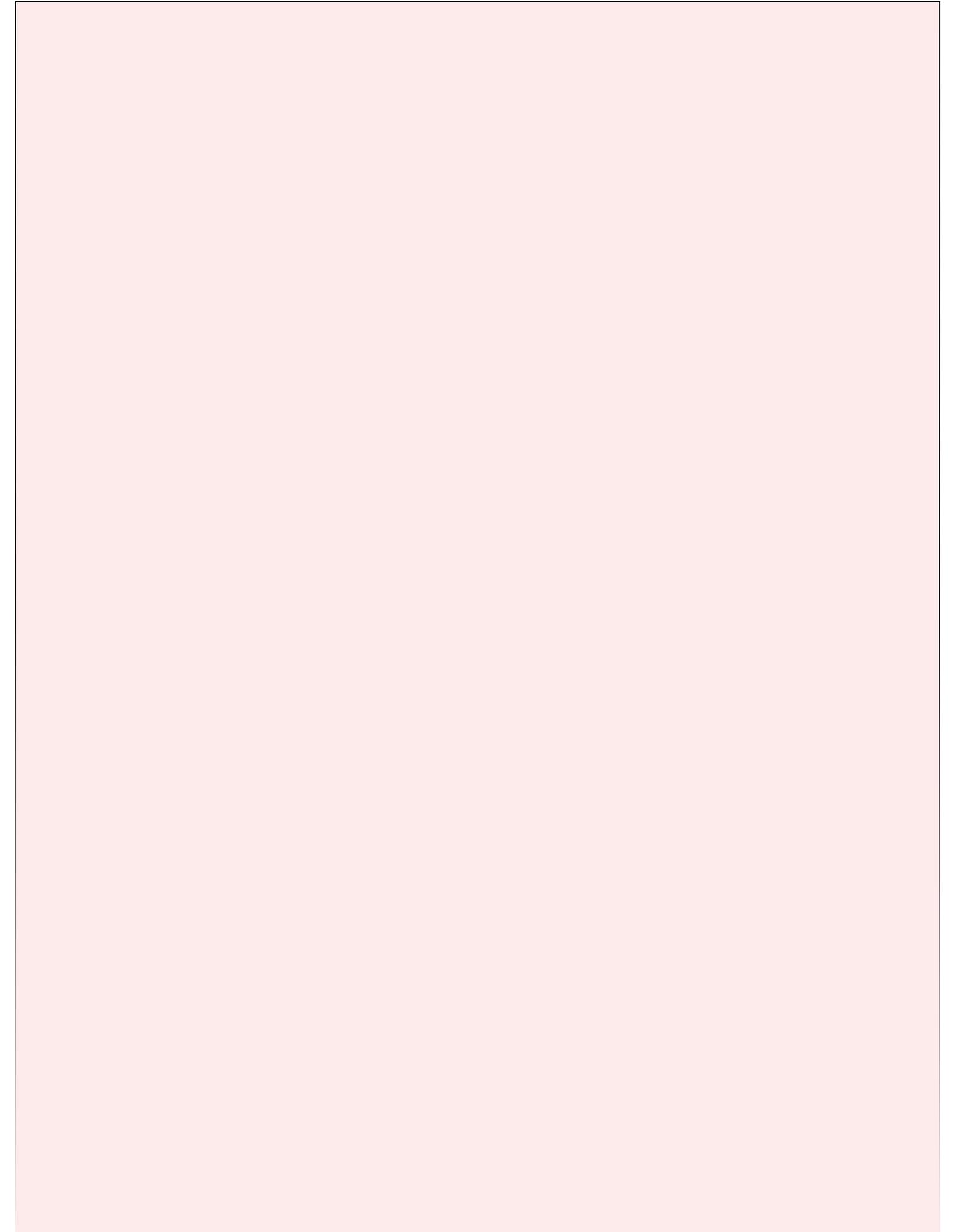
Year	Report title	Issues addressed
1999	Hope not complacency: state of primary education in Bangladesh	<ul style="list-style-type: none"> • Internal efficiency • Level of basic competencies achievement
2000	A question of quality: state of primary education in Bangladesh	<ul style="list-style-type: none"> • Competency-based learning achievement • Teacher education
2001	Renewed hope daunting challenges: state of primary education in Bangladesh	<ul style="list-style-type: none"> • Internal efficiency • Private expenditure of education • School budgets • Literacy status
2002	Literacy in Bangladesh: need for a new vision	<ul style="list-style-type: none"> • Exploration of literacy levels of the population
2003-4	Quality with equity: the primary education agenda	<ul style="list-style-type: none"> • In-depth probe of participation, equity and quality in primary education
2005	The state of secondary education: progress and challenges	<ul style="list-style-type: none"> • Internal efficiency • Financing • Management
2006	Financing primary and secondary education in Bangladesh	<ul style="list-style-type: none"> • State level financing in education • Private expenditure for education

F. Organization of the present report

This report is divided into eight chapters. Following the overview, which appears out the beginning, this first chapter provides international perspective of secondary education and the situation of secondary education in Bangladesh. A background towards understanding this year's *Watch* is provided in this chapter. Chapter 2 gives details of objectives, methodologies and research techniques used in this study including strengths and limitations.

Chapter 3 provides origin and development of secondary education in Bangladesh and evolution of secondary curriculum including present status. Using various techniques, Chapter 4 presents a comparative analysis of learning achievement of madrasa and general stream students of grade X. Correlates of learning achievement with students' background characteristics are provided in Chapter 5. Individual and household level and some educational characteristics are considered for this. Chapter 6 provides opinion of the students, teachers and head teachers regarding curriculum implementation at institution level. Chapter 7 is concerned with two issues of the secondary graduates of 1997; these are: further education and employment opportunities. Salient findings on the issues related to the chapters are presented at the end of each chapter.

Chapter 8 is the final chapter. This chapter discusses the findings presented in the previous chapters in order to find linkages among them. Findings of other studies and related policy issues are also brought into consideration in the discussion. Conclusions based on the findings of this *Watch* and related policy recommendations are made at the end of this chapter. Annexes present tables that are considered relevant but are not included in the main text as well the instruments used and methodological notes.

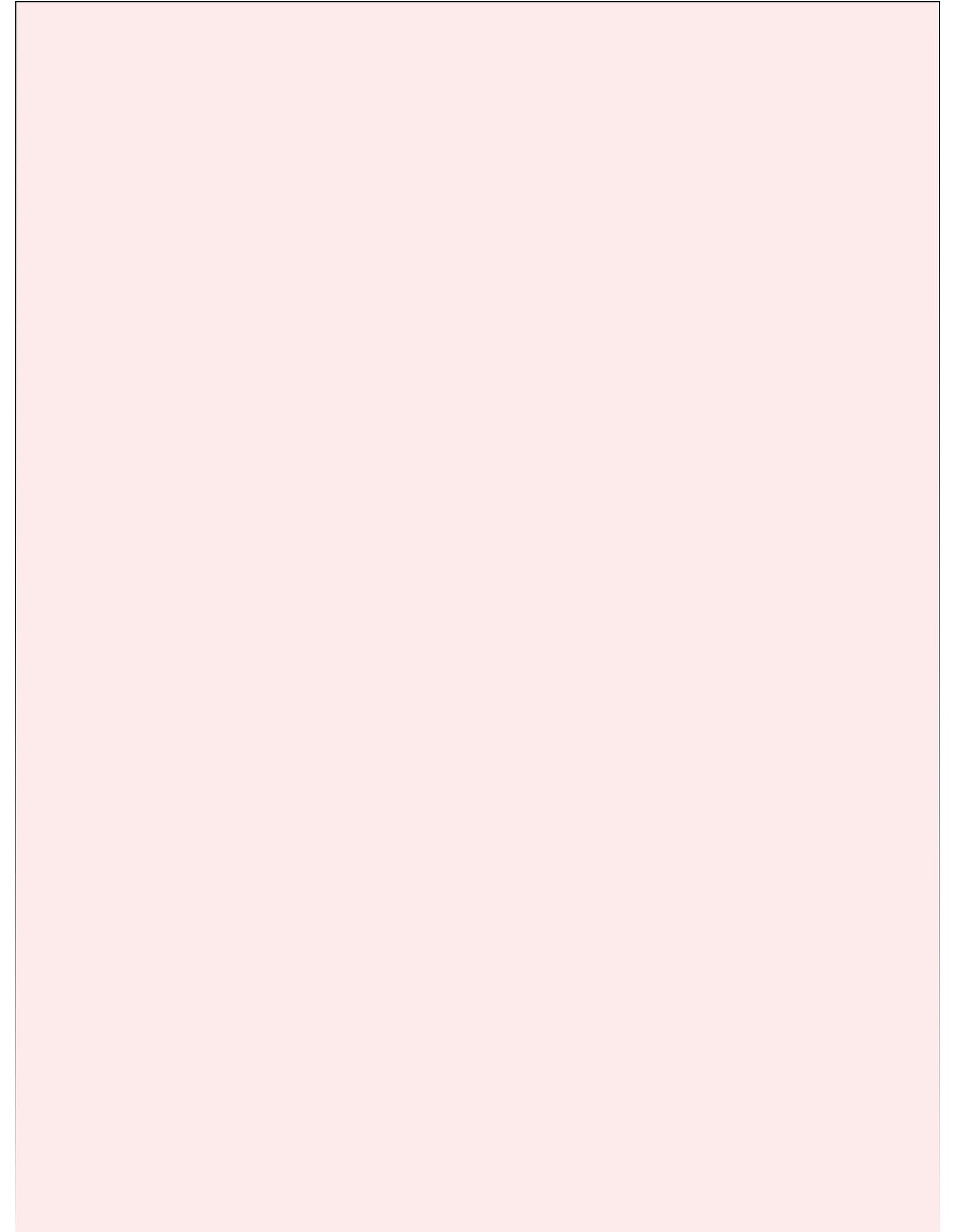


Chapter 2

Methodology and Research Design

Objectives, methodology and research design are the main issues of this chapter. Curriculum, learning achievement and further education and employment opportunities are three areas considered for exploration in this study. Data were collected from current students, secondary graduates of ten years back, head of educational institutions, and other teachers. Instruments development, investigation procedures and major concerns regarding comparability of general and madrasa streams are explained in detail. Reliability and validity including strengths and weaknesses are also pointed out.





This chapter describes the methodology followed in doing the research, which includes objectives of the study, instruments and their development procedures, research methods used, sampling strategy, analysis techniques, field operations, validity and reliability of information, and strengths and limitations of the study.

A. Objectives

Studies previously done on secondary education by the *Education Watch* have covered a number of issues related to access, efficiency, equity, and financing. These studies covered institutions under both general and madrasa streams. However, there was a dearth of some vital information about the streams necessary for policy making, especially from comparative perspective. Questions related to *equivalence in curriculum* between the two streams and the *quality of graduates* produced through them is often raised. Secondary graduates' continuation of education and opportunity in employment market are two such issues needing further investigation. Such a lack of information result in poor and/or inadequate planning for future human resource development and also gives rise to misgivings about the streams. It was thus suggested in a joint meeting of the Advisory Board and the Working Committee of the *Education Watch* to concentrate on the following issues.

1. Conducting a comparative analysis of the origin, development and curriculum of general and madrasa streams from a historical perspective.
2. Testing the attainment of learning objectives by graduates of both the streams and identifying factors affecting students' achievement levels.
3. Exploring the upward movement of students to higher level of education and employment status of secondary graduates and the correlates of academic progress and employment.

Unlike the previous studies, we considered only the curriculum of grades IX and X for review, administered test on the students of grade X and traced only a single cohort of those passed SSC/Dahil. Thus, the study concentrated only on the secondary level, not the junior secondary or higher secondary levels.

B. Methods

In order to achieve the first objective, a review of existing curriculum (grades IX-X) of both general and madrasa streams including the history of curriculum development was done. It was primarily desk work which also comprised interviews of curriculum experts. A three-day workshop was arranged with 12 teachers from both schools and the madrasas and eight experts. They scanned the textbooks and syllabuses used in both the streams and came out with a comparative scenario. A select number of heads, teachers and the students of the secondary educational institutions under the two streams were interviewed to get their views on how the syllabuses were implemented

in the classrooms. Opinions of the national level experts were also sought on this issue. In addition, the comparative analysis of secondary curriculum utilised a number of secondary sources like Education Commission reports, documents describing historical process of the evolution of the secondary curriculum of the country, secondary curriculum of both the streams, and a number of discussion meeting with the *Education Watch* Advisory Board, Working Group and Technical Team.

A single test instrument suitable for the students of grade X in general and madrasa streams was developed to achieve the second objective of the research. However, it was not an easy task. This was firstly because unlike the primary level there is no set of competencies for this level of education. We designed the test by working with the stated learning objectives. The learning objectives for both the streams were mostly the same. A second problem arose with regards to establishing the commonalities in the syllabus of the streams (for the particular year 2007). The syllabus for the SSC and the Dakhil examinations were not the same; only a few sections of the textbooks were found to overlap. Three types of individual's, viz., the teachers of schools and madrasas, the research team members and the national experts, worked in the development of the test instrument (Annex 2.1).

After elaborate discussions, the teachers and the experts decided to construct the test instrument based on the overlapping topics of the two syllabuses. The teachers first developed four sets of items for four different subjects, viz., Bangla, English, Mathematics, and Everyday Science. A team of experts reviewed the sets and reconstructed some items, and finally selected 172 items for field test - 48 in Bangla, 45 in English, 40 in Mathematics and 39 in Everyday Science. These were then taken to four schools and four madrasas where these were administered on approximately 200 students. Analysis of field test data showed very poor performance of the students. On some items the students did so poorly that there was no reason to keep them in the final instrument.

The team of experts, who are also the members of the *Education Watch* Technical Team, reviewed the overall situation of the test development process and felt the need of doing more work on this. On discussion of the items set in the instrument and the field trial results, the experts thought that instead of focusing on the common contents in the syllabus of the two streams, the instrument should be based on the common learning objectives. This was a major shift, which actually enhanced the scope for the item developers and placed the instrument on a broader platform. In this case the test developers based on the learning objectives set for secondary level (grades IX-X) by the National Curriculum Coordination Committee (NCCC) (NCTB 1995). The experts divided themselves into four groups depending on their expertise in the subject areas and developed new instruments. They kept some of the items from the old instrument in the new one and developed a good number of new items as well. Two workshops were held with these new items where the experts discussed all the items one by one

and finally came out with another draft test instrument for field trial. This newly constructed draft test instrument had 128 items – 30 in Bangla, 29 in English, 40 in Mathematics, and 29 in Everyday Science.

The field trial with this new test instrument was held in seven ‘good’ educational institutions (based on SSC and Dakhil examinations) – three madrasas and four schools⁴. Through this process we considered these schools as standard and hence the instrument we prepared was a pseudo criterion referenced test. A total of 253 students took the test – 104 from the madrasas and 149 from the schools. Only 54 of them could be brought under re-test for item reliability assessment. The re-test was conducted after 10 days of the test.

It was decided in the workshops to keep the test instrument as short as possible. A set of 20 question items under each of the subject areas was thought to be good enough for the final test, totalling 80 items in the instrument. To choose the most reliable items, two techniques were used: Cohen’s *Kappa* statistic and relationship between total score and individual item. Finally, reliability of the whole test was also assessed. Cohen’s *Kappa* statistic is a measure of the degree of non-random agreement between observations of the same test (Last 1988). In other words, it is a measure of the agreement between the evaluations of two rates when both are rating the same object.

Only the observations of the first test were considered to see the relationship between total score and individual items. It was done separately for each of the subjects. Most of the questions in the test are multiple choice types. They were easily recoded as dichotomous variables (correct = 1; incorrect = 0). Only four questions were assessed on a continuous scale. However, they were also recoded as dichotomous variables for practical purpose (Each of them contain five marks, score 3-5=1, 0-2=0). Subject-wise total score was calculated by adding all the recoded items. Point biserial correlation⁵ was considered suitable between a continuous variable (total score) and a dichotomous variable (each item). Thus, in order to see the relationship of each of the items with the total score point biserial correlation coefficients were calculated for each of the 128 items. In addition, Pearson correlation⁶ coefficients were also calculated for the continuously assessed items.

⁴ The educational institutions are as follows: Government Laboratory High School; Udayan Higher Secondary School; Azimpur Girls School and College; Engineering University Higher Secondary School; Darunnajat Siddiqia Kamil Madrasa; Naratola AUN Kamil Madrasa; and Mohakhali Darul Ulum Hossainia Kamil Madrasa.

⁵ Point biserial correlation provides a measure of relationship between a continuous variable and a dichotomous variable (Ferguson and Takane, 1989)

⁶ Pearson correlation provides a measure of relationship between two continuous variables.

Items having smaller *Kappa* values (including 0 and negative) were excluded first. Here smaller means the level of significant more than one in hundred ($p < 0.01$). Secondly, the items poorly correlated with the total score (point biserial correlation coefficient below than 0.25) were excluded. Twenty items with higher correlation coefficients were selected from each subject area from the rest of the items. It should be mentioned that the above criteria were not followed in selecting a particular item in Bangla. There were three items asking the pupils to write paragraphs on three different issues. We wanted to select any one of these items. Thus, a better one (of these three, in terms of criteria applied) was selected, which might not be better than few unselected items of MCQ type. The final set of test instrument constructed following the above criteria is provided in Annex 2.2.

A separate questionnaire was developed for investigating the highest level of education obtained and employment status of the secondary graduates. The questionnaire contained three major sections, viz., further education, employment opportunities including income and marital situation. The research team members together prepared a draft instrument which was then sent for field test. SSC/Dakhil graduates of 10 years back taking from four rural and urban educational institutions were the subjects for field test. A revision of the draft was made based on the experiences of the field test. This helped us to understand the situation better, add a good number of new questions and identify possible answers for pre-coding purposes. This second draft was sent again to the graduates of two rural and two urban educational institutions with the similar purpose. Other instruments used in this study were also developed in the similar manner with the respective type of respondents, and finalised. Experiences gained in previous *Education Watch* studies were utilized in developing and finalizing the instruments.

C. The instruments

Five instruments, each containing a number of sections, were used for *Education Watch 2007*. These are:

1. Learning achievement test instrument,
2. Questionnaire for students' profile,
3. Checklist for head teachers' interview,
4. Checklist for teachers' interview, and
5. Questionnaire for tracing former secondary graduates.

Learning achievement test instrument: It contained 80 items equally distributed in four subject areas viz., Bangla, English, Mathematics and Everyday Science. Most of the items were multiple choice questions (MCQ) type (Annex 2.2).

Questionnaire for students' profile: This questionnaire had four sections containing information on educational activities, school, socioeconomic information, and performance in school examinations (Annex 2.3).

Checklist for head teachers' interview: This contained issues related to curriculum, textbooks and their implementation at the classroom level. Teachers' responsiveness related to curriculum implementation was also placed in this checklist (Annex 2.4).

Checklist for teachers' interview: This mainly deals with the teachers' views about the curriculum and their ways of implementing it at the classroom level. Issues related to students' quality were also kept in this checklist (Annex 2.5).

Questionnaire for tracing former secondary graduates: The first section of this questionnaire was on some basic information related to the graduates demography and performance in the SSC/Dakhil examination. Another section collected some background information. The two important sections were education after secondary graduation and employment history (Annex 2.6).

D. Study population

It was decided in the *Education Watch* group meeting to measure the learning achievement of the students currently studying in grade X and trace those who completed secondary education (secondary graduates) 10 years back. Thus, all students of grade X in 2007 of both general and madrasa streams were the population for learning achievement test part of the study and all secondary graduates (SSC and Dakhil) of 1997 for the tracer part.

It was decided to consider five types of secondary schools for the study. These included three under general stream (government, private, and school-cum-college) and the other two from the madrasa stream (Dakhil and Alim)⁷. The English medium schools, cadet colleges, and the vocational educational institutions were out of purview of this study because of smaller number of students benefiting from these. Inclusion of them would not affect much in the national estimates and again provision of separate estimates on them has direct implication on the cost of the study.

The five types of schools considered were divided into three categories, viz., government schools, private schools (including the school-cum-colleges), and the madrasas (Dakhil and Alim together). The private and madrasa categories were divided by location (urban and rural). As only a few of the government schools were in rural areas they were kept in one group. Thus, total number of strata considered for this study was five. These are:

⁷ These five types of educational institutions collectively intakes 98% of all students studying in grade X.

- Government school,
- Urban private school,
- Rural private school,
- Urban madrasa, and
- Rural madrasa.

Stratum-wise list of schools and number of students available with the Bangladesh Bureau of Educational Information and Statistics (BANBEIS) for 2005 were used as sampling frame for this study.

E. Sampling strategy

The sampling strategy adopted for this study allowed having separate estimates for the five above mentioned strata. Thirty educational institutions from each stratum totalling 150 were selected randomly from the BANBEIS list. From each selected institution, 20 students currently studying in grade X and 20 secondary graduates of 1997 (passed SSC or Dakhil), equally distributed by sex were selected. Thus, the overall sample size for each of the cases (test and tracer) was (150x20=) 3,000, equally distributed by sex.

However, the preceding sampling plan was difficult to implement. There were inadequate numbers of students available for sampling in both pools of current students and graduates. The problem was more with the secondary graduates to be traced after 10 years of graduation. Such problem was less among those graduated from the government and the urban private schools but serious in most of the selected madrasas and nearly half of the rural private schools.

In each selected educational institution, the test administrators first prepared a list of students who were present in the classrooms on the test day. The list contained students from all the sections of grade X. Simple random sampling technique was followed in selecting the given number of students using the Fishers' Random Number Table. In the cases where there was not enough number of students or graduates in the selected educational institutions, we moved to the nearest schools or madrasas. For this, instead of 150 educational

Table 2.1
Sample selected for achievement test

School type	Number of institution	Number of students		
		Girls	Boys	Both
Government	30	375	239	614
Urban private	31	348	252	600
Rural private	33	349	259	608
Urban madrasa	50	305	295	600
Rural madrasa	48	287	305	592
All	192	1,664	1,350	3,014

institutions we had to select students from 192 for achievement test and in 246 for tracing the graduates. This means that in many cases there was no scope of sampling due to lesser number of students than required in the classes. It was also not possible to maintain equality of students by gender. Total number of students interviewed under achievement test was 3,014 (girls 1,664 and boys 1,350) and for the tracer study 2,887 secondary graduates (females 1,158 and males 1,729). Distribution of sample by type of educational institution and gender is provided in Tables 2.1 and 2.2.

Table 2.2
Sample for the tracer study

School type	Number of institution	Number of graduates		
		Females	Males	Both
Government	28	374	233	607
Urban private	30	248	276	524
Rural private	42	261	349	610
Urban madrasa	71	112	444	556
Rural madrasa	75	161	427	590
All	246	1,158	1,729	2,887

In addition, all the heads of the 150 educational institutions and 10 teachers from each of these institutions were attempted to interview. All of them could not be reached; 148 heads of the institutions and 1,478 teachers could be brought under interview.

F. Weighting

Since the number of students of grade X in 2007 and the number of secondary graduates of 1997 varied substantially among various types of educational institutions and by gender, weights were used in pooling estimates for different types of educational institutions as well as for national estimates. Weights were calculated following standard statistical procedures, using data gathered from BANBEIS and in *Education Watch 2005*. The weights against various strata are provided in Annex 2.7.

G. Field investigators and their training

Sixty persons were recruited primarily for field data collection. Most of them had masters degree and some bachelors. They had previous experience in field data collection for educational or other social science research works. A good number of them had also worked in previous *Education Watch* studies. All of them went through a week-long rigorous training course. The training included classroom discussion on procedures for administering the instruments, role playing and field practice of procedures, and re-discussion of procedures for instruments after field visit. The research team members and educational researchers from the Research and Evaluation Division (RED) of BRAC conducted the training sessions. At the end of training, 53 of these trainees demonstrated capacities to undertake the main tasks of fieldwork and were employed for these purposes.

H. Field operation

There were 21 teams of field investigators, with two in each team. Seven of the more experienced members were made supervisors and the remaining four were kept as standby for substituting and absenteeism due to sickness and other emergencies. Each supervisor was given responsibility of three teams. A three-stage supervision mechanism was adopted for maintaining quality fieldwork. A team of five senior researchers/research managers from the Research and Evaluation Division (RED) of BRAC provided random visits to the field spots (here schools or madrasas) during the whole period of fieldwork. Above all, the research team members and the *Education Watch* group members also visited some of the randomly picked spots to monitor the quality of fieldwork.

Each team of field investigators were given responsibility of 7 to 8 educational institutions. The teams spent six days in each school or madrasa to collect the required data. Works in each field spot started with collecting school information. In each spot the investigators independently prepared plan for their activities according to the situation of the respective school or madrasa. For instance, after introducing themselves and gathering some basic information about the school or madrasa they took the test of the students if it was suitable for them to do so. If not, the other tasks were done first. The head teacher and the other teachers were interviewed according to their availability during the team's stay in the spot.

Data were collected from a number of sources and in various places. School related information was provided by the heads, sometimes taking help from their colleagues. Some information were collected from the school/madrasa records. Head teachers and the assistant teachers were interviewed in the schools or the madrasas, so were the students. The secondary graduates were interviewed in their respective homes.

Visits of the supervisors were random. They spent two days when they went to a spot. They observed some of the interviews and student tests, revisited the interviewees to check the veracity of information. Such functions were also done by the senior researchers' team of RED and the *Education Watch* group members. The fieldwork was done during April-May 2007.

I. Assessing test scripts and coding other data

Major part of the achievement test instrument was of MCQ type and thus did not require assessment or coding. But a small section in Bangla and English had to be assessed, as they were open ended and therefore needed coding. A team of five from among the best field investigators were engaged in coding. The coded data were then entered into computers. Few open ended questions of the other instruments were needed to bring under coding process.

J. Reliability and validity

Reliability: The reliability of the individual item is reflected in the *Kappa* value (Last 1988). As we selected only those items which had higher *Kappa* values with $p < 0.01$, the item selection process ensured the reliability of each of the items in the final test. Reliability coefficients of various parts of the instrument showed that each part of the instrument was satisfactorily reliable with values exceeding 0.75. Again, combining all four skills the reliability coefficient (*Cronbach Alpha*; Cronbach 1951) of the whole test was found 0.95. The reliability coefficient was 0.97 for the schools and 0.92 for the madrasas. It should be mentioned that the value of the reliability coefficients improved for Bangla and Everyday Science and remained unchanged for English and Mathematics when the poorer items were excluded in the final test.

Reliability of the national data set was also tested through *Cronbach Alpha* statistic (Cronbach 1951). The reliability coefficient for the whole data set was found to be 0.85; separately 0.84 for the girls and 0.85 for the boys. School-type wise calculation shows that the test data of the government schools was 90% reliable and for others between 81% and 86%. All these information confirmed that the data used in this study was reliable.

Validity: For achievement tests, a primary criterion for ascertaining validity is the match of questions with the prescribed curriculum and instructional goals – referred to as content validity. This is established through expert review during and after test design. The primary basis of the test items was the learning objectives of secondary education set by the National Curriculum Coordination Committee (NCCC) and the syllabus for the secondary school certificate and Dakhil examinations. Thus, the instrument was validated with respect to the aims and objectives of the secondary education in Bangladesh and the way these are reflected in the textbooks. A group of practitioners (teachers) who work in different schools and the madrasas developed the preliminary set of items. These teachers were aware of the overall aims and objectives of secondary education as well as the examination syllabus. They had practical experiences of classrooms. Involvement of teachers facilitated development of a practical instrument. A team of national experts with long experience in curriculum development, textbook preparation and research examined the draft items in light of the learning objectives. They reconstructed some items and also developed a good number of items. This process of question development and validation improved the item pools from which subject area tests were assembled.

During test development we piloted the test with students of eight ‘best’ educational institutions of Dhaka city. Performance of these students was much better than that of the average performance at the national level. In addition, during national survey we collected the sampled students’ performance in the annual examination of grade IX. A

moderate correlation coefficient ($r=0.58$; $p<0.001$) between students' performance in the annual examination at grade IX and number of correct items in the test was found. Both of these procedures confirm convergent and content validity of the test.

K. Strengths and limitations

Like any other survey based research and testing this study has both strengths as well as limitations. Following paragraphs present the strengths and limitations of this study.

A common concern regarding studies like this is the comparability of various study groups (strata) considered. In this study comparability of the general and madrasa streams in terms of the issues considered (curriculum, learning achievement, further education and employment opportunities) may arise. The intention of the research team was to prepare such an instrument which is suitable for both the general and madrasa streams for which equivalency of the streams was a necessary condition. The first major problem that the research team faced was the dissimilarity of the subjects between the two streams. Instead of all subjects the team had to reduce it to four common subjects. The second problem was to find a good amount of contents overlapping in the common subjects. A very small number of common contents increased the chance of an unreliable instrument which was identified in the first attempt in test development. Finally, the research team had to consider the learning objectives set by the National Curriculum Coordination Committee (NCCC) in 1995 as the basis for test development. Problem in dealing with the NCCC set learning objectives was that madrasa stream did not follow the NCCC recommendations, which the general stream did. The Madrasa Board neither prepared their own set of learning objectives or curriculum nor they accepted NCCC suggestions. In this circumstance the research team had no alternative but to follow the NCCC. This might raise question regarding bias in the instrument in favour of general stream. It can be noted that the government recognised the graduates of both the streams as equivalent for further education and in job market. Thus one can not ignore the need of a comparative analysis of the two streams. It should, however, be remembered that the test instrument is validated in light of the NCCC set learning objectives.

There is also an apprehension that the test results may not truly reflect the results of SSC or Dakhil examinations. A number of reasons can be identified for this. First, the test considered only four subjects. Second, the test was taken in April-May, which is the lean season for study for majority of the students; most of the students study seriously after they have been finally selected for the SSC or Dakhil examinations. Third, reference of the criterion referenced test used in this study was the 'good' quality educational institutions, which might be difficult for the average students to perform well in the test. This may not reflect the true average picture of students' performance of the streams. But such an approach did not pose any problem for comparison purpose. Thus, the readers need to be careful about these methodological issues in interpreting the findings of this study.

Following are some specific strengths of this study.

1. This study for the first time not only compared two major streams of education in terms of curriculum and learning achievement of the students but also state and non-state interventions within a stream. Exploration of urban-rural variation is another important dimension of this comparison. Such a comparison from various angles allowed us to look into the factors affecting such variations.
2. The instrument developed for testing the students' learning achievement was a simple one; accommodating the learning objectives at the secondary level. A valid and reliable test instrument was possible to develop because of the involvement of the teachers from both the streams and the national experts in curriculum and textbook writing. The principal basis of the instrument was the aims and objectives of secondary education in the country and the textbooks used to implement the national curriculum.
3. Tracing secondary students who graduated 10 years back is a significant addition to the *Education Watch* research agenda. This has not been done previously in Bangladesh and it gave us new insights into graduates' mobility, workforce participation and related issues. This part of the study has important policy implication.
4. Three major types of secondary educational institutes were brought under the study which collectively enrolls 98% of total students at secondary level.
5. Use of BANBEIS prepared national database on secondary educational institutions for sampling strengthened the study in respect to generalization of the estimates.

Following are some specific limitations of the study.

1. This study excluded two types of educational institutions, viz., cadet colleges and the English medium schools. However, they enrol only a small portion of the students, who are from elite and well-to-do families. Students under vocational education were also excluded. We cannot deny creeping of some minor error in the national estimates due to their exclusion.
2. The students of grade X sat in the test without prior information. This, however, did not create any limitation in statistical sense but might have influenced their performance. If they got prior notice, it is possible that they could have done better. Sampling of students from only those present on the test date might be another source of error in the estimates but this is likely to balance out because of large numbers. However, this limitation did not affect our ability to compare the two streams.
3. The test instrument used in the study was a valid and reliable one but not standardized. Constraints of time prevented standardization of test instruments.

4. We did not compare the performance of the students of various types of schools controlling the effects of background characteristics. It was not possible owing to high correlation of the students household and school level background variables with the type of educational institution. Regression analysis considering school type as independent variable and learning achievement as dependent variable would give the same result as bi-variate analysis.

Chapter 3

Origin, Development and Curriculum of Secondary Education

Although education has long history in the Indian subcontinent but the provision of secondary education as we see today evolved in British period. This chapter starts with the origin and development of both general and madrasa streams of education in Bangladesh. Investigation of curriculum shows that the general stream followed the suggestions of National Curriculum Coordination Committee, but the madrasas did not. Madrasa Board does not have much expertise in curriculum development. A big gap in the curriculum among the streams is a major concern, which is a barrier for the madrasa students to acquire skills and competencies in basic subjects like Language, Mathematics and General Science.



As mentioned in the previous chapter, secondary education in Bangladesh is divided into three distinct streams, called general education, madrasa education, and technical and vocational education. As the three streams are equivalent to each other in terms of certification, it is necessary to review their curriculum for an understanding of what each of these actually purports to achieve for learners. However, the present study focuses only on the first two streams. This chapter starts with the origin and development of general and madrasa streams under secondary education in Bangladesh. Review of curriculum of the two streams in terms of their objectives and contents as reflected in the textbooks is also presented.

A. Origin and development of general education

During the ancient and middle ages, there was a rich tradition of education in the Indian sub-continent, especially in the region which now comprises Bangladesh. Such education was virtually a private informal type. Primary education was given by the *Gurus* (specially the Brahmins) in institutions known as *Gurugriho* (Guru House), *Patshala*, *Chotushpathi*, and *moth* (monastery/convent/temple). The higher education used to be delivered at *Tols*, the place for learning Sanskrit. Islamic education was given in *maktabs* and *madrasas* respectively for primary and higher education. There was no provision for secondary education as it is understood and practiced now during these periods (Haque 2001).

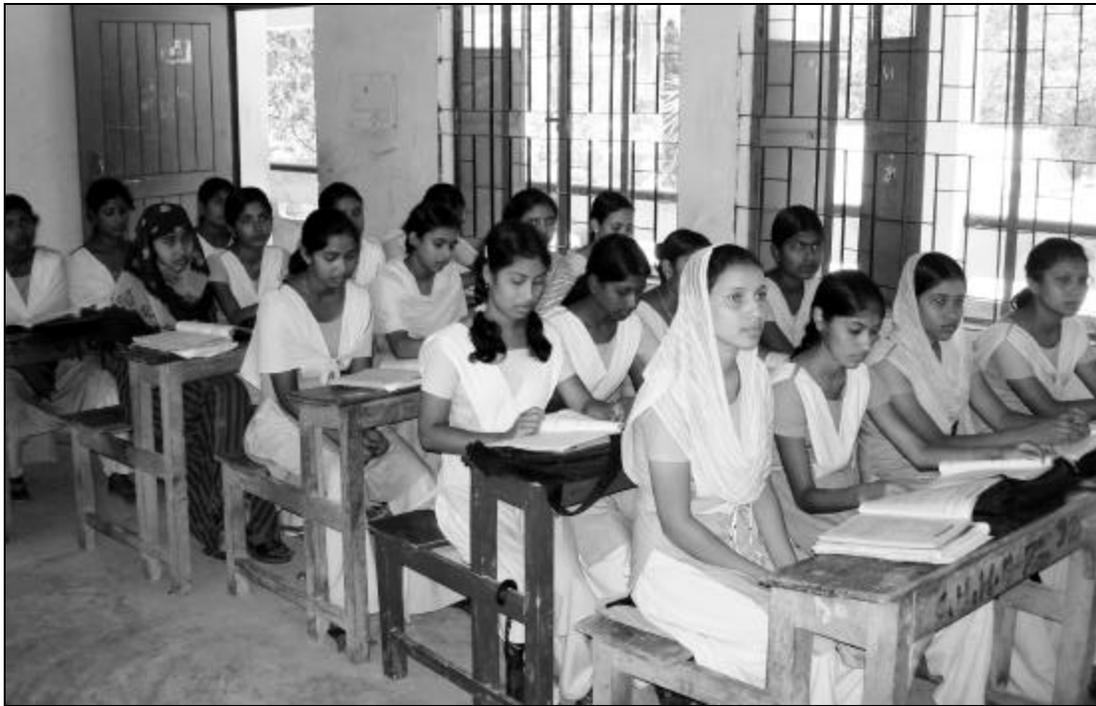
Stage-wise education which includes the secondary level originated under British rule. Since then a system of secondary education gradually evolved. The system continued after the division of India in 1947. Minor changes were made in the Pakistan period and also later during the Bangladesh period. Therefore, the history of secondary education in Bangladesh can be divided into three distinct phases, i.e., the British period (1757-1947), the Pakistan period (1947-71) and the Bangladesh period (since 1971).

The British period: Secondary education was introduced in British India by foreign missionaries. They established a number of schools. The schools established before 1833 provided only for primary education. Schools and colleges providing secondary education were established during 1833-1853. The system was expanded throughout the subcontinent from 1835 onwards by Lord Macaulay (President of General Committee of Public Institution or GCPI). He also adopted policies to expand English education throughout the subcontinent. As a result, a number of English medium schools were established under the auspices of the government to provide secondary education.

The number of secondary schools increased after the publication of the 'Wood's Despatch' in 1854. In the said despatch, Sir Charles Wood (Chairman of Board of Control of India) recognised education for the people of India as the responsibility of the State. A series of policies were adopted in favour of the promotion of English

education. The despatch also provided the foundation of stage-wise system of education in the subcontinent. The middle stage was considered as secondary education. Lord Stanley, in another despatch in 1859 reaffirmed the policies of 1854 with few modifications⁸. The main objectives of the Wood's Despatch were:

- 1) The grant-in-aid system for financial support to educational institutions.
- 2) Establishment of institutions for supervision and inspection of schools.
- 3) Formation of an education department.
- 4) Establishment of universities, offering scholarship and preparing textbooks.
- 5) Establishment of teacher training schools.



As a result of the Wood's Despatch institutions such as Education Board under the Ministry of Home Affairs of the Central Government and the Department of Public Instruction (1857) with a post of Director of Public Instruction (DPI), were established to implement education. The examination at the end of secondary stage was called Entrance examination. Entrance examinations were then conducted by the Calcutta University, later an Education Board was established to conduct examinations. Institutions like Normal Schools were established to train the teachers. The Calcutta Madrasa (established in 1781) also introduced another but similar system of secondary education exclusively for Muslim community.

⁸ Report of the Indian Education Commission 1882, part II. The Wood's Despatch and other documents of historic importance are available in Jalaluddin and Chowdhury (eds.) *Getting started*, Dhaka: University Press Limited (1997)

The secondary education was divided into two streams based on the Hunter Commission Report in 1882⁹. The first stream consisted of the curriculum and subjects necessary for university admission. The second one provided education for technical and vocational subjects. Similarly, 'Grant-in-aid' system was introduced for financial support to the new education system. As a result, the number of secondary schools increased from 169 in 1855 to 11,907 in 1947 in the whole of India (Haque 2001).

The Lord Curzon Education Policy of 1904 emphasized controlled expansion as well as the promotion of quality of education. To this effect, each school had to get permission from both the Ministry of Education and the university. Following the recommendation by the Calcutta University Commission of 1917 (Michael Sadler Commission) secondary education was separated from the university. As a result, the provision of university admission after Matriculation was abolished. In lieu, a Board of Intermediate and Secondary Education (BISE) was established in 1917.

The Education Commission Report of John Sergeant (1944) considered secondary education as 'a stage complete in itself' with a two stream system of education. At one stream knowledge-based education was provided and on the other technical and vocational education was given. However, students of both the stream had to take Mother Language, English, History, Geography, Mathematics, Science, Economics, and Agricultural Sciences as compulsory subjects.

The Pakistan period: At the partition of India in 1947, Pakistan inherited the British education system. Afterwards, various education commissions were set up to promote a national education system suited to the ideology of the new state. The Maulana Akram Khan Education Commission was the first to reconstruct education of the then East Pakistan in 1951. After the completion of a five-year primary course, the commission report recommended for a six-year secondary education. The Aaur Rahman Khan Commission of 1957 also recommended the same. A deviation was found in Sharif Commission Report of 1958, which recommended for seven years of secondary education in three stages including Junior Secondary (grades VI-VIII), Secondary (grades IX-X) and Higher Secondary (grades XI-XII) (cited in Ali 2001). A committee set up in 1959 produced a diversified curriculum with seven branches of secondary education. These were: Arts, Science, Commerce, Agriculture, Industrial Arts, Technical and Home Economics (Millat 1982). The first curriculum in East Pakistan was amended in 1961 (Ehsan 1997).

The Bangladesh period: After the liberation of Bangladesh, an education commission was set up in 1972. Known as the Qudrat-E-Khuda Commission, it aimed at an overall reform and reorganization of education system to fulfil the demand of a newly independent country. As a part of the recommendations of this Commission (submitted

⁹ Sir William Hunter, the President of the Education Commission of 1882

in 1974) a National Curriculum and Syllabus Committee was set up in 1975. This committee submitted a report in June 1978 in seven volumes. Instead of the diversified curriculum of 1961, the committee recommended a uniform curriculum for grades IX and X (Sarfuddin 1990). However, due to the political changes of 1975 and owing to lack of support in favour of this uniform curriculum, a partial reform was made and a two-stream system, viz., Science and Humanities, was introduced in 1983 (NCTB 1995). In 1996, a new stream called Business Studies was introduced in secondary curriculum. This curriculum still prevails in Bangladesh (Ali 1998). The Education Commission set up in 2003 headed by Professor Moniruzaman Miah proposed a 'unitrack curriculum' for secondary level through merging the current provisions of Science, Humanities and Business Studies groups. The Commission kept silent about inclusion of madrasa stream in the 'unitrack' system (GoB 2004). However, their recommendation for a unitrack curriculum has not been adopted.

B. Origin and development of madrasa education

History of madrasa education in Bangladesh is bound up with the historical development of Calcutta Madrasa (Mohammedan College) around which the present stream of madrasa education gradually grew up. The Calcutta Madrasa was established in 1781, the Arabic Department of which was shifted to Dhaka after the partition of India in 1947¹⁰. Therefore, history of madrasa education in Bangladesh can be traced to three distinctive phases: the British period (1757-1947), the Pakistan period (1947-1971) and the Bangladesh period (since 1971).

The British period: Calcutta Madrasa was established by Warren Hastings in September 1781. It was the first educational institution in India under the direct rule of East India Company. The necessity for establishment of the madrasa was to promote the study of Arabic, Persian and Muslim Laws, which was necessary for running administration under the treaty of 1765.¹¹ This also fulfilled the demand of the Muslim elite of that time (Mallick 1977). Subsequently four madrasas were set up in Bengal; one in Hoogly (1817) under West Bengal and three in Dhaka, Chittagong and Rajshahi under East Bengal (1873).

After the introduction of English education in 1835 and introduction of English as state language instead of Persian in 1837, the Calcutta Madrasa lost its attraction as a recruiting ground of public servants. Its curriculum became irrelevant in relation to employment opportunities. Thus, the madrasa failed to attract majority of the Muslim

¹⁰ Anglo-Persian Department remained in Calcutta. Arabic department was reopened in Calcutta Madrasa.

¹¹ British East India Company got the formal grant of the Administration of revenue 'The Dewani' for Shah Alam, the emperor of Delhi in 1765. Under the conditions of the Treaty the official language of the court remained Persian and the fiscal and judicial administration was carried on in accordance with Muslim Law.

students. However, private madrasas known as Qaumi/Khariji emerged with the support from community. The government did not bother to bring these madrasas under its control (Ahmad 1985).

When the proposal of a new university in East Bengal was finalized in 1912, larger demands for the reform of madrasa education came up in order to facilitate madrasa students in the proposed university. As a result, a new curriculum was introduced in 1914 in a large number of madrasas. These madrasas were known as new scheme madrasas. Subjects relevant to university education were introduced in the madrasas and finally affiliated with the University of Dhaka after its establishment in 1921. The new scheme madrasas became popular and attracted a large number of students. This is evident from the fact that during the partition of India there were 1,074 new scheme madrasas with 85,629 students, while the number of old scheme madrasas was 378 with 39,812 students in the then East Pakistan (Ali 1983). Apart from these, there was a number of Qaumi or Khariji madrasas; no statistics on this however, is available.



The Pakistan period: The then East Pakistan inherited three types of madrasas namely, the old scheme madrasa, the new scheme madrasa, and the Qaumi or Khariji madrasa. Each of them is discussed below.

- *The old scheme madrasa:* The Arabic Department of Calcutta Madrasa¹² was shifted to Dhaka, with its library, furniture and office records in 1947 and was renamed as ‘Madrasa-i-Alia, Dacca’. A large number of maktabas and madrasas which were affiliated to Calcutta Madrasa were also shifted to East Pakistan.

¹² The Calcutta Madrasa comprised of Arabic Department, Anglo Persian Department, the Woodburn Middle English School, the Moslem Institute, and the Elliot Hostel (Government of Bengal 1931).

The Madrasa-i-Alia, with its hostel and library, was shifted to its own building at Bakshibazar in 1961 (Islam 2004, Sattar 2004).

- *The new scheme madrasa:* This was a combination of both general and Islamic education and was popularly accepted. However, following the recommendations of the East Bengal Education Commission headed by Moulana Akram Khan in 1951, these madrasas were integrated¹³ with general schools and colleges from 1958. These institutions no longer follow the madrasa curriculum and shifted to general stream curriculum¹⁴.
- *The Qaumi or Khariji madrasa:* This kind of madrasa education was established without any government patronage, but with community support. Eventually, these were named, Khariji i.e., excluded type. These madrasas still exist and remain out of any government control or regulation.

The government of Pakistan set up several education commissions to streamline the national education system. The commissions made numerous recommendations to modernize and to make a balance between madrasa and school education; however, unfortunately, none of these took in place. The Moulana Akram Khan Education Commission of 1951 is notable here. The Commission suggested introduction of vocational courses in madrasas and to train madrasa teachers to deliver job-oriented modern education along with Islamic knowledge. However, none of these suggestions were implemented. Rather new scheme madrasas have been integrated with general schools and colleges since 1958, it has been met with mixed reactions from the public who questioned whether madrasas should be merged with general school education. Scholars believe that the new scheme was abolished perhaps due to the lack of support for the scheme within the committee (Ishaq 1969).

The Bangladesh period: Since the independence of Bangladesh, with an ideology of a secular state, efforts were made to make madrasa education modern and appropriate for the contemporary society. Therefore, the situation turned in favour of reforms of madrasa education during the subsequent years.

The first education commission headed by Qudrat-E-Khuda in independent Bangladesh emphasized on the creation of madrasa as an integral part of national education system. In light of this report, the National Curriculum Committee of 1975 planned for the first time to reform madrasa education from the grassroots level. Various committees and sub-committees were set up for this purpose. The Madrasah Education Board was transformed to an autonomous institution in July 1979 through

¹³ Conditions of this integration were firstly, the introduction of Islamic studies of 100 marks in class IX and class X for all students of general school and secondly introduction of a individual 'Islamic Studies group' in the same class.

¹⁴ New names of these institutions are Kabi Nazrul Government College, Dhaka; Rajshahi Government College, Rajshahi; and Government Muhsin College, Chittagong.

promulgation of the Madrasa Education Act, 1978 (GoB 1978, Islam 2004), which gave madrasa education similar status as general education. Aiming at qualitative and quantitative changes in madrasa education some remarkable reforms were made since the liberation of the country. These include the following:

- 1) General and science subjects were introduced in madrasa education in 1975 (Rakib 1990). Preparation of new textbooks was one of the steps towards such reform. For general subjects, books published by NCTB were introduced in madrasa education¹⁵.
- 2) The medium of instruction in madrasas was changed from Urdu to Bangla. Earlier, madrasa education was provided through Persian, Arabic or Urdu medium. This was a milestone in the history of madrasa education reforms. Students were allowed to use Bangla in Dakhil examination in all other subjects except Arabic literature¹⁶.
- 3) In principle, the government agreed to give madrasa education the same status as general education since 1980. The Ibtedayee section of madrasa education was recognized as equivalent to primary education in 1983. Similarly, Dakhil and Alim examinations were considered as equivalent to SSC since 1985 and HSC since 1987 respectively (Rakib 1990).
- 4) Dakhil education was considered as grade IV of general education during the year 1947 to 1964. It was considered as grade VI during 1965 to 1976, grade VIII since 1977 to 1984 and finally was recognised as SSC since 1985 (Sattar 2004).
- 5) In 1975 Ibtedayee education was for four years, Dakhil for six years, Alim for two years, Fazil for two years and Kamil for two years. Candidates passing the Fazil examination were able to get admission to the higher secondary class. This means, 16 years of madrasa education was recognized as equivalent to 10 years of general education. This madrasa education was reformed as a five-stage education system which is similar to general education through a Board Meeting in February 1983¹⁷.
- 6) Two groups namely *Mujabid* and *Hifjul Qur'an* were introduced (as two independent groups) since 1984 to promote Islamic knowledge among madrasa educated people (Sattar 2004).
- 7) Emphasis was given on training of madrasa teachers. Therefore, a teacher training institute was set up in Gazipur in 1995.

¹⁵ Bangladesh Madrasa Education Board circular No. 9485/S-13, Dated 25/9/1975

¹⁶ Academic Committee meeting minutes of the BMEB held in 6/10/82 which was later came out as a decision of the 19th Board meeting held on 10-11/10/82

¹⁷ Meeting of BMEB dated 9/2/83; proposal 8, decision Ka, page 2

- 8) Since 2003, approval was given to introduce computer application as a subject at Dakhil and Alim levels (Islam 2004).
- 9) Various education commissions recommended that Fazil and Kamil degrees under madrasa education should be recognized under any affiliated university. For this purpose, madrasa syllabus was upgraded, but the policy is yet to be implemented.

C. Secondary education implementing institutions

A number of institutions are involved in overseeing and implementing secondary education in the country. Ministry of Education is at the top for policy formulation. At the grassroots level, there are general and vocational schools, colleges and madrasas to reach education to the students. Other important institutions are:

- a) Directorate of Secondary and Higher Education (DSHE) is responsible for looking after government schools, colleges and madrasas and to give various kinds of support to similar categories of private institutions. As an implementing agency of secondary education the Directorate has nine divisional and 64 district level offices.
- b) Boards of Intermediate and Secondary Education (BISE) administer secondary and higher secondary level public examinations and its related activities. There are seven such boards located in Barisal, Chittagaong, Comilla, Dhaka, Jessore, Rajshahi, and Sylhet. Examinations under madrasa system are administered by the Bangladesh Madrasa Education Board (BMEB).
- c) National Curriculum and Textbook Board (NCTB) is responsible for preparation of curriculum and syllabus up to higher secondary level. Preparation and publication of textbooks is also the responsibility of NCTB. NCTB textbooks are republished by the BMEB with some modifications.
- d) Bangladesh Bureau of Educational Information and Statistics (BANBEIS) collects and compiles educational statistics for secondary to tertiary education under both general and madrasa streams.
- e) School Managing Committee (SMC) is formed in each private school and madrasa consisting of 11 members to administer the respective institutions.
- f) National Academy for Educational Management (NAEM) is a national institution to provide training on educational management for the college teachers. It provides basic as well as specialised training to the staff under education cadre service.
- g) Teachers Training Institutions provide basic training suitable for teaching in the secondary schools (Bachelor of Education or BEd).
- h) Education Engineering Department is responsible for construction, reconstruction, repair and renovation of school buildings and premises.

- i) Directorate of Inspection and Audit (DIA) is mainly responsible for improving administration and management by helping and advising in maintenance of proper accounts in order to proper utilization of budget. It is also responsible for improvement of standard of education in the private schools.

D. The curriculum

In a general sense, curriculum is a programme of education. Specifically, a curriculum which is devised and regulated by an institution, is a collection of learning experiences that the learner acquires individually or in a group within or outside the institution through various educational activities (Mohammad 2003). A curriculum describes the subjects to be taught in various grades, how and to what extent it should be taught, and what type of textbooks and reading materials are to be used. The aims and objectives of education, its subject-matter, teaching methods, use of materials, evaluation methods, and other educational activities in the institutions come under the purview of curriculum. Curriculum can also be described as a methodology that defines the knowledge and experiences learners acquire from their surroundings, i.e. home, society and nature; and the ability acquired by them to apply that knowledge for the welfare of common people and in solving the problems faced by humankind in a befitting manner. It is a principal driving-force and an important element of any education system (Mohammad 2003).

Curriculum for general stream

The present curriculum for secondary education was prepared in 1995 through formation of a National Curriculum Coordination Committee (NCCC) aiming to create a 'life-oriented' education provision. This curriculum was framed integrating three distinct streams, viz., general, madrasa, and vocational. Socio-economic context of the country was considered in preparing the curriculum so that the students can achieve knowledge appropriate for national development.

The 1995 secondary education curriculum was structured into four major aspects. First is the preamble, consisted of philosophical or theoretical contexts of education system. It highlighted the drawbacks of the previous curriculum, which was criticized as not being life-oriented, pro-active and time befitting. The preamble stated that the previous curricula were not helpful for creation of an educated society, nor did it meet the requirements and aspirations of the nation. Education in the past produced a section of people who failed to achieve appropriate knowledge to lead the nation for the 21st century. The new curriculum promised to deliver life-oriented, proactive and patriotic people with strong moral, religious and cultural values. It was also emphasized that the education to be delivered through this new curriculum would be aligned with international standards.

Second, the new curriculum emphasized stage-wise development of education, which means close relationships between and among three stages of secondary education, viz., lower secondary, secondary and higher secondary. For instance, the knowledge gathered at lower secondary stage would be consolidated at the secondary stage and subsequently to the higher secondary education. Similarly, various other aspects of education like the use of mother language and mathematics, professional streaming, fundamental thinking and creativity, achieving human quality, learning scientific approaches, problem solving and practical knowledge useful to develop the society, etc., would be planned in such a manner so that it fits in appropriately within the various stages of secondary education. Other aims emphasised in the curriculum is to help students develop self-confidence so that they can define and create their own destiny.

The curriculum contains the following essential features: a) determining the goals and objectives of education; b) identification, selection and the distribution of the subject matter of education; c) selection of teaching methods, finding application areas and evaluation strategies; and d) innovation of a proper organization of education and management system. The above issues are to be applied in each of the stages of education carefully so the objectives of education at each level can easily be achieved.

Third is the implementation strategy, which is critical to effectively managing the whole education system. In fact, in order to achieve the underlying objectives of a curriculum, a good implementation strategy needs to be put forward. The present curriculum has been implemented through the following steps:

- Providing appropriate learning resources to all classrooms;
- Curriculum and related documents to be sent to all concerned persons;
- Training of teachers and officials related to educational activities;
- Reform of examinations and evaluation methods as demanded by the curriculum;
- Close monitoring and management of all educational activities.

It should be mentioned here that the most important among all implementation strategies is the training of the teachers. The curriculum emphasized on both short and long term training of all concerned persons as per the requirements demanded in the curriculum. The curriculum underscored the need for training of the teachers on teaching and learning strategies, problem-solving strategies, inquiry approaches to learning and most importantly on understanding of philosophy and rationale of the curriculum.

Fourth is the subject of study at the secondary level. The NCCC proposed a unified system of junior secondary education, where all students at this stage study the same subjects. Secondary education under general stream diversifies into Humanities, Science and Business Studies groups. On the other hand, the secondary education of

madrassa stream is diversified into five groups: Science, Humanities, Business Studies, Hifjul Qur'an (memorization of Qur'an) and Tajwid (rules of correctly reading Qur'an) groups (Annex 3.1).

Subjects taught in general stream: Five subjects are made compulsory for all students of grades IX and X. These are: Bangla, English, General Mathematics, Religious Studies and Social Science/General Science. Social Science is compulsory for the students of Science group, while General Science is compulsory for Humanities and Business Studies groups (Annex 3.2). In addition, students have to take a selection of subjects from among the three groups. Each group consists of three subjects. These are:

- Science: Physics, Chemistry, Biology/Higher Mathematics
- Humanities: History, Geography, Economics/Civics
- Business Studies: Introduction to Business, Accounting and Business Entrepreneurship/Commercial Geography.

In addition, the students of all these three branches can choose one additional (fourth) subject from a long list of subjects (Annex 3.2).

Four subjects are made compulsory in grades IX and X under the madrassa stream. These are: English, Bangla, Arabic and Mathematics. In addition, students have to choose a selection of subjects from among the five groups. Each group consists of four religious subjects compulsory to all and two optional subjects (Annex 3.3). The students of all these five branches can choose one additional (fourth) subject from the long list of subjects. Note that this proposed curriculum has not been implemented at all by BMEB.

Characteristics of curriculum: Major characteristics of the curriculum are as follows.

- a) To make the curriculum more scientific as well as effective, the following elements were incorporated in each subject:
 - i) An introduction stating the importance of the subject.
 - ii) General and specific objectives for teaching the subject.
 - iii) Subject matter to be consistent with objectives of the subjects.
 - iv) Method of teaching indicates how the teachers will conduct lessons, what role the teachers should play and what kind of responsibility should undertake.
 - v) Teaching materials to be selected, procured and applied for teaching in the classrooms,
 - vi) Method of evaluation has been given so that the teachers can follow this.
 - vii) Direction to the writers as to how the textbooks should be prepared, i.e., number of pages, size, fonts, language, methods of spelling, etc.

- b) The curriculum is claimed to be life-oriented in nature. The syllabus and content of the subjects are designed in such a manner that a student can easily find a way to inter-change within different streams of education.
- c) To encourage students toward self-employment, Vocational, Basic Trade, Arts and Crafts, Home Economics, Agriculture, Physical Education and Sports have been introduced.
- d) Two new subjects, Introduction to Business and Business Enterprise have been introduced.
- e) To improve quality of Science education, Chemistry, Physics and Biology have been introduced as elective subjects.
- f) Recognising its importance, Computer Education has been introduced as an optional subject.
- g) In order to provide a uniform education to all students about the knowledge of Social Sciences and Sciences, the subjects like Social Science have been made compulsory for Science students and General Science for Humanities and Business Studies students.
- h) Economics and Civics have been separated into two individual subjects to give wider view to the students in both the subjects.

Similar to the developed nations, which have successfully gained appropriate knowledge, expertise, standard, and values through their curriculum, Bangladesh has also made an effort to develop and modernize appropriate content, conceptual framework and practical oriented issues at secondary level. At this level, modern and practical techniques have been adopted as a strategy to improve writing skills in Bangla and English languages.

Curriculum for madrasa stream

After the liberation of Bangladesh attempts were made to modernize madrasa education on the basis of the Qudrat-E-Khuda Education Commission Report 1974. Modernization includes use of textbooks prepared for general stream and improvement of syllabus for Dakhil examination. Science subjects were also introduced in the madrasas as part of modernization.

The Bangladesh Madrasa Education Board has a wing to prepare curriculum, publish or select textbooks from grade I to Kamil level. There is no written curriculum for any of these levels. This wing provides curriculum and syllabus through various academic committees and Board meetings. The Board often changes syllabus through official circulars. Madrasa education system, unlike general education, is thus dominated by only one element- the syllabuses for examinations. Similar to general stream, a uniform course of studies is set for junior secondary level (grades VI to VIII) and

diversified syllabus for Dakhil level. General, Science, Mujabbid (specialization in correctly reading Qur'an) and Hifjul Qur'an (memorization of Qur'an) are various groups at Dakhil level education (BMEB 2006, Sattar 2004). Although NCCC proposed Business Studies as a separate group in the madrasas it is yet to be introduced.

Subsequently, Dakhil and SSC examinations were given equal status and thus, attempt was made to update madrasa curriculum in 1999. The madrasa education authority raised its concern that all text in madrasa education must be approved. Finally, a curriculum was adopted by the Madrasa Education Board in 2000 (Sattar 2004). A four member sub-committee was then formed collectively by NCTB and BMEB. The sub-committee reviewed the madrasa education syllabus in a series of meetings and made some important recommendations. A summary of these are given below:

1. NCCC's recommendations regarding curriculum of compulsory subjects should be considered for madrasa curriculum provided they are in line with the religious spirit.
2. If major reforms in the subjects or in education are needed, that must be done by a specialist committee.
3. The education related to the directives of *shariah* must be improved.
4. The Arabic courses of grades IX and X must be improved as communicative Arabic.
5. As compulsory subjects, Islamic History and Islamic Geography should be replaced by Social Science.
6. Business Studies to be incorporated.

A minor part of these recommendations were implemented.

Objectives of Dakhil education: The NCCC prepared secondary curriculum of 1995 did not mention any separate objective for madrasa education (NCTB 1995). Thus, it can be said that overall objectives of secondary education is equally applied for madrasa education as well. However, the syllabus for Dakhil examination prescribed by the Curriculum and Textbook Wing of BMEB advised the teachers on how to observe and assess students' progress. Following is the advice given to teachers (BMEB 2006, Sattar 2004).

1. Review students' knowledge, efficiency and viewpoints or attitudes about Islam.
2. Comprehend the spread of students' understanding of the subject matter.
3. Ensure the students' participation in classroom discussions and reviews of the fundamental issues of Islamic education.
4. Increase students' knowledge, experience and efficiency through weekly, monthly or annual seminars (whenever possible).

5. Observe the students development in performing *Ibadat*.
6. Arrange debate and essay competition for the development of students.
7. Observe performance of the students in cleanliness.
8. Evaluate student's knowledge and eagerness in learning Qur'an, Hadith, and other Islamic literature.
9. Evaluate students' knowledge and performance in personal, family and social life.
10. Increase students' efficiency in learning, speaking, listening and writing skills in Arabic and English languages.

The following additional objectives are found in the BMEB prepared textbooks.

- 1) Help the students study the content of Holy Qur'an, Hadiths and Fiqhs.
- 2) Help the students to use (reading, writing and understanding) Arabic language in daily life.
- 3) Acquire knowledge of Islamic tradition and culture.
- 4) Strengthen bonds of brotherhood with Arab countries. (Sattar 2004)

Subjects taught at Dakhil level: Fifteen subjects are taught as compulsory in four groups (General, Science, Mujabbid and Hifjul Qur'an) at Dakhil level. These are: Bangla, Al Qur'an and Tajbid (Al Qur'an and Grammer), Al Hadis, Arabic literature, Arabic 2nd paper, Al-Fiqh and Usul-al-Fiqh (specialization in rules of Shariah), English, General Mathematics, Islamic History, Social Science, Physics, Chemistry, Tajbid, Nasar and Najam (grammar or rules of correctly reading Qur'an, prose and poetry), Qirat- Tartil and Hadar (recitation of Qur'an slowly and quickly), Hifjul Quran Dawr (repetition of Hifjul Qur'an). Of these, the first seven are common to all four groups of students. Again, General Mathematics is for General and Science groups; Islamic History for General, Mujabbid and Hifjul Qur'an group; Social Science for general group; Physics and Chemistry for Science group. Three subjects, viz., Tajbid, Nasar and Najam (grammar, prose and poetry), Qirat- Tartil and Hadar (recitation of Qur'an slowly and quickly) are compulsory for Mujabbid and Hifjul Qur'an groups. Two subjects Tajbid and Hifjul Qur'an Dawr are for Hifjul Qur'an group. The students of each group take seven compulsory and three elective subjects in Dakhil examination; each subject contains 100 marks.

There are 14 optional subjects, from which the students can take one. The subjects are: Civics, Mantiq (logic), Higher English, Higher Bangla, Urdu, Farsi, Home Economics, Agriculture, Higher Mathematics, Compute, Basic Trade, Islamic History, Social Science, and Biology. Students can opt one of the subjects as optional and another for additional subject. Thus seven subjects are compulsory (700 marks), three elective (300 marks) and another optional (100 marks).

It is to be noted that subject-wise, the objective, goal and methodology have not been identified in the textbooks or syllabus. So, it was not clear what the system wants to achieve and at which direction it wants to take the students. Basic Mathematics and Social Sciences are not taught in Mujabid and Hifjul Qur'an groups. The Science students do not have adequate scope for experiments and practical classes. A number of subjects are included in the system which are not that much useful to many.

A comparison of syllabuses and textbooks between the streams: Although the Madrasa Education Board adopted the syllabuses and the textbooks of NCTB with minor modifications, some similarities and dissimilarities were found between syllabuses and contents of secondary education of general and madrasa streams.

Bangla is a common subject in both general and madrasa education. The students under madrasa education get Bangla course for 100 marks, and the general education for 200 marks. The Bangla textbook for general stream contains 30 prose and 30 poetries. On the other hand, 23 prose and 23 poetries are there in the textbook for madrasa stream. Whereas, there are 15 prose and 15 poetries in the syllabus of SSC examination under general stream, there are only 10 prose and 10 poetries in the Dakhil syllabus. Only three poetries are common in both the streams. These are *Kapotaksha Nad* by Michael Madhusudhan Dutta, *Jiban Binimoy* by Golam Mustafa and *Purbashar Alo* by Ahsan Habib. No overlap was found in prose section.

Marks distribution in English for SSC and Dakhil examinations is similar to that in Bangla. The English textbook for general stream contains 119 lessons divided into 22 units; but there are 66 lessons divided into 14 units in the madrasa textbook (Annex 3.5). The first unit of the two textbooks are different; it is 'Hello and welcome' in general stream and 'Source of Islam and Personalities' in the madrasa stream. The other units in the madrasa textbook are by and large a modification of the units and lessons of the textbook under general stream. The lessons under the first unit of general and madrasa streams are given below (Table 3.1).

Table 3.1

Lessons covered under the first unit of English textbook, general and madrasa streams

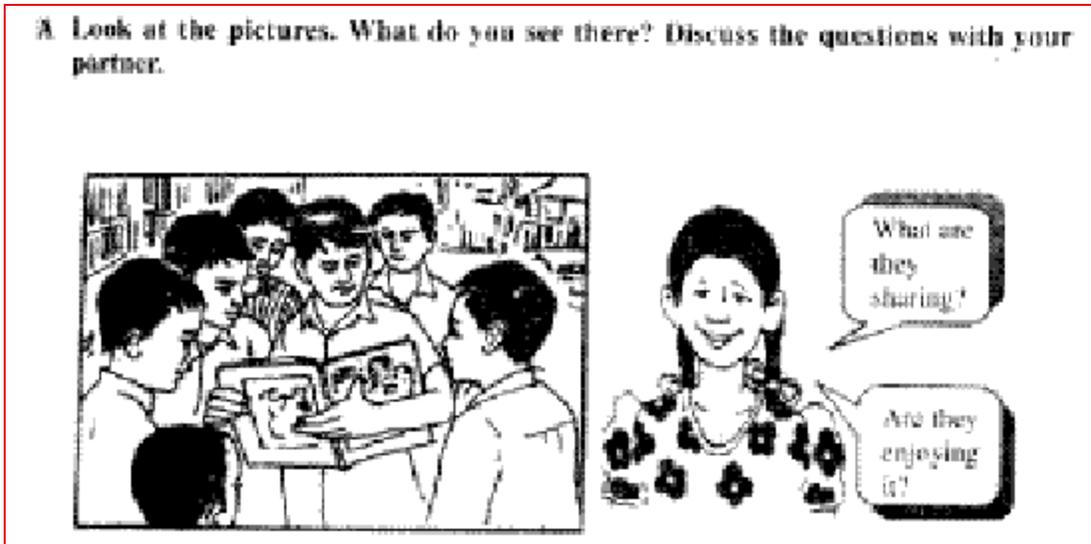
General stream	Madrasa stream
Unit 1. Hello and welcome	Unit 1. Source of Islam and Personalities
Lesson 1. I am Becky	Lesson 1. AL-KITAB
Lesson 2. Meeting others	Lesson 2. Sura-e-Fatiha
Lesson 3. Flashback	Lesson 3. Source of Islam: Al-Hadith
Lesson 4. Pahela Baishak	Lesson 4. Personalities in Islam
	Lesson 5. Personality: Hazrat Khan Jahan Ali

Sources: NCTB (2005). *English for today for classes 9-10*

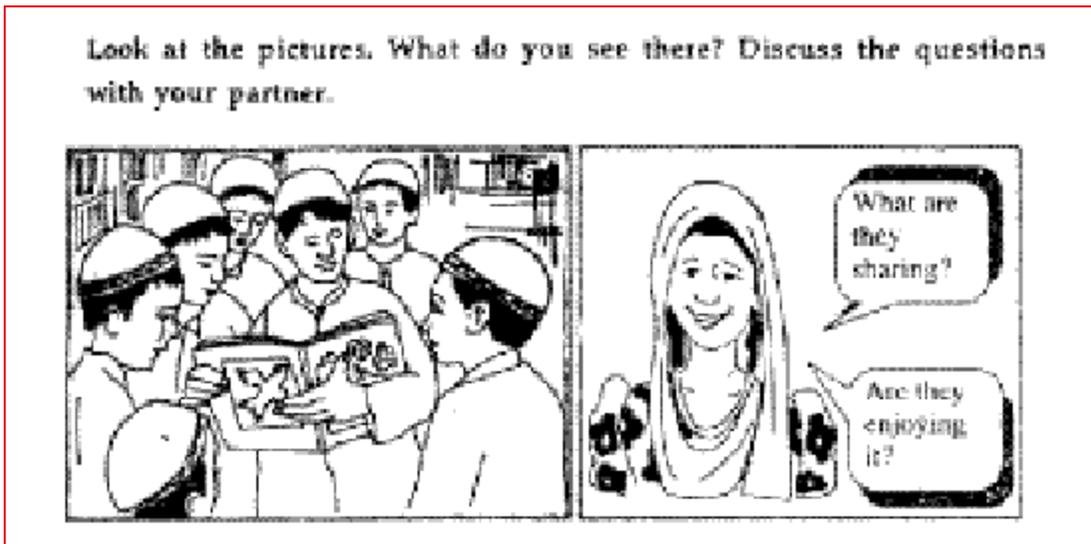
BMEB (2005). *Dakhil English for today for classes 9 & 10*

A unit called 'Days to Remember' is common in both the textbooks. There is no lessons on 'The International Women's Day' or 'The Voice of Women' in the madrasa textbook but these are there in the general stream. The lessons on 'The International Mother Language Day', 'The International Day of the Elderly' and 'May Day' are common in both. Units like 'Schools in the World', 'Different Skills', 'Eat Well', 'Different Strokes', 'Day in Day Out', 'Sparkling Stars', 'Getting Organised', 'Different Lives', etc., are not included in the madrasa textbook.

Figure 3.1
Sketches in the lesson on 'sharing' in the English books, presented for general and madrasa streams



Source: *English for today for classes 9-10*, published by NCTB (2005); page 13



Source: *English for today for classes 9 & 10*, published by BMEB (2005); page 41

The textbooks for Dakhil published by BMEB are virtually a picturesque of textbooks prepared by NCTB for general stream. The earlier example and Figure 3.1 demonstrate how BMEB only tried to Islamize the content by changing a very few things of the textbooks. For example, the names of non-Muslim persons have been replaced by Muslim names (except the names of the authors). Dresses of the human beings in the pictures have also been changed to Islamic dresses. For instance, a cap on the head of males, hijab for females, etc. was drawn in Dakhil textbooks. Contents of the Mathematics books for general and madrasa streams are almost similar with a difference in names as mentioned above. Following are two examples from two mathematics books changing only the names. On page 39 of the mathematics textbook under general stream has the following sum:

Moti, Joti and Smriti together can do a work within m days. Joti and Smriti can do it by n days. How many days it will take for Moti to do the work? (page 39, question # 16)

Moti, Joti and Smriti were changed as Jasim, Rayhan and Ashraf in the mathematics textbook under the madrasa stream (page 49, question # 16). The former names are Bangla names but the later are sort of Arabic/Persian and thus Islamic. A combination of male and female names is used in the general stream textbook but all three in the madrasa textbook are male names.

E. Salient findings

As was seen in other studies including previous *Education Watch*, the schools in rural areas and the madrasas in general are not well endowed and prepared in terms of infrastructure, educational facilities and teacher preparation for proper implementation of the curriculum (Ahmed *et al.* 2006, BANBEIS 2006b). However, considering the importance of secondary education in human development one cannot ignore proper implementation of secondary education for the younger generation. Emphasis should be given on creating enabling conditions in the schools and the madrasas so that the students get adequate and equal space for quality education. High quality secondary education is necessary for success in this era of globalization.

A wide difference was seen in the curriculum of general and madrasa streams. There is strong reason to believe that the madrasa students do not get to acquire adequate skills in basic subjects like Language and Mathematics. The madrasas in general also lack Science education (Ahmed *et al.* 2006). Amount of content in the common subjects is also shorter in the madrasa textbooks than that in general stream.

Review of goals and objectives, curriculum, textbooks, and examination systems of two broad streams under secondary education generated the following findings.

1. The madrasa stream of secondary education appeared to be less organized in terms of curriculum, textbook preparation and their implementation when compared to the general stream. There is a general tendency among some stakeholders of madrasa stream to keep a distance from the general stream and vice versa.
2. Although the National Curriculum Coordination Committee (NCCC) adopted a common set of learning objectives for secondary education, these are mostly followed only in the general stream. The Madrasa Board needs further capacity and intention to prepare curriculum or textbooks in line with the objectives set by NCCC.
3. Close examination of textbooks used clearly shows a difference between the two streams. It is the opinion of the researchers that the content is not adequate for the madrasa students to acquire required skills and competencies in basic subjects like Language, Mathematics and General Science.
4. Sharp distinctions exist between the streams in relation to the examination system, mark distribution among core and elective subjects, question paper preparation and assessment procedures, which is a serious obstacle to establishing equivalency among the streams.

Chapter 4

Students' Learning Achievement

Learning achievement of the students of grade X in 2007 are analyzed in three ways, viz., setting of arbitrarily defined three cut-off points, calculating grade point average (GPA), and estimating average scores and their dispersions. Test on Bangla, English, Mathematics and Everyday Science with 80 question items equally distributed by the four subjects produced all results. Major inequalities exist between rural and urban students, girls and boys, madrasa and general streams, where the former groups lag behind the later groups.



This chapter presents learning achievement results of students in grade X in 2007¹⁸. As mentioned in Chapter 2, the achievement test had four sections containing items on Bangla, English, Mathematics and Everyday Science. Each section had 20 items, totalling 80 in the whole test. The outcome of the test has been analyzed in three different ways. These include:

1. A cut-off point based on the correct answers of the items for each subject and a consolidated measure combining all the subjects together. These cut-off points were considered based on the principle of correctly answering: (a) 50% of the items, (b) 40% of the items, and (c) 33% of the items. Table 4.1 shows it in detail.

Table 4.1
Various criteria for analyzing students' learning achievement

Principle	Minimum criteria	
	For each subject	For the whole test
Correctly answering 50% of the questions	Correctly answering 10 or more questions	Correctly answering 10+ questions in each subject
Correctly answering 40% of the questions	Correctly answering 8 or more questions	Correctly answering 8+ questions in each subject
Correctly answering 33% of the questions	Correctly answering 7 or more questions	Correctly answering 7+ questions in each subject

2. In the second method, similar to the practice in Secondary School Certificate (SSC) and Dakhil examinations, the students assigned grade points separately for each subject and calculated grade point average (GPA) for the whole test (NCTB 2003, 2005; BMEB 2004). In doing so, one mark was assigned for each correct item. Thus, total mark in the test was 80. Numeric score and corresponding letter grade and grade points are given in Table 4.2.

Table 4.2
Conversion of numeric score into letter grade and grade point

Marks (in %)	Letter grade	Grade point
80 – 100	A+	5.0
70 – 79	A	4.0
60 – 69	A–	3.5
50 – 59	B	3.0
40 – 49	C	2.0
33 – 39	D	1.0
< 33	F	0.0

Sources: NCTB (2003, 2005), BMEB (2004)

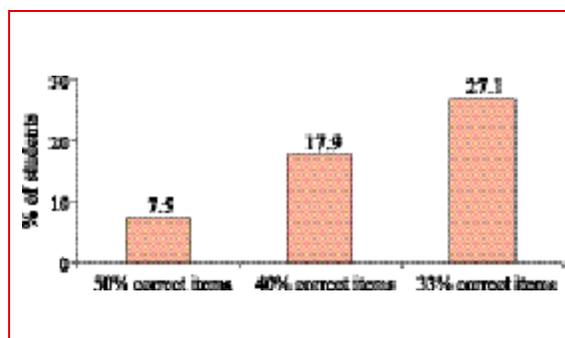
3. The third method was estimating the average scores and dispersions of number of items correctly answered by the students separately for each subject, school type, gender and for the whole test.

¹⁸ For limitations, see Chapter 2

A. Minimum qualifying score

Table 4.3 shows the proportion of students who satisfied the minimum criteria of 50%, 40% and 33% for different subjects and combined. Of the students under achievement test only 7.5% correctly answered 50% or more of the items, it went up to 17.9% when the rule of 40% correct items was applied and 27.1% against the rule of 33% correct items (Figure 4.1). This means that 7.5% of the students under test correctly answered half of the items in each subject, 17.9% of the students correctly answered 40% of the items in each subject and 27.1% of the students correctly answered one third of the items in each subject. A difference of about 10 percentage points was observed between the results gained through two successive passing principles. The last of these three criteria (i.e., 33%) is same as the pass marks for the Secondary School Certificate and Dakhil examinations (NCTB 2003, 2005; BMEB 2004). This means that at the end of three-quarters of total duration of secondary education (the test was taken in April-May, 2007) 73% of the students 'failed' in a test conducted under *Education Watch*. However, one should be careful about the interpretation of the results of this study as it is a general tendency among majority of the students to do most preparation after the test examination held at the end of grade X. Moreover, test under *Education Watch* was unannounced a prior.

Figure 4.1
Percentage of students satisfying minimum criteria by different rules of assessment



Source: *Education Watch learning achievement test, 2007*

The students showed the best performance in Everyday Science followed respectively by Bangla, English and Mathematics (Table 4.3). For instance, 77.1% of the students in Everyday Science, 64.4% in Bangla, 59.9% in English and 46.9% in Mathematics satisfied the criteria of 33% correct items. These rates were respectively 42.8%, 30%, 26.8% and 16.4% under the rule of minimum 50% correct items.

Table 4.3
Percentage of students satisfying minimum criteria for achieving skills in various subjects under test (n = 3,014)

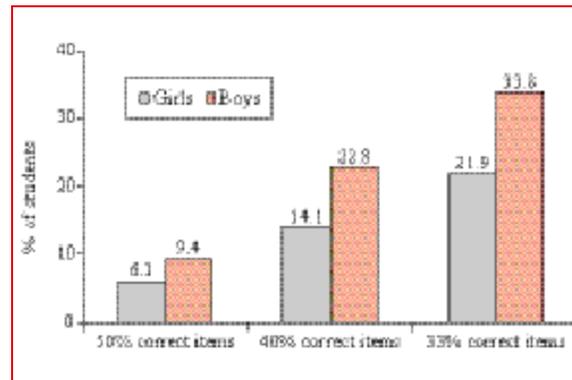
Criteria	Subjects				
	Bangla	English	Mathematics	Everyday Science	All
50% correct items	30.0	26.8	16.4	42.8	7.5
40% correct items	53.8	46.8	33.3	66.6	17.9
33% correct items	64.4	59.9	46.9	77.1	27.1

Source: *Education Watch learning achievement test, 2007*

Whatever the minimum criteria used, boys showed significantly better performance in the test than the girls. Indeed, boys score was fifty percent more than girls in whatever criteria used (Figure 4.2). The gender gap disfavouring the girls was about 12 percentage points when the rule of 33% correct items was applied, 8.7 percentage points under the rule of 40% correct items and 3.3 percentage points under the rule of 50% correct items. Statistically significant gender difference was also observed in most of the cases when data were separately analyzed for each subject (Annex 4.1). In general, gender gap was less in Bangla than in other subjects. Girls performance in Mathematics worsened as the passing criteria became more stringent. As shown in Annex 4.1, 55% of the boys and 40.4% of the girls correctly answered a third of the items (7 or more), 41.2% of the boys and 27.2% of the girls correctly answered 40% of the items (8 or more) and 22.5% of the boys and 11.5% of the girls correctly answered half of the items (10 or more).

Conversely, for obvious reasons, percentage of students not passing in any of the subjects increased as the criteria became harder (Annex 4.2). For instance, 6.5% of the students correctly answered less than 33% of the items in all four subjects, 16.6% of them correctly answered less than 40% of the items in all four subjects and 43.2% of them correctly answered less than half of the items in all four subjects. Percentage of students not passing in any of the subjects was more among the girls than the boys (Figure 4.3). Distribution of students by number of criteria satisfied in different rules of assessment by gender is provided in Annex 4.2.

Figure 4.2
Percentage of students satisfying minimum criteria by different rules of assessment and gender

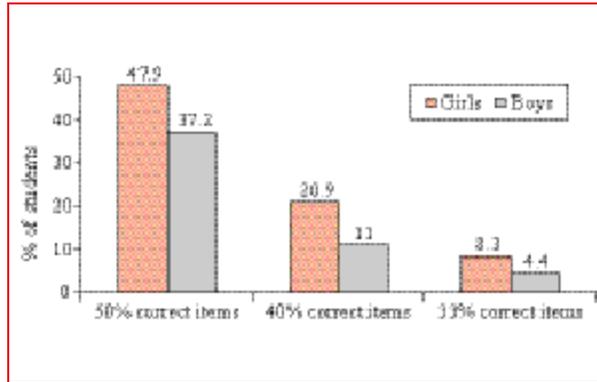


Source: Education Watch learning achievement test, 2007

Percentage of students passing in all four subjects under various assessment rules by type of educational institution is provided in Figure 4.4. It shows that the students of the government schools showed the best performance, leaving behind those of the urban private schools by a significant margin. The performances of the students of other three types of schools were worse. Of these, the rural private schools were at the top followed respectively by the urban and rural madrasas. Whereas 68.1% of the students of the government schools correctly answered a third of the questions in each of the four subjects under assessment; it was 50.2% in the urban private schools, 24.5% in the rural private schools, 18.8% in the urban madrasas and 7.8% in the rural madrasas. Again, whereas, 36.8% of the students of the government schools correctly

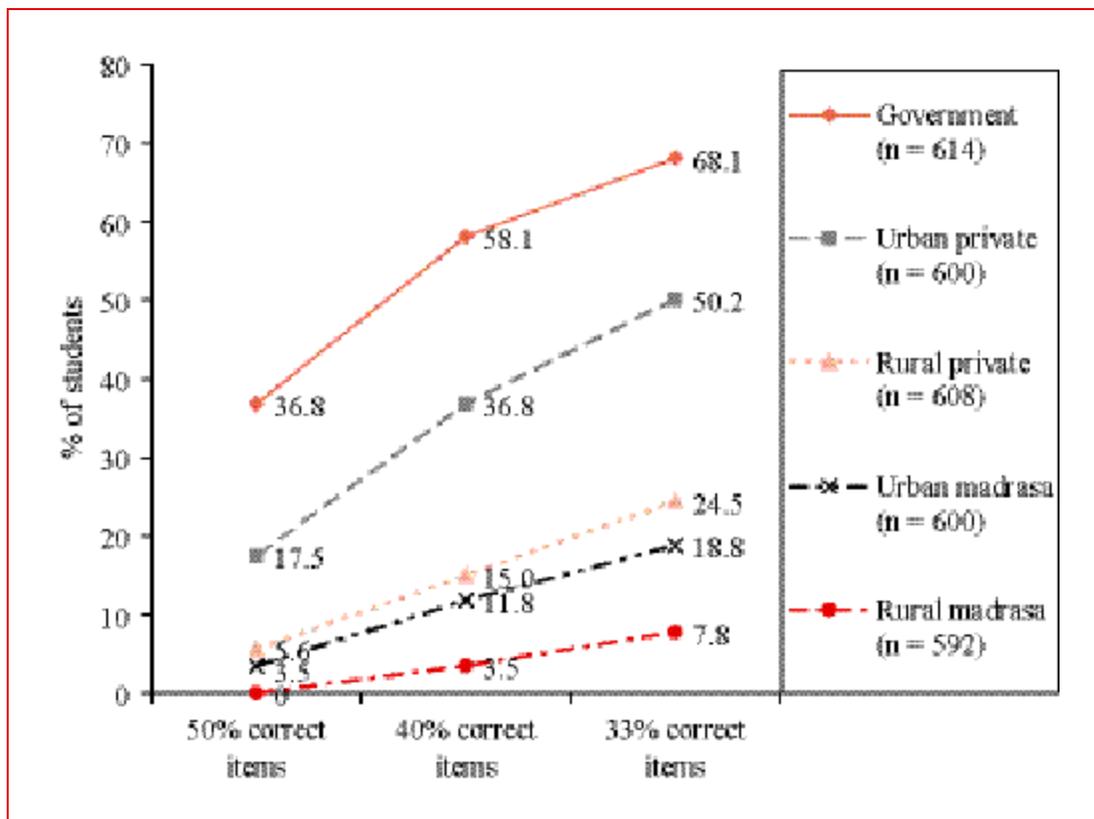
answered half of the questions in each subject, none in the rural madrasas passed under this criterion (Figure 4.4). Detailed analysis on each subject is provided in Annex 4.3. For most of the cases, the difference between the highest and the lowest performing type of educational institutions was 50 percentage points. Large gaps in the performances of the students among various types of educational institutions clearly show serious disparity in the quality of secondary education in the country.

Figure 4.3
Percentage of students satisfying none of the criteria by different rules of assessment and gender



Source: Education Watch learning achievement test, 2007

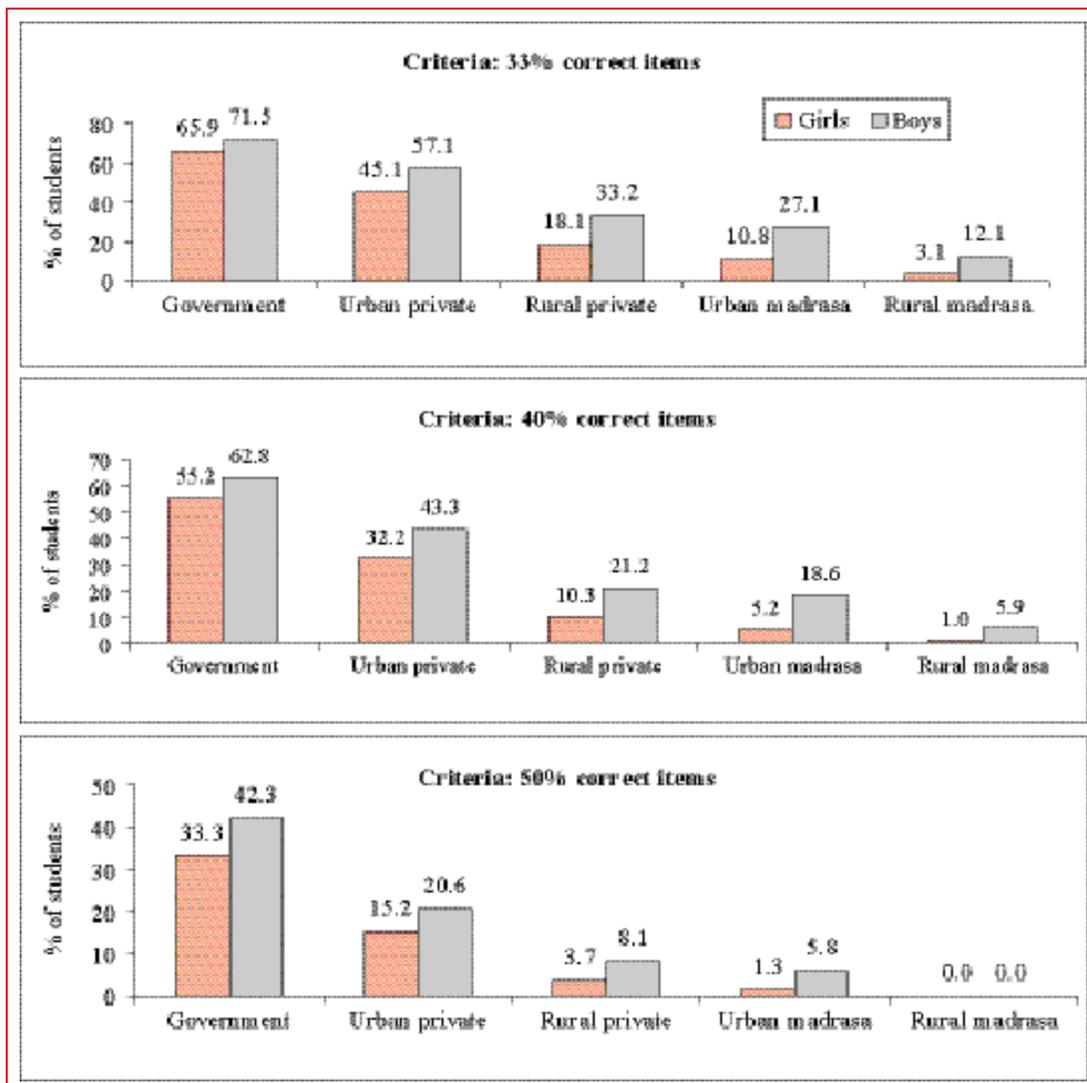
Figure 4.4
Percentage of students satisfying minimum criteria by school type



Source: Education Watch learning achievement test, 2007

Gender difference disfavouring girls persisted in most of the cases when data were analyzed by school type and rule of assessment (Figure 4.5 and Annex 4.4). The gap between the girls and the boys was lesser in the government schools compared to the others. Larger gender difference was accounted for among the students of the rural private schools and the madrasas in both rural and urban areas. For instance, while the boys performance was 5.6 percentage points more in government schools (in the top bars), it was 12 percentage points in urban private schools, 15 percentage points in rural private schools, 16.3 percentage points in urban madrasas and nine percentage points in rural madrasas.

Figure 4.5
Percentage of students satisfying minimum criteria by school type and gender



Source: Education Watch learning achievement test, 2007

B. Grade point average

Grade point average (GPA) was calculated here together for the four subjects under the test. On average, only 0.2% of the students got the perfect score in terms of GPA (i.e., GPA 5), 2.7% got GPA 4-4.99, 10% got GPA 3-3.99, 20.3% got GPA 2-2.99, 34% got GPA 1-1.99 and 32.7% got less than one (Table 4.4). Except for those getting the perfect score in terms of GPA (0.3% vs. 0.1%), more boys got higher GPA in each. A third of the assessed students got GPA below one and another third got GPA between one and two. Thus, two thirds of the sampled students got GPA below two (out of five). This was 71.7% among the girls and 60.5% among the boys. Only 13% of the students got GPA three or more (12.2% for girls and 17% for boys).

Table 4.4
Percentage distribution of students by grade point average (GPA) and gender

Grade point average	Gender		Both (3,014)
	Girls (1,664)	Boys (1,350)	
5	0.3	0.1	0.2
4-4.99	2.0	3.6	2.7
3-3.99	7.5	13.3	10.0
2-2.99	18.5	22.5	20.3
1-1.99	33.2	35.1	34.0
<1	38.5	25.4	32.7
Total	100.0	100.0	100.0

Figures in the parentheses indicate number of students under test
Source: Education Watch learning achievement test, 2007

Analysis based on school type shows that the score (GPA) of the students of the government schools followed a normal distribution but it was a negatively skewed distribution for the other educational institutions. None of the students of the madrasas or the rural private schools got the perfect score in terms of GPA (Table

Table 4.5
Percentage distribution of students by grade point average (GPA) and school type

Grade point average	School type				
	Government (614)	Urban private (600)	Rural private (608)	Urban madrasa (600)	Rural madrasa (592)
5	2.1	0.7	0.0	0.0	0.0
4-4.99	17.3	6.3	1.8	0.3	0.0
3-3.99	31.1	22.7	8.2	9.3	0.7
2-2.99	27.0	30.3	21.1	13.0	7.1
1-1.99	16.0	29.2	36.8	35.2	31.1
<1	6.5	10.8	32.1	42.2	61.1
Total	100.0	100.0	100.0	100.0	100.0

Figures in the parentheses indicate number of students under test
Source: Education Watch learning achievement test, 2007

4.5). On the other hand, 2.1% of the students of the government schools and 0.7% of those in the urban private schools got such score. No student of the rural madrasas and only 0.3% of those in urban madrasas got a GPA score of more than four. Half of the students of the government schools, 30% of those of urban private schools, 10% of those of rural private and urban madrasas, and only 0.7% of those of rural madrasas got GPA three or more. Let us now take a look at the proportion of students who got a GPA score

of below one. The rural students had a much higher share of this compared to their urban counterparts. Over 60% of the students of rural and 42.2% of those of urban madrasas, and 32.1% of the students of rural and 10.8% of those of urban private schools had this lowest score. This figure was 6.5% among the students of government secondary schools.

The above analysis separately for boys and girls is provided in Annex 4.5. The disadvantaged position of girls is reflected across all types of educational institutions. Percentage of students who got GPA three or above was 58.2% among the boys and 45.6% among the girls of the government schools. A third of the boys and 27% of the girls of the urban private schools got a GPA of three or more. Although 15-16% of the boys of the rural private schools and the urban madrasas got GPA three or more it was below 6% among the girls. The worst result was

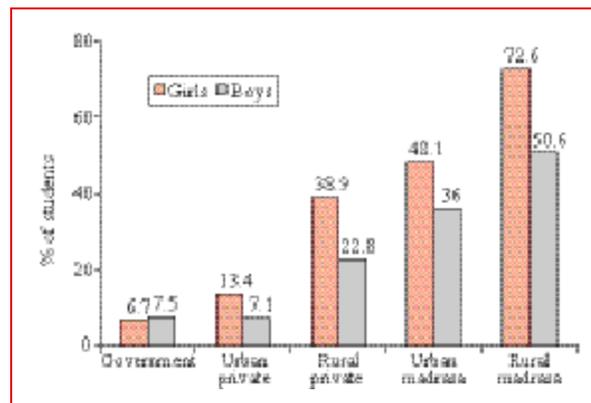
observed in the rural madrasas – none of their girls and only 1.3% of the boys showed such performance. Although the girls of the government schools were less likely in getting GPA score below one than the boys of the same institutions, an opposite scenario

Table 4.6
Percentage distribution of students by grade point and subject area (n = 3,014)

Grade point	Subjects			
	Bangla	English	Mathematics	Everyday Science
5	1.6	2.6	1.1	2.4
4	4.9	4.0	2.3	6.5
3.5	9.6	6.8	4.1	12.4
3	14.0	13.4	9.0	21.5
2	23.8	20.1	17.0	23.8
1	10.6	13.1	13.5	10.6
0	35.5	40.1	53.1	22.8
Total	100.0	100.0	100.0	100.0

Source: Education Watch learning achievement test, 2007

Figure 4.6
Percentage of students got GPA score <1 by school type and gender



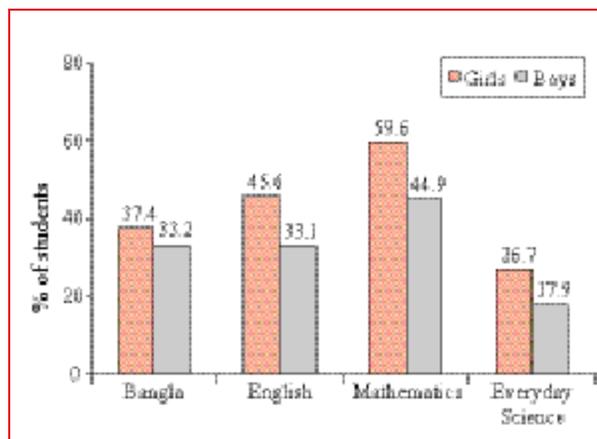
Source: Education Watch learning achievement test, 2007

was observed in the other types of educational institutions (Figure 4.6). It is surprising to see that nearly three quarters of the girls and half of the boys in the rural madrasas got a GPA of below one. About a half of the girls and over a third of the boys in urban madrasas also showed a similarly poor performance.

Subject wise analysis of grade point shows that 2.6% of the students got the perfect score in English, 2.4% in Everyday Science, 1.6% in Bangla and 1.1% in Mathematics (Table 4.6). The boys were ahead of the girls in English, Mathematics and Everyday Science but the girls were ahead in Bangla (Annex 4.6).

Percentage of students who got A- or above (3.5 or more) was 21.3% in Everyday Science, 16.1% in Bangla, 13.4% in English and 7.5% in Mathematics (Table 4.6). A large number of students failed in each subject, that is, received zero in terms of grade point (F grade). They were 35.5% in Bangla, 40.1% in English, 53.1% in Mathematics and 22.8% in Everyday Science (Table 4.6). Proportion of girls receiving F grade was more than that of the boys in each subject; however, the gap was larger in case of English (12.4 percentage points) and Mathematics (14.7 percentage points) (Figure 4.7).

Figure 4.7
Percentage of students received F grade by subject and gender



Figures in the parentheses indicate number of students under test
Source: Education Watch learning achievement test, 2007

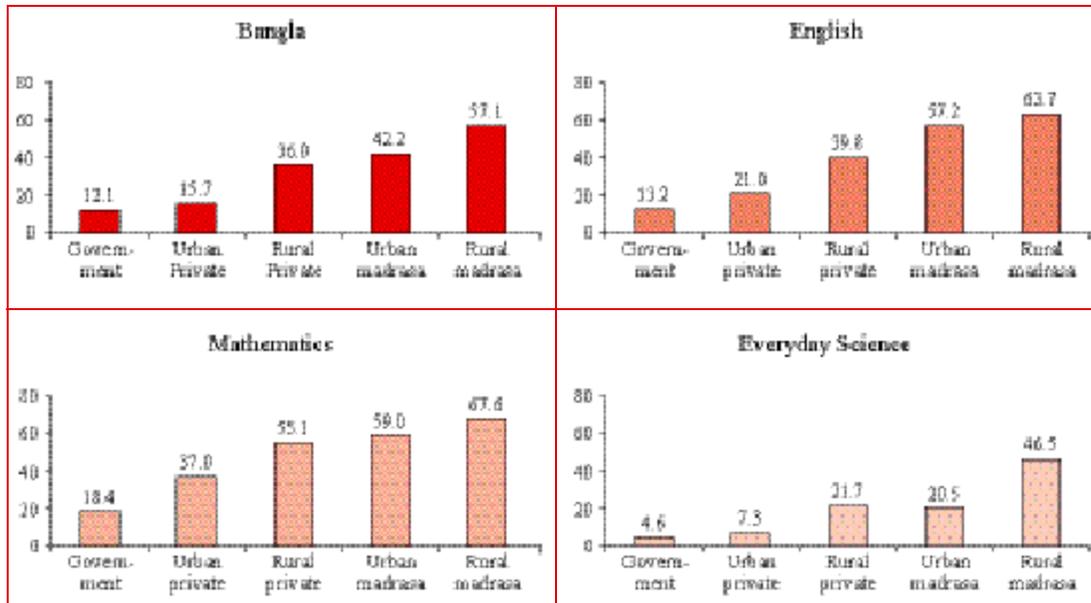
The students of the government schools showed the best performance in all the subjects under test. Of them, 12.1% received the highest grade point in Bangla, 17.3% in English, 9.8% in Mathematics and 12.7% in Everyday Science. None of the other type of educational institutions did like them (Table 4.7 and Annex 4.7). The above figures were respectively 4.5%, 6.8%, 2.8% and 7% among the students of the urban private schools. The rural madrasas, who did worst in the test, 57% of their students received F grade (or zero score) in Bangla, 63.7% in English, 67.6% in Mathematics and 46.5% in Everyday Science (Figure 4.8). The situation of urban madrasas and the rural private schools was not that much good in three subjects viz., Bangla, English and Mathematics.

Table 4.7
Percentage of students who got the perfect score in terms of grade point (i.e., 5) by school type and subject

Subject	School type				
	Government (614)	Urban private (600)	Rural private (608)	Urban madrasa (600)	Rural madrasa (592)
Bangla	12.1	4.5	0.7	1.0	0.3
English	17.3	6.8	1.5	3.5	0.0
Mathematics	9.8	2.8	0.5	0.2	0.0
Everyday Science	12.7	7.0	1.3	1.5	0.0

Figures in the parentheses indicate number of students under test
Source: Education Watch learning achievement test, 2007

Figure 4.8
Percentage of students got 'F grade' in the test by subject and school type



Source: Education Watch learning achievement test, 2007

C. Average scores

Out of the 80 items in the test, on average, the students provided correct answers to 31.4 items (Table 4.8). The average number of correct items was 33.1 for the boys and 30.1 for the girls (Table 4.9). In other words, the students provided correct answers to 39.3% of the items under test; this was 41.4% among the boys and 37.6% among the girls. The median number of correct items was 30; meaning that a half of the students correctly answered 30 or less number of items (Table 4.8). The median number of correct items was 31 for the boys and 29 for the girls (Table 4.9).

Table 4.8
Some basic statistics on number of correct items by subject area (n = 3,014)

Subjects	Number of items	Mean	Median	Standard deviation	Coefficient of variation (%)	Range
Bangla	20	8.1	8.0	3.2	39.5	1-20
English	20	7.7	7.0	3.4	44.2	0-20
Mathematics	20	6.7	6.0	3.0	44.8	0-20
Everyday Science	20	9.0	9.0	3.3	36.7	0-20
Total	80	31.4	30.0	10.3	32.8	6-77

Source: Education Watch learning achievement test, 2007

Subject-wise analysis shows that of the 20 items in each subject, the students, on average, correctly answered 8.1 items in Bangla, 7.7 in English, 6.7 in Mathematics and 9 in Everyday Science (Table 4.8). It clearly shows that in no subject the students collectively knew the correct answers of half of the questions given in the test. The girls lagged behind the boys in each of the subjects (Table 4.9). Highest variation among the students in terms of number of correct items was found in Mathematics (44.8%) and lowest variation in Everyday Science (36.7%). Variation in English was very near to that of Mathematics. Gender-wise analysis shows that variation in the number of correct items of the girls was more in each subject compared to the boys.

Table 4.9

Some basic statistics on number of correct items by subject area and gender

Subjects	Mean	Median	Standard deviation	Coefficient of variation (%)
Girls (n = 1,664)				
Bangla	7.9	8.0	3.2	40.5
English	7.3	7.0	3.3	45.2
Mathematics	6.2	6.0	2.8	45.2
Everyday Science	8.6	8.0	3.4	39.5
Total	30.1	29.0	10.2	33.9
Boys (n = 1,350)				
Bangla	8.2	8.0	3.2	39.0
English	8.2	8.0	3.4	41.5
Mathematics	7.2	7.0	3.2	44.4
Everyday Science	9.5	9.0	3.1	32.6
Total	33.1	31.0	10.2	30.8

Source: Education Watch learning achievement test, 2007

School type wise analysis shows that of the 80 items under test the students of the government schools, on average, made correct answers to 44.2 items; this was 38.4 among the students of urban private schools, 30.8 among those of rural private schools, 28.8 among those of urban madrasas, and 24.7 among those of rural madrasas

Table 4.10

Some basic statistics on number of correct items by school type

School type	n	Mean	Median	Standard deviation	Coefficient of variation (%)	Range
Government school	614	44.2	44.0	12.2	27.6	17–77
Urban private school	600	38.4	37.0	10.5	27.3	10–63
Rural private school	608	30.8	29.0	9.3	30.2	11–72
Urban madrasa	600	28.8	27.0	9.7	33.7	6–52
Rural madrasa	592	24.7	24.0	6.7	27.1	6–60

Source: Education Watch learning achievement test, 2007

(Table 4.10). In other words, the students of the government schools gave correct answers to 55.3% of the items given in the test. This was 48% for the private schools in the urban areas and 38.5% for their rural counterparts. The madrasa students of the rural areas made correct answers to 30.9% of the questions, which was 36% for those studying in urban madrasas. The average number of correct items made by the students by their school type and sex is provided in Figure 4.9. For more analysis see Annexes 4.8 and 4.9.

Graphical presentation of distribution of raw scores in four subject areas is provided in Annex 4.10. The curve varies by school type; however, follows an approximately normal distribution.

The median number of items indicates that half of the students of the government schools correctly answered 44 or more items but similar portion of the rural madrasa students could not go beyond 24 items. The others were in between these two figures. The value of the coefficient of variation was found the highest for the urban madrasas followed by the private schools in rural areas.

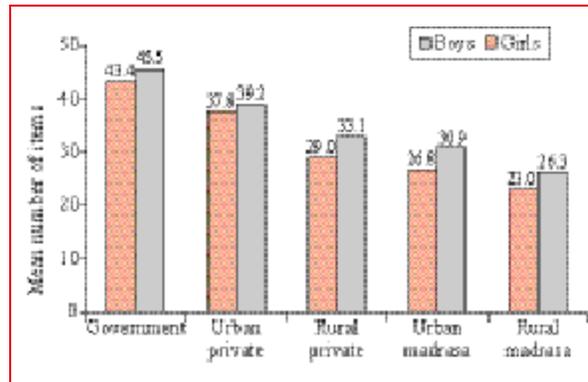
Quintiles of the number of correct items were also calculated. It shows that a fifth of the students correctly answered 23 or less number of items and another fifth correctly answered 40 or more number of items (Table 4.11). It is interesting to note that 61.2%

Table 4.11
Mean number of items and percentage distribution of students of various types of school by quintiles

Quintiles	Range (number of items)	Mean number of items	Percentage distribution of students				
			Government (614)	Urban private (600)	Rural private (608)	Urban madrasa (600)	Rural madrasa (592)
First	0 – 23	19.7	3.3	4.7	23.4	32.3	46.1
Second	24 – 27	25.7	5.2	10.5	16.9	19.7	22.8
Third	28 – 32	29.9	10.9	17.2	22.4	19.7	19.4
Forth	33 – 39	35.7	19.4	26.5	20.2	15.2	9.5
Fifth	40 – 80	47.5	61.2	41.2	17.1	13.2	2.2

Figures in the parentheses indicate number of students under test
Source: Education Watch learning achievement test, 2007

Figure 4.9
Mean number of correct items by school type and gender



Source: Education Watch learning achievement test, 2007

of the students of the government schools belonged to the fifth quintile. Such performance was among the 41.2% of the students of urban private schools and 17.1% of their rural counterparts. In the madrasa sub-sector, 13.2% of the urban and 2.2% of the rural students was in the fifth quintile. It is to be noted that 46% of the students of rural madrasas and a third of those of urban madrasas belonged to the first quintile.

D. Performance in different test items

Students' performance in each of the items under the test and their 95% confidence interval were calculated and presented in Annexes 4.10 to 4.13. This alternatively shows the difficulty level of each of the items. The difficulty level of 10% of the items was below 20%, it was below 30% for 35% of the items and below 50% for 78.8% of the items. Half of the sample students correctly answered 11.2% of the items under test. Three items were found very difficult to the students – below 10% of the students could correctly answer those questions. Two of them are in Mathematics and one in English. More than 80% of the students correctly answered three items in Everyday Science. These were the easier items to the students.

E. Salient findings

Learning achievement of the students of grade X was assessed with an instrument based on common learning objectives set by NCCC for general and madrasa streams. The instrument had four sections, viz., Bangla, English, Mathematics, and Everyday Science. Each part contained 20 question items totalling 80 in the whole test. A number of ways have been considered in analyzing students' performance.

1. Of the students under test, 7.5% correctly answered half of the items in each subject, 17.9% correctly answered 40% of the items in each subject and 27.1% correctly answered 33% of the items. According to the 'pass' criteria in SSC/Dakhil examination, 27.1% of the students passed in the test.
2. Of the four subject areas, the students showed best performance in Everyday Science respectively followed by Bangla, English, and Mathematics. The boys showed significantly better performance than the girls irrespective of criteria used. The gender gap narrowed down as the criteria became stringent. In general, the gap was less in Bangla than the other subjects.
3. The students of the government schools showed the best performance keeping those of the urban private schools behind them with a significant difference. Of the other three, who did worse, rural private schools were at the top followed respectively by urban and rural madrasas. The pass rate was 68% for government, 50% for urban private, 24.5% for rural private, 18.8% for urban madrasa and 7.8% for rural madrasa students.

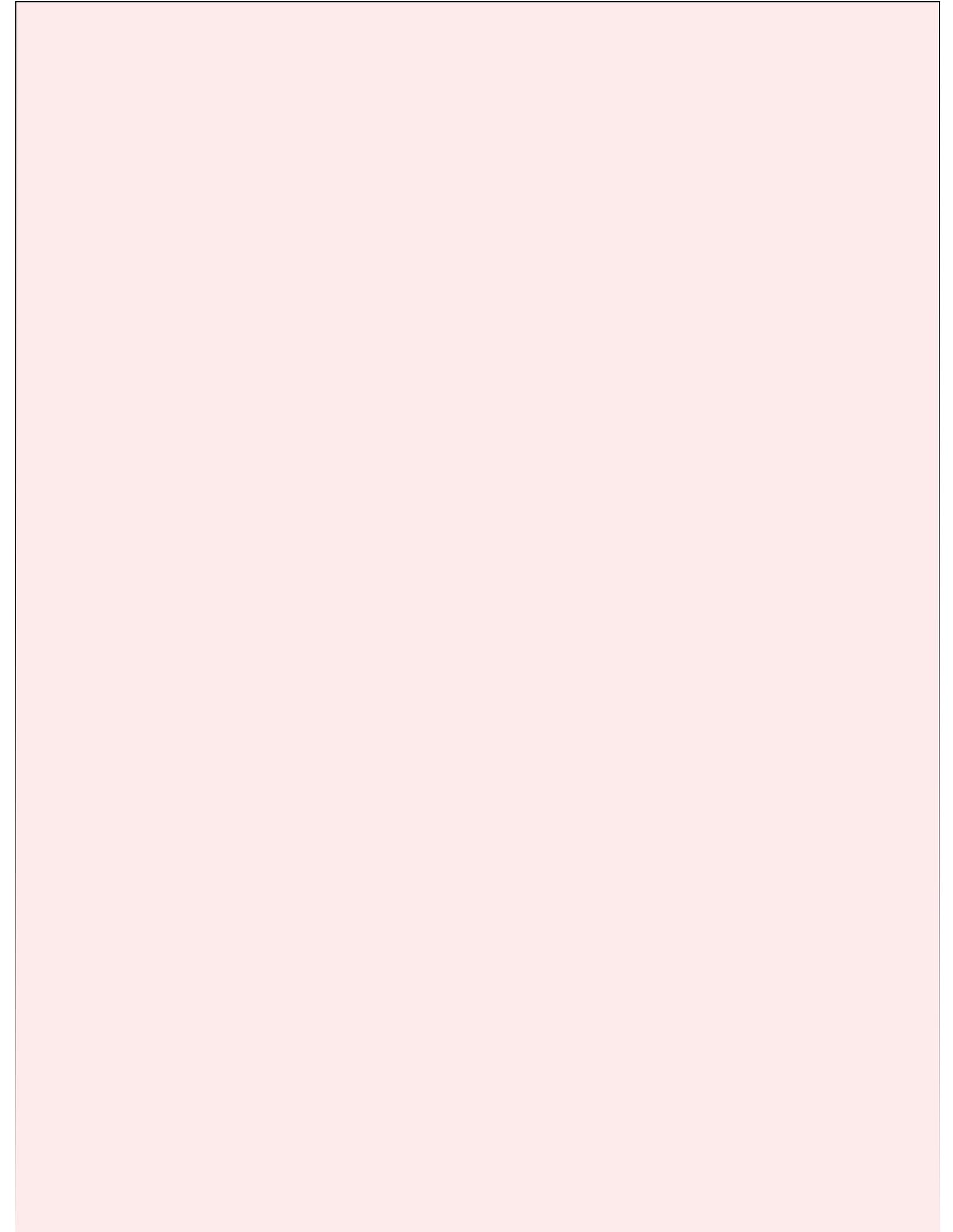
4. Gender difference disfavouring girls persisted in all types of schools. However, it was lesser in government schools than others. Larger gender gap was accounted in rural private schools and the madrasas in both rural and urban areas.
5. In terms of grade point average (GPA), only 0.2% got the perfect score in a five point scale, 2.7% got 4-4.99, 10% got 3-3.99, 20.3% got 2-2.99, 34% got 1-1.99 and 32.7% got less than one. Perfect score was obtained by 2.1% of the government, 0.7% of the urban private and none of other school students. It was 0.3% among the girls and 0.1% among the boys. A quarter of the boys and 38.5% of the girls obtained GPA less than one. Such performance was 6.5% of the government, 10.8% of the urban private, a third of the rural private, 42.2% of the urban madrasa, and 61% of the rural madrasa students.
6. On average, the students correctly answered 31.4 items in the whole test; 30.1 for girls and 33.1 for boys. These figures were respectively 39.3%, 37.6% and 41.4% of the total number of items in the test. Highest variation among the students in terms of number of correct items (measured through Pearson's coefficient of variation) was found in Mathematics (44.8%) and lowest in Everyday Science (36.7%). Variation in English was very near to that in Mathematics. The boys were found more homogeneous than the girls.

Chapter 5

Socioeconomic Correlates of Learning Achievement

Poor facilities in school and inadequate teacher training lead to poor learning outcome of the students. Due to the competition for entry into secondary education, the children of better-off families choose and manage to cater better educational institutions, which lead to widening social inequality. All these are directly linked with learning achievement of the students. Wide spread private tutoring play significant role in sustaining learning inequality.





This chapter analyses selected background characteristics of the students in terms of their relationship with learning achievement. Similar to the Secondary School Certificate and Dakhil examinations, the ‘pass marks’ (33%) was considered as representative of the students learning achievement. An examinee was considered to have ‘passed’ if s/he got a GPA of at least 1 and did not get an F grade in any of the four subjects. In the previous chapter we found 27.1% of the students passed according to this criterion. Here in this chapter, we correlate this against various indicators of the socioeconomic background of the students. The background variables included in the analyses are age of the students, parental education, food security status of households, religion, use of private tutor, habit of reading books other than the textbooks, access to media, etc. In each case, information on the specific variable was described first and then its relationship examined with the ‘pass’ rate.

A. Age and learning achievement

Although 15 years is the expected age for a student in grade X, we found that the age of the students under study ranged from 13 to 26 years. On average, however, they were 15.2 years old with a median of 15 years. A little less than a quarter of the students (23.1%) were 13-14 years old, 44.7% were 15 years old, 22.2% were 16 years and 10% were 17 years or more (Table 5.1). Mean age of the students by school type shows that the madrasa students were older than those of the government and private schools. In terms of age of the students, the classrooms in the urban madrasas were relatively more

Table 5.1
Age distribution of the students by school type and gender

Age (in years)	School type					Gender		All (3,014)
	Government (614)	Urban private (600)	Rural private (608)	Urban madrasa (600)	Rural madrasa (592)	Girls (1,664)	Boys (1,350)	
13	1.8	2.7	0.8	1.3	1.0	1.3	1.0	1.2
14	31.8	29.8	20.9	18.0	16.7	25.6	17.1	21.9
15	51.0	46.5	47.2	34.3	32.6	50.1	37.7	44.7
16	13.0	17.0	22.2	21.3	29.1	18.2	27.3	22.2
17	2.0	3.3	7.1	11.2	13.0	3.4	12.4	7.3
18+	0.3	0.7	1.8	13.8	7.6	1.4	4.5	2.7
Range	13-18	13-18	13-19	13-26	13-22	13-20	13-26	13-26
Mean	14.8	14.9	15.2	15.8	15.6	15.0	15.5	15.2
S.d.	0.77	0.87	0.95	1.78	1.26	0.9	1.2	1.04
Median	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0

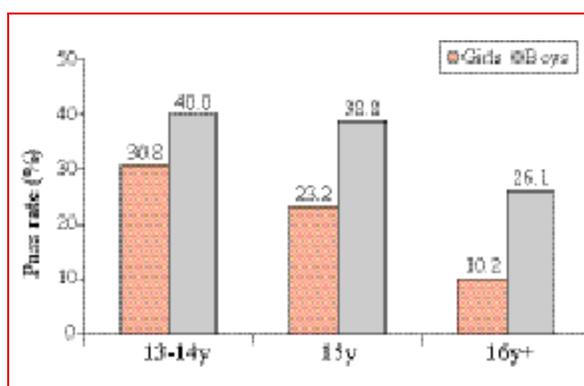
Figures in the parentheses indicate the number of students under test, S.d = Standard deviation

Source: Education Watch students' profile, 2007

heterogeneous than the classrooms of other types of educational institutions, followed by the classrooms of rural madrasas. The classrooms in the government schools were more homogeneous compared to the classrooms in the private schools. Interestingly, we did not see any difference in case of median value of age of the students of different types of educational institutions. It was 15 years for all the cases.

Overall, a negative relationship was observed between age of the students and their learning achievement (Figure 5.1 and Table 5.2). That is to say, younger students did better in the test. The 'pass' rate was 34% among the students of age 13-14 years, 29% among those of age 15 years and 19.7% among those 16 years or older ($p < 0.001$). A similar trend was observed when data were analyzed separately for boys and girls; however, the boys surpassed the girls in each of the age group. Again, the gender gap increased as the age of the students increased – 9.2 percentage points in age 13-14 years, 15.6 percentage points in age 15 years and 16 percentage points for rest of the students. The highest 'pass' rate was among the boys of age 13-14 years (40%) and the lowest among the girls of age 16 years and above (10.2%).

Figure 5.1
Pass rate by age and gender



Source: Education Watch students' profile and learning achievement test, 2007

Analysis by school type also showed the similar relationship between age and pass rate of the students of three types of schools; these are government schools, rural private schools and the urban madrasas (Table 5.2). No statistically significant age

Table 5.2
Percentage of students passed in the test by their age and school type

Age (in years)	School type					All
	Government	Urban private	Rural private	Urban madrasa	Rural madrasa	
13-14	68.6 (207)	53.8 (195)	30.3 (132)	25.0 (116)	3.8 (105)	34.0 (755)
15	70.9 (313)	48.0 (279)	26.1 (287)	20.4 (206)	6.7 (193)	29.0 (1,278)
16+	57.4 (94)	49.2 (126)	18.0 (189)	15.1 (278)	9.9 (294)	19.7 (981)
Significance	$p < 0.05$	ns	$p < 0.05$	$p < 0.05$	ns	$p < 0.001$

Figures in the parentheses indicate the number of students under test

Source: Education Watch students' profile and learning achievement test, 2007

difference was observed in the ‘pass’ rates of the students of urban private schools and the rural madrasas. A reverse trend was observed among the students of rural madrasas, although it was not statistically significant.

B. Parental education and learning achievement

Compared to parents of primary level students as found in previous *Education Watch* (Chowdhury *et al.* 1999, 2002), the parents of the students of secondary schools were more educated. Both the parents of 82.1% of the students under test had at least one year of schooling. Very few students (6.7% of the total) were found in grade X who can be treated as the first generation learners, meaning that both the parents of these students never been to school; which is over 35% in case of primary education (*Education Watch* database, 2005). This indicates that the children of the never schooled parents are less likely to continue their secondary education. The girls were found more vulnerable than the boys in this respect.

Over a fifth of the fathers and 29.6% of the mothers of the students under this study never attended any school or completed their primary education (Tables 5.3 and 5.4). This was the case for 16.2% of the students where both the parents had never-enrolled or completed their primary education; this was 21.3% in the case of the boys and 12.1% in case of the girls. The proportion of fathers completing primary education was 42.4% and this was 52.2% among the mothers.

Table 5.3
Percentage distribution of students by level of fathers’ education and school type

Level of fathers education	School type					All (3,014)
	Government (614)	Urban private (600)	Rural private (608)	Urban madrasa (600)	Rural madrasa (592)	
Incomplete primary	6.4	10.5	21.2	16.5	35.8	21.3
Complete primary but incomplete secondary	17.1	27.2	47.6	37.5	42.3	42.4
Secondary passed	14.7	20.4	14.6	16.5	10.0	14.8
Higher secondary passed	21.3	18.3	7.4	9.2	4.9	9.2
Bachelor/Masters	40.5	23.6	9.1	20.3	7.0	12.3
All	100.0	100.0	100.0	100.0	100.0	100.0
Mean years of schooling	11.4	9.8	7.4	8.7	6.0	7.7

Figures in the parentheses indicate the number of students under test

Source: Education Watch students’ profile, 2007

A big difference was found in the parental education of the students from different types of educational institutions. In general, the educated parents were more likely to send their children to the government schools as first choice followed respectively by the urban private schools and the urban madrasas. The rural private schools attracted students of the lesser-educated parents compared to the above three types of schools and the rural madrasas attracted children who had the least-educated parents. For instance, the fathers of 40.5% of the students of government schools had bachelor or masters degree. This level of fathers' education was 23.6% for the students of urban private schools, a fifth for those in urban madrasas, 9% for those of rural private schools and 7% for those of rural madrasas (Table 5.3). Similar analysis with the mothers education is provided in Table 5.4. The rural madrasa students were so disadvantaged that 35.8% of their fathers and 48.3% of their mothers did never go to school or completed primary education. All these also show that the urban parents were more educated than the rural parents.

Table 5.4

Percentage distribution of students by level of mothers' education and school type

Level of mothers education	School type					All (3,014)
	Government (614)	Urban private (600)	Rural private (608)	Urban madrasa (600)	Rural madrasa (592)	
Incomplete primary	10.3	16.7	29.3	24.8	48.3	29.6
Complete primary but incomplete secondary	27.3	38.4	58.2	50.6	46.9	52.2
Secondary passed	28.3	27.5	10.3	17.4	4.0	12.7
Higher secondary passed	18.5	12.1	1.3	4.8	0.7	3.5
Bachelor/Masters	15.5	5.2	0.8	2.4	0.2	1.9
All	100.0	100.0	100.0	100.0	100.0	100.0
Mean years of schooling	9.5	7.9	5.7	6.4	4.1	5.9

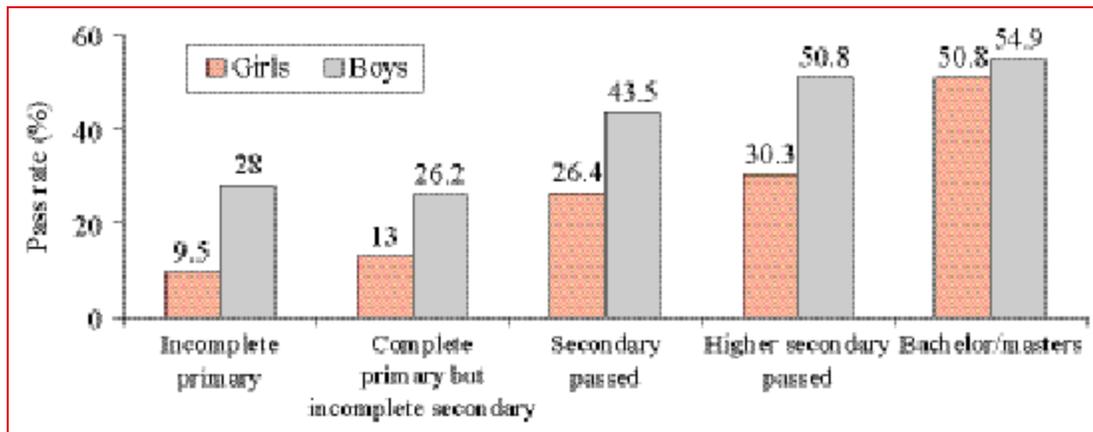
Figures in the parentheses indicate the number of students under test

Source: Education Watch students' profile, 2007

A significantly positive relationship was observed between parental education and children's learning achievement (Figures 5.2 and 5.3 and Tables 5.5 and 5.6). The 'pass' rate of the students was below 20% if their fathers had not completed secondary education, the pass rate jumped up to 32.5% if the fathers had completed secondary education, 40% to those having fathers with higher secondary education and 52% to those fathers had bachelor or masters degree ($p < 0.001$). When the students achievement was cross-tabulated with mothers' level of education we found even

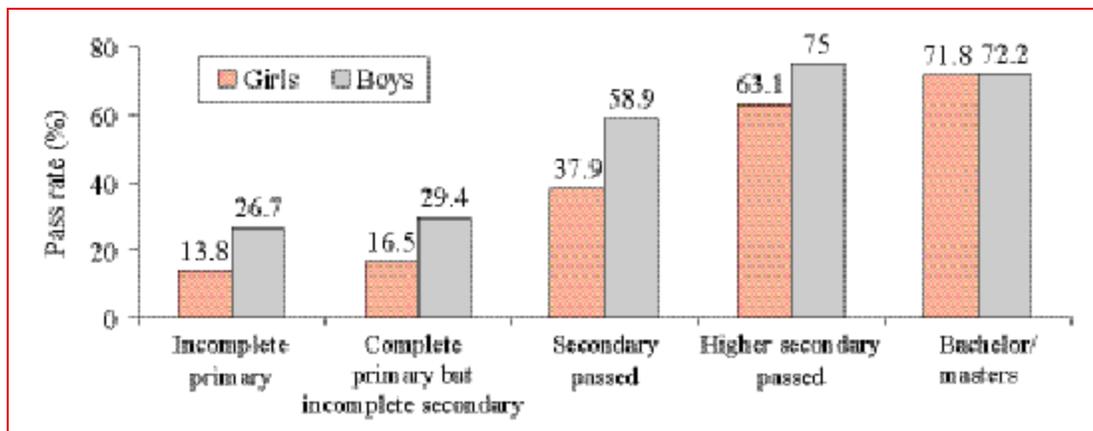
stronger relationship. About a fifth of the students with mothers having education below grade X passed in the test, which went up to 46% for those with mothers who had completed secondary education, 67% for higher secondary completing mothers and 72.4% for the students with mothers having bachelor's or masters degree ($p < 0.001$). Similar trends were found in the pass rates when separate analyses were done for the boys and the girls. The gender gap reduced with the increase of parental education. For instance, the girls were 18.5 percentage points behind the boys if the fathers had incomplete primary education, which gradually decreased to 4.1 percentage points if the fathers had bachelor's/masters degree. Similarly, the boy-girl difference was 12.9 percentage points if the mothers had not completed primary education and only 0.4 percentage points if they had bachelor's/masters degree.

Figure 5.2
Pass rate by fathers' education and gender



Source: Education Watch students' profile and learning achievement test, 2007

Figure 5.3
Pass rate by mothers' education and gender



Source: Education Watch students' profile and learning achievement test, 2007

The above analysis for each type of educational institution is provided in Tables 5.5 and 5.6. Except the relationship between rural madrasa students' performance and their mothers' education, all other relationships were found statistically significant ($p < 0.001$). It was interesting to see that with similar level of parental education, the students of various types of educational institutions did not perform equally well in the test. Statistically significant variation in the performances of the students of different types of schools was prominent. For instance, for children going to government schools, whose fathers had a bachelor or masters degree, 83.7% of them could pass in

Table 5.5
Pass rate by fathers' education and school type

Fathers education	School type					All
	Government	Urban private	Rural private	Urban madrasa	Rural madrasa	
Incomplete primary	38.5 (39)	32.3 (62)	23.8 (126)	9.5 (95)	6.8 (205)	19.9 (527)
Complete primary but incomplete secondary	51.0 (104)	41.9 (160)	17.3 (283)	14.7 (217)	8.7 (242)	18.8 (1006)
Secondary passed	56.2 (89)	48.3 (120)	31.0 (87)	17.9 (95)	5.3 (57)	32.5 (448)
Higher secondary passed	69.0 (129)	53.7 (108)	31.8 (44)	26.4 (53)	14.3 (28)	39.9 (362)
Bachelor's/Masters	83.7 (246)	66.9 (139)	44.4 (54)	31.6 (117)	10.0 (40)	52.1 (596)
Level of significance	$p < 0.001$	$p < 0.001$	$p < 0.001$	$p < 0.001$	$p < 0.001$	$p < 0.001$

Figures in the parentheses indicate the number of students under test

Source: Education Watch students' profile and learning achievement test, 2007

Table 5.6
Pass rate by mothers' education and school type

Mothers education	School type					All
	Government	Urban private	Rural private	Urban madrasa	Rural madrasa	
Incomplete primary	36.5 (63)	34.3 (99)	23.3 (176)	10.4 (144)	9.4 (276)	20.7
Complete primary but incomplete secondary	55.1 (167)	43.0 (228)	20.9 (350)	16.3 (294)	5.6 (268)	21.8
Secondary passed	69.4 (173)	57.1 (163)	38.7 (62)	28.7 (101)	21.7 (23)	46.0
Higher secondary passed	86.7 (113)	68.1 (72)	62.5 (8)	35.7 (28)	- (4)	67.0
Bachelor's/Masters	87.4 (95)	74.2 (31)	60.0 (5)	57.1 (14)	- (1)	72.4
Level of significance	$p < 0.001$	$p < 0.001$	$p < 0.001$	$p < 0.001$	ns	$p < 0.001$

Figures in the parentheses indicate the number of students under test

Source: Education Watch students' profile and learning achievement test, 2007

the test. The ‘pass’ rate could be about 67% if the children studied in the urban private schools and 44.4% if the children’s were sent to the rural private schools. With similar level of fathers’ education (bachelors/masters) 31.6% of the madrasa students of urban areas and only 10% of the rural areas could succeed in the test. What happened to those fathers who could not complete their own primary education but were able to send their children to various types of secondary schools? Little less than 40% of these students of government schools, nearly a third of those in urban private schools, 23.8% of those of rural private schools, below than 10% of those of rural and urban madrasas had passed in the test. Similar kinds of results were found at every level of fathers as well as mothers education.

C. Food security status and learning achievement

As a proxy for economic status of the students under test, self-rated food security status was assessed for each household. The heads of the households were asked to rate their households in a four point scale, viz., *always in deficit*, *sometimes in deficit*, *breakeven* and *surplus* considering all income and expenditure occurred in their households during the one year previous to survey. We found very few heads of the households rated them as *always in deficit*, thus for the sake of analysis we added first two categories in the scale and called themselves as *deficit*. On average, a fifth of the students came from the *deficit* households; over a quarter came from *breakeven* households and 56% came from the *surplus* households (Table 5.7). Compared to the findings of the previous *Education Watch* studies, it can be said that the students of the secondary schools had better economic background compared to the primary school students in general (Chowdhury *et al.* 1999, 2002; Ahmed *et al.* 2006).

Table 5.7

Percentage distribution of students by school type and household food security status

Food security status	School type					All (3,014)
	Government (614)	Urban private (600)	Rural private (608)	Urban madrasa (600)	Rural madrasa (592)	
Deficit	7.2	17.2	15.1	19.7	21.4	20.5
Breakeven	24.6	25.0	27.0	34.5	25.2	26.4
Surplus	68.2	57.8	55.9	45.8	53.4	56.1
All	100.0	100.0	100.0	100.0	100.0	100.0

Deficit includes both ‘sometimes’ and ‘always’

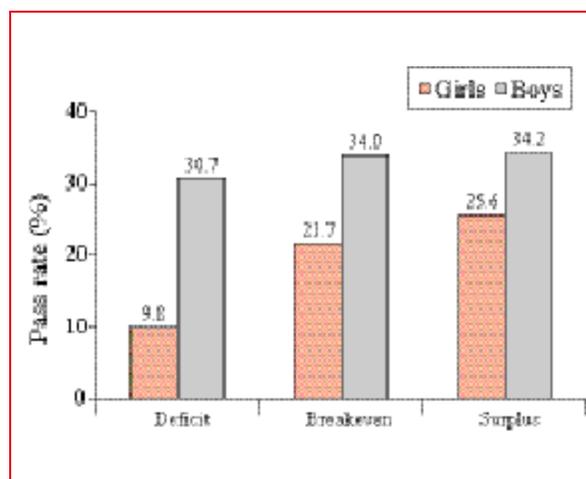
Figures in the parentheses indicate the number of students under test

Source: Education Watch students’ profile, 2007

School type wise analysis shows that in each type of school the majority of the students belonged to *surplus* households, followed by *breakeven* and deficit households (Table 5.7). Although the proportion of students from the *deficit* households was not that much in grade X, it was far less in the government schools (7.2%), moderate in the private schools (rural 15% and urban 17%), and slightly higher in the madrasas (rural 21.4% and urban 19.7%). Proportion of *breakeven* households was highest in urban madrasas (34%) and *surplus* households in the government schools (68.2%).

The performance of the students significantly increased with the improvement in food security status of their households ($p < 0.001$). For instance, 21% of the students from *deficit* households, 27.3% from the *breakeven* households and 29% from the *surplus* households passed in the test (Table 5.8). With similar food security status, the girls in general were significantly less likely to do well in the test compared to the boys (Figure 5.4). The gender gap increased with the decrease of food security status of the households. The gender gap was 8.6 percentage points among the students of *surplus* households, 12.3 percentage points in *breakeven* households and nearly 21 percentage points in the *deficit* households.

Figure 5.4
Pass rate by household food security status and gender



Source: Education Watch students' profile and learning achievement test, 2007

Statistically significant positive relationship between students' performance and households' food security status was observed only in the government schools ($p < 0.05$). The 'pass' rate was 52.3% among those who came from *deficit* households, 65.5% from *breakeven* households and 70.6% from *surplus* households. No significant variation was observed in the performance of the students of the private schools and the madrasas in respect to the variation in household food security status. Interestingly, although the trends were positive in both types of private schools, an inverse trend was seen in the madrasas. In rural madrasas, 12% of the students of *deficit* households passed in the test, which was 8.6% in the *breakeven* households and 5.7% in the *surplus* households (Table 5.8).

Table 5.8
Pass rate by household food security status and school type

Household food security status	School type					All
	Government	Urban private	Rural private	Urban madrasa	Rural madrasa	
Deficit	52.3 (44)	40.8 (103)	18.3 (104)	22.2 (117)	12.0 (125)	21.0 (493)
Breakeven	65.6 (151)	50.0 (150)	25.0 (164)	17.3 (208)	8.6 (151)	27.3 (824)
Surplus	70.6 (419)	53.0 (347)	26.2 (340)	18.5 (275)	5.7 (316)	29.0 (1,694)
Significance	p<0.05	ns	ns	ns	ns	p<0.001

Figures in the parentheses indicate number of students under test

Source: Education Watch students' profile and learning achievement test, 2007

D. Religion and learning achievement

Eighty-six percent of the total students under test were Muslims. The proportion of non-Muslims was 23.8% in the government schools, 17.3% in the rural private schools and 13.5% in the urban private schools. All the students in the madrasas were Muslims (Table 5.9).

Table 5.9
Percentage of students Muslim, ethnic minority and having electricity at home by school type

Characteristics	School type					All (3,014)
	Government (614)	Urban private (600)	Rural private (608)	Urban madrasa (600)	Rural madrasa (592)	
Muslim	76.2	86.5	82.7	100.0	100.0	86.1
Ethnic minority	6.5	1.0	2.1	0.5	0.8	1.9
Having electricity	91.0	92.5	65.8	81.0	62.3	70.5

Figures in the parentheses indicate the number of students under test

Source: Education Watch students' profile, 2007

At the national level, the non-Muslim students were significantly ahead of the Muslim students in terms of 'pass' rate (31.3% vs. 26.5%; $p<0.05$). The girls of the both religious communities were less likely to do well compared to the boys of the same community. The gender gaps, in terms of percentage points, were mostly similar in both the communities. When the data were broken down by gender or school type, no significant difference was observed in the 'pass' rates in terms of religion (Table 5.10 and Annex 5.1).

Table 5.10
Pass rate by religion and gender

Religion	Gender		Both	Level of significance
	Girls	Boys		
Muslim	21.5 (1,440)	32.7 (1,242)	26.5 (2,682)	p<0.001
Non-Muslim	26.5 (224)	39.0 (108)	31.3 (332)	p<0.001
Level of significance	ns	ns	p<0.05	

Figures in the parentheses indicate the number of students under test

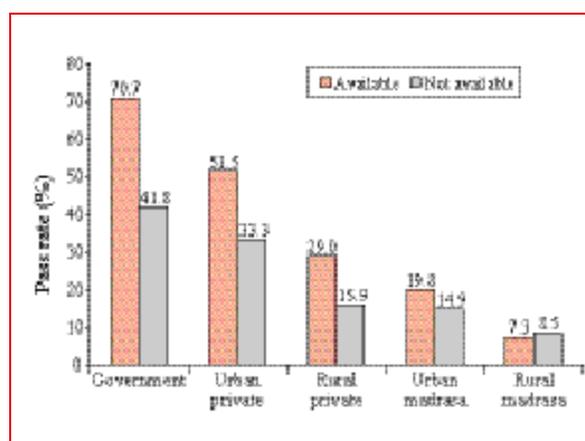
Source: Education Watch students' profile and learning achievement test, 2007

E. Electricity availability at home and learning achievement

Seventy percent of the students under test had electricity availability at home; this figure is much higher than the national average (31.5%) counted in the last census in 2001 (BBS 2003). This also signifies the distance between average population in the country and secondary school population. School type wise analysis shows that electricity was available in the households of over 90% of the students of government and urban private schools, 81% among those in urban madrasas, and below 66% among those in the rural educational institutions (Table 5.9).

Students having electricity facility at home were ahead of those who had no such facility in the pass rates. The difference between these two groups was about 17 percentage points (32.1% vs. 15.3%; p<0.001). The gender gap was nearly 12 percentage points in both the groups (Annex 5.2). School type wise analysis shows that having electricity at home was a significant factor of achieving better 'pass' rates for the students of the government and the private schools. However, no such difference was observed between these two groups of students studying in the madrasas (Figure 5.5).

Figure 5.5
Pass rate by availability of electricity at home and school type



Source: Education Watch students' profile and learning achievement test, 2007

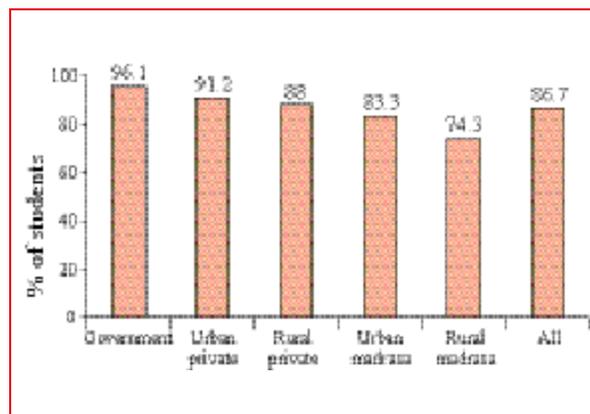
F. Ethnicity and learning achievement

The ethnic minorities counted about 2% in the sample (Table 5.9). However, they did much better than the majority Bangalis in the test. Whereas, about half of the students from ethnic minorities passed in the test, some over a quarter (26.7%) of the Bangali students did so ($p < 0.001$). Due to the risk related to small sample size no further analysis in respect to gender or school type was done.

G. Private tutoring and learning achievement

Over 86% of the students under test had private tutor during their study in the previous grade (i.e., IX) (Figure 5.6). Here, private tutoring means “tutoring which covers only the academic subjects, additional to the provision of mainstream education, occurs outside the official school hour and provided by tutors’ financial gain” (Bray 1999). The girls significantly lagged behind the boys in receiving support from private tutoring (83.7% vs. 90.1%; $p < 0.001$). The incidence of private tutoring was more than 90% among the students of government and urban private schools (96% and 91.2% respectively). It was 88% among the students of rural private schools and 83.3% among those in urban madrasas. Incidence of private tutoring was lowest among the students of rural madrasas (74.3%). Statistically significant gender difference which disfavoured the girls was observed among the students of the rural schools and the madrasas (Annex 5.3).

Figure 5.6
Percentage of students who had private tutor in grade IX by school type



Source: Education Watch students' profile, 2007

The students, on average, received 5.7 months of private tutoring during the reference period (boys 6.4 months and girls 5.9 months). A wide variation was observed among them by school type. For instance, while the students of the urban private schools received 9.1 months private tutoring and the government school students 8.6 months, it was 6.6 months for those in urban madrasas, 5.1 months for those in rural private schools and 3.4 months in rural madrasas. Urban-rural difference was found very prominent than the gender difference in this regard (Annex 5.4).

On average, expenditure for private tutoring was Tk. 2,775 per student during the whole academic year of grade IX. Expensive tutoring was taken by the students of the urban private schools followed by those in the government schools. The cost for

private tutoring was more among the students of urban educational institutions than those in rural areas. It was higher among the students of the private schools compared to those in the madrasas (Annex 5.5).

Figure 5.7 shows that the 'pass' rate was 29% among the students having private tutor and 15.6% among those had no private tutor ($p < 0.001$). The gender difference in performance was more among those having private tutor compared to those had not (10.8 percentage points vs. 7.2 percentage points). The incidence of private tutor created wider gap between the boys and the girls (14.2 percentage points vs. 10.6 percentage points). A positive impact of private tutoring was observed among the students of three types of schools; these are government, urban private schools and the rural madrasas (Figure 5.8). Gap in 'pass' rate between those had private tutor and those who did not was much higher among the students of government schools (27.5 percentage points), followed respectively by those in urban private schools (17.7 percentage points) and rural private schools (7.8 percentage points). An interesting case is the urban madrasas; here the 'pass' rate was slightly higher among those who had no private tutor than those who had private tutor.

The correlation coefficient between the number of months the private tutor was used and the yearly expenditure for this was positively correlated ($r = 0.48$; $p < 0.01$). This means that as the number of months of using private tutor increased, the costs for it also increased significantly. Both the number of

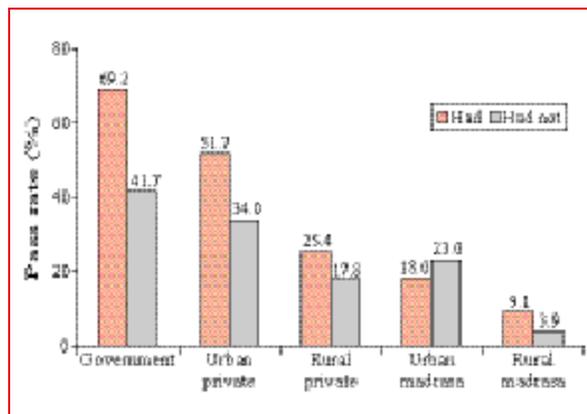
months of utilizing a private tutor and costs for it was positively correlated with the performance of the students when measured in terms of number of correct items in the test. The correlation coefficients were respectively 0.37 ($p < 0.01$) and 0.38 ($p < 0.01$).

Figure 5.7
Pass rate by incidence of private tutor and gender



Source: Education Watch students' profile and learning achievement test, 2007

Figure 5.8
Pass rate by incidence of private tutor and school type



Source: Education Watch students' profile and learning achievement test, 2007

H. Students access to non-academic books and media

The students access to non-academic books and media were assessed. Nearly two-thirds of the students read at least one non-academic book during last one month of interview. Majority of the students studied literary books (48.3%), followed by religious books (15.9%). Whereas, the majority of the students of the government and private schools studied literary books as part of non-academic study, it was both literary books and religious books for the students of madrasas. Lesser proportion of the madrasa students studied literary books compared to those in other types of educational institutions. No gender difference was observed in this regard (Table 5.11).

Table 5.11
Percentage of students read books rather than textbooks
during last one month of interview by type of books and school type

Type of books	School type					All (3,014)
	Government (614)	Urban private (600)	Rural private (608)	Urban madrasa (592)	Rural madrasa (600)	
Literary books	59.9	50.0	51.2	44.5	32.9	48.3
Magazines	9.1	9.2	5.8	13.7	7.6	6.9
Books on general knowledge	11.9	7.2	6.9	8.3	11.1	7.8
Science related books	9.6	3.3	1.3	3.2	1.5	1.9
Religious books	6.7	7.5	12.7	34.8	36.5	15.9

Source: Education Watch students' profile, 2007

Three types of media were considered, viz., radio, television and newspaper. The reference period was one week prior to interview. A third of the students had access to radio, 52% had access to newspaper and 80% had access to television (Table 5.12). About 30% of the students of the government and urban private schools had access to

Table 5.12
Percentage of students having access to mass media

Type of books	School type					All (3,014)
	Government (614)	Urban private (600)	Rural private (608)	Urban madrasa (600)	Rural madrasa (592)	
Listened radio programme	30.0	29.3	33.6	32.4	34.8	33.0
Watched programme on TV	93.6	92.2	79.4	76.7	66.6	79.8
Read newspaper	74.8	71.0	47.7	66.2	44.1	51.9

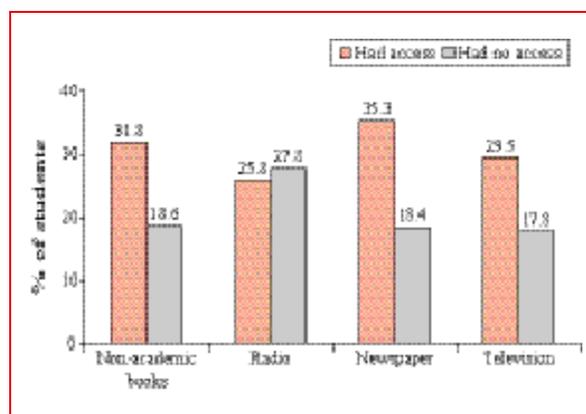
Figures in the parentheses indicate the number of students under test

Source: Education Watch students' profile, 2007

radio and it was about 32-35% among those in other three types of schools. About three-quarters of the students of government schools, 71% of those of urban private schools, two-thirds of those of urban madrasas, and less than a half of the rural secondary school students had access to newspapers. Over 90% of the students of government schools and urban private schools had access to television. It was about 80% of the students of rural private schools, three-quarters of those in urban madrasas and two-thirds of those in rural madrasas.

Students' access to non-academic books and media played a positive role on learning achievement (Figure 5.9). For instance, 31.6% of the students who had access to non-academic books and 18.6% of those who had no access to this passed in the test ($p < 0.001$). Over 35% of the television viewers and nearly 30% of the newspaper readers passed in the test. These rates were significantly higher compared to the similar rates of those who had no access to these media. No statistically significant difference was observed among the students who had access to radio and who had not.

Figure 5.9
Pass rates of the students in respect to access in non-academic books and media



Source: Education Watch students' profile and learning achievement test, 2007

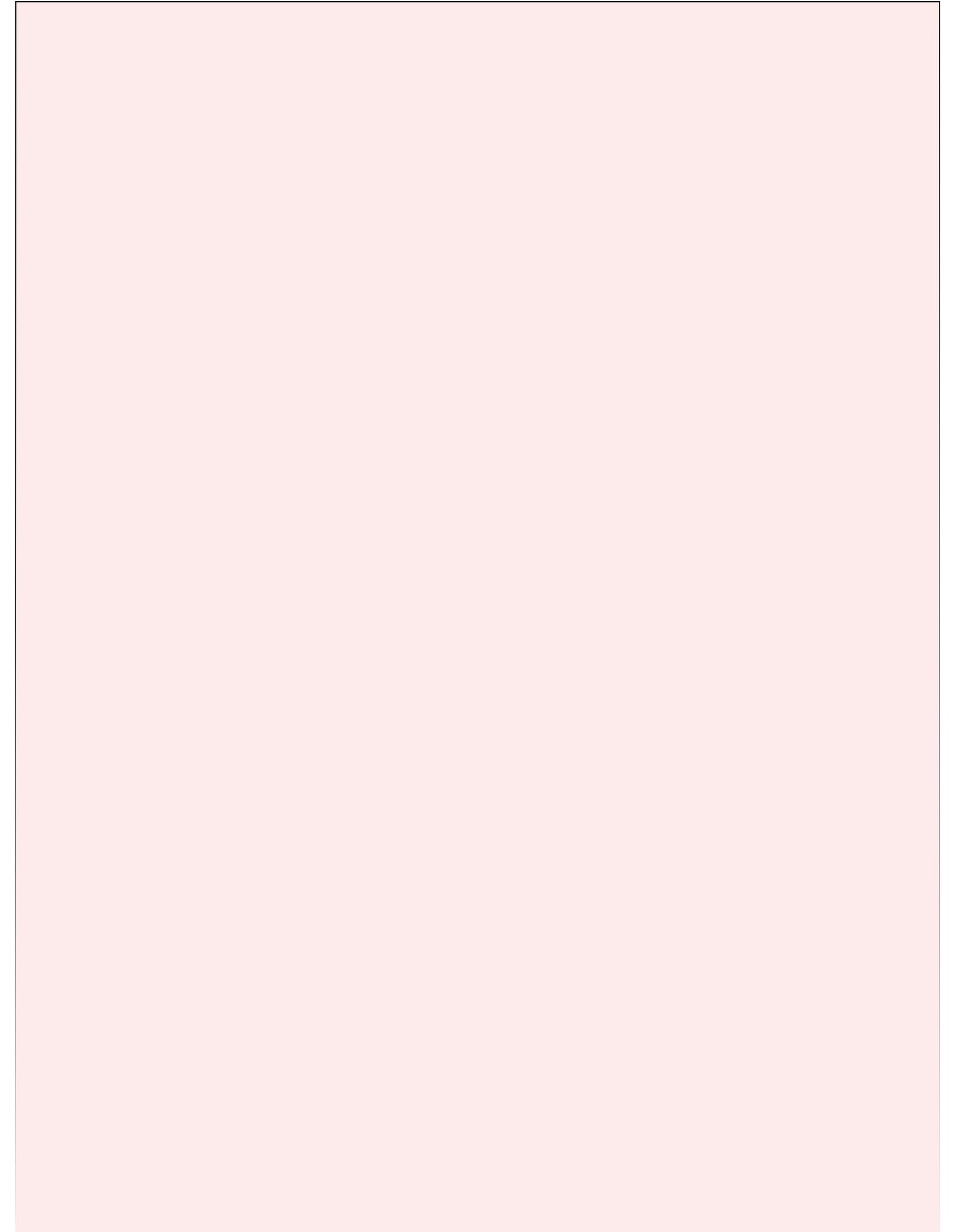
I. Salient findings

Students' background information and its relationship with their learning achievement were explored in this chapter. The following are some important findings.

1. Age of the students varied from 13 to 26 years with a mean of 15.2 years and median 15 years. Twenty-three percent of the students was under-aged, a third over aged and rest were with perfect age (15 years) for grade X. On average, the madrasa students were older than others, and rural students than those of urban areas. The 'pass' rate significantly decreased with the increase of age-34% for 13-14 years old, 29% for 15 years old and 19.7% for 16+ years old. No age difference was found in urban private and rural madrasas.
2. Although a significant positive correlation was observed between the years of schooling completed by both the parents; the fathers were more educated than the mothers. The parents of the students of government and urban private schools were more educated than others. Parents of the madrasa students were

least educated. A significantly positive relationship was found between parental education and students' learning achievement. However, in statistical sense, the relationship of 'pass' rate was much stronger with mothers' education than that of fathers' education. About a fifth of the students passed if the parents did not enroll in school or kept primary education incomplete, the rate went up to 52% if the father had a bachelor's/masters degree and to 72.4% if the mother had a bachelor's/masters degree.

3. A fifth of the students came from *deficit* (in food security) households, 26.4% from *breakeven* households and 56% from *surplus* households. Proportion of *surplus* households was 68% in government, 58% in urban private, 56% in rural private, 46% in urban madrasas, and 53% in rural madrasas. The 'pass' rate significantly increased with the improvement of household food security status—21% in *deficit*, 27.3% in *breakeven* and 29% in *surplus* households. Gender gap in 'pass' rate decreased with the improvement of food security status.
4. Of the sampled students, 86% were Muslims and about 2% were ethnic minorities. Over 70% of them had electricity availability at home. The non-Muslim students did well than the Muslims in the test (31.3% vs. 26.5%; $p < 0.05$), ethnic minorities than the Bangalis (50% vs. 26.7%; $p < 0.001$), and those having electricity at home surpassed their counterparts (32% vs. 15.3%; $p < 0.001$).
5. Over 86% of the students had private tutors in grade IX. It was almost universal among the students of government schools (96%). Students of urban private schools and madrasas were ahead of their respective rural counterparts. The students, on average, received 5.7 months support from private tutors and spent Tk. 2,775 for this. Similar to variation in incidence of private tutor, mean month of using a private tutor and average cost for this varied according to school type. The 'pass' rate was 29% among those who had a private tutor and 15.6% among those had not ($p < 0.001$). The correlation coefficient between number of months of using private tutor and yearly expenditure for this was 0.48 ($p < 0.001$). Both of these were significantly positively correlated with the number of correct items in the test. The correlation coefficients were respectively 0.37 ($p < 0.01$) and 0.38 ($p < 0.01$).
6. Nearly two-thirds of the students read non-academic books during one month prior to interview; majority read literary books (48.3%) followed by religious books (16%). In terms of access to media, a third of the students listened to radio programmes, 80% watched programme on TV and 52% read newspapers. Students' access to non-academic books and media had positive role on learning achievement. Significant influence on learning achievement was found in student's ability to access to non-academic books, newspapers and television but not access to radio.

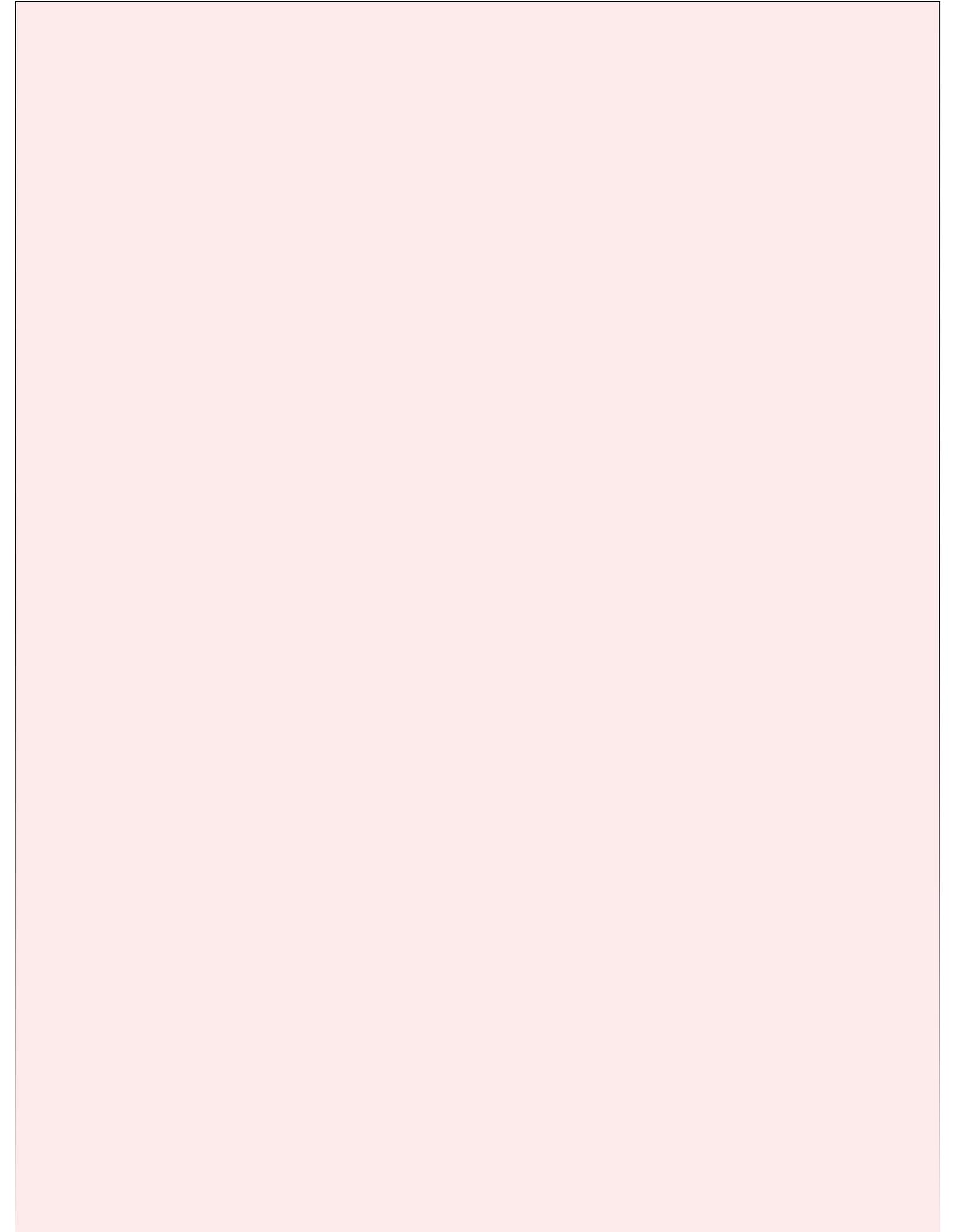


Chapter 6

Curriculum Implementation at Institution Level

Implementation of curriculum at the institution level seemed to be very poor. Majority of the head teachers and the superintendents are not aware of the strengths and weaknesses of the curriculum they implement. Students report shows that a good portion of their teachers do not have enough knowledge in their subjects. Over a third of the teachers do not have training for improving quality of teaching. Two-fifths of the teachers are involved in private tutoring.





Curriculum development and its proper implementation are both critical for quality education. Learning achievement of the students largely depends on how the curriculum is implemented in classrooms. We discussed the secondary curriculum in Chapter 3. Information on students' background, which has some bearing on curriculum implementation were presented in Chapter 5. This chapter looks at the extent of curriculum implementation at the institutional level. Heads of institutions, teachers and students were interviewed to collect information on annual academic plan, strengths and weaknesses of curriculum, teachers' skills and practices, teaching style, student evaluation system and co-curricular activities.

A. Annual academic plan and curriculum

The heads of the secondary educational institutions under test were asked about the existence of annual plan for academic activities. More than half mentioned that they had written plans. By school type, two-thirds of the government and urban private schools, 48.3% of the urban madrasas, 43.3% of the rural private schools and 38% rural madrasas had annual plan for academic activities (Table 6.1).

In respect of the curriculum, 73% of the heads of the institutions said that they saw and read the written curriculum. However, only 57.4% of them had a copy of it during interview. Nearly 43% of the heads reported that they received orientation or training on curriculum implementation (Table 6.1). No common trend was found when data were analyzed by school type. Urban private schools were ahead of the others in the first three issues. Most of the madrasa heads reported that they had discussed the curriculum with their colleagues. In this regard, the urban madrasas were ahead of the others. Three-quarters of the heads of the institutions claimed that they discussed curriculum implementation with their colleagues off and on. Nearly 44% reported that they discussed teaching methods and lesson plans, 27.6% discussed syllabus and contents in the textbooks; overall quality of school and student development was discussed by 27% of the heads; 15% of them discussed students' assessment, examinations, etc. Some of the heads reported that they discussed with their colleagues the strengths and weaknesses of curriculum, students enrolment, dropout, and co-curricular activities.

Heads of the institutions were asked to identify the strengths and weaknesses of the present curriculum at secondary level. Over 45% of the respondents said that they did not know it. A third of them felt that such a question was irrelevant because they could not do much about it even if it was weak as their role was simply to implement the curriculum given to them by the NCTB or BMEB. Together, 78% of the heads of the educational institutions were unaware about strengths and weaknesses of the curriculum that they were leading implementation. Those heads who could identify some strengths of curriculum, 34.2% of them considered it as modern, 27.7% thought

some important issues were given adequate emphasis, 15.8% believed that new contents were added and 9.2% opined that everything was good. Some of the heads noticed that there was a tendency to equalize both general and madrasa streams (6.6%) and some mentioned that the system of students' assessment was better than before (5.3%).

Table 6.1
Educational institutions and selected aspects of curriculum implementation

Selected aspects of curriculum implementation	Government (30)	Urban private (30)	Urban madrasa (29)	Rural private (30)	Rural madrasa (29)	All (148)
Have annual academic plan (%)	66.7	66.7	48.3	43.3	37.9	52.7
Head of institution read written curriculum (%)	60.0	86.7	65.5	70.0	82.8	73.0
Head of institution received training on curriculum (%)	43.3	50.0	27.6	46.7	44.8	42.6
Head of institution had a copy of curriculum (%)	56.7	63.3	58.6	50.0	58.6	57.4
Head discussed curriculum related issues with colleagues (%)	66.7	80.0	86.2	66.7	75.9	75.0

Figures in the parentheses indicate number of head teacher/superintendents interviewed

Source: Education Watch head teachers/superintendents interview, 2007

Regarding weaknesses in the curriculum, 27% of the heads mentioned the absence of subject-based teaching instruction as the most important limitation. Other limitations identified by the heads of the institutions were that there was not enough discussion on selected contents in the textbooks (13.6%); poor quality compared to international standard (12.3%) and lack of adequate attention to some subjects (11.1%). About 8% of the heads were unhappy about difference between the curriculum of general and madrasa streams. Nearly 10% of the heads thought that the length of contents in the textbooks and the syllabus was too vast and number of books was too many which caused barriers for many students with lower socioeconomic background. However, overwhelming majority of the heads (96-98%) claimed that their teachers were able to complete more than 80% of the contents in the syllabus of Bangla, English and Mathematics.

B. Opinion on teacher skills

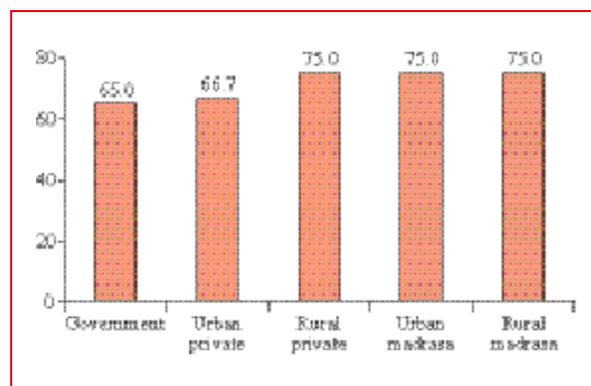
The heads of the educational institutions were asked on the different skills of his/her teachers who teach Bangla, English and Mathematics. They were given a five point scale on the teachers' subject knowledge, teaching ability, analytical skills and

classroom management skills. The points in the scale ranged from very strong, strong, mediocre, poor and very poor. Each head teacher selected two teachers in each subject and rated them. Number of teachers in this assessment was 246 in Bangla, 239 in English and 226 in Mathematics; totaling 711. A general tendency of the heads was to rate the teachers as 'strong' or 'very strong'. On average, around half of the teachers were rated as 'strong' and 32-38% as 'very strong'. Proportionately more mathematics teachers were rated 'strong' or 'very strong', followed by teachers of English and Bangla.

Students of grades IX and X study at least ten subjects and therefore come in contact with a large number of teachers. The students were asked to report the number of teachers they were taught by and how many of them were 'knowledgeable' in their subjects. The government and urban private school students reported that about two-thirds of their teachers were 'knowledgeable'. On the other hand, students from the other three types of schools, three-fourths of their teachers were rated as 'knowledgeable' in their respective subjects (Figure 6.1). When the students were asked on how they knew that the teachers were knowledgeable; majority of the students replied that if the teacher explain the topic with adequate example, discuss all necessary things related to the topic and provide satisfactory answers to the questions raised by the students they considered the teacher as knowledgeable.

Of the students under study, 14.2% reported that none of their teachers encouraged them to study any books other than the textbooks. In case of 3.6% of the students none of their teachers attended classes on time. Nearly 59% of the students reported that none of their teachers encouraged group work in the classrooms and a third of them reported that they got at least one teacher who did not teach properly. The students also reported that punishment by the teachers was prevalent in the secondary educational institutions. Around one-third of the students reported on suffering mental abuse by the teachers and over one-fifth reported having suffered physical punishment.

Figure 6.1
Percentage of teachers rated as 'knowledgeable' by their students



Source: Education Watch students interview, 2007

Table 6.2 presents average number of teachers who are engaged in good practice by type of educational institution. As the students reported, 82.4% of their teachers attended timely to their classrooms, 91.7% of them taught appropriately and nearly 16% offered group work in the classrooms. A third of the teachers meted out verbal

punishment and 22.7% engaged in physical punishment. Not much variation was observed in the above activities in terms of type of educational institution.

Table 6.2
Percentage of teachers engaged in selected good practices: students' response

Teachers' activities	Type of educational institution					
	Government (614)	Urban private (600)	Rural private (608)	Urban madrasa (600)	Rural madrasa (592)	All (3,014)
Attended in class timely	81.2	81.7	80.3	87.8	86.0	82.4
Taught appropriately	91.2	91.0	91.2	89.3	89.5	91.7
Offered group work in the classrooms	11.4	17.6	10.8	16.1	13.5	15.9
Encouraged students to study out books	41.0	44.5	36.2	42.7	39.2	42.6
Mentally abused to the students	38.5	34.0	37.6	27.5	38.3	33.9
Physically punished to the students	15.5	24.8	17.4	21.9	21.2	22.7

Figures in the parentheses indicate number of students interviewed

Source: Education Watch Students interview, 2007

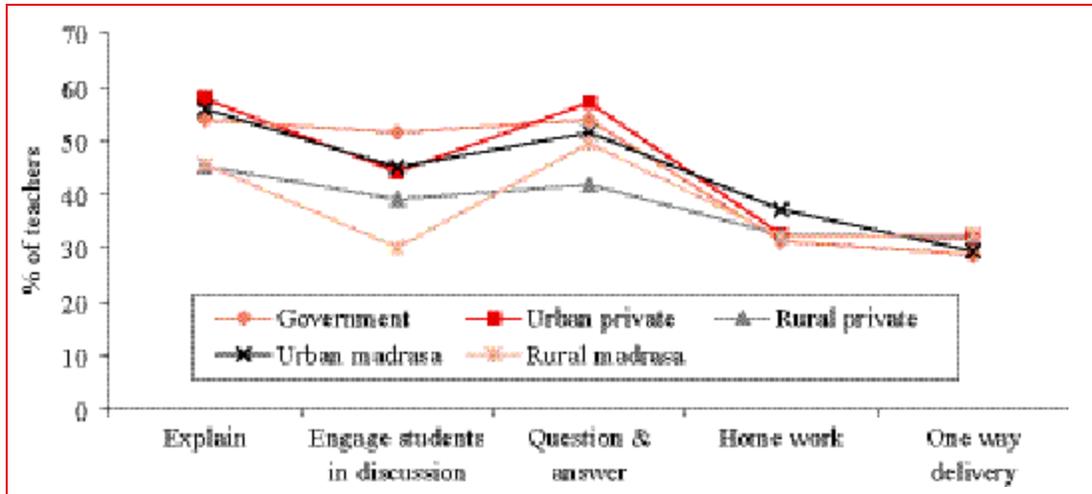
C. Teaching style

The teachers were asked to report about the teaching style they often follow in the classrooms. To a large extent, teaching style of the teachers in various types of educational institutions was similar. Generally, teaching in the government and urban schools were more interactive than the rural schools and madrasas. Figure 6.2 shows the teaching practices among teachers of different types of educational institutions.

Majority of the teachers of all five types of educational institutions reported that they often gave explanation of the topic and then followed the question and answer method in teaching. A good proportion of them also claimed that they ensured students participation in discussion. Relatively lesser proportion of the teachers reported that they depend on home tasks and lecture only i.e., a form of one way delivery.



Figure 6.2
Percentage of teachers by type of teaching style and school type



Source: Education Watch teachers interview, 2007

Besides teaching approaches, the teachers emphasized classroom control as well. A large number of teachers in different types of institutions emphasized the need to control student behavior. In this regard madrasa teachers were found to be stricter than those under general stream.

The teachers were also asked about their expectations on the type of answers their students provide in the examinations. Majority of them said that it is the correct answer that they look for. A good proportion of the teachers reported that they expect the students reply to the questions in an innovative way. About a quarter expected that the students answered in the way they taught in the classrooms. Less than 10% expected the students to follow the textbooks in order to answer the questions in examination.

D. Professional aspects of teaching

In order to provide quality teaching, teachers need to follow a certain standard, which are related to number of trainings attained, teaching load per week, number of subjects taught or engagement in private tutoring, etc. Table 6.3 provides such information of the teachers segregated by type of educational institutions.

On average, 35% of the teachers under study did not receive any training that can improve their teaching capacity. More than half of the madrasa teachers fell in this category and this rate was 29.6% in government, 22.9% in urban private and 19.7% in rural private schools. Mean number of training received per teacher was also highest among the teachers of rural private schools. Two-fifths of all teachers offered

supplementary private tutoring. The rate was highest in urban madrasas followed by urban private schools and lowest in rural madrasas. Over 37% of the government school teachers and 41.2% of those in rural private schools were engaged in private tutoring. Average number of tutees per teacher was 13.5; the highest number occurred in government schools and lowest in rural madrasas.

Table 6.3
Teachers' professional background by school type

Issues regarding profession	Type of educational institution					
	Government (304)	Urban private (301)	Rural private (289)	Urban madrasa (295)	Rural madrasa (289)	All (1,478)
% of teachers with no training for improving teaching quality	29.6	22.9	19.7	52.2	50.9	35.0
Mean number of training received per teacher	2.1	2.3	2.7	2.2	1.5	2.2
% of teachers offered private tutoring	37.2	46.2	41.2	48.1	30.4	40.7
Mean number of students received private tutees per teacher	16.7	14.1	14.4	12.3	9.3	13.5
% of teachers to whom no student interacted outside classroom	27.6	19.3	14.2	21.4	18.3	20.2
Mean number of students per teacher interacted outside classroom	6.9	7.1	7.3	6.1	5.5	6.6
Average number of classes taught in a week	22.3	26.2	22.6	28.1	26.4	25.1
Average number of subjects taught in grades IX-X	1.9	1.9	2.1	1.7	1.8	1.9
Average number of supplementary books the teachers have	8.0	7.8	5.4	6.0	5.3	6.5

Figures in the parentheses indicate number of teachers interviewed

Source: Education Watch teachers interview, 2007

A fifth of the teachers reported that no students came to them to discuss any academic matters outside classroom. The others mentioned fewer number of the students interacted with them each week. On average, 6.6 students interacted with each teacher per week. Such interaction was more in the schools under general stream than the madrasas. The teachers, on average, attended 25 classes during the week, prior to the

interview. Teachers' class load was higher in the madrasas and the urban private schools than the government and rural private schools. The teachers, on average, offered two subjects of grades IX and X with no variation by type of educational institution. Ninety percent of the teachers reported that they used supplementary books for their preparation. On average, each teacher used 6.5 books. The teachers of government and urban private schools were ahead of the others in this case.

E. Teachers study habits

Quality of a teacher depends on many factors including everyday study habits. We investigated how many of the teachers have reading habits other than the regular textbooks. Ninety percent of the teachers reported that they read books other than the textbooks. On average, 56% of the teachers reported that they studied literary books, a half studied religious books, a quarter read books on general knowledge including science and a fifth periodicals, magazines, etc. (Table 6.4). Literary books include short story, novel, drama, poetry, short and long essays etc. The government and private (both rural and urban) school teachers were more likely to study literary books; madrasa teachers read religious books. Proportionately more teachers of government and urban private schools included magazines/periodicals in their list. The government school teachers were ahead of the others in terms of studying books on general knowledge and science. Proportion of teachers with no study habit was more in the private schools followed by government schools and the madrasas.

Table 6.4
Percentage of teachers having study habits other than textbooks by type of reading materials and schools

Type of reading material	Government (304)	Urban private (301)	Rural private (289)	Urban madrasa (295)	Rural madrasa (289)	All (1,478)
Literature	66.4	59.8	59.2	48.8	46.0	56.2
General knowledge and science	32.6	18.9	20.4	22.0	21.1	23.2
Religious books	31.9	38.5	41.9	71.9	70.9	50.8
Magazines, periodicals, etc.	28.8	24.6	17.6	18.3	15.9	21.1
Do not study	10.5	14.0	14.2	7.1	3.5	9.9

Figures in the parentheses indicate number of teachers interviewed

Source: Education Watch teachers interview, 2007

F. Difficulty with study

Quite a significant proportion of students struggled with their study in at least three subjects: Bangla, English and Mathematics. Their responses are shown in Table 6.5. It indicates that a large section of students irrespective of type of institutions faced difficulty in studying Mathematics. English was the second difficult subject for the students. Compared to the students under general stream, madrasa students faced greater difficulty in all subjects. This may be the consequence of teacher' quality in various types of educational institutions. However, larger portion of the students in all institutions mentioned that they liked the teaching approach of their teachers in various subjects.

Table 6.5
Percentage of students indicating difficulty in studying by type of schools

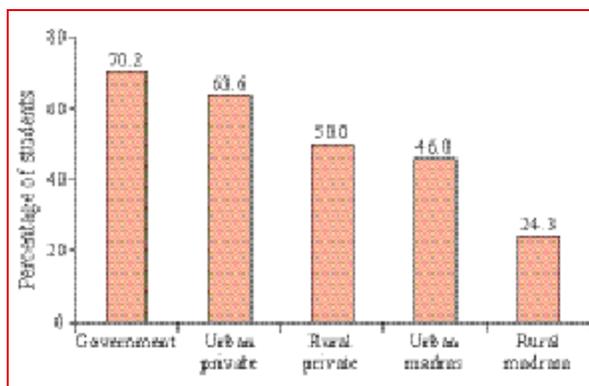
School type	Subjects		
	Bangla	English	Mathematics
Government (614)	15.3	34.2	38.5
Urban private (600)	18.4	34.1	40.2
Rural private (608)	15.1	41.1	47.2
Urban madrasa (600)	22.4	67.0	45.9
Rural madrasa (592)	18.5	72.6	52.2

Figures in the parentheses indicate number of students interviewed

Source: Education Watch students interview, 2007

Besides, the liberal arts students also studied Science as well. These subjects are largely practical oriented but it was found that in most of the cases the institutions did not provide emphasis on such practical classes. Data suggest that except for

Figure 6.3
Percentage of science students with access to practical class in grade IX



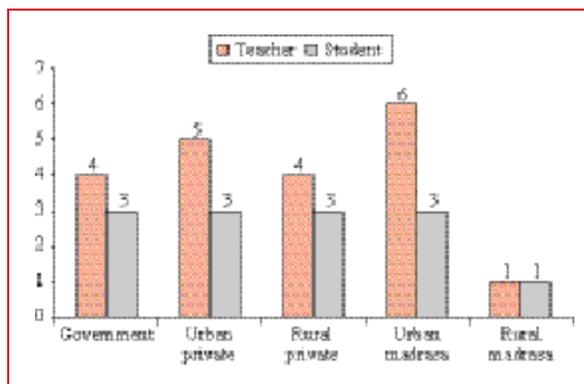
Source: Education Watch students interview, 2007

government schools, few students from other institutes had the opportunity to attend Science practical classes (Figure 6.3). Condition of the madrasas and the rural private schools were worse. The worst situation was found in the rural madrasas where only a quarter of the tenth grade students mentioned that they had opportunity to participate in a practical class in grade IX. Number of practical classes was also very limited (Figure 6.4). Students mentioned that they had only two to six practical classes on average. In this respect, urban madrasa students had only two practical classes in almost one academic year.

government schools, few students from other institutes had the opportunity to attend Science practical classes (Figure 6.3). Condition of the madrasas and the rural private schools were worse. The worst situation was found in the rural madrasas where only a quarter of the tenth grade students mentioned that they had opportunity to participate in a practical class in grade IX. Number of practical classes was also very limited (Figure 6.4). Students mentioned that they had only two to six practical classes

The previous year's account of Science practical class was collected. In such classes experiments are supposed to be primarily demonstrated by the respective teacher and then independently or in groups by students. However, in majority of the cases the students reported that practical classes consisted only of the teacher's demonstration of the experiments. The students had few opportunities to do the experiments by themselves (Figure 6.4).

Figure 6.4
Mean number of practical performed by teachers and students in class



Source: Education Watch students interview, 2007

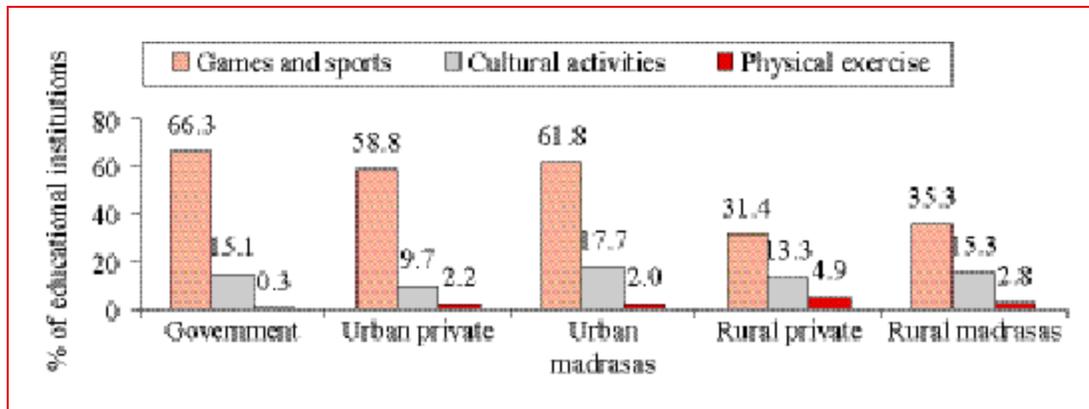
G. Student assessment system

The educational institutions under study followed various types of students' assessment procedure. In majority of the cases, there were three formal examinations during an academic year, viz., first term, second term and annual. In a few schools, there were only two such examinations, viz., half-yearly and annual examinations. Over half of the heads of the government and urban private schools and urban madrasas reported that they introduced monthly examination system for the students of grades IX and X. Only 13% of the heads of rural private schools and 38% of those of rural madrasas had provision of monthly examination system. The provision of weekly and fortnightly examination system also existed in a number of educational institutions. They were respectively a quarter and a fifth of all educational institutions under survey. Eighty-eight percent of institutions had provision for pre-test and 94% had provision for test examinations for the students of grade X. Test examinations are the final examinations for selecting candidates for SSC or Dakhil examinations.

H. Co-curricular activities

Co-curricular activities are important aspects of students' development. It is emphasized in the curriculum to some extent. However, our survey demonstrates that the educational institutions do not give due attention to it. All the institutions have games and sports in their co-curricular activities but urban institutions were a little advanced than the rural institutions. Again the schools under general stream provided more emphasis on the issue than the madrasas (Figure 6.5). Games and sports were relatively common in every institution but it was largely an occasional event what may leave little impact on the mind of the students. However, sports were not largely appreciated by nearly two-thirds of the madrasas. Cultural activities make students open and creative, however this was not given due emphasis by the institutions.

Figure 6.5
Educational institutions arranging various co-curricular activities (%)



Source: Education Watch head teacher/superintendents interview, 2007

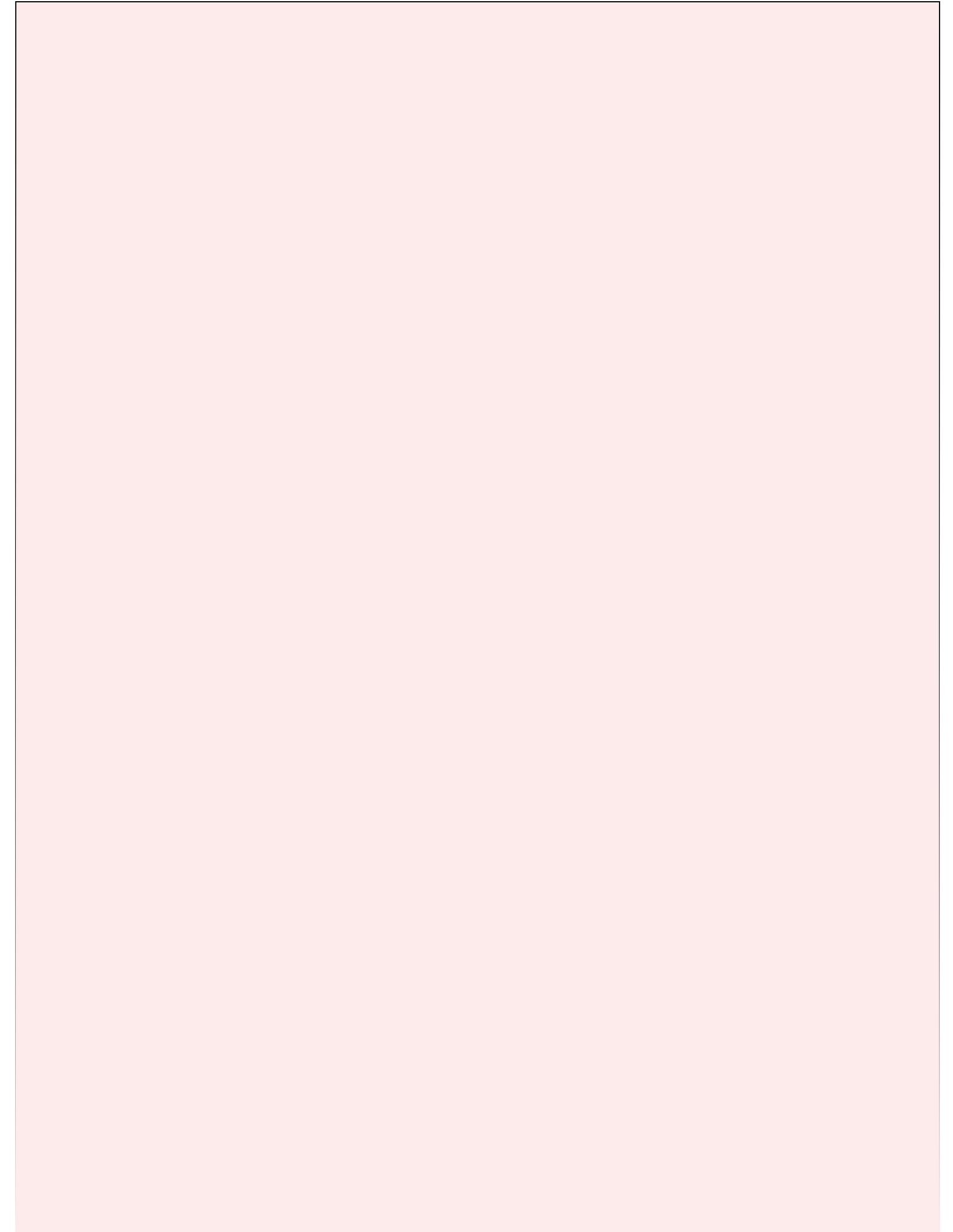
I. Salient findings

An attempt was made in this chapter to understand various aspects related to curriculum implementation at secondary level by interviewing the heads of the educational institutions, the teachers and the students. Here are the salient findings:

1. Two thirds of the government and urban private schools, half of the urban madrasas, 43.3% of rural private and 38% of rural madrasas had annual academic plans.
2. About 60% of the heads of the institutions had a copy of the curriculum and 43% of them received training on curriculum. Three-quarters of the heads of the institutions claimed to have discussed curriculum-related issues with their colleagues. A larger proportion of madrasa superintendents than school heads claimed to have read the curriculum.
3. Seventy-eight percent of the heads of the institutions reported that they were aware of neither the strengths nor the weaknesses of the curriculum, although they were leading its implementation.
4. The head teachers/superintendents rated half of their teachers (Bangla, English and Mathematics) as 'strong' and 32-38% as 'very strong' in terms of ability to teach. Proportionately more Mathematics teachers were rated in these categories than those of other two subjects. Students of the government and urban private schools recognized that two-thirds of their teachers were knowledgeable in their subjects; this figure was higher (75%) in case of other educational institutions.
5. The students reported that majority of their teachers attended their classes regularly and taught appropriately. However, only 16% of the teachers

arranged group work in the classrooms and 42.6% encouraged the students to read books other than textbooks. As the students reported, both verbal and physical punishments were applied on them. A third of the teachers verbally abused the students and 22.7% punished them physically.

6. Thirty-five percent of the teachers reported that they had no training for improving the quality of teaching; over 50% in the madrasas and about 30% in schools. Over 40% of the teachers were involved in private tutoring with urban teachers being ahead their rural counterparts. A fifth of the teachers had no interaction with the students outside classroom.
7. About 10% of the teachers confessed to have no 'study habit'. The school teachers were more likely to read literary books and the madrasa teachers religious books.
8. The students find Mathematics most difficult subject followed by English. Science students in the government schools were more likely to have practical classes followed respectively by those in urban private schools, rural private schools, urban madrasas and rural madrasas. In majority of the madrasas and rural schools, only the teachers demonstrated scientific experiments without the students having any opportunity to do those themselves.
9. Majority of the schools assessed student performance through three formal examinations, viz., first term, second term and annual examinations. *Test examination* to select candidates for SSC or Dakhil examinations was also common. However, some schools and madrasas also introduced monthly, fortnightly or weekly examinations.
10. In co-curricular activities such as annual sports and games schools gave more emphasis. There were, however, very limited provisions for cultural activities like singing, dancing, drama, recitation, etc. or physical exercises.

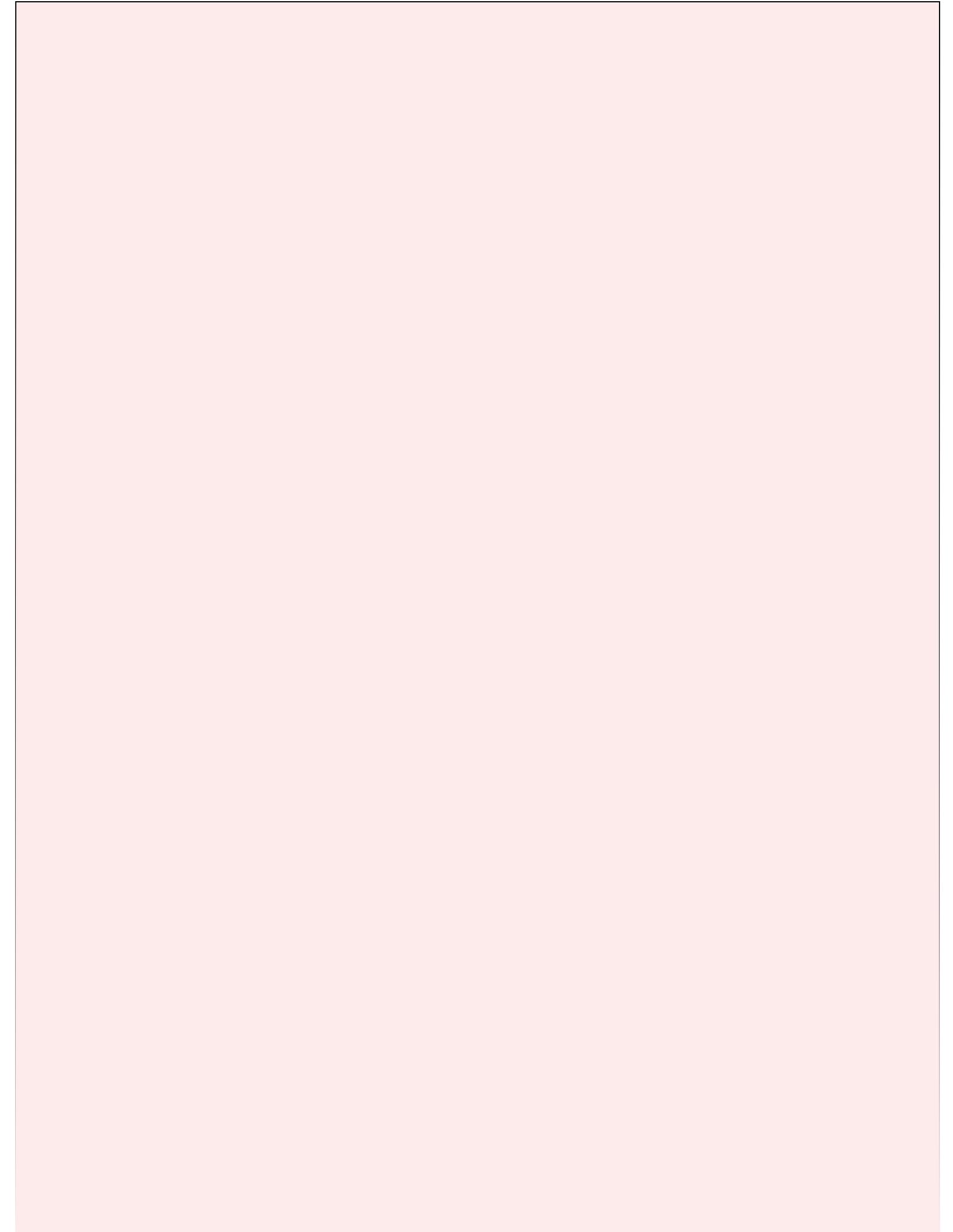


Chapter 7

Further Education and Employment Opportunities of Secondary Graduates

Transition to further education of the secondary graduates of 1997 from both general and madrasa streams and their employment experiences are the issues of this chapter. Majority of the secondary graduates moves to further education, which has strong correlation with socioeconomic background of the graduates, subject taught and performance in secondary education. There is also transition from madrasa to general stream. Education has greatly expanded between two subsequent generations-present and their parents. Jobs in various government and private institutions and in NGOs, running own business are major work experiences of the graduates. A good portion is involved in housekeeping and a tenth unemployed. Females lag behind males in amount of monthly income.





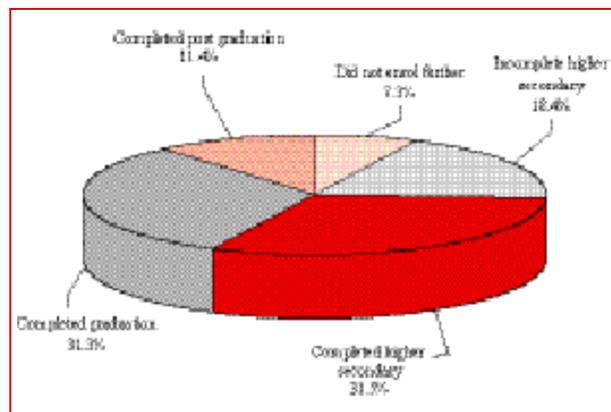
This chapter contains two major sections. The first one is an exploration of secondary graduates transition to higher secondary and tertiary education and the second one is their subsequent employment experiences. It was mentioned already in Chapter 2 that the secondary graduates of 1997 were traced 10 years after their graduation for this part of the study. Transition to further education of the secondary graduates has been analyzed according to their study groups (Science, Humanities, etc.), performance in secondary education, parental education, religion, ethnicity, school type and sex. Employment experiences both at home and abroad, monthly income and capital in business were analyzed in respect to school type and sex.

A. Further education

After successfully completing secondary education in 1997, on average, 92.7% of the graduates enrolled for higher secondary education and the rest (7.3%) did not enrol at all (Figure 7.1). Over 18% who were enrolled in the colleges or the higher secondary madrasas, however, did not complete higher secondary education. Some of them may have dropped out at some point of their two-year study at this level and/or unsuccessfully appeared in the

higher secondary examination (HSC or Alim). This means that these three groups constituting 25.7% or a quarter of the total secondary graduates remained at the same educational level as they were 10 years ago. Over 31% of the graduates completed higher secondary education, 31.3% completed bachelor's degree and 11.4% completed masters' level education. Table 7.1 shows proportion of the secondary graduates remaining at the same educational level was 29% among the females and 23.8% among the males ($p < 0.001$). Although there was no gender difference in the proportion of higher secondary completion rate, the females were less likely to take bachelor's or masters level education than their male counterparts. A third of the males completed bachelor's level education and another 12% completed masters level education; these figures were respectively 29.3% and 10.6% among the females. The difference between the males and the females in having bachelor's/masters degree was statistically significant ($p < 0.001$). Note that we considered Fazil degree of madrasa stream equivalent to bachelor of arts/science/commerce/medicine/engineering/agriculture/architecture degrees in general stream and Kamil degree equivalent to masters degree.

Figure 7.1
Percentage distribution of secondary graduates by current level of education



Source: Education Watch tracer study of secondary graduates, 2007

A flow-chart of further education of the secondary graduates of 1997, generated from Table 7.1, is provided in Figure 7.2. This shows that of the total graduates, 92.7% enrolled in higher secondary level (HSC or Alim), 74.3% passed HSC or Alim examination, 42.7% completed Bachelors/Fazil level education and 11.4% completed post-graduate level education. Major dropout was found to be after higher secondary passing and after having Bachelors degree.

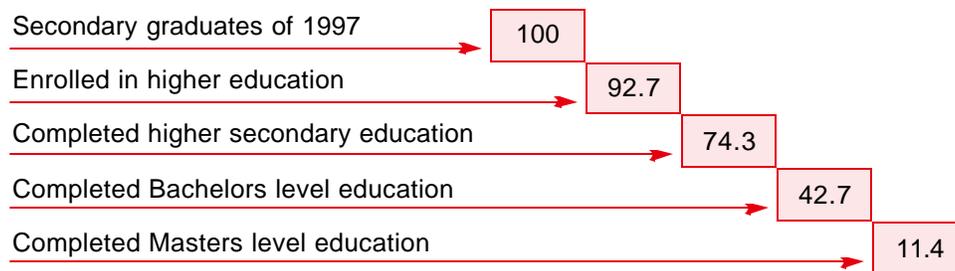
Table 7.1
Percentage distribution of secondary graduates by current level of education and gender

Current level of education	Gender		Both (2,887)
	Females (1,158)	Males (1,729)	
Did not enrol further	9.6	5.9	7.3
Incomplete higher secondary	19.3	17.9	18.4
Completed higher secondary	31.2	31.7	31.6
Completed graduation	29.3	32.5	31.3
Completed post graduation	10.6	12.0	11.4
Total	100.0	100.0	100.0

Figures in the parentheses indicate the number of graduates under tracer study

Source: Education Watch tracer study of secondary graduates, 2007

Figure 7.2
Flow-chart of further education of the secondary graduates of 1997 (%)



Secondary graduates from the government schools were more likely to continue their education at the highest level compared to those from the other educational institutions (Table 7.2). Over 63% of the secondary graduates of 1997 from the government schools had their bachelor's/masters degree. This was 55.6% among the graduates of the private schools and 53.1% among those from the urban madrasas. The rural secondary graduates lagged behind all others. A third of the rural madrasa graduates and about 38% of the private school graduates had bachelor's/masters degree already. The proportion of secondary graduates who did not transition to higher educational levels was highest among the rural madrasa graduates (37.5%), followed by the rural private schools (28.5%). Nearly a fifth of the urban madrasa graduates and 13% of those of urban private schools faced a similar reality. The percentage who did not transition among the graduates of the government secondary schools was only 10%.

Difference between the graduates of rural and urban educational institutions and general and madrasa streams shows that the rural graduates lagged behind their urban counterparts and the madrasa graduates lagged behind those of general stream.

Table 7.2

Percentage distribution of secondary graduates by current level of education and type of educational institutions at secondary level

Current level of education	Type of educational institutions at secondary level				
	Government (607)	Urban private (524)	Rural private (610)	Urban madrasa (556)	Rural madrasa (590)
Did not enrol further	2.6	3.6	6.9	9.2	13.4
Incomplete higher secondary	7.5	9.4	21.6	10.0	24.1
Completed higher secondary	26.7	31.4	33.4	27.7	28.8
Completed graduation	41.2	39.2	31.8	23.7	19.1
Completed post graduation	22.0	16.4	6.1	29.4	14.5
Total	100.0	100.0	100.0	100.0	100.0

Figures in the parentheses indicate the number of graduates under tracer study

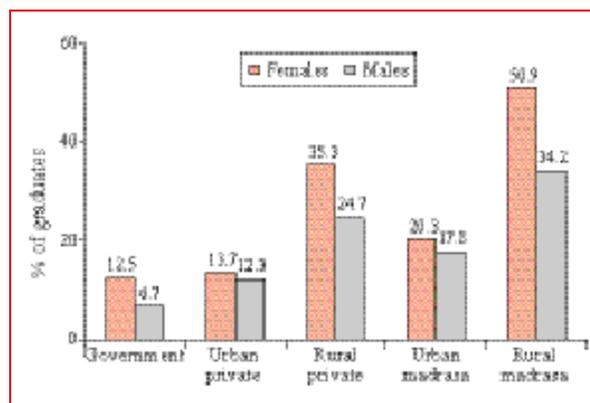
Source: Education Watch tracer study of secondary graduates, 2007

Gender difference, disavouring the females was observed in the madrasas of both rural and urban areas and in the rural private schools (Figures 7.3 and 7.4). In rural madrasas, more than half of the females did not go for further education which was 34.2% among the males of the similar institutions ($p < 0.001$). Although 38% of the males of these madrasas had their bachelor's/masters degree, only 15.9% of the females of the similar institutions had this ($p < 0.001$). In urban madrasas, whereas 34.9% of the females had their bachelor's/masters degree; it was 55.4% in case of the males ($p < 0.001$).

Nearly a quarter of the males and 35.3% of the females of rural private schools were at the same level as they were 10 years back.

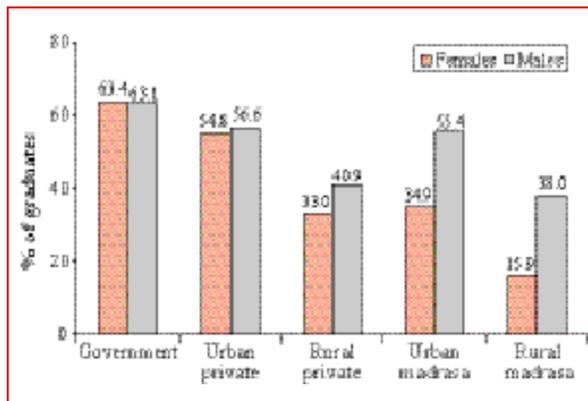
Figure 7.3

Percentage of secondary graduates remaining at the same level after 10 years of their graduation by school type and gender



Source: Education Watch tracer study of secondary graduates, 2007

Figure 7.4
Percentage of secondary graduates completed at least bachelor degree within 10 years of their graduation by school type and gender



Source: Education Watch tracer study of secondary graduates, 2007

colleges for higher secondary education. Another 7.2% of the first division graduates, 23.9% of the second division graduates and 41.1% of the third division graduates though enrolled in colleges but could not complete higher secondary courses. This means that 10.2% of the first division graduates, a third of the second division graduates and 57% of the third division graduates remained at the same educational level as they were 10 years back. On the other hand, during last 10 years, 21.8% of the first division graduates earned masters degree and 41.3% completed bachelor's degrees. These figures were respectively 5.6% and 26.9% for the second division graduates and 1.9% for the third division graduates. This means that over 63% of the first division graduates, a third of the second division graduates and less than 4% of the third division graduates of secondary level completed their bachelor's studies and earned at least a bachelor's degree.

A strong link between the graduates' performance in the secondary school final examination and their further education was observed (Table 7.3). In our sample, 36.8% of the graduates got first division, 59.6% got second division and 3.6% got third division in their secondary school final examination¹⁹. Those performed better in the secondary final examination were more likely to study longer periods afterwards. For instance, 3% of those who got first division in the secondary examination, 9.4% of those who got second division and 15.9% of those who got third division did not enrol in

Table 7.3
Percentage distribution of secondary graduates by level of further education and their performance in secondary examination

Current level of education	Performance in secondary examination		
	First division (1,308)	Second division (1,487)	Third division (88)
Did not enrol further	3.0	9.4	15.9
Incomplete higher secondary	7.2	23.9	41.1
Completed higher secondary	26.7	34.0	39.3
Completed graduation	41.3	26.9	1.9
Completed post graduation	21.8	5.6	1.9
Total	100.0	100.0	100.0

Figures in the parentheses indicate the number of graduates under tracer study

Source: Education Watch tracer study of secondary graduates, 2007

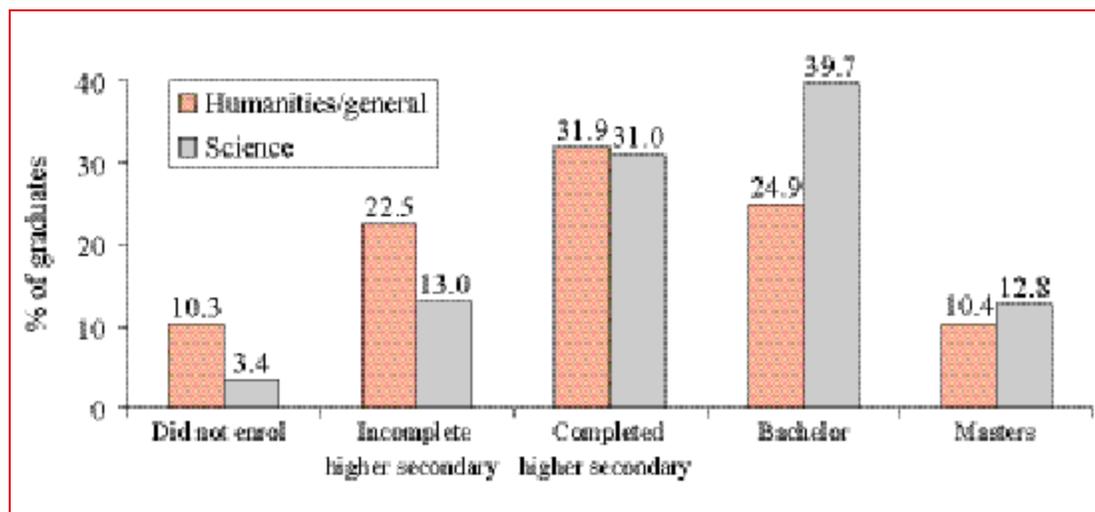
¹⁹ In 1997, among the students who passed SSC or Dakhil examination 34% got first division, 62.7% second division and 3.3% third division. Thus the sample has consistency with the population.

Among those who got first division, the females were more likely to continue further education and more even up to masters level compared to their male counterparts. However, this trend did not persist for those who got second or third division in SSC/Dakhil examination. No female graduate who received third division went beyond higher secondary education, as opposed to 5.7% of male graduate who got third division (Annex 7.1).

Majority of the graduates (56.1%) studied Humanities (i.e., belonged to ‘humanities group’ under general education and ‘general group’ under madrasa education) at their secondary education, followed by Science group (43.5%). Only 0.4% of the sampled graduates studied Business, *Mujabbid* or *Hifjul Qur’an* at this level. The graduates who studied Science at their secondary level were more likely to enrol in colleges for further education and study there for longer periods compared to those who studied Humanities/general subjects or any other (Figure 7.5). Nearly a third of the secondary graduates who studied Humanities/general subjects at this level actually could not go for further education. A third of these graduates did not enrol in colleges and two thirds could not complete higher secondary level education. This figure was 16.4% for those studied Science at secondary level. Proportion of at least bachelor’s degree holders was 52.5% among the Science graduates and 35.3% among the others. Among those who studied Humanities/general subjects at secondary level, the males were ahead of the females in enrolment in higher secondary education and this trend persisted at bachelor’s/masters level. On the other hand, among the Science graduates, females were more likely to enrol in higher secondary classes and to continue up to bachelor’s/masters level education compared to their male counterparts (Annex 7.2).

Figure 7.5

Percentage distribution of graduates by level of further education and group



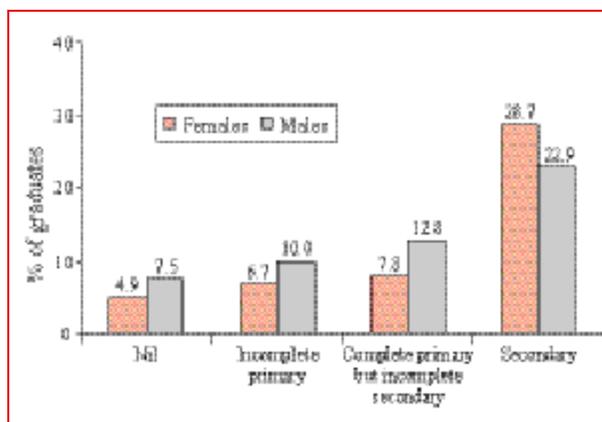
Source: Education Watch tracer study of secondary graduates, 2007

Statistically significant positive correlation between parental education and secondary graduates' further education was observed. The correlation coefficient between graduates level of education and fathers' education was 0.24 ($p < 0.01$) and the same with mothers' education was 0.26 ($p < 0.01$). Annex 7.3 shows that less than 10% of the secondary graduates received postgraduate education if their fathers' level of education was below secondary. This was 16.6% if the fathers had secondary or higher secondary level of education and 26.2% if the fathers had tertiary level of education ($p < 0.001$). Again, with never schooled mothers 6.8% of the secondary graduates received postgraduate education, 8.9% did so if the mothers went to school but did not complete primary education, 10.7% for those with mothers completed primary education but not secondary, and 25.4% for those with secondary or more educated mothers ($p < 0.001$) (Annex 7.4).

A fifth of the mothers and 10.4% of the fathers of the secondary graduates of 1997 never went to school. Again, education of 55.4% of the fathers and 86.9% of the mothers of the same graduates was below secondary. All these parents made their efforts, in addition to the state and non-state education provisions, to provide secondary education and beyond to their next generation. This shows how much we have progressed in providing secondary education within a difference of a generation. Annex 7.3 shows that although their fathers had tertiary level of education, 10% of the secondary graduates of 1997 could not go beyond. An exploration of this shows that 86% of them studied Humanities/general subjects, three quarters got second or third division from the rural private schools or madrasas. Economic vulnerability might have been added with these factors to discourage them in further education.

The female secondary graduates were found lagging behind their male counterparts regarding their further education at every level of parental education except when their fathers had tertiary education and mothers had secondary and above level of education. If the mothers had secondary or more education 22.9% of their sons and 28.7% of their daughters had tertiary education (Figure 7.6). Again, if the fathers had tertiary level of education, 23.2% of their sons and 29.8% of their daughters received tertiary education (Figure 7.7). Proportion of secondary graduates remaining at the same level was higher among

Figure 7.6
Percentage of secondary graduates
completed masters level education
by fathers education and gender



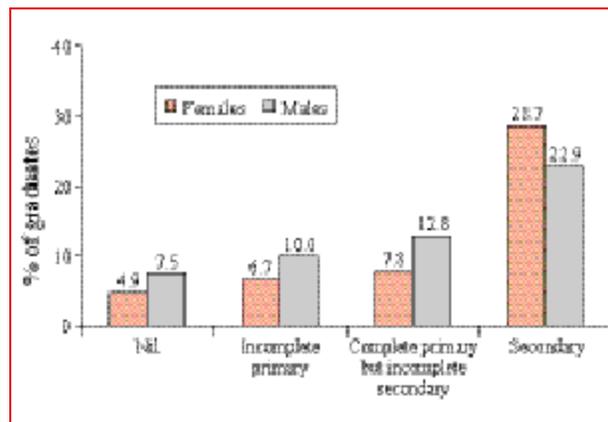
Source: Education Watch tracer study of secondary graduates, 2007

the females than the males if the mothers were below secondary. If the mothers had secondary or more education, an equal proportion of their sons and daughters remained at the same level what they were 10 years back.

From the above analyses, it appears that the secondary graduates of 1997 progressed much in education than their previous generation. All the persons in our sample had at least 10 years of school/madrassa education by definition but such length of education was obtained by 45% of their fathers' and only 13% of their mothers' (Table 7.4). Again, the graduates of 1997 received, on average, 12.7 years of education which was 5.3 years among their mothers and 8.3 years among their fathers. This means

that our sampled generation progressed one and a half times of their fathers and two and a half times of their mothers in educational attainment. Gender wise analysis shows that the female graduates attained education twice of their mothers and made progress of about one and a half times of their fathers. On the other hand, progress of the male graduates was 2.7 times of their mothers and 1.7 times of their fathers. It is to be noted that some of our sampled graduates were still students at the time of survey, thus they have chance to progress more. This means that the educational progress between two successive generations would be more than what presented in Table 7.4.

Figure 7.7
Percentage of secondary graduates remained at the same level of education by mothers education and gender



Source: Education Watch tracer study of secondary graduates, 2007

Table 7.4
Educational progress over a generation

	Graduates of 1997	Mothers	Fathers
Completed secondary education (%)	100	13	45
Mean years of schooling			
Females	12.5	6.1	9.2
Males	12.8	4.8	7.7
Both	12.7	5.3	8.3

Source: Education Watch tracer study of secondary graduates, 2007

Secondary graduates' further education was analyzed in terms of their religious identity and ethnicity. In the sample, 82.8% of the graduates were Muslims, 15.8% Hindus, 1.2% Buddhists and 0.2% Christians. Data were analyzed dividing them into two groups – Muslims and non-Muslims. Two percent of the sampled graduates belonged to ethnic minority groups in Bangladesh and the rest were Bangalis. Not much variation was observed in the further education of the secondary graduates in terms of their religious identity. For instance, among the Muslim graduates, 26.5% remained at the same level, 31.3% completed higher secondary education, and 42.2% completed bachelor's/masters level education (Table 7.5). These figures were

Table 7.5

Percentage distribution of the secondary graduates by level of education, religion and gender

Level of education	Muslims			Non-Muslims		
	Females (935)	Males (1,556)	Both (2,491)	Females (223)	Males (173)	Both (396)
Did not enrol further	10.4	6.5	7.9	6.3	3.1	4.5
Incomplete higher secondary	19.9	17.9	18.6	17.0	18.0	17.5
Completed higher secondary	30.8	31.6	31.3	31.8	32.7	32.5
Graduated	28.9	31.3	30.4	31.4	38.8	35.6
Post graduated	9.9	12.8	11.8	13.5	7.5	9.9
Total	100.0	100.0	100.0	100.0	100.0	100.0

Figures in the parentheses indicate the number of graduates under tracer study

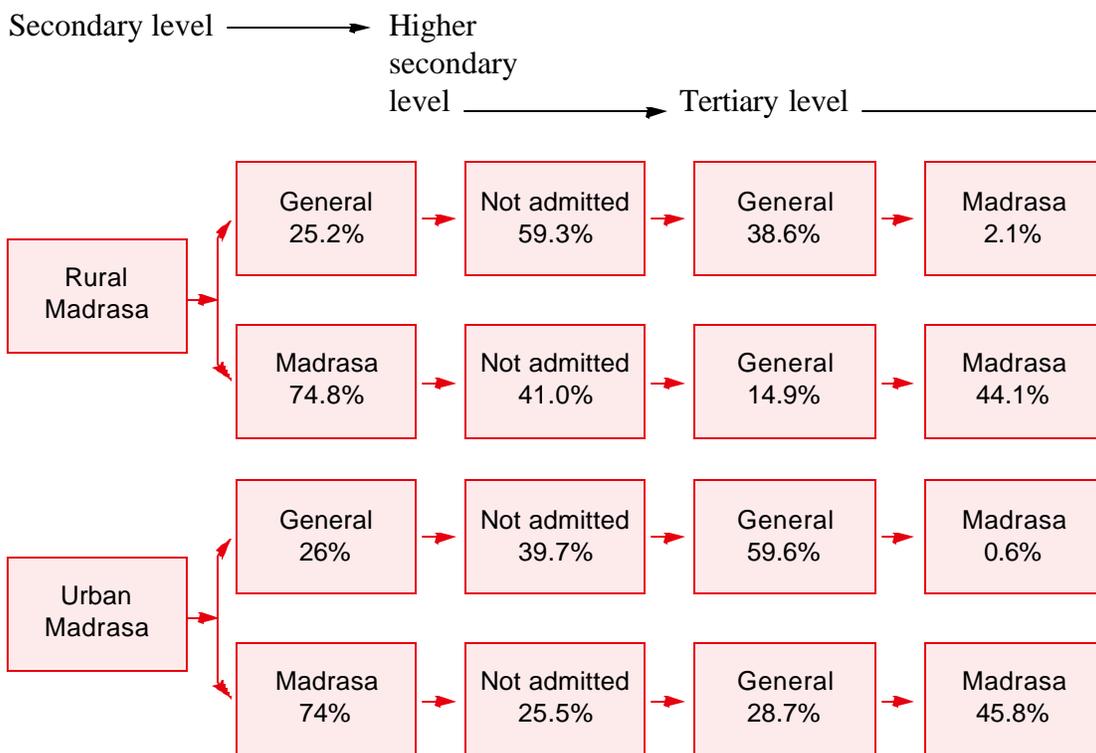
Source: Education Watch tracer study of secondary graduates, 2007

respectively 22%, 32.5% and 45.5% among the non-Muslim graduates. On the other hand, some differences were noticed between Bangalis and the ethnic minorities. Among the ethnic minority graduates, 16.7% remained at the same level, 48.3% completed higher secondary education and 35% completed bachelor's/masters level education (Annex 7.5). Of the Bangali graduates, 25.9% remained at the same level, 31.1% completed higher secondary education and 43% completed bachelor's/masters level education during last 10 years. Ethnicity-wise analysis shows that although proportionately more graduates from the ethnic minorities enrolled in higher secondary educational institutions than those of Bangalis; they lagged 10 percentage points behind the Bangalis at the masters level completion rate. No clear indication was found from the database why the ethnic minority graduates could not go far as their Bangali peers. In general, it was observed that the parents of the ethnic minority graduates were less educated compared to those of the Bangalis. However, majority of the sampled ethnic minority graduates studied Science at secondary level and showed better performance in the examination. The females of both the religious groups (Muslims and non-Muslims) were less likely to go for further education after

completing secondary education. However, the gap disfavouring the females was more among the Muslims than the non-Muslims. Due to small sample size, no gender-wise analysis was done for the ethnic minorities.

Regarding inter-stream movement, it shows that no one enrolled in the madrasas for higher secondary or tertiary education after graduating from the general stream, i.e., from the government and private schools. Thereby, there was no transfer from general stream to madrasa stream after secondary graduation. On the other hand, after graduating through madrasa system 25.2% of the rural and 26% of the urban graduates enrolled in educational institutions under general stream for higher secondary studies (Figure 7.8). The proportion of graduates who participated in this transfer was 22.6% among the males and 37.4% among the females in rural areas ($p < 0.001$), and 27% among the males and 17% among the females in urban areas. The graduates who studied Science in madrasas (rather than general subjects) but did not do much well in the Dakhil examination were more likely to shift their stream of education. For instance, 23.8% of the first division graduates, 26.3% of the second division graduates and 38.6% of the third division graduates shifted from madrasa stream to general stream ($p < 0.02$). Thirty-six percent of the Science graduates and 24% of the graduates

Figure 7.8
Flow of graduates from madrasa stream to general stream



Source: Education Watch tracer study of secondary graduates, 2007

in general subjects shifted stream of education ($p < 0.01$). However, no such variation was observed in terms of parental education.

Seventeen percent of the rural madrasa graduates who enrolled for higher secondary education shifted their stream of education once again at the bachelor's level. Two percent of those who enrolled in the general stream transferred to madrasa stream again at the tertiary level. On the other hand, about 15% of those enrolled in madrasas for higher secondary study transferred to general stream for tertiary level study (Figure 7.8).

Nearly 60% of the secondary graduates from urban madrasas who enrolled in colleges for higher secondary education remained in the same stream for tertiary education. Less than one percent of them went back to madrasa stream again. On the other hand, 28.7% of those remained in the madrasa stream for higher secondary study transferred to the general stream for tertiary education (Figure 7.8). Note that a good portion of the above analyzed graduates did not enrol at tertiary level.

Over 11% of the secondary graduates of 1997 completed their masters level education and another 15.6% reported that they were still students of various educational institutions. The rest of the graduates were asked about the main reason of their decessing from education before completing the masters level. A total of 18 reasons came up, five of which can be treated as frequently cited. These are engagement in

income generating activities (29.6%), getting married (22%)²⁰, lack of money to continue education (14.6%), poor performance in examination (14.2%), and losing interest in education (12.7%) (Table 7.6). The rest (7%) mentioned an additional 12 reasons. The reason of involvement in income generating activities can be seen in two different ways - firstly, as an opportunity of getting job and secondly, a need for involvement in work

Table 7.6
Percentage distribution of dropped out graduates by reason of dropping out and gender

Reasons of dropout	Gender		Both (1,751)
	Females (745)	Males (1,006)	
Marriage	51.4	2.0	22.0
Lack of money to continue education	9.6	18.0	14.6
Unsuccessfulness in examination	11.5	16.1	14.2
Engaged in earnings	8.1	44.2	29.6
Not interested to study	9.4	14.9	12.7
Others	10.0	4.8	7.0
Total	100.0	100.0	100.0

Figures in the parentheses indicate the number of graduates dropped out before completing masters level education

Source: Education Watch tracer study of secondary graduates, 2007

²⁰ It is unknown to the research team that how many of them got married before SSC/Dakhil examination and how many after.

for family support. Lack of money to continue education is truly a poverty related problem. On the other hand, poor performance in examination and losing interest in education are very much associated to each other and really an educational problem related to the system itself. A clear gender difference was observed. Over half of the females reported that they had to stop study due to getting married, which was only 2% in case of the males. Whereas 44.2% of the males ceased their education due to involvement in income earning activities, 8% of the females reported this reason. The information clearly shows the kind of differential opportunities for the males and the females of Bangladesh after a certain period of life. Difference was also noticed in the reason like lack of money for further education, failure in the examination and unwillingness of the graduates to study further.

Surprisingly, marriage was the most important reason cited for the secondary graduates of the government and the urban private schools to dropping out. Otherwise, it was the engagement in wage earning for those in rural private schools and the madrasas in both the areas. Engagement in wage earning activities and unwillingness in study came out as the second and third most important reasons for not continuing education at a certain time for the graduates of first two types of schools. Marriage came out as the second important reason of dropping out for the graduates of rural schools and the madrasas followed by poor performance in examination. On the other hand, the graduates of urban madrasas mentioned their unwillingness to study and lack of money to continue education as the second and third most important reasons for dropping out (Table 7.7).

Table 7.7

Percentage distribution of dropped out graduates by reason of dropping out and school type

Reasons of dropout	Type of educational institution				
	Government (272)	Urban private (282)	Rural private (430)	Urban madrasa (324)	Rural madrasa (443)
Marriage	30.4	35.8	19.7	10.3	16.8
Lack of money to continue education	10.4	7.1	14.4	16.7	21.6
Unsuccessfulness in examination	10.0	8.2	16.2	8.5	15.5
Engaged in earnings	21.2	22.7	31.7	40.6	29.4
Not interested to study	15.0	20.9	10.2	19.4	11.7
Others	13.1	5.3	7.9	4.5	5.0
Total	100.0	100.0	100.0	100.0	100.0

Figures in the parentheses indicate the number of graduates dropped out before completing masters level education

Source: Education Watch tracer study of secondary graduates, 2007

Gender-wise analysis of the above shows that similar to the aggregate level findings, engagement in wage earning was the main reason for the male graduates of each type of educational institutions to dropout. It was 'marriage' for their female counterparts (Annex 7.6). This reason was cited by over 60% of the female graduates of the madrasas and the urban private schools, 52% of the graduates of the government schools and 44% of those of rural private schools. Following the above, lack of money in continuing education and poor performance in examination caused many male graduates of rural schools and madrasas to desist from their education. The reason given by male graduate in government and urban private schools was that of unwillingness to study, for those in urban madrasas, it was the unwillingness to study and lack of money and the reason given by male graduate in government schools was also an unwillingness to study. No such pattern was found among the female graduates of various types of educational institutions except those who came from the madrasas. The female graduates of the madrasas (both rural and urban) cited poor performance in examination as second important reason of dropping out.

B. Current marital status of the graduates

Nearly half of the secondary graduates of 1997 were found married at the time of survey, majority of whom were females (Table 7.8). On average, the incidence of marriage was 31.4% among the males and 76.6% among the females ($p < 0.001$). School type wise, the incidence was highest among the graduates of rural madrasas (53.8%), and lowest among those in urban madrasas (43.8%). Of the others, it was 48.5% among the graduates of urban private schools, 46.9% among those of rural private schools, and 44.3% among those of government schools. Statistically significant gender difference was observed in all five types of educational institutions. Over 90% of the females of rural madrasas, 82% of those of urban madrasas, three-

Table 7.8
Percentage of graduates got married by school type and gender

Type of educational institutions	Gender		Both	Level of significance
	Females	Males		
Government	64.4 (372)	20.6 (233)	44.3 (605)	$p < 0.001$
Urban private	74.0 (247)	23.2 (276)	48.5 (523)	$p < 0.001$
Rural private	76.9 (260)	28.7 (348)	46.9 (608)	$p < 0.001$
Urban madrasa	82.0 (112)	38.8 (442)	43.8 (554)	$p < 0.001$
Rural madrasa	92.6 (163)	43.8 (422)	53.8 (585)	$p < 0.001$
All	76.6 (1,154)	31.4 (1,721)	48.2 (2,875)	$p < 0.001$

Figures in the parentheses indicate the number of graduates under tracer study

Source: Education Watch tracer study of secondary graduates, 2007

quarters of those of private schools and less than three-quarters of the government school female graduates got married during this period. The incidence of marriage among the male graduates did not cross 44% in any type of school. It was below 30% among the male graduates in general stream.

Data reveals a significant relationship between secondary graduates who got married and their educational profile. Those who studied Humanities/general subjects at their secondary level were more likely to get married quicker than those studied Science at this level (55.9% vs. 38.3%; $p < 0.001$). Performance of the graduates in SSC/Dakhil examination had also a factor in early marriage of the graduates. Over 70% of the third division graduates, 53.3% of the second division graduates and 37.7% of the first division graduates were found married during the survey time ($p < 0.001$). Graduates with educated parents were less likely to get married compared to those with less educated parents; especially mothers' education had significant role in this regard. Over half of the Muslim graduates and 38.3% of the non-Muslim graduates were found married at the time of survey.

C. Current occupation of the graduates

At the time of the survey, the secondary graduates of 1997 were engaged in various income earning activities. Over a third of the graduates were in paid jobs in the country (Table 7.9). They were the majority group in the workforce. Over a quarter of the graduates were found as housekeepers, 15.6% as students, 9.1% was running own business, 6.7% was in paid jobs abroad, 2% involved in agricultural activities, and 1.9% private tutoring. Eight percent of the graduates were seeking jobs at the time of survey.

Clear gender segregation was observed in occupation of the graduates (Table 7.9). The males were more likely to engage in paid jobs inside the country compared to their female counterparts (40.4% vs. 23.3%). Proportion of graduates who still were pursuing education was also more among the males than females. Male graduates were found far ahead of the females in paid jobs abroad, running own business, and involving in agricultural activities. On

Table 7.9
Percentage distribution of secondary graduates by their current occupation and gender

Occupation	Gender		Both (2,869)
	Females (1,151)	Males (1,718)	
Paid job in country	23.3	40.4	34.0
Housekeeping	57.2	0.8	21.8
Student	11.3	18.1	15.6
Runs own business	0.2	14.4	9.1
Paid job abroad	0.5	10.4	6.7
Agricultural activities	0.0	3.2	2.0
Private tutoring	1.3	2.2	1.9
Others	0.3	1.3	0.9
Unemployed	5.9	9.2	8.0
Total	100.0	100.0	100.0

Figures in the parentheses indicate the number of graduates under tracer study

Source: Education Watch tracer study of secondary graduates, 2007

the other hand, the female graduates' involvement in housekeeping was uncontested compared to their male counterparts. Proportionately more males than the females mentioned themselves as being unemployed.

Density of graduates in various occupation varied by origin of their educational institution at secondary level. Over a quarter of the graduates of the government and urban private schools, 36-37% of those of rural schools and madrasas and 45.4% of those of urban madrasas were involved in paid jobs in country (Table 7.10). The madrasa graduates were less likely to be involved in housekeeping duties or study compared to the graduates of general stream. On the other hand, involvement in paid jobs abroad was more likely among the madrasa graduates than graduates of the general stream. According to a government source, about 90% of such employment occurred in the Middle-East during 2001-04 (63.9% in Saudi Arabia, 13.4% UAE, 9.5% Kuwait, 2.8% Bahrain)²¹. However, data on which countries the graduates of this study went were not collected. Students of both the urban schools and urban madrasas were involved more in running own businesses.

Table 7.10
Percentage distribution of secondary graduates by their occupation
and type of educational institution

Occupation	Type of educational institutions				
	Government (604)	Urban private (523)	Rural private (608)	Urban madrasa (551)	Rural madrasa (583)
Paid jobs in country	27.4	26.1	36.0	45.4	37.6
Housekeeping	25.9	27.6	21.3	8.6	18.0
Student	23.8	20.7	15.6	7.6	8.3
Runs own business	8.2	12.3	7.3	16.7	9.6
Paid jobs abroad	2.1	2.7	7.3	7.0	10.9
Agricultural activities	0.0	0.0	2.3	1.2	4.1
Private tutoring	1.4	1.7	2.1	3.1	1.6
Others	0.5	0.6	0.8	1.1	1.6
Unemployed	10.6	8.3	7.3	9.3	8.3
Total	100.0	100.0	100.0	100.0	100.0

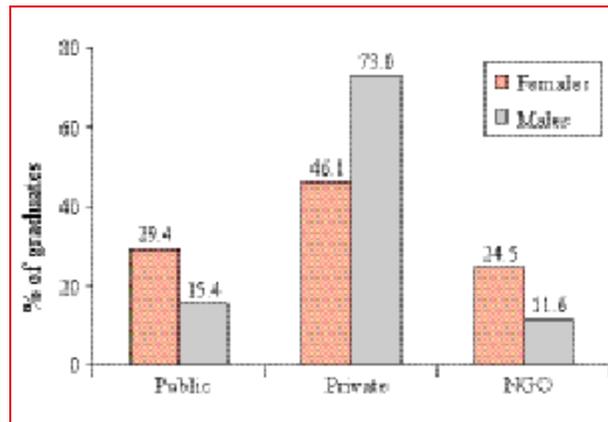
Figures in the parentheses indicate the number of graduates under tracer study

Source: Education Watch tracer study of secondary graduates, 2007

²¹ The Annual Report 2004 of the Bureau of Human Resource, Employment and Training under the Ministry of Labour and Employment (http://www.mole.gov.bd/ann_report.hph?/function_id=67, accessed on 13 March 2008)

Two-thirds of the graduates who were in paid jobs in country were serving in the private sector, 19% in the public sector and 15% in the NGO (non-governmental organization) sector. Proportionately more females were involved in public and NGO sectors compared to the private sector (Figure 7.9). Three quarters of the males and 46.2% of the females were serving in the private sector. No change in the rank of the sectors was observed when data were separately analyzed for each type of educational institution (Table 7.11). The public sector received proportionately more employees from the government schools (27.2%), followed by private schools (20-23%) and the madrasas (10-13%). About 80% of the madrasa graduates, 70% of the urban school graduates, 60% of the rural school graduates and 64% of the government school graduates were engaged in private sector. The highest intake of the NGOs was from the private secondary school graduates.

Figure 7.9
Percentage of graduates in paid jobs in country by organization type and gender



Source: Education Watch tracer study of secondary graduates, 2007

Table 7.11
Percentage distribution of the graduates involved in paid jobs in the country by type of organization and type of educational institution

Type of organization employed	Type of educational institutions					All (941)
	Government (155)	Urban private (138)	Rural private (215)	Urban madrasa (231)	Rural madrasa (202)	
Public	27.2	22.8	20.7	12.9	10.3	19.0
Private	63.9	69.9	59.5	80.3	79.4	66.1
NGO	8.9	7.4	19.8	6.8	10.3	14.9

Figures in the parentheses indicate the number of graduates involved in paid jobs in the country

Source: Education Watch tracer study of secondary graduates, 2007

Mostly an equal proportion of the graduates from Science and Humanities/general subjects were engaged in the private sector. However, the Science graduates were more likely to involve with the public sector and the Humanities/general graduates in the NGOs. The secondary graduates who got first or second division in their school final examination were the majority in the public sector and those got second or third division

were in the NGOs. The private sector attracted 76% of those who got third division, 71.2% of those who got first division and 62% of those who got second division.

The graduates who were working in country were placed in 11 distinct types of workplaces (Table 7.12). About two fifth of the graduates were working in three major workplaces; of which educational institutions were at the top where 34% of the graduates were working. Among others, 13.8% of the graduates were in business houses, and 11.8% of them in the non-governmental organizations (NGOs). Those 12.5% of the graduates work in the industries, about half of them work in garment factories alone. Around 5-6% of the graduates worked in each the following three types of places – hospitals, bank/insurance companies, and law enforcing agencies. Other workplaces were the shops/bazaars, transport sector and the mosques– proportion of graduates in each of the places was 2% or below.

Table 7.12
Percentage distribution of the graduates by workplace and gender

Workplace	Gender		Both (941)
	Females (223)	Males (718)	
Educational institutions	65.4	23.0	34.0
Hospitals	5.2	5.8	5.8
Business houses	3.1	17.5	13.8
Bank/ insurance companies	3.8	5.7	5.1
Factories/mills (industry)	0.7	8.9	6.8
Shops/Bazaars	0.0	2.6	2.0
Transport sectors	0.0	2.9	2.1
Law enforcing agencies	0.0	8.3	6.2
Garments factories	2.4	6.9	5.7
NGOs	16.4	10.2	11.8
Mosques	0.0	1.7	1.3
Others	2.8	6.4	5.5
Total	100.0	100.0	100.0

Figures in the parentheses indicate the number of graduates involved in paid jobs in the country

Source: Education Watch tracer study of secondary graduates, 2007

Clear gender difference was observed in workplaces of the graduates. Whereas two thirds of the female graduates were working in the educational institutions it was 23% among the males. The females outnumbered the males in NGO offices also. There was no female graduate working in the shops/bazaars, transport sector, law enforcing agencies or the mosques.

School type wise analysis of the above is provided in Annex 7.8. Few important points from this analysis are given below.

- a. The graduates of four types of educational institutions, viz., government, rural private, and both types of madrasas were more successful in getting job in the educational institutions.

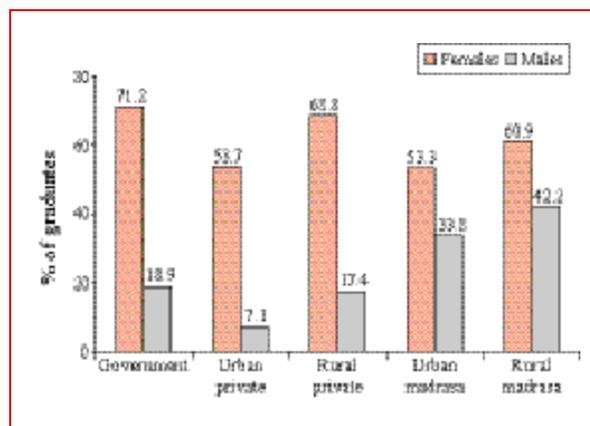
- b. The urban private school graduates equally engaged in the educational institutions and business houses.
- c. The rural private school graduates were heavily involved in NGOs.
- d. None of the graduates of the general stream was involved in jobs in the mosques. The people serving in the mosques were all males.

Figure 7.10 gives percentage of secondary graduates from various types of educational institutions engaged in teaching profession by gender.

Of the graduates running their own business, 15.5% ran grocery shops, 12.3% ran medicine shops, 9% ran clothes shops, 5.6% was contractors, 4.2% ran phone/fax/ computer compose shop, and the rest ran 67 other types of businesses. Capitals of business were over Tk. 50,000 for 70.8% of the business running graduates, Tk. 25,000-50,000 for 14.9% of the graduates, Tk. 10,000-24,999 for 8.2% of the graduates and below Tk. 10,000 for 6.1% of the graduates.

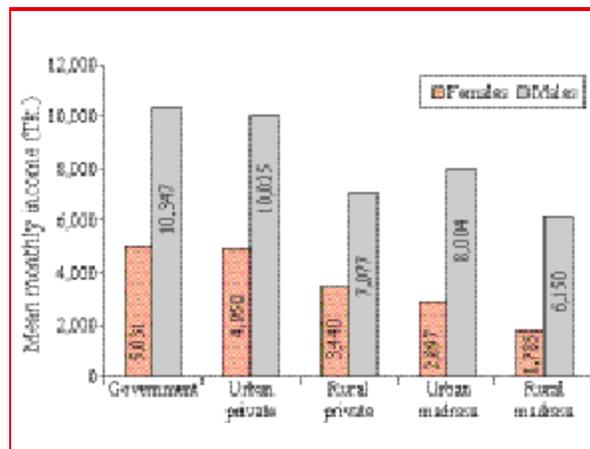
Monthly income data from 58% of the graduates (only those had paid jobs) were available. The monthly income ranged from Tk. 100 to Tk. 95,000. On average, the graduates earned Tk. 6,756 per month; males Tk. 7,490 and females Tk. 3,760. School type wise analysis shows that it was about equal for the graduates of the government schools and the urban private schools (Tk. 8,764 and Tk. 8,742 respectively). They were at the top in the ranking followed respectively by the graduates of urban madrasas (Tk. 7,760), rural private schools (Tk. 6,227), and the rural madrasas (Tk. 5,853).

Figure 7.10
Percentage of graduates engaged in teaching by school type of graduates and gender



Source: Education Watch tracer study of secondary graduates, 2007

Figure 7.11
Mean monthly income (in Taka) of the graduates by secondary school type and gender



Source: Education Watch tracer study of secondary graduates, 2007

Statistically significant gender variation disfavours the females was observed in each type of school (Figure 7.11).

The graduates who went abroad for job earned the highest amount followed by those who ran their own businesses; the average amount was respectively Tk. 19,375 and Tk. 8,985. Position of the graduates who got a job in country was third; they on average earned Tk. 5,258 monthly. The other occupational groups had lower incomes. In the in-country job market, the private service holders were the top earners (Tk. 5,510 per month), followed by the public service holders (Tk. 5,247 per month) and the NGO service holders (Tk. 4,287 per month).

D. Salient findings

This chapter presented information on further education and employment experiences of the secondary graduates of 1997, 10 years after their graduation. Further education of the graduates was analyzed according to their study groups (Science, Humanities, etc.), performance in secondary education, parental education, religion, ethnicity, school type and sex. Employment opportunities both at home and abroad, monthly income and capital in business were analyzed in respect to school type and gender. Marital status of the graduates was also explored in short. The following presents the main findings:

1. Of the secondary graduates, 7.3% did not enrol in any educational institution for further study and 18.4% did enrol but could not complete higher secondary education. This means that over a quarter of the graduates did not go beyond the secondary level. Nearly a third (31.5%) completed higher secondary, 31.3% bachelors and 11.4% completed masters level education. The females were ahead of the males in attaining further education. Proportion of graduates entering into further education was 90% among government school graduates, 87% among urban private, 71.5% among rural private, 80.8% among urban madrasa, and 62.5% among rural madrasa. About 16% of the graduates, 11% among the females and 18% among the males were still students at post-graduate level.
2. Participation in further education of the graduates was found to be positively associated with performance in SSC or Dakhil examination. Ten percent of the graduates received first division in SSC/Dakhil, 43.3% received second division and 57% of those with third division did not enrol in further education. On the other hand, the proportion of graduates joining postgraduate education was respectively 21.8%, 5.6% and 1.9% of these three groups of graduates.

3. Graduates who studied Science at secondary level were more likely to go for further education compared to those who studied Humanities. About a third of the Humanities graduates and 16.4% of the Science graduates did not go for further education. Over 35% of the Humanities graduates and 52.5% of the Science graduates obtained a bachelor's/masters degree.
4. A statistically significant positive correlation was found between parental education and further education of the secondary graduates. However, the effect was less prominent for female graduates except at a high level of parental education- fathers with tertiary education and mothers with secondary level and above.
5. How much have we progressed over a generation? All our sampled graduates had at least 10 years of education by definition; such level of education was attained by 45% of their fathers and only 13% of their mothers. The sampled graduates, on average, had 12.7 years of schooling compared to 5.3 years among their mothers and 8.3 years among their fathers. Years of education received by the female graduates were twice of the years of their mothers' education and about one and a half time of their fathers' education.
6. Not much variation was observed in further education of the graduates in terms of their religious identity. But the ethnic minorities were less likely to go for further education than their Bangali peers.
7. Regarding inter-stream movement, none from general stream went to the madrasas for further education. On the contrary, over a quarter of the madrasa graduates enrol in educational institutions under general stream for higher secondary education. Of the madrasa graduates who enrolled in higher secondary education, 17% from rural and 29.3% from urban went to the next level of higher education but a small proportion (2%) shifted back to the madrasa stream.
8. Marriage (22%), lack of money to continue education (14.6%), failure in examination (14.2%), engagement in income earning (29.6%), and lack of interest to study (12.7%) were the major reasons behind secondary graduates' not continuing up to masters level education. Over half of the females reported that they had to stop their study due to marriage in comparison to only 2% of the males. On the other hand, 44% of the males and only 8% of the females reported 'income earning' as the reason for dropout. Marriage was the top reason for dropout among the graduates of government and urban private schools and 'income earning' for those in the other three types of schools. At the time of survey, 48.2% of the graduates were found married; 76.6% females and 31.4% males.

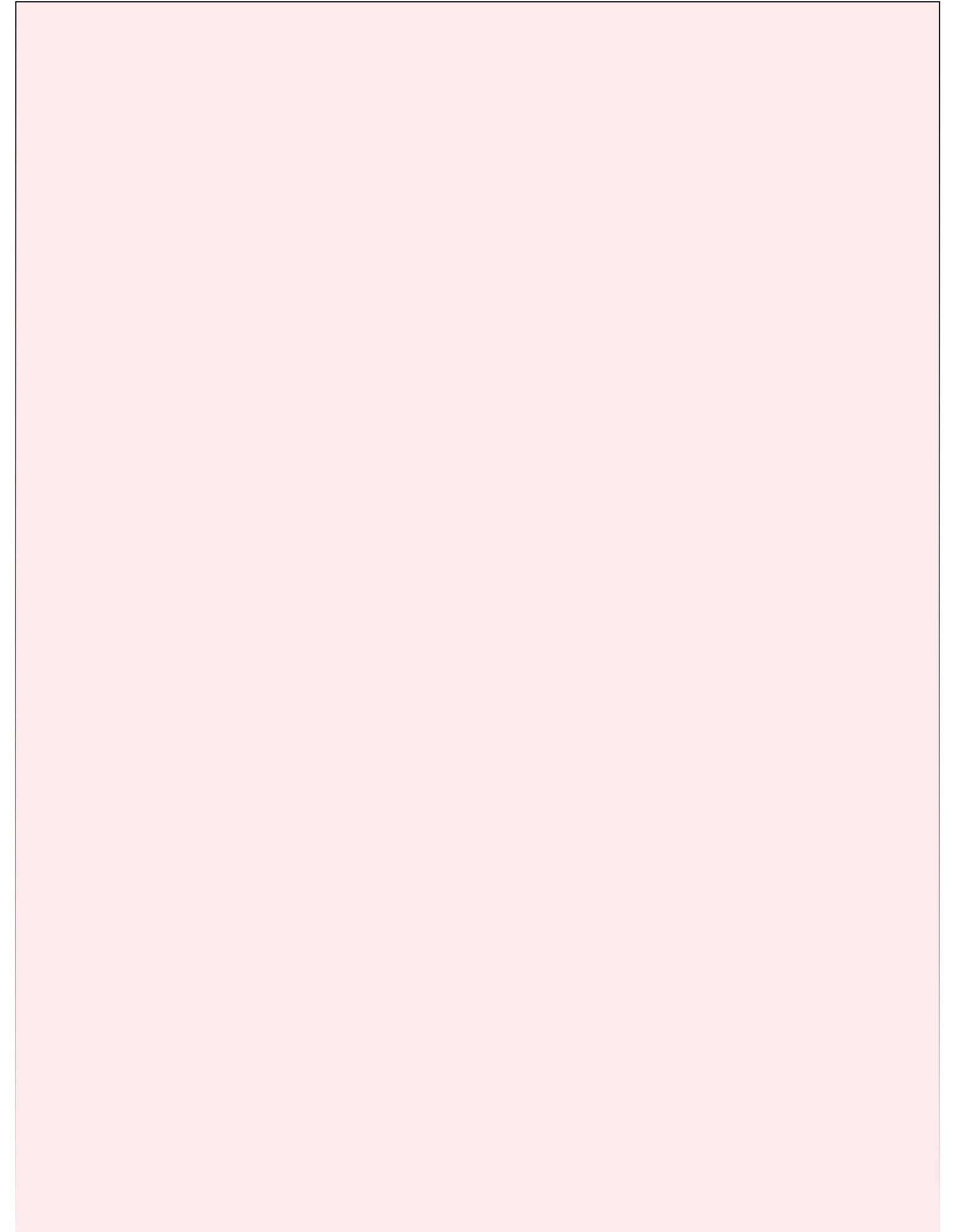
9. In tracing students of secondary education ten years after they graduated, it was found that over a third of the secondary graduates were in paid jobs in the country, a quarter in housekeeping, 15.6% students, 9.1% running own business, 6.7% in paid jobs abroad, 2% in agricultural activities, 1.9% in private tutoring and 8% were unemployed. Over 57% of the females were in housekeeping and 23.3% in paid job in country. On the other hand, 40.4% of the males were in paid jobs in country, 14.4% ran own businesses, 10.4% in paid jobs abroad and so on. Over a quarter of the graduates of the government and urban private schools, 37% of those of rural schools and madrasas and 45.4% of those of urban madrasas were involved in paid jobs in country. The madrasa graduates were the least likely to be involved in housekeeping or study. Engagement in paid jobs abroad was more likely among the madrasa graduates. Urban graduates were involved more in running their own businesses. Two-thirds of the in country jobholders got jobs in private sector, 19% in public sector and 15% in NGO sector.
10. The paid jobholders earned, on average, Tk. 6,756 per month, males Tk. 7,490 and females Tk. 3,760. The average income was about equal for the graduates of the government and the urban private schools (Tk. 8,764 and Tk. 8,742 respectively). They were at the top of the ranking, followed respectively by the graduates of urban madrasas (Tk. 7,760), rural private schools (Tk. 6,227), and finally the rural madrasas (Tk. 5,853). Statistically significant gender variation with a bias against the females in earnings was observed for all types of educational institutions. Needless to mention, graduates who went abroad for jobs earned more than those who stayed back.

Chapter 8

Discussion, Conclusions and Policy Implications

Discussion of the findings presented in the previous chapters and conclusions made from them are presented in this chapter. This came out with six major messages and eight policy recommendations. Increase of investment, reduction of inequality and equivalency among the streams are major policy issues.





This chapter is largely a discussion of the findings presented in the foregoing chapters and conclusions made from the findings. Major messages drawn from the findings are also presented. Finally, some policy recommendations have been made.

A. Discussion and conclusions

History of secondary education development in the world clearly shows that it evolved out of the needs and aspirations of the society – starting from training on religion and philosophy to a study of science and technology (Holsinger and Cowell 2000). The expansion did not take place in the same pace around the world; various different ways were followed. In the developing world, it grew during the colonial era to help the colonial rulers. However, the ‘new curriculum movement’ during the 1960’s and the 1970’s inspired the countries including the developing world to improve their secondary education. Major expansion of secondary education in the developing countries, however, occurred after the expansion of primary education in 1990’s. Democratization of primary and basic education in the 1990’s helped increase completion rate at primary level as well as encourage the pupils and their parents to aspire for further education. The national governments and the international community came forward in response to this demand. All these activities ultimately increased participation in secondary education.

Secondary education has no independent entity anywhere in the world. It acts as a bridge between primary and tertiary education. Duration of secondary education varies from one country to another. Where the duration of primary education is short, the duration of secondary education is long and vice versa (UNESCO Institute of Statistics, cited in Baruns *et al.* 2003). As the issue of youth development is very much linked with the effectiveness of secondary education, planning for secondary education cannot be fulfilled without considering the affects of globalization on the societies. Thus, the secondary education of today’s world is facing three different but interlinked challenges. First, coping with the expansion of the system and keeping quality; second, preparing the youths so that they can meet the challenges of globalization, more specifically a good link between education and the world of work; and third, to fulfil the needs and demands of tertiary education.

Inherited from British-India, secondary education in Bangladesh has three distinct streams, viz., general, madrasa and vocational. The general stream is the largest one accounting for about four-fifths of the students; nearly 18% enrolled in the madrasa stream and less than 3% in vocational education (BANBEIS 2006a). It is a seven-year long course- first three years for junior secondary (grades VI-VIII), next two years for secondary (grades IX-X) and the last two years for higher secondary (grades XI-XII). The first public examination held at the end of secondary education is offered from nine education boards – seven for general education and one each for madrasa and vocational education. As a continuation of the themes for the past two studies, this

year's *Education Watch* also researched secondary education, however, focused only on grades IX and X. Of the three streams, the research team concentrated on general and madrasa streams. For each, the team looked at three selected areas: curriculum, learning achievement and employment opportunities.

The National Curriculum and Textbook Board (NCTB) is responsible for curriculum development and preparation and publication of textbooks for primary and secondary education. On the other hand, there is a wing under the Bangladesh Madrasa Education Board which is responsible for madrasa curriculum. The last revision of secondary curriculum was held in 1995, through formation of a National Curriculum Coordination Committee (NCCC). This committee identified compulsory, elective and optional subjects and distributed marks among the subjects (considering their weights in the curriculum) for all the groups. These groups included Science, Humanities and Business Studies under both general and madrasa streams, and additional *Tajbid* and *Hifzul Qur'an* under madrasa stream. Two interesting things happened here. First, the NCCC detailed out subject-wise curriculum and syllabus only for the subjects fall under general stream. This, however, covered only a part of the madrasa curriculum. Second, as the Madrasa Board did not have any curriculum specialist, the curriculum of the subjects specifically for the madrasa stream was unfortunately not prepared till date. Neither did the Madrasa Board follow the full prescription of the NCCC. For instance, Business Studies was not introduced in the madrasas. Interestingly, it prepared new textbooks for the madrasas by modifying and shortening textbooks of common subjects like Bangla, English and Mathematics prepared by NCTB. But for other subjects new textbooks were prepared. As a result, although there are some common subjects in both the streams they vary in contents. A small part of the contents were found similar in both the streams. Evaluation of the common subjects showed that the madrasa curriculum was weaker than that of the general stream.

The compulsory subjects (Bangla, English and Mathematics) for the three groups (Science, Humanities and Business Studies) under general stream carry 70% weight in SSC examination (700 marks out of 1000). This is also the case for groups under madrasa stream but the difference is that the compulsory subjects are not similar in the streams. All students in both the streams have to study both Bangla and English, which carries 40% weight equally distributed by subjects in general stream (Total 400 marks in these subjects, 200 for Bangla and 200 for English); this is just half in the case of madrasa education (100 marks for Bangla and 100 for English). Although all students under general stream study General Mathematics, it is only an elective subject for the Science and General group in the madrasas. The students under *Mujabbid* and *Hifjul Qur'an* do not study General Mathematics. The above clearly shows that children attending different streams, at the secondary level do not grow up equally. There is a distinct difference between the two streams. Moreover, the students of madrasa stream get less content in Bangla and English than their counterparts in general stream. The students of two groups under madrasa education complete their secondary education

without General Mathematics. It has been observed that the general stream is the mainstream in terms of number of students admitted. However, a portion of the people involved with both the streams often tried to keep a distance among them.

Results of the public examinations (SSC and Dakhil) follow a common trend year after year. For instance, of the three groups under general stream, the pass rate of the Science students is always higher than that of the Business Studies group. The Humanities group lags behind the Business Studies group. In most of the cases, the combined pass rate in Dakhil examination is higher than that in SSC examination. Breakdown of madrasa pass rate was not available. A question may rise why the similar trend was occurring again and again, year after year? The research team found that the madrasa curriculum, in general, is weaker than that of the general stream. On the other hand, their pass rate is higher. Some possibilities can come on the table for discussion, which are mostly linked with examination system, more specifically with assessment of question papers. For instance, there is scope to get full marks in Mathematics if the questions are answered correctly, which is less plausible for other Science subjects (Physics, Chemistry or Biology), and least possible for the subjects under Humanities group (History or Social Studies). If the possibilities of getting marks in the subjects taught in the madrasas are similar to that of the Mathematics or other Science subjects their pass rate may surpass the general stream. There is a popular perception that the madrasa teachers are more liberal compared to those in general stream. Some hints of this is available in Nath (2006b), however, more exploration is required to be sure about this. Let us explore this a little further. The difference in infrastructure and educational facilities in the schools and the madrasas (Ahmed *et al.* 2006) does not explain the better performance in Dakhil examinations. Moreover, in general, children from poorer families enrol more in the madrasas than the schools. Earlier exploration of *Education Watch* shows that 77.8% of the government, 59% of the private and 19.7% of the dakhil madrasa teachers have some kind of professional training (Ahmed *et al.* 2006). How would the students in the madrasas do well in the public examination where the teachers lack training, may be a question for further exploration. The link is much clearer in general stream. Here, the students with better academic records up to grade VIII, who are also basically from well-to-do families, take Science or Business Studies, the others take Humanities. Such background of the students correlates well with their performance in public examinations.

With the above context, the *Education Watch* for the first time assessed the students of various types of secondary schools using a common test instrument. The instrument was based on common learning outcomes set by NCCC in four subject areas, viz., Bangla, English, Mathematics and Everyday Science. Students performance was analyzed in three different ways (see Chapter 4). Whatever the criteria was used, the students from the government schools were at the top in each of the subjects. The urban students were ahead of their rural counterparts. The schools surpassed the

madrasas. Except for the difference between the performances of the schools and madrasas, other findings corroborate the results of public examinations (SSC and Dakhil). Moreover, it was seen that the infrastructure of the educational institutions, in general, and the educational facilities they have, has a strong relationship with the findings. Worst situation was observed in the rural schools and the madrasas. These educational institutions lag behind the government schools and the urban schools and madrasas in all aspects for quality education. More investment in infrastructure development, creating basic educational facilities and teacher development is urgently needed in order to improve basic conditions of these educational institutions.

Of the four subject areas in the test, students did best in Everyday Science for all five types of educational institutions, followed by Bangla. Their performance in Mathematics and English were the worst. Mathematics is a basic subject for Science education and it has its own language. On the other hand, teaching English as a foreign language is a must if one wants to cope with the current demand of the globalized society. In the context of globalization, as a nation or a person, we are in a competitive situation with people from other countries; we cannot ignore improving our skills and competencies in these subjects. Our children start these subjects from grade I but do not learn much through the existing system. There must be some problem with the teachers' quality and teaching-learning process. Special attention is required to improve Mathematics and English skills of our students in both schools and madrasas.



In order to improve English skills of our students, the British government (through DfID) is thinking of a special project in Bangladesh. If the project works well, a good result may come out. Similar special project can be undertaken for improving school Mathematics. Rural schools and the madrasas in general require special attention under these projects. It may be mentioned that BRAC has introduced a project under which it is training teachers from over 2000 secondary schools on subject matter teaching in English, Science and Mathematics (BRAC 2007).

A high degree of inequality in students' performance was also found according to their background. Gender difference disfavouring the girls was observed in all the five types of educational institutions. Bangladesh has done well in bringing girls to schools but now it must invest in improving the quality of learning. First of all, it needs to explore the conditions of the educational institutions which are specifically for girls. The exploration would include whether these educational institution lack basic conditions like infrastructure, educational facilities or teacher quality. Secondly, whether there is any gender bias in teachers' behaviour and teaching-learning provisions that may discriminate the girls, also need to be explored. This should be done in both girls and co-educational institutions. Any problem regarding the above two can be solved through increased investment and addressing gender related issues in teacher training. There might be some causes related to the families of the students and the societies they live in. The girls work at home more than the boys. One may ask about the role of girls' stipend programme in this regard, it may be the case that the provision of girls' stipend worked well in their enrolment and continuation in secondary education but it did not really affect much on quality of education. The 2005 *Education Watch* observed that in enrolment, the girls started to lag behind the boys at grade VIII, the gap deepened afterwards and the girls do not do equally well as the boys in the pass rates of public examinations. All these assumptions were beyond the scope of this study and need further exploration.

There are other factors which affect learning achievement of the students, including age of student, parental education, economic background of household, access to media, and access to private tutors. Students younger in age, whose parents are better educated and well-to-do, have access to media and supplementary private tutors and therefore were more likely to perform well in the test. It was mentioned earlier about the differences among five types of educational institutions in terms of enabling conditions. The factors mentioned above have a positive link with their school choice. The students with better socio-economic background enrol in schools where the basic school condition is better. This means that the inequality increased when the students' socioeconomic background adds with the school facilities. The school factors and the student factors both collectively determined the performance of the schools and students. If equal basic facilities could be ensured in all the secondary schools, that might offset the advantage that the students' have through their background. Steps should be taken to create equal facilities for all types of educational institutions if we

want to ensure equity in our secondary education.

Private supplementary tutoring has become an entangled part of our secondary education. About 41% of the teachers from secondary educational institutions were engaged in private tutoring. The urban school and madrasa teachers were engaged more in private tutoring than their rural counterparts. The rate was 37% among the teachers of government schools. Eighty-seven percent of the students under test received support from private supplementary tutors when they were in grade IX. It is almost universal among the students of government secondary schools. The lowest prevalence was found in rural madrasas (75%). Length of receiving support from private tutors and costs for the provision varied in respect of school type, gender, parental education and household economy. A positive correlation of students learning achievement with length of private tutorial support and costs for private tutoring indicates a benefit of it from students and parents point of view. The well-to-do families and the educated parents engaged more tutors and invested more in this and hence their children secured better results. Although, the different education commission reports urged to stop the provision of private tutoring, the education ministry did not take any action against this. As a result the provision spread day by day and now become an integral part of our education system. Nonetheless, the provision improves learning achievement of the tutees and as well contributes in increasing inequity in the education system.

Although there is no information on the above beyond the last 10 years, there is no reason to believe that it was much different from today. A possibility of more inequity today may be due to the size of Bangladesh economy, with a bigger middle class now. It can be assumed that the secondary educational institutions in 1997 were unequal. A reflection of this was found when further education of the secondary graduates of 1997 were explored. The government school graduates were more likely to receive further education followed by the urban private schools and the madrasas. They were followed respectively by rural private schools and rural madrasas. Graduates who studied Science at secondary level and those who got first division in SSC or Dakhil examination (60% or more marks) were more likely to go for further education. Here also, the females and the rural graduates were less likely to go for further education compared to their respective counterparts. Majority of the females had to stop further education due to marriage but it was scarcity of money or involvement in work for the rural graduates. Duration of further education increased chances for better opportunity in job market in terms of place of work and salary. These findings clearly show that the inequity has been created in our society (through income inequity and unequal wealth distribution) and education provisions reflected primarily on the learning achievement and then on further education and in job market. This can be treated as a chain of inequity.

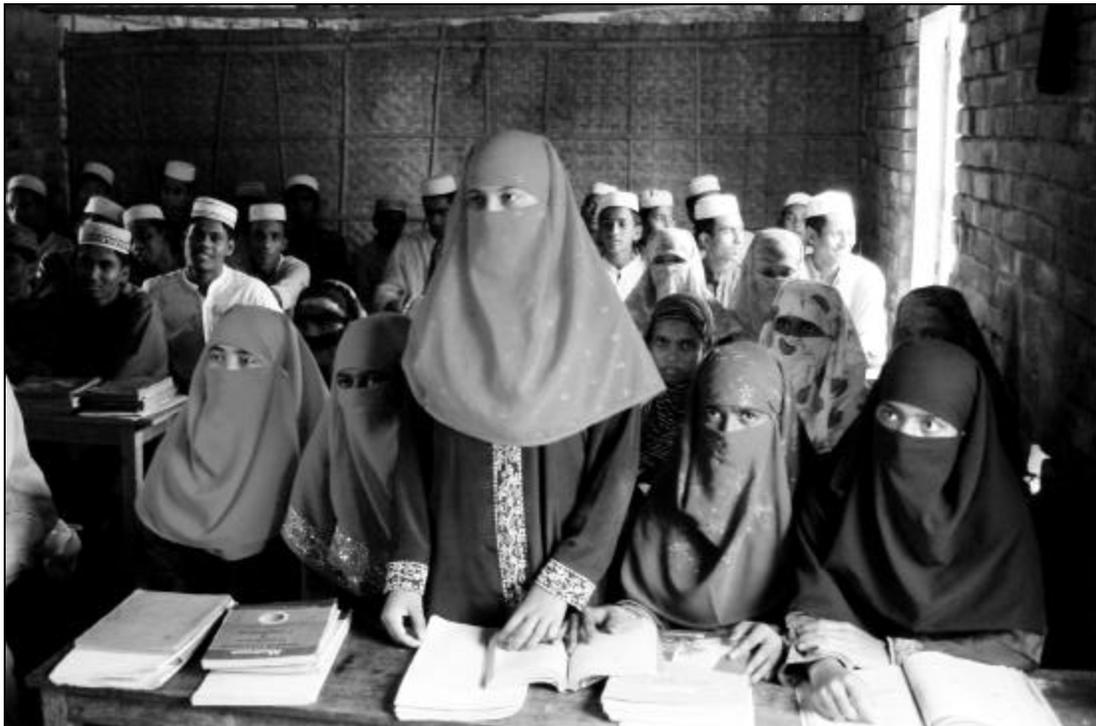
Despite all the above inequity that exists in secondary education in Bangladesh, there is inspiring news too. It was observed that educational opportunities increased a lot between two successive generations. The results show that 45% of the fathers and 13% of the mothers of the secondary graduates of 1997 completed secondary education. This means that the later generation made progress of 55 percentage points from their fathers and 87 percentage points from their mothers. In terms of average length of education, the sampled generation progressed one-and-a-half times of their fathers and two-and-a-half times of their mothers. The length of education received by the female graduates was twice of their mothers and about one-and-a-half times of their fathers' education. In spite of this pooled estimates, it was observed that although the recent generation made a good progress compared to their previous generation, length of education received by the present generation had strong correlation with their parental education. The chain of inequity reflected here once again – inequity continues over generations.

Let us now take a look at how the madrasa education system evolved in British-India. Although the system existed in the pre-British period in a different way, the British rulers did not encourage it. The Muslim leaders in 1780 thought that it became difficult for the Muslim community to keep their independent identity under secular education system introduced by the British government. In order to fulfil their spiritual need a separate education system was demanded. The leaders then met with the then Governor of India and applied for setting up a madrasa. The Calcutta Madrasa was the result of this initiative. The citizens of Bangladesh have passed a long way since the founding of Calcutta Madrasa. The people of the land became Independent twice during this period. The socio-political environment of the country and the global political environment both have changed as well. The Muslims in Bangladesh are not in a position that they were in 1780. Today's Bangladesh is an Independent State where the Muslims are the majority (90% of all population) (BBS 2003). We are now in a position to think differently, considering the needs of our young generation in this era of globalization where skills and competencies in various disciplines are a must. Our educational plans and programmes should be in line with the needs of our younger generation so that they can take the challenges of global economy and live a life better than before.

It is not unusual that the students would be divided into groups according to their choice of subjects, after passing some years of education. However, the national education system should run with some agreed goals and objectives, which should be reflected in the curriculum. In this case, the children start their primary education with various different curricula, of which general and madrasa are two important streams. This means that the children are divided into streams from the start of their education life. Although the proportion of madrasa students at primary level would not exceed 6-7% of the total students, it is about 18% at secondary level (Chowdhury *et al.* 2002, BANBEIS 2006a). This means that either a good proportion of the students from

general stream transfer to madrasa stream when they transit from primary to secondary education or a bigger proportion of primary school students do not transit or both. Again we saw that after completing secondary education from madrasas a good proportion of them transit to the general stream for their higher secondary or tertiary education. It is important to see whether these students face any difficulty in their study due to such transfer from general to madrasa and again to general stream. It was seen that as these students go up they are more likely to study Humanities not Science. One may argue if it is possible to provide a common stream to all children up to grade VIII, that could help building a unified generation with equal footing in major subjects.

What is special in madrasa education? Of the total students appeared in Dakhil examination in 2007, 89.2% was from General group, 10.2% from Science and only 0.6% from *Muzabbid* or *Hifzul Qur'an*. Total number of students appeared in the Dakhil examination from *Hifzul Qur'an* group was only 17. The number of students concentrating solely on the Islamic subjects is very small and only a few of the madrasas has provision to study these subjects. This means that majority of the madrasas offer studies under General and Science groups. But unfortunately their performance has been found to be worse than schools. This indicates a need to improve teaching quality in madrasas. It also indicates the need to examine the role of the Madrasa Board and the NCTB. Cross movements of experts serving in the two boards would benefit the two streams. There are more madrasas than required in terms of the number of students enrolled in these institutions. Total number of secondary madrasas is about half of the number of similar level of schools in the country but they



cater for only 18% of the total students (BANBEIS 2006a). This also gives us an idea about the density of madrasas and their sizes. The BANBEIS report shows that on average the number of teachers in the schools was double that of the madrasas. Average size of student population in each madrasa was about a third of the schools. This information clearly indicates unplanned and imbalanced growth of the streams around the country. A national level dialogue can be initiated for an integrated planning for the streams and groups aiming the national goals of secondary education and the needs of the society. The vocational stream also requires appropriate importance in this dialogue.

B. Major messages from the study

There are a few major messages which emanate from the findings of the present study.

The first message is that there is inequality between the educational institutions depending on their management responsibility and location. Schools run by government are mostly in urban areas and are better endowed in respect of facilities, personnel and learning provisions. They are followed by urban private schools. The urban madrasas stand in the third position followed by rural private schools and rural madrasas. The hierarchy of quality among different types of institutions indicate that a small proportion of mostly urban institutions meet acceptable standards for educational provisions and facilities.

The second message is that a poorly implemented curriculum and other factors such as poor facilities and inadequate teacher training has led to poor learning outcomes as evidenced from the test conducted by *Education Watch*. Owing to the competition for entry into secondary education, the children of better-off families choose and manage to enter better schools, which lead to widening social inequity.

The third message is that there is a huge difference between general and madrasa streams in terms of what is taught. There is ample evidence to suggest that secondary level madrasa education is conducted on the basis of a poorly-constructed curriculum in the context of the current competency needs for the young generation. This has a legacy dating back to the days of British occupation but has never been seriously addressed. Faith based educational institutions are present in many countries but it is the responsibility of the state to ensure uniform curricula and their implementation for all educational institutions. Lack of flow of information and expertise between BMEB and NCTB exacerbate the gap between the two streams.

The fourth message is that the girls who enrol in secondary education equally with the boys, quickly find it un-enabling to move with similar enthusiasm after grade VII. Although there is a special stipend programme to encourage girls, this might not be enough to learn equally well as the boys. Socioeconomic barriers like marriage and poverty pull them away from further education and job market.

The fifth message is that due to the prevailing hierarchy of quality among institutions, a very small portion of the secondary graduates receives the education that prepares them for the workplace or further education. The failure to equip the large majority of secondary students with basic knowledge and competencies for the world of work and further education, damage a better future to our younger generation.

The sixth message is that education in Bangladesh has expanded greatly during the life of two subsequent generations- the present generation and their parents. Significantly positive correlation between the levels of education attained by the two generations indicates influence of the advantages enjoyed by parents carried over to their children.

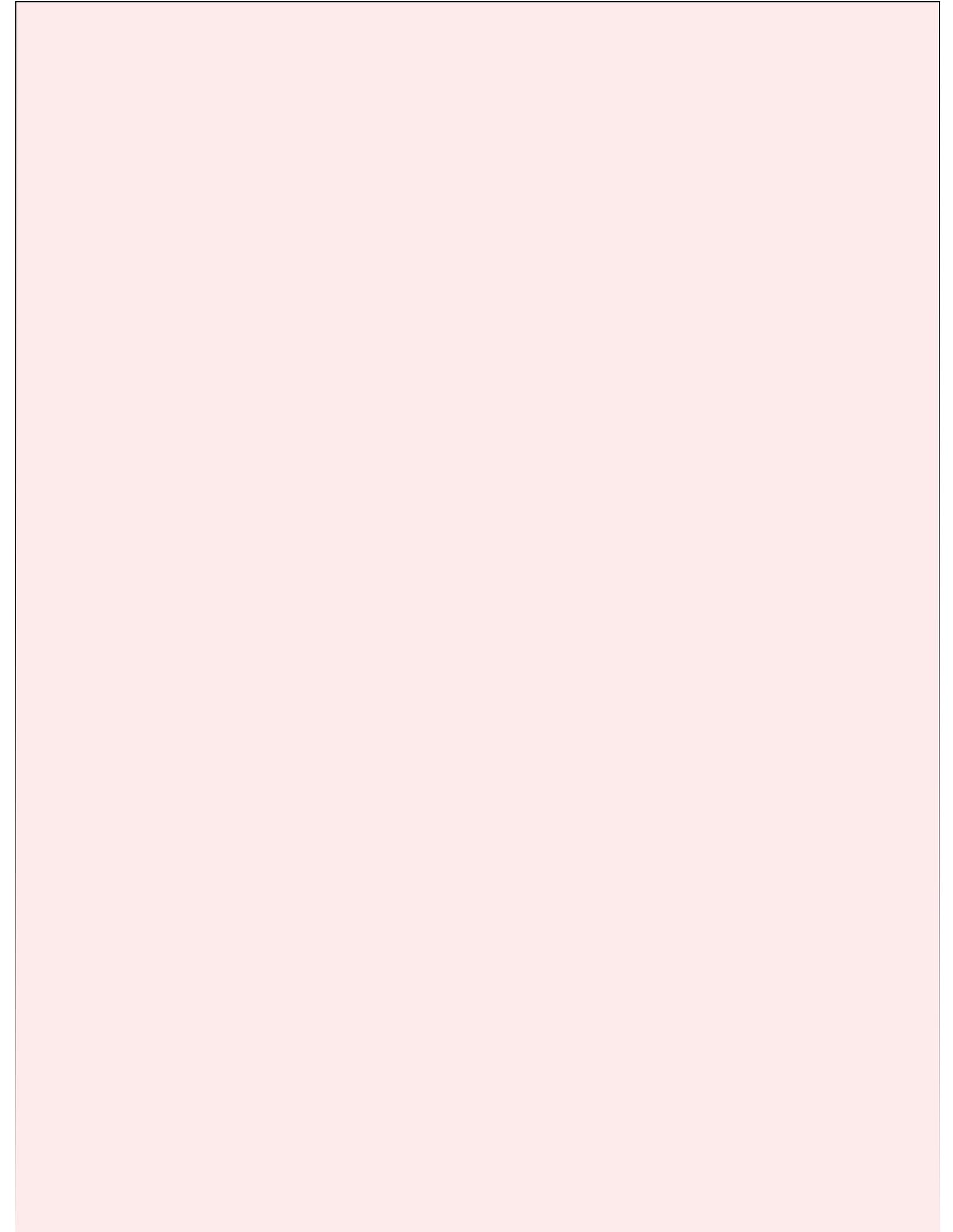
C. Policy recommendations

The findings and conclusion of the *Education Watch 2007* study on the state of secondary education raise the following policy issues:

1. Evidence in this study has demonstrated major differences between different streams of secondary education, such as between rural and urban provision. This difference is also evident in the standards of educational provision, facilities and staffing amongst the different streams of secondary education. The resulting inequality of opportunities and its causes and consequences should, therefore, be recognized as a central policy concern. Educational inequity at the secondary level should become the focus of educational development strategies, plans and investments at the secondary level.
2. The development of a unified and common set of standards for learning provisions, teaching personnel and core curriculum content and objectives is a pressing issue for secondary education development. Concomitantly, enforcement mechanisms and a time-bound plan for facilities and provisions need to be set for all types of secondary institutions including government and private schools and madrasas from grades six to ten. This is an essential condition for, and the educationally and ethically defensible approach to, fulfilling the stated national goal of a unified curriculum for secondary education.
3. An appropriate common system of assessment, especially public examination at the end of the secondary stage, should be designed for all institutions. The design and planning should also include plans and investments for technical capacity building, standardization of tests, development of expected grade-wise competency levels for key subjects, and research and trial in learning assessment. This is a necessary condition for establishing meaningful equivalency among different streams and types of institutions.
4. Various studies have highlighted inequality and low level of access to secondary education in the appropriate age group, high drop-out and high levels of 'virtual exclusion' from learning of those nominally enrolled as key areas of concern in

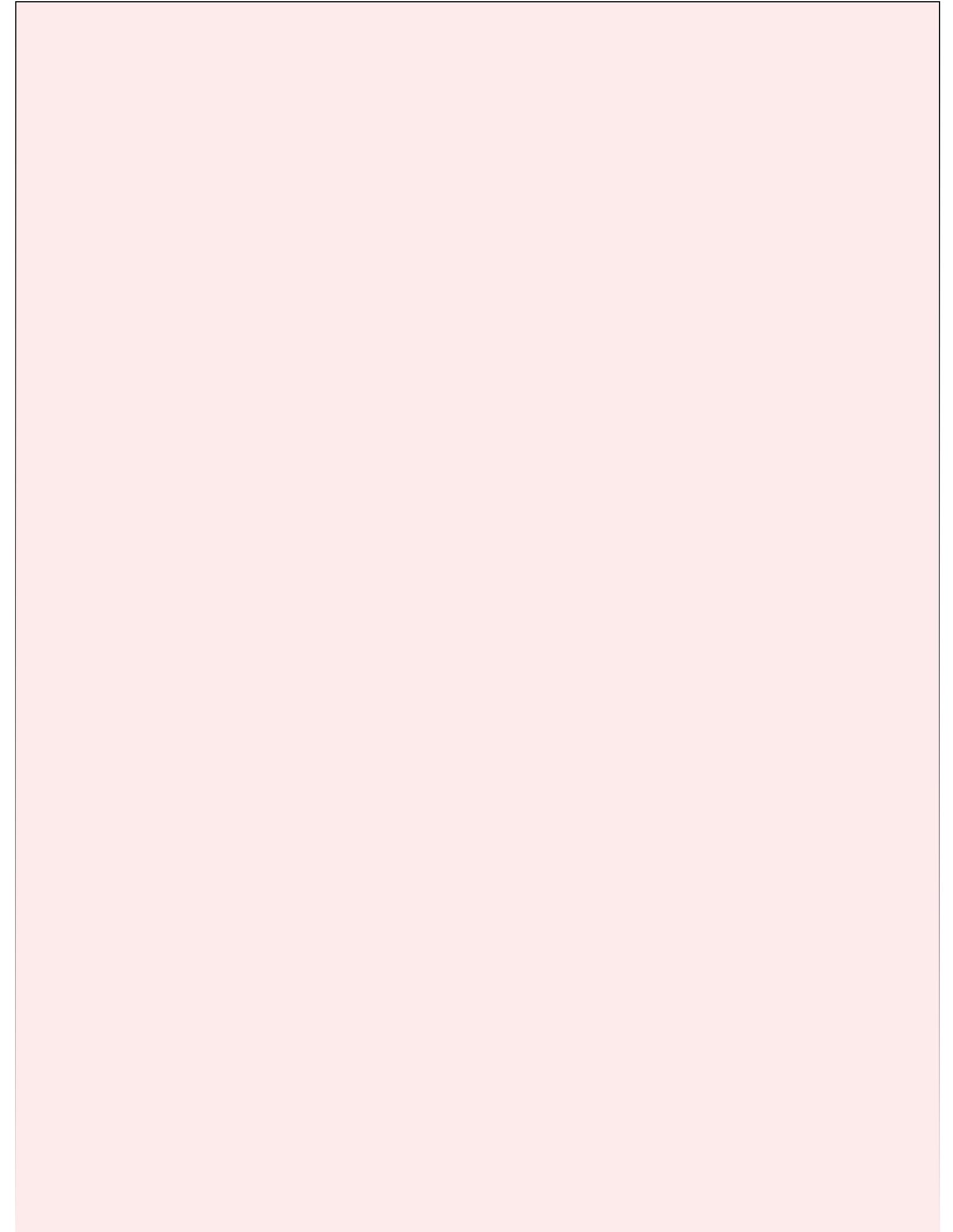
secondary educational development. Hence, these should be key considerations when designing and applying common standards, a unified curriculum and the assessment system.

5. The historical development of the parallel streams of madrasas and the general institutions need not be undone; however, policy questions critical to the rational development of secondary education remain. These questions particularly concern public funding of the different streams of education. No institution whatsoever should receive public funding if it does not conform to nationally decided curriculum and learning objectives.
6. A unified system would require equal investment for building curriculum experts in both NCTB and BMEB. It is costly, time consuming and may be undoable as well. BMEB could not build any curriculum expertise during last 30 years since its autonomous entity. A plausible solution is to develop expert in religious curriculum in NCTB. This will primarily be helpful in reducing gap between the streams and as well a meaningful arrangement for unification. A solution on a medium term could be a four groups approach, Under this, Humanities, Science, Business Studies, and Religious Studies would be taught in all educational institutions, whether it is school or madrasa.
7. Address gender related issues in teacher training and school management as well including conceptual clarity about gender and development, e.g., considering it as an issue related to both male and female students and teachers. Specific issues related to the adolescents and youths also need to be addressed with much emphasis.
8. A large proportion of the secondary graduates do go on to further education. Consequently secondary education is seen to be assuming the role of preparing students for higher education. However, what should be the strategy for the majority of students who do not graduate? In order to serve this group effectively, secondary education should change by placing more emphasis on preparation for the employment market. The issue of 'vocational education' is particularly relevant as we find that interest in and opportunities for overseas employment of secondary graduates is growing.



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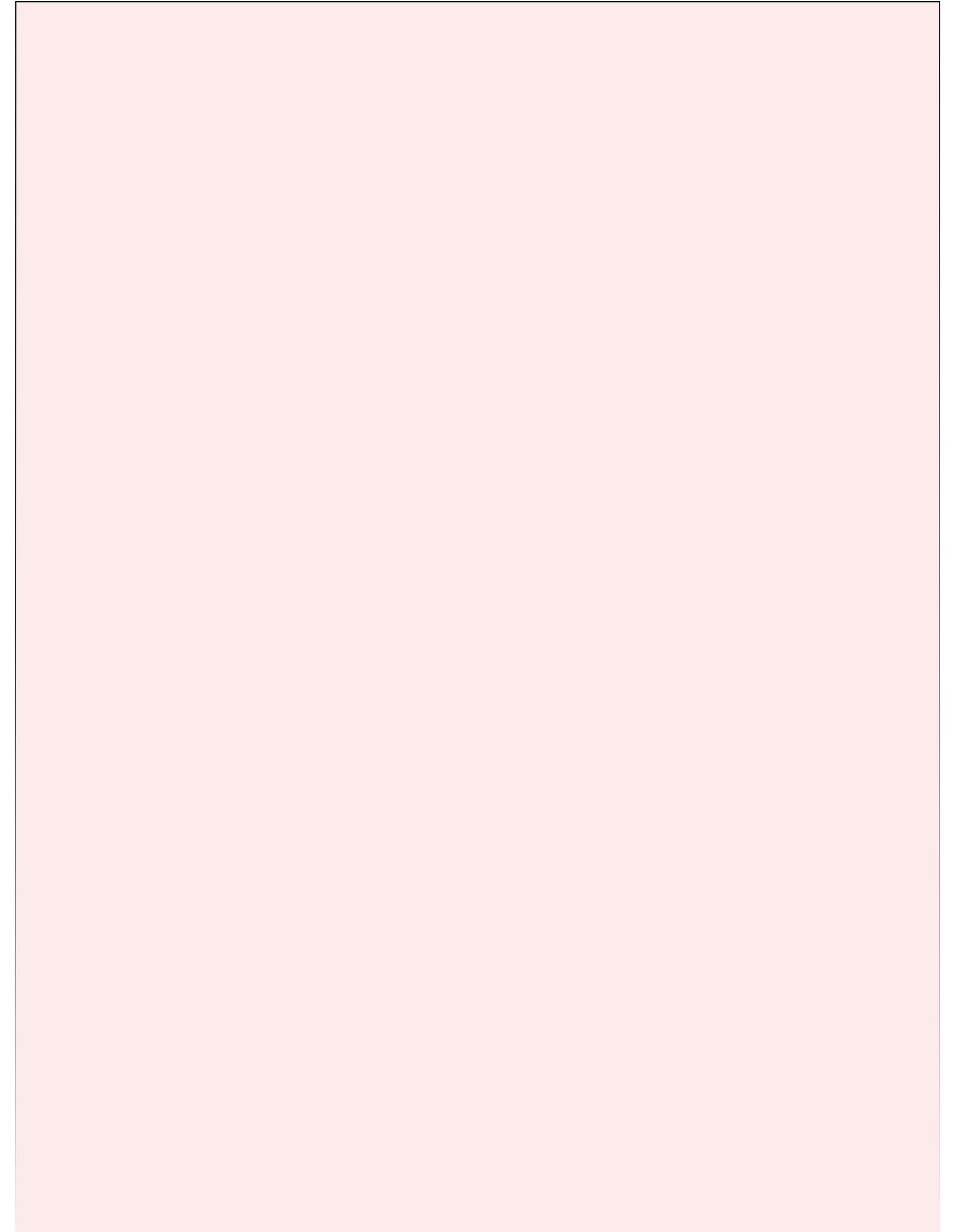
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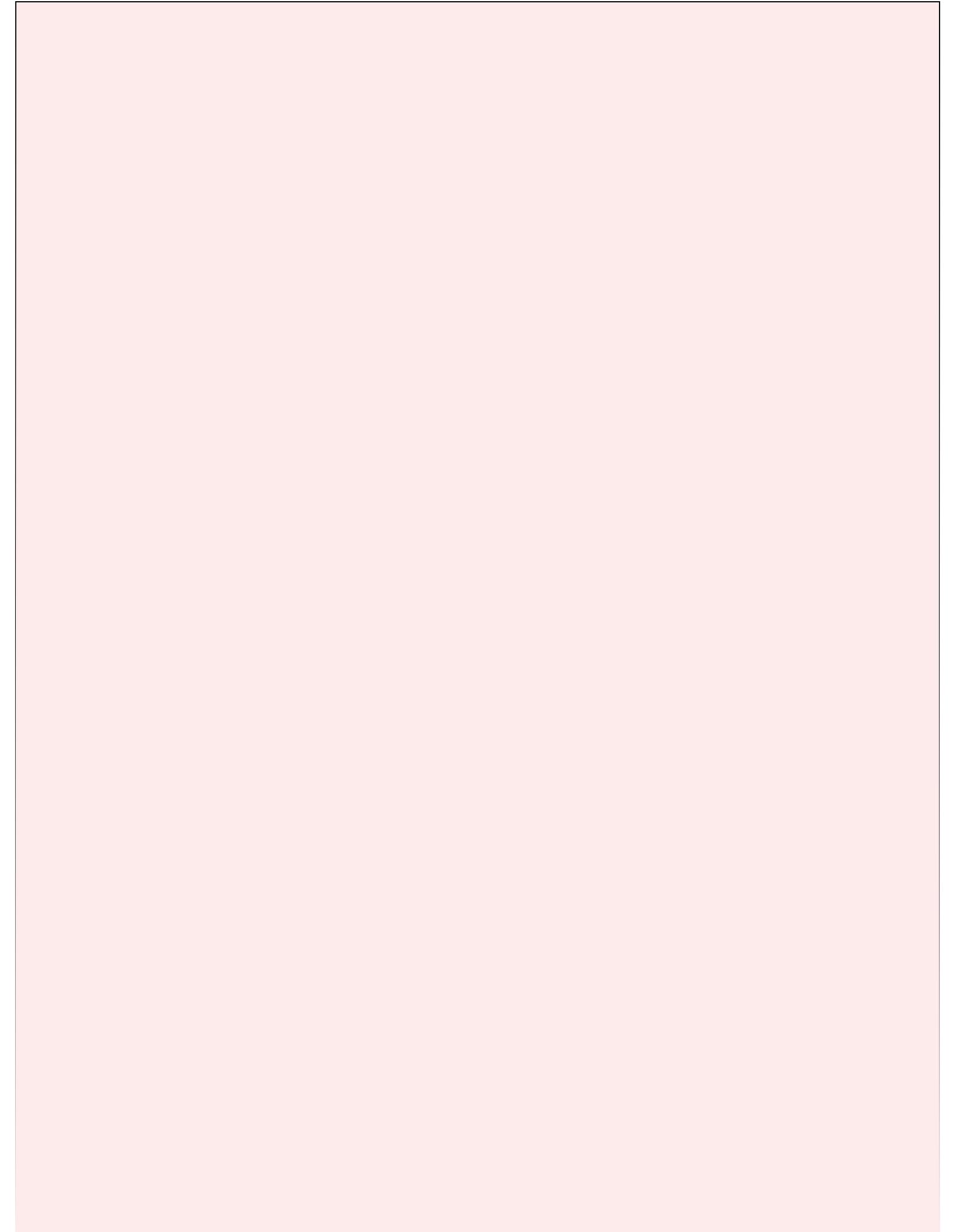
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Annexes





Annex 2.1**Persons involved in test development****Experts in curriculum, test development and research**

1. Md. Anwar Ali, Consultant, BRAC University Institute of Educational Development
2. Dr. MA Wahab, Consultant
3. Mr. AMM Ahsanullah, Former Chairman, Chittagong Education Board
4. Md. Shafiul Alam, Former member (curriculum), NCTB
5. Muhammad Ali, Former member (curriculum), NCTB
6. Dr. M Shamsul Hoque, Former ELT Advisor, Bangladesh Open University
7. M Nazmul Huq, Professor, IER, University of Dhaka
8. Ms. Shyamoli Akbar, Associate Professor, IER, University of Dhaka
9. Ms. Syeda Tahmina Akter, Associate Professor, IER, University of Dhaka
10. Dr. Abdus Sattar, Asst. Inspector, Bangladesh Madrasa Education Board, Dhaka
11. Md. Fazlur Rahman, Associate Professor, IER, University of Dhaka
12. Mr. Tariq Ahsan, Associate Professor, IER, University of Dhaka
13. Mr. Swapan Kumar Dhali, Asst. Professor, Teachers Training College, Dhaka
14. Dr. Umme Salema Begum, Lecturer, Rajdhani Mohila College, Dhaka

School teachers

15. Md. Enayet Hossain, Sr. Teacher, Islambagh Ashraf Ali High School, Dhaka
16. Ms. Runu Rani Shaha, Sr. Teacher, Eskaton Garden High School, Dhaka
17. Md Tazul Islam, Asst. Teacher, Govt. Laboratory High School, Dhaka
18. Ms. Shahanj Pervin Lovely, Sr. Teacher, West Dhahnmondi Yousuf High School, Dhaka
19. Md. Riaz Uddin, Sr. Teacher, Khilgaon Girls' School and College, Dhaka
20. Md. Hanif Mia, Lecturer, Madartek A Aziz School and College, Dhaka
21. Mr. Mustafa Kamal, Sr. Teacher, Siddeswari Girls High School, Dhaka
22. Ms. Hasina Murshida, Asst. Teacher, Siddeswari Girls High School, Dhaka

Madrasa teachers

23. Md. Abdul Wahab, Asst. Teacher, Hafez Abdur Razzaq Jamea Islamia, Dhaka
24. Ms. Zebun Nahar Shimul, Lecturer, Madinatul Ulum Mahila Kamil Madrasa, Dhaka
25. Md. Nazrul Islam, Asst. Teacher, Uttar Badda Kamil Madrasa, Dhaka
26. Ms. Irshat Ara Juthi, Lecturer, Mahmuda Khatun Mahila Madrasa, Dhaka
27. Mr. SM Shah Mahmud, Sr. Teacher, Quderia Tayabia Alia Madrasa, Dhaka
28. Md. Kudrat Ali, Sr. Science Teacher, Madrasa-e-Alia, Dhaka
29. Md. Anwar Hossain, Lecturer, Hazratbagh Islamia Alim Madrasa, Dhaka

CAMPE and BRAC

30. Md. Kabir Tafiqul Islam, Unit Manager, BU-IED
31. Md. Giasuddin, CAMPE
32. Mr. KM Enamul Hoque, Programme Manager, CAMPE
33. Mr. Mofakkraul Islam, Teachers' Trainer, BRAC
34. Mr. Nil Ratan Haldar, Sr. Programme Manager, BRAC
35. Mr. Goutam Roy, Staff Researcher, Research and Evaluation Division, BRAC
36. Mr. Notan Chandra Dutta, Research Assistant, Research and Evaluation Division, BRAC
37. Md. Anwar Hossain, Research Assistant, Research and Evaluation Division, BRAC
38. Mr. Samir R. Nath, Senior Research Fellow, RED, BRAC

Annex 2.2

Learning achievement test instrument

GWKkb I qvP 2007

kg tkYxi wkqv_ i thM`Zv cwi gvcK Afxqv

mbv³KiY

wkqv_cöZöfbi tKw:

wkqv_cöZöfbi ai b: mi Kwi gva`wgK = 1, temi Kwi gva`wgK = 2, gv` & vmv = 3

Gj vKv: MÖgxY = 1, kni = 2 wkqv_ tKw:

wkqv_cöZöfbi bvg:.....

wkqv_ tKw bvg:..... wj ½: tQtj = 1, tqtq = 2

wcZvi bvg:.....

gvZvi bvg:.....

MÖg/gnj v:.....BDwbqb/I qvW©.....

Dc†Rj v:.....†Rj v:.....

Anfqv cwi Pj bvkvi xMY

bvg	qv_	Zwi L

5. PZî R̄c`x K̄v̄Zvi Aó†K _v†K gj ZÑ
 K. fv̄tei cēZ̄B̄v
 L. Q†`i t`vZbv
 M. w̄l†qi Dc`vcbv
 N. `M†Zw̄³i cēj`
6. Ôl iv GLb cvi n†Z Pvq `M̄g `w̄c_Ñ̄ ce†Kvi Av†j v K̄v̄Zvq Ôl ivô Kviv?
 K. fxi` I Kv̄cj`†l iv
 L. Av†j v†Ki Aw†hv̄î xiv
 M. w`†kniv`j
 N. w̄h̄ZZ gv̄b†l iv
7. w̄b†Pi tKv̄b&_†Qi ev̄vb_†j v i x?
 K. mgxPxb, D̄wPr, AvKv̄•†lv, c°, Ašf̄[⊗]
 L. m̄wgPxb, D̄wPZ, AvKv̄•†lv, cKK, Ašf̄[⊗]
 M. mgxPxb, D̄wPZ, AvKv̄•†lv, cK; Ašf̄[⊗]
 N. mgxPb, D̄wPZ, AvKvsLv, c°, Ašt̄f̄[⊗]
8. Ôki†Zi w̄k̄kiô ev̄M̄aviw̄Di mgv_Ř tKv̄b̄U?
 K. mij ü`q
 L. m̄mg†qi eÜz
 M. `†mg†qi mn̄hv̄î x
 N. ki†Zi t̄fvi
9. e†b`iv e†b my`i, w̄ki iv gv̄Z†µ†to|Ñ Gi m̄c̄h̄wi Z fv̄tei gj K_v tKv̄b̄U?
 K. e†bi R̄x̄eR̄š`memgq e†bB L̄e my`i t`Lvq|
 L. eb`c̄Ÿx I w̄ki iv GKB `fv̄tei |
 M. thLv†b thUv `fveRvZ I msM̄wZcY†mUvB my`i |
 N. gv†qi tKvj Q̄vov w̄ki†K Ab`†KD w̄b†Z cv†i bv|
10. w̄b†Pi tKv̄b&evK`w̄†Z m̄vayl Puj Z fv̄lvi vgkY t̄bÑ
 K. th†Z th†Z t`w̄Lj vg|
 L. Avgw`M†K G KvR Ki†Z n†e|
 M. nvm†Z nvm†Z t̄c†U w̄Lj awi qv tMj |
 N. Awg Rb†w̄b†q̄Qj vg tmKv†j i XvKvq|

11. $\text{vbtRi tKvb\&_t'Qi mlU_tjv vWK?}$
 K. $\text{Av + Ph}^\ominus = \text{Av}\ddot{\text{O}}\text{h}^\ominus; \text{Afj} + \text{`q} = \text{Afj}\`q$
 L. $\text{Pj r} + \text{kw}^\ominus = \text{Pj}\ddot{\text{O}}\text{w}^\ominus, \text{vbt} + \text{vPy} = \text{bvw}\ddot{\text{O}}\text{y}$
 M. $\text{Av + Ph}^\ominus = \text{Av}\ddot{\text{O}}\text{h}^\ominus; \text{Avf} + \text{D`q} = \text{Afj}\`q$
 N. $\text{hver} + \text{Rxeb} = \text{hverRxeb}, \text{ll\&+ _} = \text{ló}$
12. $\hat{\text{O}}\text{KcY}\hat{\text{O}} \text{kt}\hat{\text{a}} \text{ga}\hat{\text{B}}\text{-Y e}\ddot{\text{e}}\text{nv}\hat{\text{t}}\text{i i Rb}\hat{\text{t}} \text{tKvb\&vbqgvU c}\hat{\text{O}}\text{hvR}\hat{\text{t}}?$
 K. S, i, l-Gi ci $\hat{\text{O}}\text{Y}\hat{\text{O}}$ e}\ddot{\text{e}}\text{üZ nq|}
- L. $\text{ms}\bar{\text{z}} \text{kt}\hat{\text{a}}$ memgq $\hat{\text{O}}\text{Y}\hat{\text{O}}$ e}\ddot{\text{e}}\text{üZ nq|}
- M. F, i, l-Gi ci $\hat{\text{O}}\text{c}\hat{\text{O}}$ eM}_v\text{Ktj} $\hat{\text{O}}\text{Y}\hat{\text{O}}$ e}\ddot{\text{e}}\text{üZ nq|}
- N. vKQzvKQz Zrmg $\text{kt}\hat{\text{a}}$ Ggvb\&tZB $\hat{\text{O}}\text{Y}\hat{\text{O}}$ e}\ddot{\text{e}}\text{üZ nq|}
13. $\text{Rvj -Rwj qv}\>\text{tRtj N}\hat{\text{t}} \text{GLvtb tKvb\&A}\hat{\text{t}}\text{-c}\hat{\text{Z}}\text{`q mwvZ ntqtQ?}$
 K. $\text{`bcY}\hat{\text{t}} \text{A}\hat{\text{t}}\text{-}^\ominus$
 L. $\text{RvZ} \text{A}\hat{\text{t}}\text{-}^\ominus$
 M. $\text{DcR}\text{v}\text{eKv} \text{A}\hat{\text{t}}\text{-}^\ominus$
 N. $\text{Ae}\ddot{\text{q}} \text{MV}\hat{\text{t}}\text{b}$
14. $\hat{\text{O}}\text{Mvtj Wvtj Kmg fvi}\hat{\text{O}}\hat{\text{N}} \text{GLvtb}\hat{\text{O}} \text{fvi}\hat{\text{O}} \text{tKvb\&A}\text{-c}\hat{\text{K}}\text{vk Ki}\hat{\text{t}}\text{Q?}$
 K. tevSv
 L. mgn
 M. $\text{D}\frac{3}{4}\text{j}$
 N. $\text{kb}\hat{\text{t}}$
15. $\text{tKvb}\hat{\text{U}} \hat{\text{O}}\text{DPvUb}\hat{\text{O}}\text{-Gi} \text{vecivZv}\text{-R} \text{k}\hat{\text{a}}?$
 K. $\text{e}\ddot{\text{v}}\text{Kj}$
 L. $\text{D}\ddot{\text{E}}\text{vj}$
 M. $\text{c}\hat{\text{K}}\text{v}\hat{\text{S}}\text{-}$
 N. $\text{D}\text{P}\text{vbPz}$
16. $\hat{\text{O}}\text{PvtLi} \text{ewj}\hat{\text{O}} \text{eM}\text{vivi} \text{c}\hat{\text{K}}\text{Z} \text{A}\text{-}\hat{\text{O}}\text{Kvb}\hat{\text{U}}?$
 K. $\text{tPvtLi} \text{cxov}$
 L. $\text{tPvtLi} \text{c}\`{\text{P}}$
 M. $\text{P}\hat{\text{q}}\text{kj} \text{e}\ddot{\text{w}}^\ominus$
 N. $\text{tPvtL} \text{ewj} \text{cov}$

vb̄tPi Ab̄t"Q` w̄ gtbvthM w̄ tq co | Gici vb̄tPi cōZw̄ cōkē w̄K DĒi w̄i evg cvtk tMvj
w̄Pý `vl |

Avgv̄t` i w̄ki Kv̄tj tFvMvej v̄mi Av̄tqvRb w̄Qj bv ej t̄j B nq | tgv̄tUi Dc̄ti ZLbKvi
Rxebhv̄v GLbKvi t̄t̄q Āt̄bK tevk mv` w̄mav w̄Qj | ...Av̄nv̄ti Avgv̄t` i t̄kšw̄LbZvi MŪI w̄Qj
bv | Kivcōt̄Pvco GZB hrmvgv̄b` w̄Qj th GLbKvi t̄Q̄t̄j i P̄t̄ŋ Zv̄nvi Zv̄vj Kv̄ awi t̄j
m̄s̄ŋbnw̄bi Av̄k̄v̄ Av̄t̄Q | eqm `t̄ki t̄KW̄v̄ cvi nBevi c̄t̄ēKv̄t̄bw̄` b t̄Kv̄t̄bv̄ Kvi t̄YB t̄gv̄Rv̄
cwi bvB | kv̄t̄Zi w̄ t̄b GKUv̄ mv`v̄ Rvgvi Dc̄ti Av̄i GKUv̄ mv`v̄ Rvgv̄B h̄t̄_ó w̄Qj | Bnv̄t̄Z
t̄Kv̄t̄bw̄` b A` p̄t̄K t̄`vl w̄ B bvB | t̄Kej , Avgv̄t` i ew̄oi `i w̄R t̄bqvgZ Lw̄j dv̄ Aēt̄nj v̄ Kwi qv̄
Avgv̄t` i Rvgv̄q c̄t̄KU-thv̄Rbv̄ Abvek`K ḡt̄b Kwi t̄j `t̄L teva Kwi Zvg |

17. t̄Kv̄b̄mḡt̄qi Rxebhv̄v̄q t̄FvMvej v̄mi t̄Zgb Av̄t̄qvRb w̄Qj bv ej t̄j B P̄t̄j ?

- K. Avgv̄t` i mḡt̄qi w̄ki Kv̄t̄j
- L. GLbKvi Rxebhv̄v̄q
- M. t̄j L̄t̄Ki `k̄keKv̄t̄j
- N. Avgv̄t` i Rxebhv̄v̄q

18. ew̄oi `i w̄Ri t̄Kv̄b̄w̄el̄qv̄w̄ t̄Q̄t̄j t̄ej v̄q t̄j L̄t̄Ki `t̄t̄Li KviY w̄Qj ?

- K. c̄t̄KUhȳ³ Rvgv̄ `Zwi t̄K AZ`vek`Kxq f̄vev
- L. c̄t̄KU-ew̄R̄Z Rvgv̄ `Zwi Kiv̄t̄K Abvek`K ḡt̄b Kiv
- M. c̄t̄KUhȳ³ Rvgv̄ `Zwi Kiv̄t̄K AZ`vek`K ḡt̄b bv̄ Kiv
- N. ew̄oi `i w̄Ri mēt̄ŋt̄Ā Aw̄ff̄veKmj f̄ evovew̄o i K̄t̄gi Av̄PiY Kiv

19. Dvj w̄LZ Ab̄t̄"Q̄t̄` i gj e³e` Kx?

- K. t̄fv̄t̄M bq, Z`v̄t̄MB c̄k̄Z m̄t̄
- L. ZrKvj xb w̄ki t̄` i c̄ōZ Aw̄ff̄veK̄t̄` i Pi ḡ Aēt̄nj v̄
- M. `wi `Zvi Kvi t̄Y mēP̄B Afv̄t̄ei Qvc
- N. Av̄ōs̄t̄nxb Rxebhv̄v̄ w̄ t̄Z cv̄t̄i w̄P̄t̄Ēi m̄t̄

20. m̄s̄c̄ōZ t̄Zvgvi cov GKw̄ eB m̄s̄ú̄t̄K¹⁰⁰ k̄t̄āi ḡt̄a` 10w̄ evK` t̄j L |

.....

.....

.....

.....

.....

.....

.....

6. **Join the following sentences: We went there. We wanted to meet him.**
- We went there and we wanted to meet him.
 - We went there to want to meet him.
 - We went there to meet him.
 - We went there so that we could want to meet him.
7. **Find out the principal clause from the sentence:
If you come, I shall be happy.**
- If you come
 - I shall be happy
 - you come
 - be happy
8. **Fill in the gap. he is poor, he is honest.**
- In spite of
 - Because of
 - In order to
 - Although
9. **Fill in the blank. The cat killed two...**
- mousse.
 - mices.
 - mice.
 - mouse.
10. **Which one of the following is a complex sentence?**
- By doing hard work we can prosper in life.
 - Work hard and prosper in life.
 - If you work hard, you will prosper in life.
 - Hard work is necessary to prosper in life.
11. **Which one of the following is a compound sentence?**
- Turning to the left you will see the shop.
 - I will work hard or I will fail.
 - If you read, you will learn.
 - Had I the wings of a bird!
12. **Change the sentence into indirect speech:
He said to me, "Do you know English?"**
- He said to me if know English.
 - He asked me whether you know English.
 - He told me if I know English.
 - He asked me if I knew English.

MwYz

vbtpi cketjv fvtejvfvte cto cöZw cöke wK DEiwji evg ctk etYp Dci tMj wPy `vl
ev eEve× Ki |

1. $\frac{2}{a^2b} + \frac{3}{ab^2} =$ KZ?

$$\frac{5}{a^2b^2}$$

$$\frac{2a+3b}{a^2b}$$

$$\frac{3a+2b}{a^2b^2}$$

$$\frac{5}{ab^2}$$

2. hw 66 tk 2, 4 Ges 6 Gi AbcvZ wef³ Kiv nq, Zte mefcv tv tQw msLwU KZ nte?

K. 8

L. 11

M. 12

N. 13

3. hw $A = \{x, y, z\}$ nq, Zte $P(A)$ Gi AšfP tmU msLw KZ nte? [$P(A)$ cvl qui tmU tevSvq]

K. 4

L. 6

M. 8

N. 12

4. $(x+2)(x-3) = 0$ Gi mgvavb tmU tkvbwU?

K. $\{-2, 3\}$

L. $\{2, -3\}$

M. $\{2, 3\}$

N. $\{-2, -3\}$

5. $x^{13} + 1$ tK $x - 1$ w`tq fM Ki`j fM`tkl KZ nte?

K. 1

L. -1

M. 0

N. 2

6. $(a^{-1} + b^{-1})^{-1}$ `i gvb tKvbU?

$$\left(\frac{ab}{a+b}\right)^{-1}$$

$$\left(\frac{a+b}{ab}\right)^{-1}$$

$$\frac{a+b}{ab}$$

$$\frac{ab}{a-b}$$

7. hw` $8^x = 32$ nq, Z`te x Gi gvb KZ?

क. 4

ख. $\frac{5}{3}$

ग. $\frac{3}{2}$

घ. $\frac{3}{5}$

8. GKU Wtgi tFZti e`vm 50 tm.vg. I D`PZv 100 tm.vg. ntj, WtguU`Z KZ vj Uvi

cwb ai`te? [1 Nb tm.vg. = 1 vm.vm., 1000 vm.vm. = 1 vj Uvi]

K. 200.15 vj Uvi

L. 196.25 vj Uvi

M. 875.25 vj Uvi

N. 296.15 vj Uvi

9. দুটি মসলি M.mv. 7 Ges j .mv. 105 নত, মসলি দুটি KZ নত হতে পারে। Zg মসলি দুটি 7 bv nq?

K. 14, 35

L. 21, 28

M. 21, 35

N. 28, 42

10. $x + \frac{1}{x} = \sqrt{3}$ হলে $x^3 + \frac{1}{x^3}$ এর মান কত?

ক. 0

খ. 3

গ. 9

ঘ. $3\sqrt{3}$

11. $4x^2 - 20xy + 25y^2 = 0$ নত, x t y Gi gvb KZ?

K. 2 t 3

L. 5 t 3

M. 5 t 2

N. 4 t 5

12. $(A \cup B)' = KZ?$

K. $A \cup B'$

L. $A' \cap B'$

M. $(A \cap B)'$

N. $A \cap B$

13. হতে $x = \{x_1, x_2\}$ Ges $y = \{y_1, y_2\}$ nq, Zte $x \times y = KZ?$

K. $\{(x_1, y_1), (x_2, y_1)\}$

L. $\{(x_1, x_2), (y_1, y_2)\}$

M. $\{(x_1, y_1), (x_1, y_2), (x_2, y_1), (x_2, y_2)\}$

N. $\{(x_1, y_1), (x_2, y_2)\}$

14. ABC eġĊ DACB GKġġ Aaġġ' tKvY ntj DACB-Gi gvb KZ?

K. 90°

L. 180°

M. 60°

N. 80°

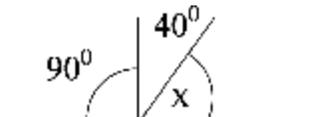
15. cġki wġġ DAC Gi gvb KZ?

K. 60°

L. 50°

M. 30°

N. 20°



16. GKġġ wġġ Ri wZbġġ tKvYi AbġvZ 1 t 2 t 3 ntj eġġ tKvYġġi gvb KZ?

K. 60°

L. 120°

M. 90°

N. 100°

17. GKġġ eġġi cġġġ I eġġmi AbġvZ KZ?

K. $\pi t 1$

L. $2\pi t 1$

M. $2 t \pi$

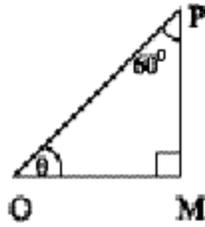
N. $1 t 2\pi$

18. $-4 + -2 + 0 + 2 + 4 + \dots$ aviwJi KZZg c` 16 ?

- K. beg
L. `kg
M. GKv`k
N. Øv`k

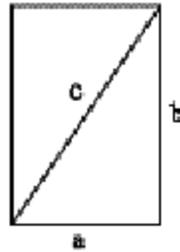
19. cvtki vPÎ DOPM mg†KvYx| sinq Gi gvb KZ?

- क. 1
ख. $\frac{\sqrt{3}}{2}$
ग. $\frac{1}{\sqrt{2}}$
घ. $\frac{1}{2}$



20. cvtki vPÎ AvqvZ†¶ÎvJi KY© Gi gvb KZ?

- क. $\sqrt{a^2 + b^2}$
ख. $\sqrt{a^2 + a^2}$
ग. $\sqrt{b^2 + b^2}$
घ. $\sqrt{2(a + b)}$



^` b w ` b veÁvb

vbŕPi cĕĕtj v fŕtj v fŕte cto cĕZu cĕkĕ wK Dĕi wJi evg cvĕk eŕYŦ Dci tMj wPý `vl
ev eĒve× Ki |

1. tKvbŕi KvhŕlgZv evavcĕB ntj Rwm tiM t`Lv t`q?
 - K. hKZ
 - L. e,°
 - M. cvK`j x
 - N. AMĕvkq

2. tKvb&Dcŕtq Kŕg tiM QovŕZ cvŕi?
 - K. wguŕRvZxq Lvevi tevk tLŕj
 - L. Lvl qvi cĕeĕmvevb w`ŕq nvZ bv aŕj
 - M. KŕgŕZ Avmŕš-ti vMxi i³ MĕY Kiŕj
 - N. KŕgŕZ Avmŕš-ti vMxi ms`útkĕAvmŕj

3. Lvl qvi ci cĕĕB Mj v-eK Rŕj v Kiŕj I UK tXKi DVŕj wPŕKrmK U`veŕj U ev Zij
RvZxq I Iŕ tmeŕbi civgkĕt`b | I Iŕa tKvbRvZxq Dcv`vb _vKŕj Mj v-eK Rŕj v
Kiŕe bv Ges UK tXKi DVŕe bv?
 - K. GwmW
 - L. ŕŕvi K
 - M. ŕŕvi
 - N. jeY

4. Zŕg tj v nvi ^Zwi GKŕU Pwe wJDel ŕqŕj i Dci tiŕL nvZj tPŕc evj wZŕZ cvb
vbwŕQŕj | nVv PweU wJDel ŕqŕj i tFZi cto tMj | PweU tei KiŕZ bv cvŕtj Zŕg
Nŕi XKŕZ cvŕe bv | G Ae`vq Kxfŕte PweU mnŕR tei Kŕi AvbŕZ cvŕe?
 - K. j ŕŕ Kwm XŕKŕq tmUvi mrvh` Pwe tei Kŕi tŕte
 - L. cvŕú KiŕZ KiŕZ Pwe tei Kŕi Avbŕe
 - M. wJDel ŕqŕj wJi Dcŕi i gv_v Lŕj tei Kŕi Avbŕe
 - N. mŕZvi gv_vq PŕK L teta wQ`a w`ŕq XŕKŕq t`ŕe

5. GKB gvtbi mZi PviU wfbai0i Kvc0 atq tiv` i KvZ w` tj tKvU AvM iKte?
- K. mv`v
L. jvj
M. njy
N. Kvjv
6. Avjvi cZdj tbi Rb` tKvU NtU?
- K. `e` jwZK evj; Avjv t`q
L. Avqbvq wbtRtK t` Lv hvq
M. ivRct_ gi wPKv t` Lv hvq
N. tQvU wRt0m eo t` Lv hvq
7. `bw` b Rxtb tmwlvqg tKvBW (NaCl) Kx wntmte e`envi Kiv nq?
- K. jeY
L. wPtb
M. mvevb
N. tZj
8. ivZ Ngvevi Rb` tKvU NtU tenk `v`m`SZ nte?
- K. th Nti cPi evZm c0etki e`e`v itqt0
L. th Nti evBti i kã mntRB c0ek Kti
M. th Nti evBti i Avjv c0ek Kitz cvti
N. th Nti mevi GKmvt_ Ngvbtvi e`e`v Avt0
9. GKU KvtPi Mvtmi tfZi GKBiKg AvtiKvU KvtPi Mvm XyK k³ fute AvtK tMj | tKvU c0uqvq Mvm tjtvtK mntR | wbtvct` Avjv`v Kiv hute?
- K. Mvm `vtK nvtZ wbtq Lp tRvti SuKvtZ nte
L. Mvm `vtK nvtZ wbtq k³ fute tgvPovtZ nte
M. evBti i w`tki MvmUvtZ nvj Kv Zvc w`tZ nte
N. tfZti i w`tki MvmUvtZ nvj Kv Zvc w`tZ nte
10. Bbmj b tKv tivtMi | lpa?
- K. K`Yvi
L. D`P i³Pvc
M. e0g¹
N. RvEm

11. **†KvbU fvBivmRvbZ tivM?**
 K. K†j iv
 L. wWc†_wi qv
 M. nvg
 N. wmwclwj m
12. **mh[®]_†K cW_extZ †Kvb&c†uqvq Zvc Av†m?**
 K. cwi enb
 L. cwi Pj b
 M. wewKiY
 N. Zi ½vKv†i
13. **tiv†` GK w†kl Dcv`vb i†q†Q hv Avgv†` i kix†i wFUwgb 0w0 mieivn K†i | G†U†i
 bvg Kx?**
 K. m†h[®] Zvc
 L. mh[®]wk†
 M. Mvgv i wk†
 N. Avj U†Fv†qv†j U
14. **MvR†i †Kvb&wFUwgb teik _v†K?**
 K. wFUwgb A
 L. wFUwgb B
 M. wFUwgb C
 N. wFUwgb D
15. **h††v tivM-†b†ivaK UxKv †KvbU?**
 K. wV wC wU
 L. we wv wR
 M. cwj l
 N. †ncvUvBwUw we
16. **GBWm GKvU giYe`wa | GB tivM mwó n†Z cv†i †Kvb&Kvi†Y?**
 K. GBWm tivMxi e`envi Kiv _vj vewU e`envi Ki†j
 L. GBWm Avµvš-†ivMxi mv†_ ^^ wnk m†úK[®]Ki†j
 M. GBWm Avµvš-†ivMxi mv†_ mve††wYK DVvemv Ki†j
 N. GBWm tivMxi e`envi Kiv Kvcw cwi avb Ki†j

17. $\text{mmii} \ddot{A} \text{ w } \text{tq} \text{ KvD}\ddot{t} \text{K} \text{ Bb}\ddot{t} \text{RKkb}\ddot{t} \text{ } \text{I} \text{ qvi} \text{ ci} \text{ hw} \text{ } \text{tmUv} \text{ h_vh_fvte} \text{ RxeVYgy}^{\text{B}} \text{ bv} \text{ Kti} \text{ Ab} \text{ } \text{KvD}\ddot{t} \text{K} \text{ Avevi} \text{ GKB} \text{ mmii} \ddot{A} \text{ w } \text{tq} \text{ Bb}\ddot{t} \text{RKkb}\ddot{t} \text{ } \text{I} \text{ qv} \text{ nq,} \text{ Zte} \text{ tKvb}\ddot{t} \text{ i vMvU} \text{ nI} \text{ qvi} \text{ m}^{\text{B}} \text{tebv} \text{ teuk_vtK?}$
 K. $\text{UvBd}\ddot{t} \text{qW}$
 L. $\text{tcwj} \text{ I}$
 M. GBWm
 N. $\text{K}^{\text{v}} \text{Yvi}$
18. $\text{iv}\ddot{Z} \text{ i} \text{ Lvevi} \text{ LvI} \text{ qvi} \text{ ci} \text{ } \text{`wZ} \text{ e}\ddot{t} \text{K} \text{ bv} \text{ Ki}\ddot{t} \text{ j} \text{ } \text{`wZ} \text{ i} \text{ we}\ddot{t} \text{kl} \text{ } \text{¶wZ} \text{ n}\ddot{t} \text{Z} \text{ cv}\ddot{t} \text{ i} \text{ |} \text{ vb}\ddot{t} \text{Pi}$
 $\text{tKvb}\ddot{t} \text{Lvt} \text{ } \text{GB} \text{ ¶wZ} \text{ i} \text{ cwi} \text{ gvY} \text{ teuk} \text{ n}\ddot{t} \text{Z} \text{ cv}\ddot{t} \text{ i?}$
 K. $\text{AvZwi}^{\text{3}} \text{ gkj} \text{ v} \text{ RvZxq} \text{ Lvevi}$
 L. $\text{`j} \text{ ev} \text{ wgw} \text{ RvZxq} \text{ Lvevi}$
 M. $\text{gvsm} \text{ ev} \text{ Pwe}^{\text{C}} \text{RZxq} \text{ Lvevi}$
 N. $\text{fvZ} \text{ ev} \text{ kK}^{\text{Pv}} \text{ RvZxq} \text{ Lvevi}$
19. $\text{gv}\ddot{t} \text{ i} \text{ g}\ddot{t} \text{ } \ddot{u} \text{ } \text{t}\ddot{i} \text{M,} \text{ D}^{\text{P}} \text{ i}^{\text{3}} \text{Pvc,} \text{ } \text{`w}\ddot{S} \text{v} \text{BZ} \text{ } \text{w} \text{ } \text{m}\ddot{v} \text{oi} \text{ GKvU} \text{ Ab} \text{ } \text{Zg} \text{ Kvi} \text{ Y} \text{ nj:}$
 K. $\text{tFRvj} \text{ h}\ddot{y}^{\text{B}} \text{ Lvevi}$
 L. $\text{tbvsi} \text{ v} \text{ cwi} \text{ t}\ddot{e} \text{K}$
 M. $\text{M}\ddot{v} \text{oi} \text{ n}\ddot{t} \text{b}^{\text{P}} \text{ D}^{\text{P}} \text{ k}\ddot{a}$
 N. $\text{Lv} \text{ } \text{I} \text{ c}\ddot{v} \text{oi} \text{ Afve}$
20. $\text{G}\ddot{m} \text{W} \text{ Kv}\ddot{t} \text{iv} \text{ kixi} \text{ Sj} \text{ tm} \text{ tM}\ddot{t} \text{ j} \text{ c}\ddot{U} \text{tg} \text{ Kx} \text{ Ki}\ddot{t} \text{Z} \text{ n}\ddot{t} \text{e?}$
 K. $\text{G}\ddot{m} \text{W} \text{ tcvov} \text{ } \text{`v}\ddot{t} \text{b} \text{ c}\ddot{P} \text{i} \text{ cwb} \text{ Xvj} \text{ t}\ddot{Z} \text{ n}\ddot{t} \text{e}$
 L. $\text{ti} \text{vM}\ddot{t} \text{K} \text{ } \text{`Z} \text{ Wv}^{\text{3}} \text{vti} \text{ i} \text{ Kv}\ddot{t} \text{Q} \text{ vb}\ddot{t} \text{q} \text{ th}\ddot{t} \text{Z} \text{ n}\ddot{t} \text{e}$
 M. $\text{ti} \text{vM}\ddot{t} \text{K} \text{ vb}\ddot{t} \text{vc} \text{ } \text{`v}\ddot{t} \text{b} \text{ mwi} \text{ tq} \text{ vb}\ddot{t} \text{Z} \text{ n}\ddot{t} \text{e}$
 N. $\text{G}\ddot{m} \text{W} \text{ g}\ddot{t} \text{Q} \text{ tmLv}\ddot{t} \text{b} \text{ gj} \text{ g} \text{ j} \text{ vM}\ddot{t} \text{Z} \text{ n}\ddot{t} \text{e}$

we`vj q m=úwKZ ckeĪ

μgK	cke			tKw
21	†Zıgv†K th wk¶¶K/wk¶¶KwMY cov†`Qb Z†` i g†a` †Zıgvi met††q wcd¶ wZb R†bi bıg, Zıvı Kx covb Ges Kx Rb` wcd¶ Zı wbu` 0 N†ı wj L			
	bs	wk¶¶K/wk¶¶Kvi bıg	th wcl q, †j v covb (GKwaK †Kw n†Z cv†ı)	Kx Rb` wcd¶ (GKwaK †Kw n†Z cv†ı)
	1			
	2			
	3			
Kx Rb` wcd¶: AMa cw Z` I Áv†bi Rb` = 1, AvKl ¶ıq wk¶¶v` v†bi Rb` = 2, wk¶¶v` ¶ı i mv†_ eÜZcY® I AvSwı K m=ú†K¶ Rb` = 3, wk¶¶v` ¶ı i fıv†j vev†mb etj = 4, cıv¶ıvq teık b=† fı b etj = 5, fıv†j v†v†e ev††q fı b etj = 6, Ab`vb` (wj Lp)				
22	`g /gv` ¶mv †_†K covı bv Qrov Avi †Kıv wcl †q †Zıgv†` i Drmıv †` qv nq? (GKwaK †Kw n†Z cv†ı) †Kw: †Lj vaj v = 1, ms` wZPP¶ = 2, kixı P¶¶ = 3, evMb/MQ j vM†bv = 4, wZK® = 5, †mj vB/nv†Zı KıR = 6, Drmıv †` l qv nq bv = 7, Ab`vb` (wj Lp) =			
23	evsj v, B†ııR I MıYZ K†ımi cW` vb m=ú†K¶ıPı Q†K †Zıgvi wcl qıvıEK gZıgZ `vı			
	wcl q	cW` wcl qe` †Kw: Lj mnR = 1, mnR = 2, gvSıgwıS = 3, Kıvı = 4, Lj Kıvı = 5	wk¶¶ıKı cW` vb c¶ııqv †Kw: Lj AvKl ¶ıq = 1, AvKl ¶ıq = 2, gvSıgwıS = 3, wııı³Kı = 4, Lj wııı³Kı = 5	wııııZ Kıı nı qv †Kw: Lj wıııııZ = 1, wıııııZ = 2, gvSıgwıS = 3, AvıııııZ = 4, Lj AvıııııZ = 5
	1	evsj v 1g		
	2	evsj v 2q		
	3	B†ııR 1g		
	4	B†ııR 2q		
5	MıYZ			
24	MZ `k Kıvı¶ etm Zıg KZıı b Kıvıı AbııııZ w†ıj ?			
25	Kx R†b` AbııııZ w†ıj ? †Kw: c¶ııvıR` bq = 99 1. 2. 3.			
26	we`vj q/gv` ¶mv† †Kıvı††Kıvııwcl q (me¶ıaK wZbıı wcl q) cov† †Zıgvi teık fıv†j vj v†M? (†Kw wj ÷ fı Lp)			

tKw wj ÷:

<p>tKyx cik: (Q - 17, 18, 19)</p> <p>ṽḗj wMiq̄tQ wKš' tKvb tkYx</p> <p>cvk Kti wb = 0</p> <p>bvm̄i = 31</p> <p>tc-M̄c = 32</p> <p>wki tKyx = 33</p> <p>cūg tkYx = 1</p> <p>w̄Zxq tkYx = 2...</p> <p>GmGmm/ṽ wLj = 10</p>	<p>GBPGmm/Avij g = 12</p> <p>wG/dwRj = 14</p> <p>wG Abvm̄= 15</p> <p>GgG/Kwvj /GgweGm/ BwAbqwi s = 16</p> <p>aḡxq wk̄v = 50</p> <p>Rvbr bvB = 88</p> <p>ṽḗj hvq wb = 99</p>	<p>ṽḗj i aib: (Q - 19)</p> <p>mi Kw̄i cūwgK = 1</p> <p>temi Kw̄i cūwgK = 2</p> <p>DcAvb̄pwbK/GbwRl</p> <p>cwi Pw̄j Z cūwgK = 3</p> <p>KugDwb̄U/m̄v̄tUj vBU = 4</p> <p>GēZṽ w̄q gv̄ ṽmv = 5</p> <p>ṽ wLj gv̄ ṽmv = 6</p> <p>Avij g/dwRj /Kwvj gv̄ ṽmv = 7</p> <p>nv̄tdwRq̄w/Kl̄wg/Lv̄ti wR gv̄ ṽmv = 8</p>	<p>wKūvi Mv̄tŪB = 9</p> <p>wb̄æ-gvāwgK = 10</p> <p>temi Kw̄i gvāwgK = 11</p> <p>mi Kw̄i gvāwgK = 12</p> <p>ṽḗj I Ktj R = 13</p> <p>Ab'vb'' (wj Lp) =</p> <p>.....</p> <p>.....</p> <p>Rvbr bvB = 88</p> <p>cūhv̄R'' bq = 99</p>
<p>welq tKw: (c̄k̄æ- 21, 26, 28)</p> <p>ersj v = 1</p> <p>Bsti wR = 2</p> <p>MwYZ = 3</p> <p>aḡxk̄v = 4</p> <p>mv̄gw̄RK w̄Ávb = 5</p> <p>mv̄avi Y w̄Ávb = 6</p> <p>c`v` w̄Ávb = 7</p>	<p>i mv̄qb w̄Ávb = 8</p> <p>Rxe w̄Ávb = 9</p> <p>D'PZi MwYZ = 10</p> <p>Kw̄-úDUvi wk̄v = 11</p> <p>e'̄emv̄q cwi w̄P̄iZ = 12</p> <p>w̄mv̄e w̄Ávb = 13</p> <p>e'̄emv̄q Dṽ`vM = 14</p> <p>ew̄Yw̄R`K f̄M̄j = 15</p>	<p>Mvn̄' A_̄B̄w̄Z = 16</p> <p>Kw̄l wk̄v = 17</p> <p>BwZnm = 18</p> <p>f̄M̄j = 19</p> <p>A_̄B̄w̄Z = 20</p> <p>tc̄š̄i b̄w̄Z = 21</p> <p>KḡḡLx wk̄v = 22</p> <p>teimK tUW = 23</p>	<p>Avi ex = 24</p> <p>nv̄w̄ m kixd = 25</p> <p>w̄dK̄h̄ I Dm̄j̄ w̄dK̄h̄ = 26</p> <p>Ki Avb gw̄R` I ZvRex` = 27</p> <p>Bmj vtgi BwZnm = 28</p> <p>ZvRex` bmi I bhg = 29</p> <p>Ab'vb'' (wj Lp) =</p> <p>.....</p> <p>.....</p>

Z`msM̄h̄K̄vi xi b̄g:..... Zwi L:.....

ZĒyearq̄tKi b̄g:..... Zwi L:.....

Annex 2.4

Checklist for head teachers interview

i ayMtel Yvi KvR e`enfi i Rb`

GWtKkb I qvP 2007

cåvb wk¶K/mçwi b¶Ub¶W>U/Aa¶¶i Rb` ckeÎ

mbv³KiY

wk¶vcåZöv¶bi bvg:..... tKvW:

wk¶vcåZöv¶bi ai b: mi Kwii we`vj q = 1, temi Kwii we`vj q = 2, gv`tmv = 3, Gj vKv: MçgY = 1, kni = 2

cåvb wk¶¶Ki bvg:..... µugK b¶¶:

wk¶¶Ki wj ½: cj`l = 1, bvi x = 2

wk¶v cåZöv¶bi wKv b: Mçg/gnj v:.....BDvqb/I qvW®.....

DctRj v/_v b:..... tRj v:.....

µugK	cke	tKvW
1	Avcbvi wk¶vcåZöv¶b gva`ngK ¶¶i (beg-` kg tkYx) cv`vbi Z KZRb wk¶¶K i tqfQb?	
2	Zv¶`i KZRb gva`ngK ¶¶i tev¶W¶ Zvwj Kv¶¶ cix¶¶K?	
3	GB wk¶¶K¶`i KZRb wbc¶gZ cvUxKv e`envi K¶ib?	
4	gva`ngK ¶¶i wk¶¶v_¶ gj`vq¶b mvaviYZ tKvb& tKvb& cix¶¶v wbc¶gZ wbtq _v¶Kb? (DEi GKwaK ntZ c¶¶i)	mvBwvK 1
		cv¶¶K 2
		gvvK 3
		c¶g mv¶¶¶K 4
		w¶Zixq mv¶¶¶K 5
		Aa¶¶¶ 6
		ev¶¶ 7
		c¶K-wbe¶¶bx 8
		wbe¶¶bx 9
	Ab`vb` (wj L¶):	
5	Avcbvi wk¶vcåZöv¶b GKv¶W¶gK Kv¶¶¶gi tKvb ev¶¶ cwi Kí bv Av¶Q wK?	cwi Kí bv wj wLZ Av¶Q 1
		cwi Kí bv Av¶Q wK¶¶ wj wLZ tvB 2
		cwi Kí bv tvB 3
6	Avcv¶ wk gva`ngK (1997 mv¶j c¶¶Z)/`wLj (2002 mv¶j c¶¶Z) ¶¶i i Rb` c¶¶Z Gb¶¶¶¶¶/gv`tmv wk¶¶v tev¶W¶ eZ¶¶v wk¶¶¶¶ ev Kwii Kj v¶¶¶ c¶¶¶Qb?	niv 1
		bv 2
7	Avcv¶ wk wk¶¶¶¶¶ w¶¶¶¶ tKvb c¶¶¶¶¶ t¶¶¶¶¶? (cåvb wk¶¶¶¶i Rb` 1997 l mçwi b¶Ub¶W¶¶¶i Rb` 2002 mv¶j i ci)	niv 1
		bv 2

Annex 2.5

Checklist for teachers interview

ἰ ayMtel Yvi KvR e'entἰ i Rb"

GWἰKkb I qvP 2007

ἠKἰἰKi Rb" cḱeĪ

mbv³KiY

ἠKἰἰvcĪZōvἰbi bvg:.....ἰKἠW:

ἠKἰἰvcĪZōvἰbi ai b: mi Kwi we`vj q = 1, temi Kwi we`vj q = 2, gv`ἰmv = 3, Gj vKv : MōgxY = 1, kni = 2

ἠKἰἰv cĪZōvἰbi wKvbr:.....Mōg/gnj v:..... BDἠbqb/I qvW^o.....

DcἰRj v/_vbr:..... ἰRj v:.....

ἠKἰἰἰKi bvg:.....μἠgK b^oἰ: wj ½: cj`l = 1, bvi x= 2

μἠgK	cḱe	DĒi	ἰKἠW
1	Avcbvi ἠKἰἰv vἰbi cĪvb `ewkō` ἰKvbḱU? (GKἠaK DĒi nἰZ cvἰi)	AἠaKvsk mgq e`vL`vgj K Avἰj vPbv Kwi	1
		ἰewki fἠM mgq ἠKἰἰv_xḞ i Avἰj vPbvq AskMōhY Ki vB	2
		ἰewki fἠM mgq cov awi I bv cvi ἰj eySἰq w` B	3
		ewoi KvἰRi I ci ἰewk `i`Zj w` B	4
		ἠKἰἰv_xḞ i cov eySἰq ἰ` I qvἰKB gj KvR gἰb Kwi	5
		Ab`vb` (wἰ LḞ)	
2	ci xἰἠvq Avcἠb ἠKἰἰv_xḞ KvἰQ ἰKvbḱai ἰbi DĒi Avkv Kἰi b?	Aἠg ἰhἠvἰe cἠotqἠQ ἰmἠvἰeB wἰ Lḱe	1
		ἰhἠvἰeB wἰ LḞ, DĒi wK nἰj B nἰj v	2
		eBἰZ ἰhἠvἰe ἰ` I qv AvἰQ ἰmἠvἰe wἰ LἰZ nἰe	3
		mRbkxj ἰKvb Dcvἰq wἰ Lḱe	4
		Ab`vb` (wἰ LḞ)	
3	we`vj q/gv`ἰmv cἠW`eB covἰbr Qἠov Avcbvi Avi ἰKvbḱai ἰbi eB covi Af`vm AvἰQ? (GKἠaK DĒi nἰZ cvἰi)	mἠwZ` (Mἠ , Dcb`vm, bvUK, KἠeZἠ)	1
		mἠvi Y Ávb/weÁvἰbi eB	2
		agḞq eB	3
		g`vMἠRb/mἠgἠqKx	4
		Ab` eB covi Af`vm ἰbB	5
		Ab`vb` (wἰ LḞ)	

μγΚ	cκæ	DËi	tKW					
4	MZ GK grfm tgvU KquU G ai tbi eB ctotQb?	tKW: c0hvr` bq = 99						
5	c0iZ0mbK mbqgk:Ljv tgb Pjvi e`vcvti GB wk¶vc0Z0vrb KZUv „i`Zptivc Kiv nq?	Lp wk¶Lj	1					
		wk¶Lj	2					
		tgvUrgvU	3					
		KtVvi	4					
		Lp KtVvi	5					
6	Kvfm Avcbvt`i wk¶Kt`i cW`vb Kvh¶rg mvavi YZ tK ZEjeavb Ktib? (GKmaK DËi ntZ cvti)	c0vb wk¶K/mcvi btUbtWU/Aa`¶	1					
		mnKwi c0vb wk¶K/mn-mcvi /Dcva`¶	2					
		Ab` tKvb wk¶K	3					
		w`vj q/gv`tmv cui`kK	4					
		tKD Ktib bv	5					
		Ab`vb (vj Lp).....						
7	cW`vtbi `¶Zv ep× mspvš-KZuU c0k¶Y Avcbv tctqtQb?							
8	Avcbv wk c0BtFU covb/tKwPs Kivb?		niiv 1					
			bv 2					
9	tgvU KZRB wk¶v_¶eZ0vrb Avcbvi KvtQ c0BtFU cotQ/tKwPs Ki tQ? tKW: c0hvr` bq = 99							
10	tK¶Kt¶¶i evBti mbvtn Mto Avcbvi w`vj q/gv`tmvi KZRB wk¶v_¶Avcbvi mv¶_covi bvi wcl tq K_v ej tZ Avtm?							
11	i`wUv Ab¶vqx MZ Oq Kg¶ e¶m Avcbvi KquU Kwv tbi qvi K_v wQj ?							
12	MZ Oq Kg¶ e¶m Avcbv KquU Kwv wbtqu0tj b?							
13	beg l `kg tk¶tZ Avcbv tgvU KquU wcl q covb?							
14	th wcl q_¶jv Avcbv GLb covt`Qb, tm_¶jv covvi DcthvMx mnvqK eBcT Avcbvi wBR`^msM0n KquU AvtQ?							
15	wk¶KZv Rxe¶b th wcl q_¶jv Avcbv cwotqtQb Ges eZ0vrb covt`Qb, tm_¶jv vi gta` tKvb&wcl q_¶jv covtZ Avcbvi tewk fv¶j v j vtM? (GKmaK DËi ntZ cvti)							
	evsj v	1	Rxe weÁvb	9	Kul wk¶¶v	17	nvm`m kixd	25
	Bsti wR	2	D`PZi MvYZ	10	BwZnm	18	wclKk I Dm¶j wclKk	26
	MvYZ	3	KwúDUvi wk¶¶v	11	f¶Mj	19	Ki Avb gwR` I ZvRex`	27
	ag¶wk¶¶v	4	e`emvq cui wPvZ	12	A_0mZ	20	Bmj vtgi BwZnm	28
	mvgwRK weÁvb	5	wmve weÁvb	13	tcSi bwmZ	21	ZvRex` bmi I bhg	29
	mvavi Y weÁvb	6	e`emvq Df`wM	14	Kg¶¶x wk¶¶v	22	Ab`vb` (vj Lp)	
	c`v_¶weÁvb	7	ewYwR`K f¶Mj	15	tewmK tUW	23	
	imvqvb weÁvb	8	Mvn` A_0mZ	16	Avi ex	24	

gva'vgK/ wLj cvk wk¶v_¶ tckv m'úK Z_

DĒi `vZvi bvg:.....

wj ½ : cj "l = 1, bvi x = 2

wk¶v_¶ mvt_ DĒi `vZvi m'úK. wk¶v_¶ mb†R = 1, evel/gv = 2, fvB/tevb = 3, `vgr/`x = 4, kji i/kvii wo = 5, AvZwq-`Rb = 6, cŰZtekx = 7, Ab`vb` (wj Lp) = 8

µvgK	cĕe	†Kw
6	wk¶v_¶ eZgvb Ae`vb †Kv_vq? †Kw: mbR emotZ = 1, mbR Dc†Rj vq = 2, mbR †Rj vq = 3, mbR †Rj v kn†i = 4, Ab`†Rj vq = 5 Ab`†Rj v kn†i = 6, mbR wefwMq kn†i = 7, Ab` wefwMq kn†i = 8, i vRavb†Z = 9, †`†ki evB†i = 10, gZ = 11, Rvbr bvB = 88	
7	wk¶v_¶ Ae`vb mbR emotZ bv ntj Kx Kvi†Y Zvi Ae`vb cwi eZB nt†qQ?	PvKwi i Kvi†Y 1 we†q n l qvq 2 cwi evi Ab`† `vbršwi Z n l qvq 3 Rvbr bvB 88 cŰhvR` bq 99 Ab`vb`
8	wk¶v_¶ eZgvtb cŰvb tckv Kx? ⇒ DĒi †Kw 1 ntj 9, 10, 11 l 15 bs cĕec†Y Ki`b ⇒ DĒi †Kw 2 ntj 15 bs cĕec†Y Ki`b ⇒ DĒi †Kw 3 ntj 12, 13 l 15 bs cĕec†Y Ki`b ⇒ DĒi †Kw 4 ntj 14 l 15 bs cĕec†Y Ki`b ⇒ DĒi †Kw 8 ntj 15 bs cĕec†Y Ki`b	†`†k PvKwi 1 we†`†k PvKwi 2 mbR cwi Pvj bvq e`emv 3 Ab`vb` 4 Rvbr bvB 8 cŰhvR` bq 9
9	†`†k †Kvb cŰZv†b PvKwi Ki†j Kg¶¶††i aib Kx? †Kw: wk¶v_¶ cŰZv†b = 1, nvmcvZvj = 2, e`emv cŰZv†b = 3, e`vsK/exgv = 4, wjj /Kj - Kvi Lvbr = 5, †`vKvb/evRvi = 6, cwi enb tm±i = 7, AvBb-k:Lj v emnbx = 8, Mv†g¶Um = 9, Rvbr bvB = 88, cŰhvR` bq = 99, Ab`vb` (wj Lp):	
10	cŰZv†bUi cwi Pvj bvi aib Kx? †Kw: mi Kwi = 1, temi Kwi = 2, GbwRl = 3, Rvbr bvB = 8, cŰhvR` bq = 9	
11	Kx c†` PvKwi K†i? (mjbw` ¶fvte wj Lp) †Kw: Rvbr bvB = 88, cŰhvR` bq = 99	

μῖγΚ	çĳæ	†KwW
12	hw` mb†R e`emv cwi Pvj bv Kti `y†K, Zte e`emvi ai b Kx? †KwW: Rv bv bvB = 88, çĳhvR` bq = 99	
13	çĳRi AvKvi †f†` e`emvU †Kvb&cKv†i i? †KwW: AwZ †QvU (10 nvRv†i i b†P) = 1, †QvU (10,000 - 24,999) = 2, gvSwi (25,000 - 50,000) = 3, eo (50 nvRv†i i temk) = 4, Rv bv bvB = 8, çĳhvR` bq = 9	
14	hvi v Pvkwi ev e`emv Kti bv Zv†` i çäv b †ckv Kx? †KwW: MnKg® = 1, w` bgRvj = 2, Kwl /eM†Pvl = 3, mmGbwR/U`w` /†U`úyPvj K = 4, çĳB†fU wUDU i = 5, wk†v_† = 6, wi · v†vb Pvj K (mb†Ri) = 7, teKvi = 8, Rv bv bvB = 88, çĳhvR` bq = 99 Ab`vb` (wĳ Lp):	
15	M†o gwmK Avq KZ UvKv? †KwW: Rv bv bvB = 88888, çĳhvR` bq = 99999	

wk†v_† gva`wĳK/` wLj çieZ†vk†v m`úwKZ Z`

16	gva`wĳK çvk Kivi çl wk†v_†wK çov†j Lv Pwĳ †q†Q? DÈi †KwW 2 A_ev 8 n†j 17 Ges 18 bs çĳkæçĳhvR` bq †KwW 99 em†e	niw 1 bv 2 Rv bv bvB 8					
17	n`u n†j , m†e†P †Kvb&†kYx çvk Kti †Q? (†KwW wĳ ÷ †` Lp)						
18	†Kvb&†kYx†Z †Kvb&†i†bi wk†v_†çĳZöv†b ç†o†Q? (†KwW wĳ ÷ †` Lp)						
	†kYx	11	12	13	14	15	16
	ai b						
19	Kx Kvi †Y çov†j Lv †kl Ki †Z çv†i mb? (†KwW wĳ ÷ †` Lp)						

Ab`vb` Z`

μῖγΚ	çĳæ	†KwW
20	wk†v_†† `eev†K Ae`v Kx? †KwW: Aweev†Z = 1, weev†Z = 2, weaev/wecZwK = 3, wewQbèZvj vKçĳß = 4, Rv bv bvB = 8, çĳhvR` bq = 9 ⇒ DÈi †KwW 2, 3 A_ev 4 n†j 21 bs çkæwR†Ám Ki`b	
21	KZ eQi Av†M w†q Kti wQj ? †KwW: çĳhvR` bq = 99	
22	wk†v_†††Kvb&†g†e†j †f? †KwW: g†wĳ g = 1, w†v` y = 2, te†x = 3, wL`v = 4, Ab`vb` (wĳ Lp) = 5	
23	wk†v_†† RwiZMZ çwi Pq Kx? †KwW: Av† ev†x = 1, evOwĳ = 2	
24	wk†v_†† wczv †Kvb&†kYx çvk Kti †Qb? (†KwW wĳ ÷ †` Lp)	
25	wk†v_†† gvZv †Kvb&†kYx çvk Kti †Qb? (†KwW wĳ ÷ †` Lp)	

tKvW vj ÷:

tkYx cvk: (Q – 17, 24, 25)	`đj i aib: (Q – 18)	covtj Lv tkI bv Kivi KviY: (Q – 19)
`đj wMtqtQ wKŠ' tKvb&tKYx cvk Kti nb = 0 bvmñi /tc-M0c/wki tkYx = 33 c0_g tkYx = 1 w0Zxq tkYx = 2... GmGmm/`wlLj = 10 GBPGmm/Avj g = 12 weG/dwRj = 14 weG Abvm ^e = 15 GgG/Kwgj /GgweGm/BvÄnbqwi s = 16 agrq wk¶v = 50, `đj hvq nb = 77 Rvbn bvB = 88, c0hvR ^o bq = 99	`g I Ktj R = 1 Ktj R/wektje`vj q Ktj R = 2 wektje`vj q = 3 Avj g/dwRj /Kwgj gv`imv = 4 tgmwtKj Ktj R = 5 BvÄnbqwi s Ktj R = 6 wwtcvgr/cuj tUKwbK'vj Bbv÷wUDU = 7 Ab'vb` (Dij L Ki'b) = 8 Rvbn bvB = 88 c0hvR ^o bq = 99	weiq = 1 covtj Lvi LiP tRwMtbn mæe nq nb = 2 cix¶vq tdj Kivq = 3 DcivR0 Kivi Rb ^o = 4 Avf'fveKt ^o i Anbnv = 5 wk¶v_¶l AbvMñ = 6 wk¶v q `¶i = 7 chß covtj Lv ntqtQ gtb Kti = 8 eZ0v¶b Aa`qbi Z = 9 gZj = 10 Ab'vb` (vj Lp) Rvbn bvB = 88, c0hvR ^o bq = 99

Z_`msMñKvi xi bvg:..... Zwi L:.....

ZËjeavqtKi bvg:..... Zwi L:.....

Annex 2.7

Calculation of weighting factors

The equal sample size for each type of educational institution in the achievement test and the tracer study required the use of weighting factors in order to derive national estimates. The following formula was used for this purpose.

$$P = \sum S_i \times W_i$$

Where, P is the pooled estimate, S_i s are the estimates for different school type and W_i s are the weights. The weights were calculated from the number of students in grade X in 2005 and number of graduates in 1997 distributed in various types of schools under study. Here the weights are the proportions of students/graduates in different school type. In order to calculate the weights the information of the graduates of 1997 were correctly used. However, the data for the students of grade X in 2007 were not available, thus we used the data of 2005. All information regarding weight calculation was supplied by the Bangladesh Bureau of Educational Information and Statistics (BANBEIS).

Following tables provide basic information on different types of schools from BANBEIS database and the weights calculated from those.

Number of students in grade X by school type and sex of students, 2005

School type	Boys	Girls	Both
Government	21,258	19,553	40,811
Private (rural)	3,40,786	3,74,057	7,14,843
Private (urban)	76,088	81,927	1,58,015
Madrassa (rural)	1,03,438	98,275	2,01,713
Madrassa (urban)	12,577	8,812	21,389
Total	5,54,147	5,82,624	11,36,771

Calculated weights for various pooled estimates for learning achievement test

School type	National estimate		National estimates by sex		Estimates by school type		
	Boys	Girls	Boys	Girls	Boys	Girls	Both
Government	0.187	0.172	0.192	0.168	1.042	0.958	2.0
Private (rural)	2.998	3.290	3.075	3.210	0.953	1.047	2.0
Private (urban)	0.669	0.721	0.686	0.703	0.963	1.037	2.0
Madrassa (rural)	0.910	0.865	0.934	0.843	1.026	0.974	2.0
Madrassa (urban)	0.111	0.077	0.113	0.76	1.176	0.824	2.0
Total	10.0		5.0	5.0			

Number of students passed in SSC/dakhil examinations in 1997 by school type and gender

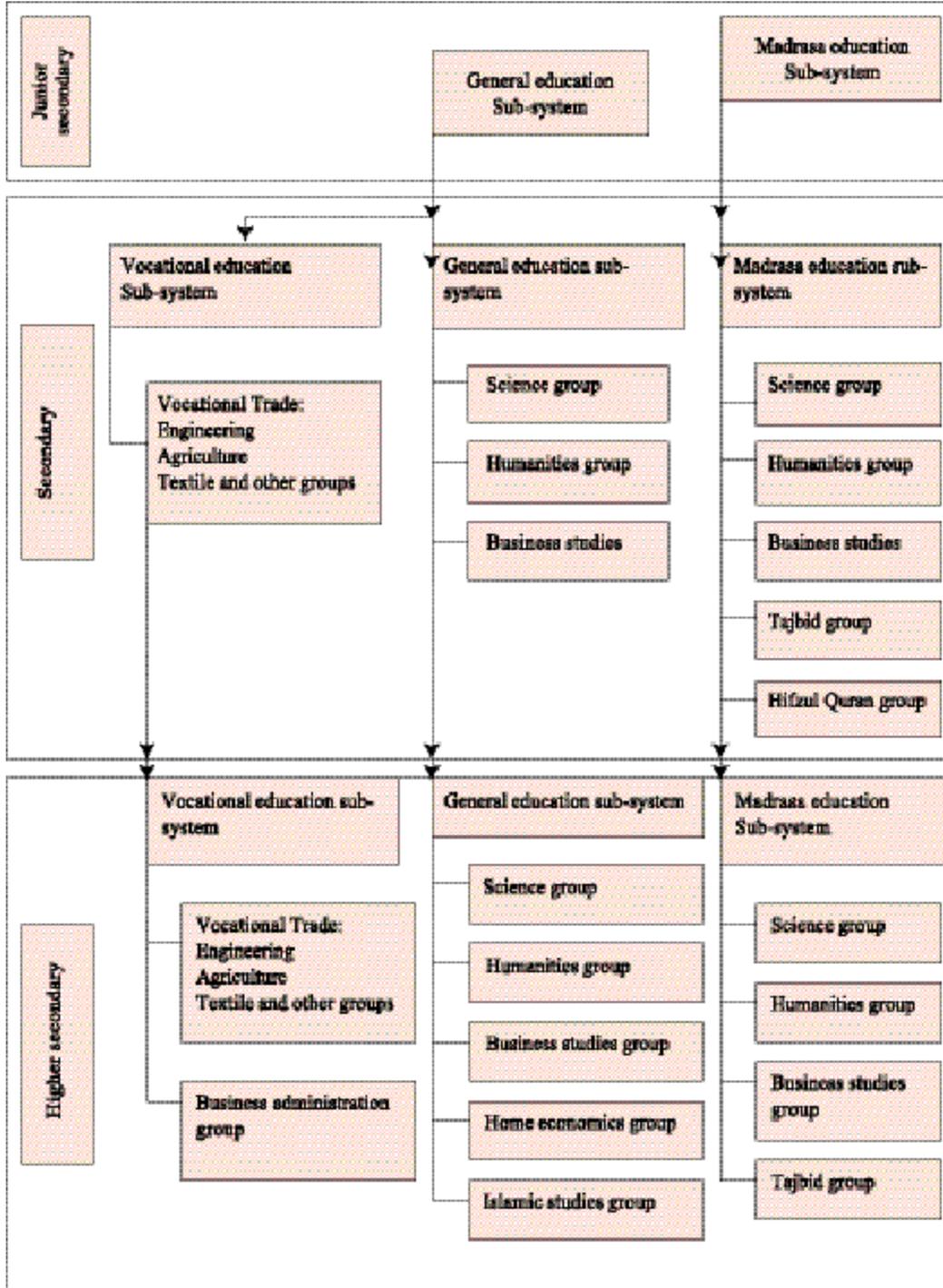
School type	Boys	Girls	Both
Government	15,561	11,583	27,144
Private (rural)	1,12,841	91,497	2,04,338
Private (urban)	44,585	49,342	93,927
Madrassa (rural)	42,927	28,401	71,328
Madrassa (urban)	7,068	3,666	10,734
Total	2,22,982	1,84,489	4,07,471

Calculated weights for various pooled estimates for tracer study

School type	National estimate		National estimates by sex		Estimates by school type		
	Boys	Girls	Boys	Girls	Boys	Girls	Both
Government	0.382	0.284	0.349	0.314	1.147	0.853	2.0
Private (rural)	2.770	2.246	2.530	2.480	1.104	0.896	2.0
Private (urban)	1.094	1.211	1.000	1.337	0.949	1.051	2.0
Madrassa (rural)	1.053	0.697	0.963	0.770	1.204	0.796	2.0
Madrassa (urban)	0.173	0.090	0.158	0.099	1.317	0.683	2.0
Total	10.0		5.0	5.0			

Annex 3.1

Secondary education in Bangladesh



Annex 3.2

Subjects of study, distribution of marks in SSC examination

	Science	Humanities	Business Studies	Marks
Compulsory Subjects	Bangla	Bangla	Bangla	200
	English	English	English	200
	Mathematics	Mathematics	Mathematics	100
	Religious Studies	Religious Studies	Religious Studies	100
	Social Science	General Science	General Science	100
Elective Subjects	Physics	History	Introduction to Business	100
	Chemistry	Geography	Accounting	100
	Biology or Higher Mathematics	Economics or Civics	Business Entrepreneurship or Commercial Geography	100
Optional Subjects	Higher Mathematics	Economics	Commercial Geography	100
	Biology	Civics	Business Entrepreneurship	
	Agriculture Education	Agricultural Education	Agricultural Education	
	Home Economics	Home Economics	Home Economics	
	Geography	Higher Bangla	Economics	
	Computer Education	Higher English	Computer Education	
	Work oriented Education	Arabic/Sanskrit/Pali	Higher Mathematics	
	Basic Trade	Computer Education	Work oriented Education	
	Accounting	Work oriented Education	Basic Trade	
	Arabic/Sanskrit/Pali	Basic Trade	Arabic/Sanskrit/Pali	
	Music	Fine Arts	Music	
	Physical Education	Accounting		
	Music			
	Physical Education			

Sources: NCTB (2005). *Syllabus and marks distribution for SSC examination 2007*, Dhaka: National Curriculum and Textbook Board

NCTB (1995). *Curriculum and syllabus for secondary level*, Dhaka: National Curriculum and Textbook Board

Annex 3.3

**Subjects of study and distribution of marks in Dakhil examination
prescribed by NCCC**

	Science	Humanities	Business Studies	Hifjul Qur'an	Tajwid	Marks
Compulsory subjects	Bangla Language	100				
	English Language	100				
	Arabic Language	100				
	Mathematics	Mathematics	Mathematics	Mathematics	Mathematics	100
	Al-Quran & Tajwid	100				
	Al-Hadith	Al-Hadith	Al-Hadith	Al-Hadith	Al-Hadith	100
	Al-Fiqh & Usul-al-Fiqh	100				
	Agriculture/ Home Economics	100				
Total						1000
Elective subjects	Geology/ত্বস্ব বিদ্যা	Islamic History	Accounting	Tajwid	Tajwid	100
	Biology	Social Science		Hifjul Quran	Qirat	100
	Higher Bengali		Introduction to Business	Higher Bangla	Higher Bangla	100
	Higher English	Higher Bangla		Higher English	Higher English	
	Higher Math.	Higher English	Higher Bangla	Urdu	Urdu	
	Social Science	Urdu	Higher English	Farsi	Farsi	
	Islamic History	Farsi	Economics	Computer Education	Computer Education	
	Urdu	Civics	Commercial Geography	Basic Trade	Basic Trade	
	Farsi	Mantic	Computer Education			
	Computer Science	Higher Mathematics	Basic Trade			
	Basic Trade	Computer Education				
	Basic Trade					

Sources: NCTB (1995) Curriculum and Syllabus; Secondary level, 2nd Volume.

Annex 3.4

Subjects of study, distribution of marks in Dakhil examination

	General	Science	Mujabbid	Hifjul Qur'an	Marks
Compulsory Subjects	Al Quran & Tajbid	Al Quran & Tajbid	Al Quran & Tajbid	Al Quran & Tajbid	100
	Al Hadis	Al Hadis	Al Hadis	Al Hadis	100
	Arabic literature	Arabic literature	Arabic literature 1 st paper	Arabic literature	100
	Arabic 2 nd paper	Arabic 2 nd paper	Arabic 2 nd paper	Arabic 2 nd paper	100
	Al-Fiqh & Usul al Fiqh	Al-Fiqh & Usul al Fiqh	Al-Fiqh & Usul al Fiqh	Al-Fiqh & Usul al Fiqh	100
	Bangla	Bangla	Bangla	Bangla	100
	English	English	English	English	100
Elective Subjects	General Mathematics	General Mathematics	Islamic History	Islamic History	100
	Islamic History	Physics	Tajbid ¹ , Nasar & Najam ²	Tajwid (Written75+oral25)	100
	Social Science	Chemistry	Qirat ³ , Tartil ⁴ & Hadar ⁵	Hifjul Quran Dawr ⁶ (oral)	100
Optional Subjects	Civics	Biology	Civics	Civics	100
	Mantiq	Higher Math	Mantiq	Mantiq	
	Higher English	Higher Bangla	Higher English	Higher English	
	Higher Bangla	Higher English	Higher Bangla	Higher Bangla	
	Urdu	Urdu	Urdu	Urdu	
	Farsi	Farsi	Farsi	Farsi	
	Home Economics	Home Economics	Home Economics	Home Economics	
	Agriculture	Agriculture	Agriculture	Agriculture	
	Higher Maths	Computer	Higher Maths	Computer	
	Computer Science	Islamic History	Computer Science	Islamic History	
	Basic Trade	Social Science	Basic Trade	Social Science	

Sources: BMEB (2006) Curriculum & Syllabus (Dakhil IX & X), 2006-7, Dhaka: Curriculum & Text Book Wing, BMEB.

¹ Tajbid means grammar of Quran.

² Nasar means prose and Najam means poetry.

³ Qirat means recitation, recitation of Al-Qur'an.

⁴ Tartil means reciting al- Quran slowly according to prescribed rules, such as maintaining where to stop, where to breathe etc.

⁵ Hadar means reciting al- Quran quickly maintaining the prescribed rules, such as where to stop, where to breathe etc.

⁶ Dawr (repetition) -subject related to Hiful Quran.

Annex 3.5

**Unit names and number of lessons in the English textbooks
in general and madrasa streams**

Unit No.	Unit name	Number of Lessons	
		General	Madrasa
1	Hello and welcome	4	-
2	Source of Islam and Personalities	-	5
3	Home is where the heart is	7	7
4	Schools of the world	4	-
5	Different skills	10	-
6	On the move	6	6
7	Eat well	4	-
8	What's on	9	7
9	Opening the windows	5	5
10	Lives and jobs	4	3
11	Different strokes	7	-
12	Day in day out	5	-
13	Sparkling stars	4	-
14	Believe it or not	5	4
15	Buildings and monuments	3	3
16	Getting organised	7	-
17	Let's enjoy poetry	6	4
18	Different lives	4	-
19	Days to remember	5	3
20	Holidays	7	7
21	Myths and fables	3	3
22	Let's write	3	3
23	Mother Earth	7	6
Total		119	66

Source: NCTB (2005). *English for today for classes 9-10*
BMEB (2005). *English for today for classes 9 & 10*

Annex 4.1

Percentage of students satisfying minimum criteria for achieving skills in the subjects under test by gender

Criteria	Gender	Bangla	English	Mathematics	Everyday science	All four
50% correct	Girls (1,664)	29.2	22.6	11.5	38.9	6.1
	Boys (1,350)	31.0	32.1	22.5	47.8	9.4
	Level of significance	ns	p<0.001	p<0.001	p<0.001	p<0.001
40% correct	Girls (1,664)	52.5	42.8	27.2	60.9	14.1
	Boys (1,350)	55.5	51.8	41.2	73.8	22.8
	Level of significance	ns	p<0.001	p<0.001	p<0.001	p<0.001
33% correct	Girls (1,664)	62.6	54.4	40.4	73.3	21.9
	Boys (1,350)	66.8	66.9	55.1	82.1	33.8
	Level of significance	p<0.05	p<0.001	p<0.001	p<0.001	p<0.001

Figures in the parentheses indicate number of students under test

Source: Education Watch learning achievement test, 2007

Annex 4.2

Percentage distribution of students by number of criteria satisfying in different rules of assessment and gender

No. of criteria	50% correct items			40% correct items			33% correct items		
	Girls (1664)	Boys (1350)	Both (3014)	Girls (1664)	Boys (1350)	Both (3014)	Girls (1664)	Boys (1350)	Both (3014)
Nil	47.9	37.2	43.2	20.9	11.0	16.6	8.3	4.4	6.5
One	22.7	24.4	23.4	21.6	21.6	21.6	21.2	13.2	17.7
Two	15.0	15.4	15.2	24.8	24.3	24.6	24.0	23.6	23.8
Three	8.7	13.6	10.7	18.6	20.4	19.4	24.6	25.1	24.8
Four	6.1	9.4	7.5	14.1	22.8	17.9	21.9	33.8	27.2

Figures in the parentheses indicate number of students under test

Source: Education Watch learning achievement test, 2007

Annex 4.3

Percentage of students satisfying minimum criteria for achieving skills in the subjects under test by school type

Subjects	Government (614)	Urban private (600)	Rural private (608)	Urban madrasa (600)	Rural madrasa (592)
50% correct					
Bangla	66.6	51.0	28.3	23.0	9.6
English	63.4	45.3	25.7	12.7	6.9
Mathematics	50.3	29.7	14.3	12.8	4.9
Science	75.6	70.2	40.1	39.2	20.6
All four	36.8	17.5	5.6	3.5	0.0
40% correct					
Bangla	83.4	73.8	53.8	43.3	29.6
English	80.9	68.2	46.4	30.2	22.5
Mathematics	72.1	51.5	30.3	30.5	20.3
Science	91.2	85.8	66.9	66.0	41.4
All four	58.1	36.8	15.0	11.8	3.5
33% correct					
Bangla	87.9	84.3	64.0	57.8	42.9
English	86.8	79.0	60.2	42.8	36.3
Mathematics	81.6	63.0	44.9	41.0	32.4
Science	95.4	92.7	78.3	79.5	53.5
All four	68.1	50.2	24.5	18.8	7.8

Figures in the parentheses indicate number of students under test

Source: Education Watch learning achievement test, 2007

Annex 4.4

Percentage of students satisfying all four criteria under different rules by school type and gender

Gender	Government	Urban private	Rural private	Urban madrasa	Rural mardasa
50% correct					
Girls	33.3 (375)	15.2 (348)	3.7 (349)	1.3 (305)	0.0 (287)
Boys	42.3 (239)	20.6 (252)	8.1 (259)	5.8 (295)	0.0 (305)
Significance	p<0.05	ns	p<0.05	p<0.01	-
40% correct					
Girls	55.2 (375)	32.2 (348)	10.3 (349)	5.2 (305)	1.0 (287)
Boys	62.8 (239)	43.3 (252)	21.2 (259)	18.6 (295)	5.9 (305)
Significance	ns	p<0.01	p<0.001	p<0.001	p<0.001
33% correct					
Girls	65.9 (375)	45.1 (348)	18.1 (349)	10.8 (305)	3.1 (287)
Boys	71.5 (239)	57.1 (252)	33.2 (259)	27.1 (295)	12.1 (305)
Significance	ns	p<0.01	p<0.001	p<0.001	p<0.001

*Figures in the parentheses indicate number of students under test
Source: Education Watch learning achievement test, 2007*

Annex 4.5

Percentage distribution of students by GPA, school type and gender

Grade point average	Government	Urban private	Rural private	Urban madrasa	Rural mardasa
Girls					
5	2.4	1.1	0.0	0.0	0.0
4-4.99	13.6	4.9	1.1	0.0	0.0
3-3.99	29.6	21.0	4.6	4.3	0.0
2-2.99	31.2	31.3	18.1	10.2	3.8
1-1.99	16.8	28.2	37.2	36.7	23.7
<1	6.4	13.5	39.0	48.9	72.5
n	375	348	349	305	287
Boys					
5	1.7	0.0	0.0	0.0	0.0
4-4.99	23.0	8.3	2.7	0.7	0.0
3-3.99	33.5	25.0	13.1	14.6	1.3
2-2.99	20.5	29.0	25.1	15.9	10.2
1-1.99	14.6	30.6	36.3	33.6	38.0
<1	6.7	7.1	22.8	35.3	50.5
n	239	252	259	295	305

Figures in the parentheses indicate number of students under test
Source: Education Watch learning achievement test, 2007

Annex 4.6

Percentage distribution of students by grade point, subject area and gender

Grade point	Bangla		English		Mathematics		Everyday science	
	Girls (1,664)	Boys (1,350)	Girls (1,664)	Boys (1,350)	Girls (1,664)	Boys (1,350)	Girls (1,664)	Boys (1,350)
5	1.7	1.4	2.1	3.3	0.8	1.4	2.2	2.6
4	4.9	4.9	3.2	5.0	1.3	3.5	4.6	8.9
3.5	7.8	11.8	5.8	7.9	3.1	5.3	10.9	14.5
3	14.8	13.0	11.5	15.8	6.3	12.3	21.3	21.9
2	23.3	24.5	20.2	19.8	15.6	18.7	22.0	26.1
1	10.2	11.2	11.6	15.0	13.2	13.9	12.4	8.2
0	37.4	33.2	45.6	33.1	59.6	44.9	26.7	17.9

Figures in the parentheses indicate number of students under test
Source: Education Watch learning achievement test, 2007

Annex 4.7

Percentage distribution of students by grade point in various subjects and school type

Grade point	Government (614)	Urban private (600)	Rural private (608)	Urban madrasa (600)	Rural madrasa (592)
Bangla					
5	12.1	4.5	0.7	1.0	0.3
4	15.8	8.3	4.6	3.8	0.5
3.5	21.2	16.3	9.4	7.0	1.5
3	17.6	21.8	13.7	11.2	7.3
2	16.8	22.8	25.5	20.3	19.9
1	4.6	10.5	10.2	14.5	13.3
0	12.1	15.7	36.0	42.2	57.1
English					
5	17.3	6.8	1.5	3.5	0.0
4	12.9	9.2	3.3	2.7	0.3
3.5	16.0	12.8	6.4	1.8	0.7
3	17.3	16.7	14.5	4.7	5.9
2	17.6	22.7	20.7	17.5	15.5
1	5.9	10.8	13.8	12.7	13.9
0	13.2	21.0	39.8	57.2	63.7
Mathematics					
5	9.8	2.8	0.5	0.2	0.0
4	10.3	4.7	1.8	1.5	0.2
3.5	12.5	8.5	3.3	5.5	0.8
3	17.8	13.7	8.7	5.7	3.9
2	21.8	21.8	16.0	17.7	15.4
1	9.4	11.5	14.6	10.5	12.2
0	18.4	37.0	55.1	59.0	67.6
Everyday science					
5	12.7	7.0	1.3	1.5	0.0
4	22.3	12.7	5.4	4.7	1.5
3.5	20.8	23.5	11.3	12.5	4.4
3	19.7	27.0	22.0	20.5	14.7
2	15.6	15.7	26.8	26.8	20.8
1	4.2	6.8	11.3	13.5	12.2
0	4.6	7.3	21.7	20.5	46.5

Figures in the parentheses indicate number of students under test
Source: Education Watch learning achievement test, 2007

Annex 4.8**Some basic statistics on number of correct items by school type and gender**

School type	Mean	Median	Standard deviation	Coefficient of variation
Girls				
Government (375)	43.4	42.0	12.0	27.6
Urban private (348)	37.8	37.0	10.8	28.6
Rural private (349)	29.0	28.0	8.7	30.0
Urban madrasa (305)	26.8	26.0	8.2	30.6
Rural madrasa (287)	23.0	23.0	6.1	26.5
Boys				
Government (239)	45.5	47.0	12.5	27.5
Urban private (252)	39.2	38.0	9.9	25.3
Rural private (259)	33.1	32.0	9.5	28.7
Urban madrasa (295)	30.9	29.0	10.6	34.3
Rural madrasa (305)	26.3	25.0	6.8	25.9

*Figures in the parentheses indicate number of students under test
Source: Education Watch learning achievement test, 2007*

Annex 4.9

Some basic statistics on number of correct items by subject area

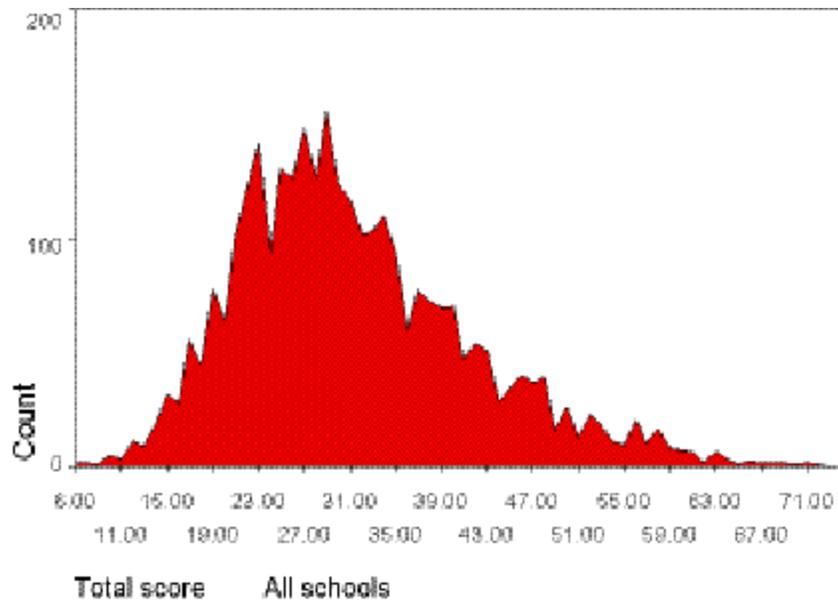
Subject	Mean	Median	Standard deviation	Coefficient of variation
Bangla				
Government (614)	11.2	11.0	3.6	32.1
Urban private (600)	9.7	10.0	3.1	32.0
Rural private (608)	7.9	8.0	3.1	39.2
Urban madrasa (600)	7.5	7.0	3.1	41.3
Rural madrasa (592)	6.3	6.0	2.5	39.7
English				
Government (614)	11.2	11.0	3.9	34.8
Urban private (600)	9.6	9.0	3.6	37.5
Rural private (608)	7.6	7.0	3.1	40.8
Urban madrasa (600)	6.5	6.0	3.5	53.8
Rural madrasa (592)	5.8	6.0	2.4	41.4
Mathematics				
Government (614)	9.9	10.0	3.7	37.4
Urban private (600)	8.1	8.0	3.3	40.7
Rural private (608)	6.5	6.0	2.8	43.1
Urban madrasa (600)	6.1	6.0	3.1	50.8
Rural madrasa (592)	5.5	5.5	2.4	43.6
Everyday science				
Government (614)	12.0	12.0	3.2	26.7
Urban private (600)	10.9	11.0	3.0	27.5
Rural private (608)	8.8	9.0	3.1	35.2
Urban madrasa (600)	8.7	9.0	3.2	36.8
Rural madrasa (592)	7.1	7.0	2.8	39.4

Figures in the parentheses indicate number of students under test
 Source: Education Watch learning achievement test, 2007

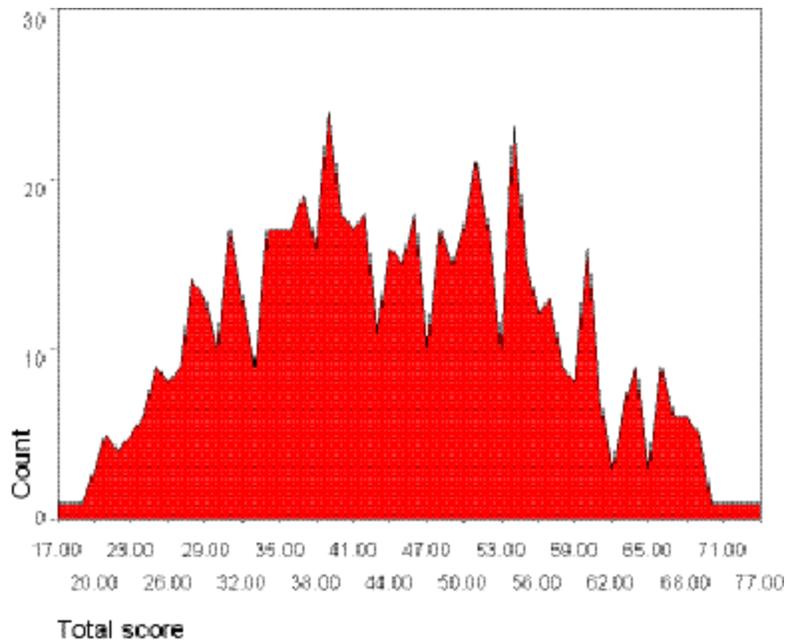
Annex 4.10

Graphical presentations of scores obtained by the students in the learning achievement test by school type

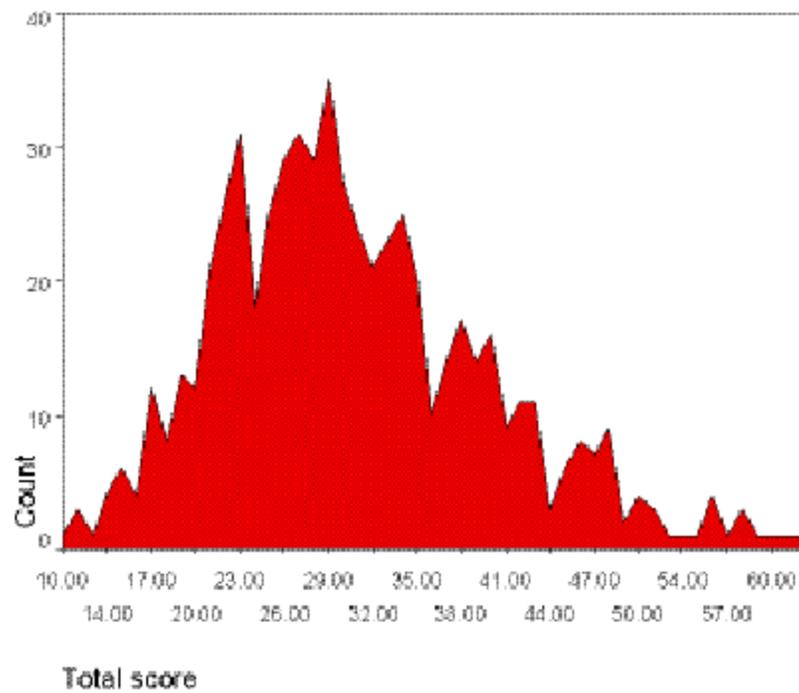
All schools



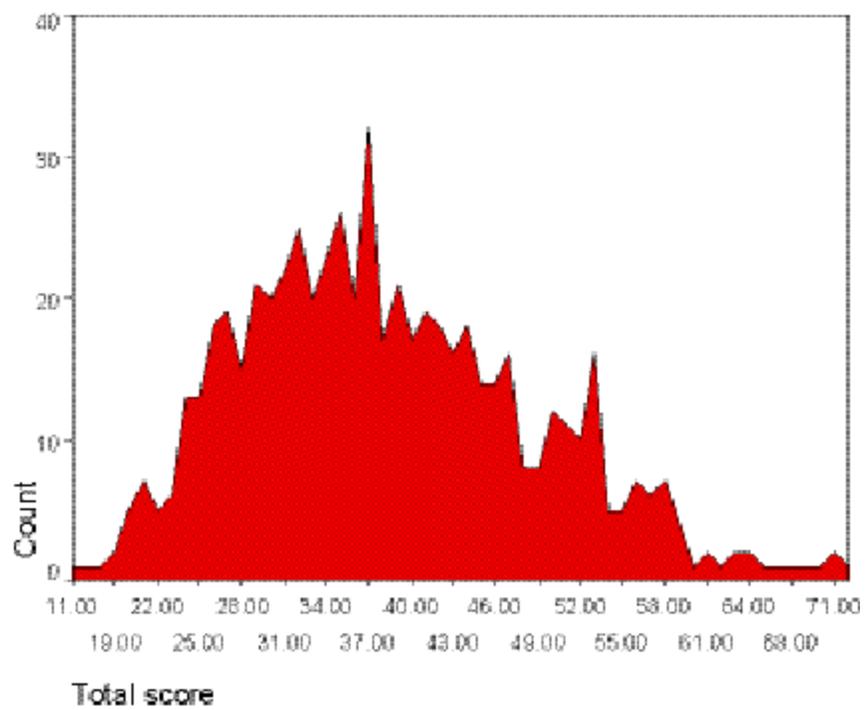
Government schools



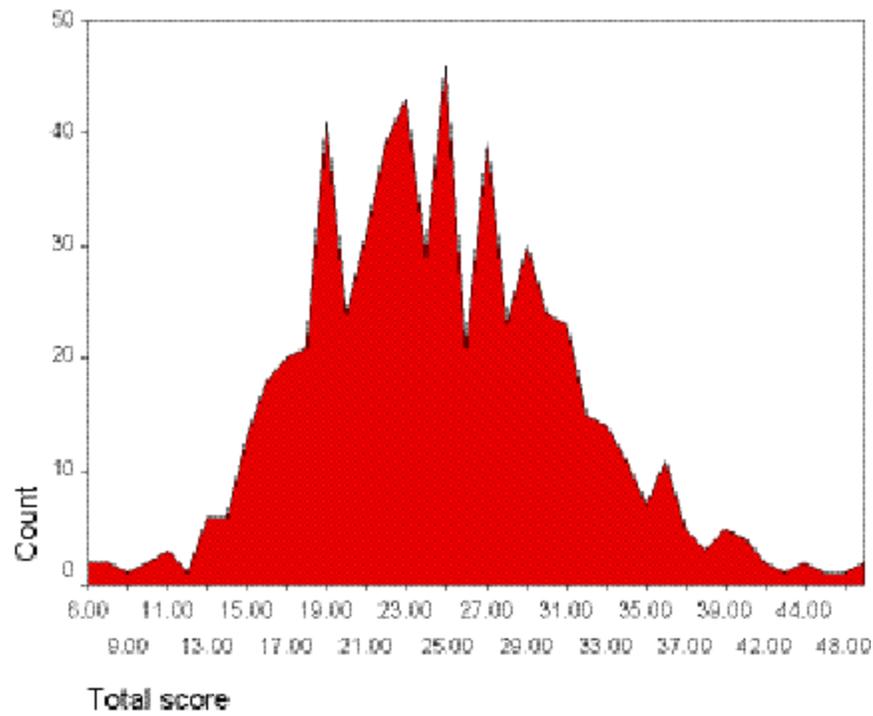
Private (rural) schools



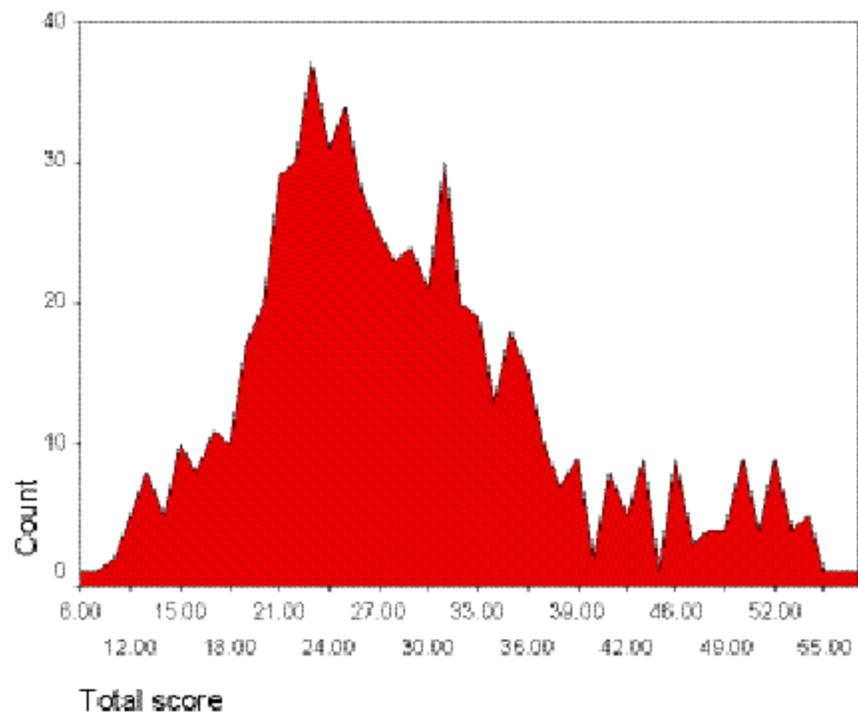
Private (urban) schools



Madrasa (rural)



Madrasa (urban)



Annex 4.11

**Percentage of students correctly answering each of the items in
Bangla (n = 3,014)**

Questions	% of students answered correctly	95% confidence interval of % of students answered correctly		Standard error
		Lower	Upper	
Q1	57.0	55.2	58.7	.009
Q2	72.4	70.8	74.0	.008
Q3	26.3	24.7	27.9	.008
Q4	58.1	56.3	59.8	.009
Q5	42.2	40.5	44.0	.009
Q6	77.9	76.4	79.3	.008
Q7	28.0	26.4	29.6	.008
Q8	37.7	36.0	39.4	.009
Q9	60.7	59.0	62.5	.009
Q10	38.1	36.4	39.8	.009
Q11	31.9	30.2	33.5	.008
Q12	28.3	26.7	29.9	.008
Q13	47.7	45.9	49.4	.009
Q14	21.5	20.0	23.0	.007
Q15	20.6	19.1	22.0	.007
Q16	46.2	44.4	48.0	.009
Q17	40.6	38.8	42.3	.009
Q18	26.3	24.7	27.8	.008
Q19	14.9	13.6	16.2	.006
Q20	29.4	27.8	31.0	.008

Figures in the parentheses indicate number of students under test

Source: Education Watch learning achievement test, 2007

Annex 4.12

**Percentage of students correctly answering each of the items
in English (n = 3,014)**

Questions	% of students answered correctly	95% confidence interval of % of students answered correctly		Standard error
		Lower	Upper	
Q1	37.9	36.2	39.7	.009
Q2	19.5	18.1	20.9	.007
Q3	22.1	20.7	23.6	.008
Q4	42.5	40.8	44.3	.009
Q5	47.9	46.1	49.6	.009
Q6	26.7	25.1	28.2	.008
Q7	41.7	39.9	43.4	.009
Q8	52.0	50.2	53.8	.009
Q9	22.8	21.3	24.3	.008
Q10	49.9	48.2	51.7	.009
Q11	35.9	34.2	37.6	.009
Q12	37.3	35.5	39.0	.009
Q13	30.8	29.1	32.4	.008
Q14	26.5	24.9	28.0	.008
Q15	48.6	46.8	50.4	.009
Q16	35.1	33.4	36.8	.009
Q17	7.7	6.8	8.7	.005
Q18	72.6	71.0	74.1	.008
Q19	45.1	43.4	46.9	.009
Q20	67.9	66.2	69.5	.009

Figures in the parentheses indicate number of students under test

Source: Education Watch learning achievement test, 2007

Annex 4.13

**Percentage of students correctly answering each of the items
in Mathematics (n = 3,014)**

Questions	% of students answered correctly	95% confidence interval of % of students answered correctly		Standard error
		Lower	Upper	
Q1	49.1	47.9	50.9	.009
Q2	39.2	38.2	41.7	.009
Q3	30.5	28.9	32.2	.008
Q4	49.1	47.3	50.8	.009
Q5	7.0	6.1	7.9	.005
Q6	47.7	45.9	49.5	.009
Q7	11.5	10.4	12.6	.006
Q8	30.2	28.6	31.9	.008
Q9	29.7	28.1	31.4	.008
Q10	42.1	40.4	43.9	.009
Q11	23.2	21.7	24.7	.008
Q12	8.8	7.8	9.8	.005
Q13	64.6	62.9	66.3	.009
Q14	53.2	51.4	55.0	.009
Q15	34.2	32.5	35.7	.009
Q16	39.9	38.2	41.7	.009
Q17	23.7	22.1	25.1	.008
Q18	21.7	20.2	23.2	.008
Q19	15.9	14.6	17.2	.007
Q20	45.3	43.6	47.1	.009

Figures in the parentheses indicate number of students under test

Source: Education Watch learning achievement test, 2007

Annex 4.14**Percentage of students correctly answering each of the items in
Everyday Science (n = 3,014)**

Questions	% of students answered correctly	95% confidence interval of % of students answered correctly		Standard error
		Lower	Upper	
Q1	34.2	32.5	35.9	.009
Q2	49.0	47.2	50.8	.009
Q3	16.2	14.9	17.5	.007
Q4	62.6	60.9	64.4	.009
Q5	30.4	28.8	32.0	.008
Q6	25.0	23.4	26.5	.008
Q7	57.9	56.2	59.6	.009
Q8	48.4	46.6	50.2	.009
Q9	53.5	51.7	55.2	.009
Q10	27.5	25.9	29.0	.008
Q11	25.4	23.9	27.0	.008
Q12	63.1	61.4	64.9	.009
Q13	34.7	33.0	36.4	.009
Q14	39.4	37.7	41.2	.009
Q15	21.9	20.4	23.4	.008
Q16	80.7	79.3	82.1	.007
Q17	80.2	78.8	81.6	.007
Q18	32.5	30.9	34.2	.009
Q19	22.9	21.4	24.4	.008
Q20	89.7	88.6	90.8	.005

Figures in the parentheses indicate number of students under test

Source: Education Watch learning achievement test, 2007

Annex 5.1**Pass rate by religion and school type**

Household food security status	School type				
	Govt.	Non-govt. (Rural)	Non-govt. (Urban)	Madrasa (Rural)	Madrasa (Urban)
Muslim	69.9	24.1	51.3	-	-
Non-Muslim	62.3	26.7	43.2	-	-
Significance	ns	ns	ns	-	-

Source: Education Watch students' profile and learning achievement test, 2007

Annex 5.2**Pass rate by availability of electricity at home and gender**

Availability of electricity at home	Gender		Both
	Boys	Girls	
Available	39.0	27.0	32.1
Not available	21.4	10.0	15.3
Significance	ns	ns	p<0.05

Source: Education Watch students' profile and learning achievement test, 2007

Annex 5.3**Percentage of students having private tutor by school type and gender**

School type	Gender		Both	Level of significance
	Boys	Girls		
Government	95.8	96.3	96.1	ns
Rural private	91.8	85.2	88.0	p<0.01
Urban private	92.9	89.9	91.2	ns
Rural madrasa	82.1	65.8	74.3	p<0.001
Urban madrasa	83.0	83.7	83.3	ns
All	90.1	83.7	86.5	p<0.001
	p<0.001	p<0.001	p<0.001	

Source: Education Watch students' profile, 2007

Annex 5.4**Average duration (in month) of private tutor per student by school type and gender**

School type	Gender		Both	Median
	Boys	Girls		
Government	8.3	8.8	8.6	9.0
Rural private	5.0	5.2	5.1	4.0
Urban private	8.7	9.4	9.1	10.0
Rural madrasa	3.6	3.2	3.4	3.0
Urban madrasa	6.0	7.2	6.6	6.0
All	5.4	5.9	5.7	5.0

Source: Education Watch students' profile, 2007

Annex 5.5**Yearly average expenditure (in Taka) per student for private tutoring by school type and gender**

School type	Gender		Both
	Boys	Girls	
Government	6,785	7,742	7,370
Rural private	1,598	1,613	1,606
Urban private	7,647	8,209	7,967
Rural madrasa	838	678	770
Urban madrasa	3,230	4,521	3,890
All	2,589	2,931	2,775

Source: Education Watch students' profile, 2007

Annex 7.1

Percentage distribution of secondary graduates by current level of education, performance level in secondary education and gender

Current level of education	Females			Males		
	First	Second	Third	First	Second	Third
Did not enrol further	2.2	12.1	21.2	3.4	7.5	11.3
Incomplete higher secondary	6.9	24.6	21.2	7.3	23.5	58.5
Completed higher secondary	25.7	31.8	57.7	27.0	35.6	24.5
Completed graduation	41.4	26.0	0.0	41.3	27.6	1.9
Completed post graduation	23.8	5.5	0.0	21.0	5.7	3.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Education Watch tracer study of secondary graduates, 2007

Annex 7.2

Percentage distribution of secondary graduates by current level of education, group at secondary level and gender

Current level of education	Females		Males	
	Humanities/ general	Science	Humanities/ general	Science
Did not enrol further	13.6	2.1	7.7	4.1
Incomplete higher secondary	23.6	11.4	21.9	13.7
Completed higher secondary	32.7	28.1	31.4	32.3
Completed graduation	22.7	41.8	26.5	38.7
Completed post graduation	7.5	16.5	12.6	11.2
Total	100.0	100.0	100.0	100.0

Source: Education Watch tracer study of secondary graduates, 2007

Table 7.3

**Percentage distribution of the secondary graduates of 1997
by their level of education and fathers education**

Graduates level of education	Fathers level of education				
	Nil	Incomplete primary	Complete primary but incomplete secondary	Secondary or higher secondary	Tertiary
Did not enrol further	9.4	11.7	8.5	6.3	2.0
Incomplete higher secondary	20.1	23.0	22.5	16.2	8.0
Completed higher secondary	39.0	29.9	33.5	31.7	22.6
Completed graduation	23.3	28.9	27.7	34.2	41.3
Completed post graduation	8.1	6.6	7.7	16.6	26.2
Total	100.0	100.0	100.0	100.0	100.0

Source: Education Watch tracer study of secondary graduates, 2007

Table 7.4

**Percentage distribution of the secondary graduates of 1997
by their level of education and mothers education**

Graduates level of education	Mothers education			
	Nil	Incomplete primary	Complete primary but incomplete secondary	Secondary and above
Did not enrol further	10.7	11.6	5.7	1.5
Incomplete higher secondary	23.5	20.5	19.1	5.1
Completed higher secondary	34.9	32.7	32.6	21.1
Completed graduation	24.1	26.4	32.0	46.8
Completed post graduation	6.8	8.9	10.7	25.4
Total	100.0	100.0	100.0	100.0

Source: Education Watch tracer study of secondary graduates, 2007

Annex 7.5

Percentage distribution of secondary graduates by current level of education, group at secondary level and gender

Current level of education	Ethnicity	
	Ethnic minority	Bangali
Did not enrol further	1.7	7.4
Incomplete higher secondary	15.0	18.5
Completed higher secondary	48.3	31.2
Completed graduation	33.3	31.3
Completed post graduation	1.7	11.7
Total	100.0	100.0

Source: Education Watch tracer study of secondary graduates, 2007

Annex 7.6

Percentage distribution of dropped out graduates by reason of dropping out and school type

Reasons of dropout	Type of educational institution				
	Government	Rural non-govt	Urban non-govt	Rural madrasa	Urban madrasa
Females					
Getting marriage	52.0	44.0	64.5	62.6	60.5
Lack of money to continue education	6.9	11.5	5.0	10.1	6.2
Unsuccessfulness in examination	7.4	12.4	8.5	14.4	17.3
Engaged in earnings	4.0	11.5	4.3	1.4	0.0
Not interested to study	10.9	9.1	12.1	5.0	7.4
Others	18.9	11.5	5.7	6.5	8.6
Males					
Getting marriage	1.0	0.9	4.5	3.0	1.6
Lack of money to continue education	15.5	16.7	9.2	25.0	18.5
Unsuccessfulness in examination	13.4	19.0	7.8	15.8	7.0
Engaged in earnings	44.3	47.5	43.3	37.8	47.7
Not interested to study	20.6	10.9	30.5	13.8	21.4
Others	5.2	5.0	5.0	4.6	3.7

Source: Education Watch tracer study of secondary graduates, 2007

Table 7.7

**Percentage distribution of the graduates who do service in any organisation in the country
by management of organisation, type of educational institution and gender**

Management of organisation	Type of educational institutions				
	Government	Rural non-govt.	Urban non-govt	Rural madrasa	Urban madrasa
Females					
Public	36.4	29.9	31.7	12.5	13.3
Private	54.5	40.3	58.5	54.2	86.7
NGO	9.1	29.9	9.8	33.3	0.0
Males					
Public	22.5	16.7	18.6	10.1	13.0
Private	68.5	68.1	75.3	81.5	80.1
NGO	9.0	15.2	6.2	8.4	6.9

Source: Education Watch tracer study of secondary graduates, 2007

Annex 7.8

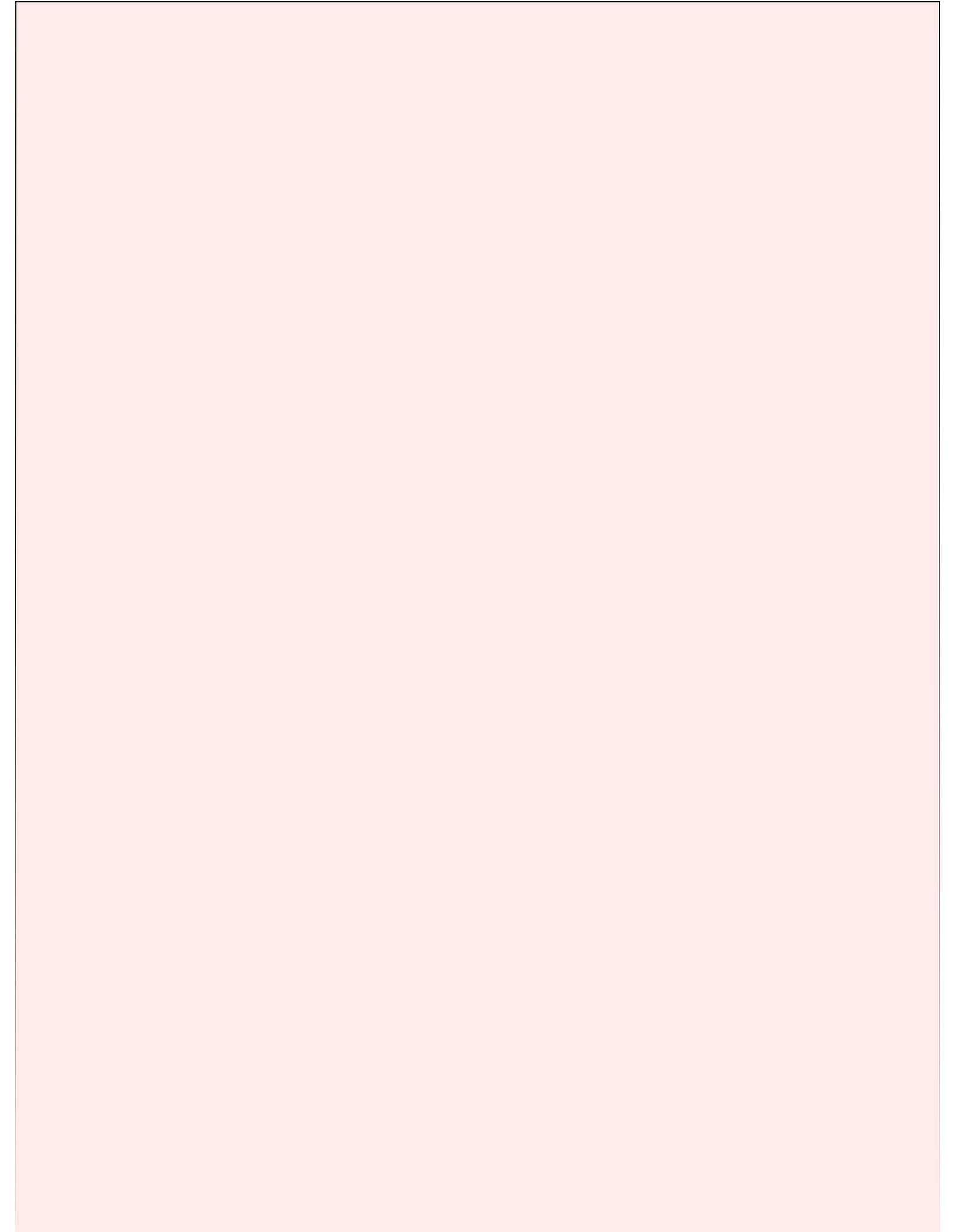
**Percentage distribution of the graduates by workplace and
type of educational institution**

Workplace	Type of educational institutions				
	Government	Rural non-govt	Urban non-govt	Rural mardasa	Urban madrasa
Educational institutions	37.3	33.6	21.7	43.8	34.6
Hospitals	9.9	5.9	7.2	4.3	3.4
Business houses	24.8	12.3	21.7	7.7	18.6
Bank/ insurance companies	5.6	5.0	7.2	3.4	10.8
Factories/mills (industry)	3.1	6.8	8.0	5.5	7.5
Shops/Bazaars	-	1.8	3.6	1.7	0.7
Transport sectors	0.6	0.9	5.8	3.0	1.7
Law enforcing agencies	3.7	6.4	6.5	6.0	4.7
Garments factories	1.9	6.4	2.9	7.7	5.1
NGOs	7.5	15.9	6.5	7.2	3.7
Mosques	-	-	-	5.5	4.4
Others	5.6	5.0	8.7	4.3	4.7
Total	100.0	100.0	100.0	100.0	100.0

Source: Education Watch tracer study of secondary graduates, 2007

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This eighth *Education Watch* report is devoted to secondary education. Issues investigated are curriculum, learning achievement, and further education and employment opportunities of secondary graduates. The pupils start secondary education when they are children but as they proceed they become adolescents and hence primary stage of youth-hood. This is the importance of exploring secondary education in the perspective of youth development in the context of present demand regionally and globally.

History of secondary education development in the world clearly shows that it evolved out of the needs and aspirations of the society. The secondary education of today's world is facing three different but interlinked challenges: coping with the expansion of the system and keeping quality; preparing the youths so that they can meet the challenges of globalization, more specifically a good link between education and the world of work; and to fulfil the needs and demands of tertiary education.

This *Education Watch* explored the issues using data collected from large field-based surveys and came out with six major messages and eight policy recommendations. Lack of basic infrastructure, adequate learning facilities, and teachers professional skills and competencies are the major problems of quality secondary education in Bangladesh. Unequal distribution of the above creates inequity at various stages. Major inequalities exist between urban and rural areas, boys and girls and general and madrasa streams. Reduction of inequity and quality improvement should be the centre of all policy and programmes for secondary education.

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