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Abu Hamid Latif
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F o r e w o r d

Like on previous occasions, the present volume of the Bangladesh Education Journal constitutes a welcome addition to knowledge about certain aspects of the educational system in the country. As education is continuously developing, it becomes increasingly clear that only well-informed research may contribute to enhance our knowledge on what is happening inside the system, and thus enable decision makers to take corrective measures. The diversity of the presented articles illustrate the currently wide spectrum of issues being researched. In the absence of an officially commissioned research institute, either by MOPME or the Ministry of Education, the relevance of informally sharing research findings and publish these twice a year, cannot be denied. Likewise the findings of the papers in the next pages will hopefully find their way into other analytical studies or project designs, or will contribute to other developing research projects. Obviously this can only benefit those who are in charge of running a massively complex system of education.

In this sense it is hoped that this volume, like the preceding ones, may reach a large but interested readership.

Wolfgang Vollmann

UNESCO Representative in Bangladesh

E d i t o r i a l

With this volume, Bangladesh Education Journal enters into fifth year of its journey. It is a matter of great satisfaction for its patrons that an education journal found its foothold in an environment where research, educational research in particular, is the weakest link in policy planning and developing nation building programmes. However, the journal has been well received at home and abroad. And that is our inspiration to carry forward the task of bringing into focus the educational researches undertaken in the recent past through presentation, discussion, documentation and dissemination, hoping that this will help change the situation and research will find its due place.

This issue of the journal includes selected research papers out of the six research studies presented at the Eighth Educational Researchers' Conference held on May 27, 2006 in Dhaka. Besides, a research paper on an important study is also included.

UNESCO-BAFED Researchers' Forum would like to invite the valued readers to send their views, comments and suggestions on any aspect of the journal for further improvement.

Abu Hamid Latif

Editor

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Impact of Education on Socio-Economic Development of Rural People of Bangladesh

Dr. SM Mahfuzur Rahman*
Md. Mokter Hossain**

Abstract

The study findings revealed that improvement in the level of literacy/ education have positive impact on the lives of rural people demonstrated through improvement in personal competencies, increased employment and income, higher quality of living, development of awareness about many aspects of family, community and national life, and more meaningful participation of people in socio-economic activities. Following are the few of major findings of the study: (a) availability of educational institutions in an area does not automatically ensure increase in literacy in that area; (b) people with less income are found more among the illiterate or less educated section while those with higher level of education belong more to higher income brackets, although people having higher levels of literacy/education have more household income and expenditure, they have more savings than those having lower levels of literacy/education; (c) increase in the level of literacy/education make people more conscious about the role of literacy/ education in cultural development and development of personal/family life and also the importance of matters such as the need for sending children to school or the practice of maintaining accounts. This last finding implies that increase in level of literacy/education has a self propelling effect and is important for sustainable socio-economic development. The paper, however, notes that, as it is seen in rural Bangladesh, increase in level of education has also a negative impact on the agricultural sector since it drains away both money and human resources from the sector.

Introduction

The Constitution of Peoples Republic of Bangladesh recognizes that education is a fundamental right and it is the responsibility of the state to provide basic education to all its citizens.¹ The recognition of the right to education and literacy and the commitment of the government to implement the goals of Education for All (EFA) have been reinforced by other national and international documents signed by the Government of Bangladesh, such as, the Universal Declaration of Human Rights, Dakar Declarations, Millennium Development

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Goals, PRSP Action Plan, etc. Bangladesh government has formed various commissions at different times to formulate National Education Policy. Although most of the commissions could work out some versions of the National Education Policy, unfortunately, none of these versions have ever been implemented. The government, however, prepared a National Plan of Action on Education, and later, a National Plan of Action-2 that accommodated, at least, theoretically, most of the EFA goals.² Steps taken by the government in implementation of EFA include the launching of the National Campaign for Social Mobilization for Basic Education in 1992, and abolishing fees for girls' education, distribution of uniforms to girl students free of charge, and introduction of stipend and food for education programs. One of the visible impacts of these steps is the significant increase in girls' enrolment rate.

Despite various initiatives taken by the government, literacy situation and poverty alleviation in the country deserve much more attention and improvement. Official statistics on literacy rate claimed to be attained in the country are often said to be 'not reliable' and further, the proportion of people with functional literacy are significantly less than what is officially shown. A huge number of children are still out of school, there is still a high degree of gender disparity and disabled and ethnic minority groups continue to remain deprived. There is a growing demand for quality literacy services, which require skilled teachers, healthy environment, community participation, good governance and accountability and transparency in administration, and better monitoring. Evidences do not suggest that the country has earned a credible capability in meeting these requirements and also the efforts in these directions seem to lack commitment, integrity and professional seriousness. Besides, mismanagement and inadequate attention in addressing issues like access to education, equity, and uniformity, the quality of education, participation of the alumni and guardians of the students in management of academic institutions, politicization, and students' violence in the campus continue to remain as areas of major concern.

Education is an important variable in augmenting productivity of the existing and potential labor force of an economy, a catalytic agent for raising the level of income, a key to the access to resources, both private and public, and a channel of income distribution, through which gains from increased growth can be filtered down to the lower income groups. Education is regarded as a productive investment, as well as an all- pervasive activity of human welfare.^{3,4,5} While formal education serves global purposes as indicated above, non-formal education provides benefits, both economic and non-economic, which are instrumental for increased individual and social welfare⁶ and addresses a whole range of issues such as basic literacy (ability to read, write and count), training in livelihood trades and life skills, creation of opportunities for self-employment and income generation, access to resources, especially technology and credit, awareness about nutrition and healthcare, and understanding about development processes and meaningful participation in them.

Because of the poor quality of education and the gaps between education system and the needs for people with practical life skills, the present education system and literacy services do not contribute much to the growth in productivity or rapid socio-economic development of the country, including especially the improvement of life style of its population. Yet the efforts in education and literacy services have some positive impacts on the lives of the rural people, which are demonstrated through:

- a. Improvement in personal competencies and increase in number of people having reading, writing and basic accounting abilities;
- b. Increase in number of people undertaking diversified income generating activities using their functional literacy skills and the available access to training, credit and other resources;
- c. Increase in awareness of people about many aspects of personal, community and national life, including health and sanitation, use of safe water, family planning, and civil rights.

The formal education system and the literacy services that are now available in the country have some negative impacts, too. For example, literacy/education has an adverse effect on agricultural productivity. This had been pronouncedly felt about two decades ago.⁷ Money is drained away from the agricultural sector because peasant families pay for the education of their children from incomes of farming and sometimes, from sale of agricultural land. Sending children to schools implies withdrawal of a significant part of the family labor from agriculture. But, after leaving the educational institutions (with or without graduation), most children do not return to family farms, often do not find jobs and even if they find any, they hardly invest money in the family farm or in the agricultural sector.

The present paper has been prepared on the basis of a field survey based study conducted by its authors in November 2004 – May 2005 on Impact of Literacy on Socio-economic Development of the Rural Poor in Bangladesh.⁸

Objectives

Given the above background, the main objective of the study was to investigate into the impact of education on the lives of the rural people of Bangladesh within the present framework of literacy and educational services in the country. The study however, does not cover investigation into all the various aspects of the lives of individuals and communities that are changed by literacy/education and the few major issues included in the assessment are:

- the relationship between literacy/education and development;
- income-expenditure, savings and lifestyle of rural people;
- awareness, responsibilities and related social factors; and
- the changes that literacy services bring in the lives of the rural people.

Methodology

The study assessed the importance of basic education/literacy and skills training services for school age children at selected rural locations in terms of their orientation towards a knowledge-based community and the potential contribution of the system to making them/their parents or guardians equipped with literacy and life skills. The set of specific indicators for evaluating effectiveness of the existing basic education services/institutions and their links with development included:

- a. Link between level of literacy/education and occupational status of the rural people;
- b. Changes in income, expenditures and savings of the rural people having/not having literacy of different level;
- c. Changes in the quality of living of rural people with different levels of literacy/education
- d. Perception of the rural people about the importance of literacy/education in areas like cultural development, need for sending children to schools, maintaining household or business accounts and in understanding socially important concepts such as happiness in family life, social responsibility, empowerment of women, ways and means for poverty reduction, balanced food, and healthcare.

Following a review of literature on relevant areas, the study conducted a fairly extensive fieldwork that included rapid rural appraisal, observations and focus group discussions and a questionnaire based sample survey of the rural people looking into their level of literacy/education, income-expenditure and savings pattern, lifestyle, awareness, responsibilities, related social factors and status in the community etc. The fieldwork was carried out in six upazilas, one each from six districts of six administrative divisions of the country. The survey areas within each selected upazila were three rural locations representing developed, moderately developed and underdeveloped areas within the respective upazilas in terms of opportunities for literacy and education. The selection of upazilas and the survey areas within each of them was done according to the study objectives following a brief area study and consultation with informed persons, including local community leaders and people working in NGOs with literary programs. The selected areas were classified in following categories:

- a. **Community-I (high literacy area):** where literacy rate among the local people is greater than the national average; local people have sufficient exposure to literacy programs (formal and non-formal) for more than five years, and have scope of receiving vocational/livelihood skills training;
- b. **Community-II (medium literacy area):** where literacy rate among the local people is less than the national average; local people have little exposure to literacy program and have marginal facilities for vocational/livelihood skills training; and
- c. **Community-III (low literacy area):** where literacy rate among the local people is extremely low; there is no literacy program (formal or non-formal) in the area and the local people do not have facilities for vocational/livelihood skills training.

After selection of the sample areas, a simple random sampling method had been used for selecting the respondent households within the stratified population assuming that the distribution of households with different level of literacy/education, occupation, family incomes and expenditures, standard of living, and understanding the society and environment in a given area would be normal and the population had equal chance of being included in the sample. Given the high degree of homogeneity of the culture, similarity in approach towards life and a more or less stable pattern of socio-economic relationships in the rural areas, the sampling frame used in the survey appeared fairly acceptable at the stage of planning the survey work.

Subjects under the sample survey comprised household heads/members, community

leaders, and teachers/facilitators of educational institutions (primary schools, literacy/learning centers, community schools). The sample size for the questionnaire-based survey was initially 60 from each of the three locations of the six upazilas, which made the total to 1080. But for some inefficiency in the fieldwork, ultimately 1075 filled in questionnaires could be accepted for processing. The sample locations and distribution of sample population by different areas/communities are shown in annexure, table-1.

Findings

1. Literacy level and occupation

As shown in annexure, table-2 (Distribution of the Sample Population by Main Occupation and Literacy Level), about 40% of the respondents (425 out of 1065) had agriculture as the main occupation, 16.6% of them had business, 15% were engaged in teaching, about 12% were housewives, 4.6% were artisans, 1.5% did medical practice, and 10.2% had various other occupations. The occupational characteristics of the sample population reveal that education has an impact on the lives of the rural people in the sense that the rural people are restricted in their choice of occupations without education. Also, even if they chose some forms of occupation that require knowledge and skill, they operate at lower levels. For example, the part of the sample population that could be identified, as businessmen were predominantly persons operating small and medium size shops.

Illiterate population among those with agriculture as the main occupation comprised 30.6%, about the same proportion of them had only primary education, 27.5% of them had secondary education, 7.3% higher secondary education and about 4.5% were bachelor degree holders. Among the teachers, 14.3% passed only secondary school certificate examinations, 36.6% had higher secondary education, 33% had Bachelor's degree, and 15% had Master's degree. About 50% of the respondents with medical practice as the main occupation had higher secondary education and the remaining had secondary education. A part of this group of population might have some training to work as village doctors and nearly two thirds of them practice allopathic medicine, while the others practice homeopathy. About one fourth of the respondents with artisanship as the main profession were found illiterate and about the same proportion had primary education, 38.5% had secondary education, 6% higher secondary education, and 2% had Bachelor's degree. Illiterate women dominated (about 41% in number) the occupation group 'housewife', while 22.8% of them had primary education, 26.8% secondary education, 7.9% higher secondary education and only 1.6% had Bachelor's degree.

2. Operation of educational institutions and literacy level

Theoretically, there should be some association of literacy level of the population of an area with the number of the various types of educational institutions offering literacy/basic education services in that area. The survey finds that the proportion of illiterate people is more in areas with less number of primary schools but even with up to 10 primary schools in a union (at least one in a ward) the illiteracy may continue to prevail at a fairly high rate. About one third of all the illiterate population have been found to hail from unions with 10 or more institutions of primary/basic education. Also, although in general the proportion of illiterate people is high (33 to 41%) in areas where the number of such institutions ranges

between 4 and 6 or the proportion is fairly low (12 to 3%) in areas where they range between 14 and 20, the one-fifth of the total population in areas where such institutions are 11 have been found illiterate and another one-fifth of them have only primary education (see annexure, table-3).

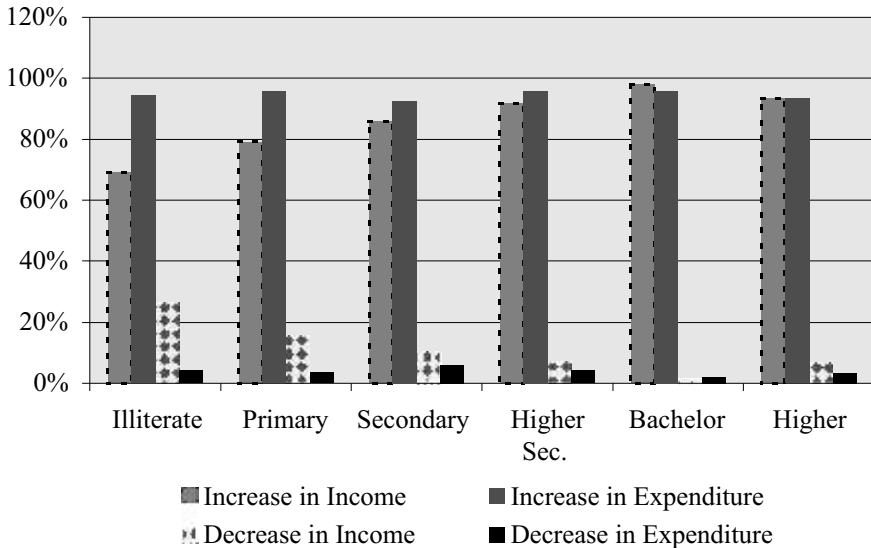
3. Level of education and household income, expenditure and savings

Distribution of the sample population by ranges of monthly income and by the levels of education show that people with less incomes concentrate more among the illiterate or less educated sections while those with higher levels of education belong more to higher income brackets. Nearly 70% of the sample population have average monthly income below Tk 5000, about one-fifth of them have monthly income between Tk 5001 and Tk 10,000 and less than 10% have higher average monthly income. But the distribution of population with these three different income ranges by the different level of education is: illiterate – 90%, 7% and 3%; primary education – 85%, 12% and 3%; secondary education – 66%, 21% and 13%; higher secondary education – 58%, 30% and 12%; bachelor level – 41%, 41% and 18%; and higher education – 23%, 52% and 25% (see annexure, table-4).

In response to the question whether there had been any change in their household income over the last five years, 82.8% respondents informed that it had been increased, 13.7% informed that it had been decreased and 3.5% said that there had been no change (see annexure, table-5). The increase in income had been more with people having higher levels of education than those with lower levels. About 95% of the respondents informed that they had also experienced increase in household expenditure during the last five years and the distribution of these respondents by their levels of education and the range of change is nearly the same as that of them by increase in income. While increase in expenditure of people with different levels of education has appeared to be almost the same, that in income of them has been found to vary and the people with higher level of education are better off in terms of the gap between increase in income and that in expenditure. This implies that the more educated people have more savings. This is also confirmed by data on relationship between literacy level and savings of the sample population.

However, although the coefficient of correlation between level of education and the total household income has been estimated at 0.298 (see annexure, table-6), a large number of respondents consider occupation or profession, and not the level of education matters more in the change of level of income. Of the 1075 respondents, 886 report that increase in their income has a positive relationship with acquiring of skills and learning/training in a profession. Coefficients of correlation between literacy level and (a) rate of change in income, (b) rate of change in expenditure and (c) increase in savings of the sample population had been estimated at 0.282, 0.179 and 0.474 respectively.

Figure-1: Change in Income and Expenditure

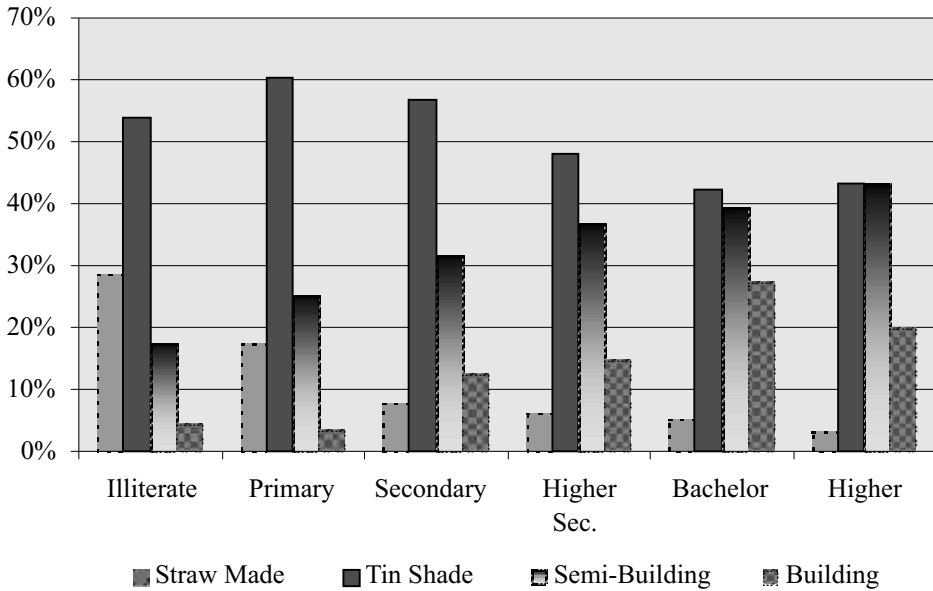


4. Level of education and quality of living

A comparison of literacy level of the respondents with the type of house they live in had been thought of as a method of developing idea about the relationship between literacy level and standard of living. The survey data show that of the 150 respondents living in houses made of straw, 70 are illiterate and 41 have primary education but the majority people among the total of 254 illiterate respondents live in tin-shade houses (see annexure, table-7).

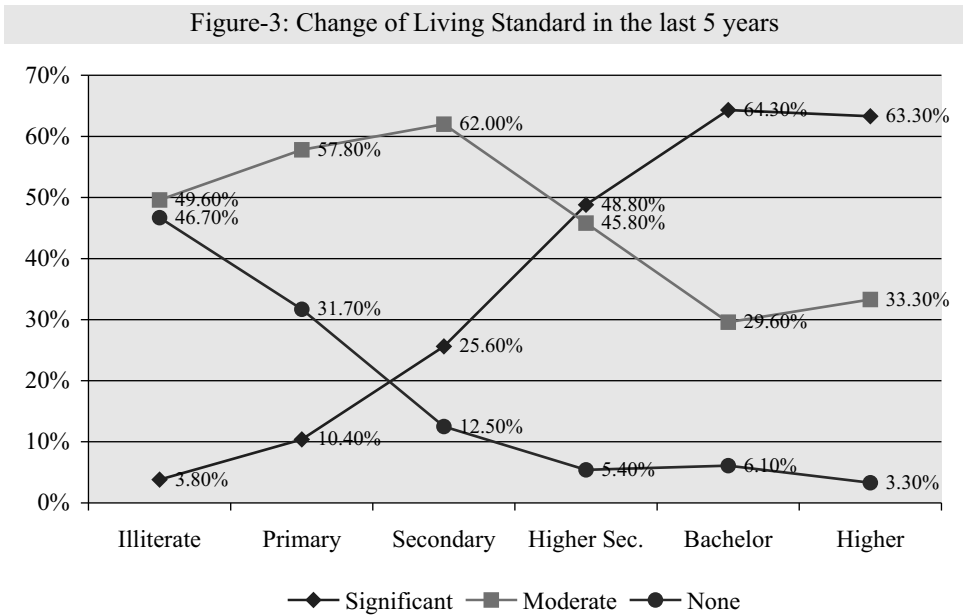
The distribution of the sample population of different levels of education by the types of houses they live in does not allow making any concrete conclusion on relationship between literacy level and standard of living. In fact, an overwhelming majority of the respondents even indicate that education has only a marginal role in changes in their housing structure. Fortunately, this type of possible results could be anticipated at the time of developing the data collection tools and the questionnaire included more direct queries such as whether there had been any improvement in the standard of living in the last five years and whether education had contribution to the improvement, if there was any.

Figure-2: Housing Structure by Literacy Level



People of different levels of education did not have much difference in opinion about the positive role of education in improvement of the standard of living. Although the coefficient of correlation between literacy level and improvement in the standard of living of the sample population had been found significantly positive (0.569), a little more than one-fourth of the respondents informed that their standard of living had significantly improved in the last five years, about 52% reported to have a moderate improvement and 22% said that there had been no change (see annexure, table-8).

People with higher education has attained more improvement in standard of living, while almost half of the illiterate population and one-third of the people with primary education do not see any change in standard of their living. The indication is: whatever have been the improvements in education or in other sectors of socio-economic life in the country, from one-third to half of the rural population remain deprived of the benefits and at the same time, the educated people get some share. This means that education does have a positive impact on the lives of those who can use the access to it and also the access to resources (presumably, through various methods but definitely, using education as one of the important factors).



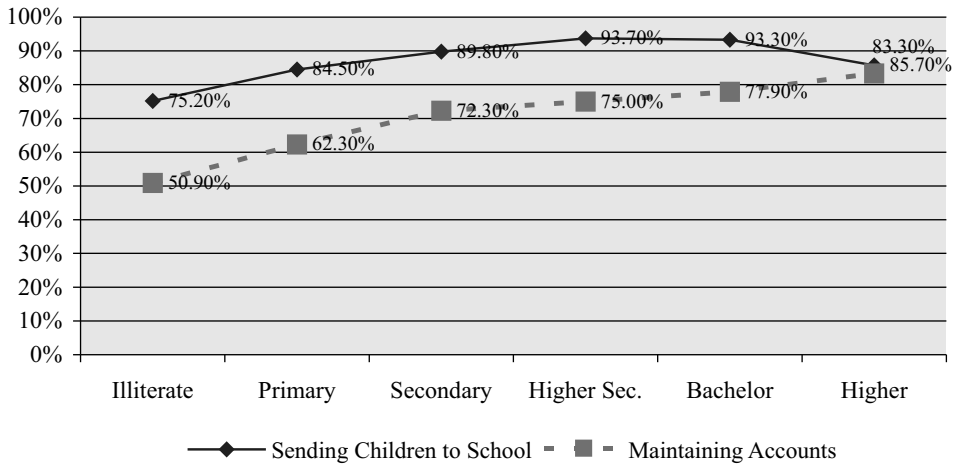
5. Education and socio-economic and cultural development

The survey included a provision for looking at how the sample population evaluate the importance of education in cultural development. The findings reveal that in the opinion of about two-thirds of the respondents education is very important/very useful in cultural development and development of personal/family life (see annexure, table-9).

But the following observation gives some food for thought: in an overall situation where the lower the level of education of the respondents, the lower is the recognition of education as an important factor, only 3.4% of the respondents of illiterate group and 1% of the group having primary education consider that education is not useful. This type of response from the population with no or little education of the rural areas is possibly the result of their own experiences in life and observations on the lives of others in the community or neighbourhood.

Education has a positive impact on the lives of the rural people in terms of developing a practice of sending their children to school and regularly maintaining accounts (see annexure, table-10).

Figure-4: Literacy Level of Household Heads and their Practice of Sending Children to School and Maintaining Accounts



The higher the level of education of household heads, the more of their children study in schools. The coefficient of correlation between the level of education of the sample population and their practice of sending children to school, however, has been found not very significant (0.165). This is possibly a strong indication that people use basic accounting and make comparative judgment on what they gain by receiving education and what they lose by not receiving it. It is only a guess that most likely, the judgment often based on very short-term considerations and the rural people need real motivation and training in how to make such estimates meaningful, so that they understand the real worth of education and become serious about ensuring an equitable access of them to quality education.

Investment in education is not like that in business and the return from investment in education is often not visible at the immediate future. Although investment in education has a relatively long payback period, the end result is often a perpetual inflow of benefits in both tangible and intangible forms. Without Education new generation remains unfamiliar with evolution process and the current practices, skills, values and expectations suitable to changing conditions⁹ and therefore, learners need to absorb the education they are given and more importantly, to understand certain socio-economic concepts, orient themselves in the real world situations and develop a way that best suits their abilities and can meet their needs. Education without understanding these concepts is useless and can hardly have any impact. This is why an attempt has been made to investigate into the ability of the sample population to understand a number of selected concepts (see annexure, table-12).

Conclusion

Education/literacy programs in rural areas of Bangladesh have an effect in enhancing the socio-economic development of rural people in Bangladesh. The rural people with little or no education are restricted in their choice of occupations without education. Also, even if they chose some forms of occupation that require knowledge and skill, they operate at lower levels. Availability of educational institutions alone does not automatically ensure access of the rural people to educational services and their attainment of literacy. The present study shows that the proportion of illiterate people is more in areas with less number of primary schools but even with up to 10 primary schools in a union (at least one in a ward) the illiteracy prevails at a fairly high rate.

There is a moderately significant correlation between the level of education of household heads and their income, expenditure and savings. People with less income concentrate more among the illiterate or less educated sections while those with higher levels of education belong more to higher income brackets. Increase in income, and also, in savings have been observed to take place with people having higher levels of education. However, although there is a correlation between level of education and the total household income, it is occupation or profession, and not the level of education that plays a more significant role in change in the level of income.

Education does play a significant role in improvement of quality of living. But in the rural areas of Bangladesh, it hardly brings equal changes in all the different parameters of the living standard. For example, there is little variation in changes in the housing structure depending upon levels of education of the household heads. A large section of the rural population even considers that education actually does not bring change in quality of life. However, this comes out as a summary of responses of the sample population on the question whether they consider education important in bringing change in quality of living. But analysis of changes in living standard of the sample population over the past five years and their level of education shows that there is a significant correlation between the two. People with higher education have attained more improvement in standard of living, while almost half of the illiterate population and one-third of the people with primary education do not see any change in standard of their living. The indication is: whatever have been the improvements in education or in other sectors of socio-economic life in the country, from one-third to half of the rural population remain deprived of the benefits and at the same time, the educated people get some share. This means that education does have a positive impact on the lives of those who can use the access to it and also the access to resources (presumably, through various methods but definitely, using education as one of the important factors).

In addition to the above, many people now realize that education and the certificates, no matter of what level and grade they are, are not enough for employment and subsequent income. Getting a job is more a matter of connections with people enjoying proximity to power or of bribing the decision makers than education and skills. Many even say that, "education has nothing to do with development; money is what one needs".

One of the reasons why despite some improvements in literacy levels in the country, there is little sign of any take off in development is the failure of the literacy/education system to provide functional literacy and equip learners with clear idea about socially and

economically important concepts. Development of a person or his/her meaningful participation in the development of the community and the country depend largely upon how one internalises these concepts and uses them in his/her approach and activities. The sample population could comfortably explain their understanding about some concepts such as *prosperity in family life, happiness in family, family planning* and *drug abuse* irrespective of their level of education but most illiterate people or the people with low literacy levels have very poor understanding about concepts such as *national economy, means of poverty alleviation, balanced food, or empowerment of women*.

The illiterates are the most affected and they do not have a voice. They lack proper understanding of many issues they need to address. Because they are illiterate, they do not have adequate access to much of the information they need and the knowledge they require, often fail to identify what is good for them and what is not, and cannot formulate appropriate arguments in favor of what they deserve or against what is unjustly imposed upon them. Lack of adequate information and the required knowledge often makes it difficult for the uneducated people to identify useful/profitable and feasible ventures, assess funding/credit needs and ensure equal opportunity access to sources of funding for development.

Majority population in the rural areas suffers from widespread illiteracy, obsolete and unproductive technology in their simple production systems, chronic poverty, lack of basic social services and information and the inability to press for their needs and demands. All these factors lead to a growing inequality among the rural people. Being heavily deprived and helpless they often consider that their position is determined by their fate, which they cannot change. Taboos and folk beliefs and practices guide most part of their behavior and the thinking pattern. The children and women are the worst victims of the situation.

Education definitely has a positive impact on agricultural production because it helps understanding the use of improved technology and its application in the field. But education also has a negative impact on agricultural productivity. Money is drained away from the agricultural sector as the peasant families pay for the education of their children from incomes of farming and sometimes, from sale of agricultural land. Sending children to schools implies withdrawal of a significant part of the family labor from agriculture. But, most among those who enter high schools and higher educational institutions start thinking of some job or business outside agriculture and after graduation, a vast majority of them never return to family farms.

Observations suggest that the quality of primary education in the country has been deteriorated because the primary school teachers neither possess the required knowledge and skill for teaching nor they are sincere in their responsibilities. Therefore, it is not possible to transform the 'bad' outputs of primary schools into 'good' students of the secondary level. The quality of education, especially of the primary level and in rural areas is poor because there is hardly any system of accountability of the teachers, school inspection system is weak and there is practically no follow up mechanism. The schoolteachers are however, paid very low and they have no incentive for taking even the regular care of their students.

Educated people can contribute to the nation and most rural people believe that community has a role to play. It can motivate people to learn and send their children to schools and too often, the development of opportunities for education in an area is more a result of the efforts

of individuals or community initiatives than of the implementation of any government program. Local leaders can create an environment that promotes education in the area. Also fortunately, there are many examples that educational institutions are established at the philanthropic initiative of a local rich man or a group, who also finance education of the poor and talented students.

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Annexure

Table-1: Distribution of Sample Population by Location

Upazila	No by types of location within upazila			Total
	Community-I Developed	Community-II Moderately Developed	Community-III Underdeveloped	
Charfashion	58	57	60	175
Patiya	60	60	60	180
Srimanagal	60	60	60	180
Nawabganj	60	60	60	180
Jhenaigati	60	60	60	180
Tala	60	60	60	180
Total	358	357	360	1075

Table-2: Distribution of Sample Population by Main Occupation and Literacy Level

Main Occupation	Count by Literacy Level						Total (N = 1065)
	Illiterate	Primary	Secondary	Higher Sec	Bachelor	Higher	
Agriculture	130	128	117	31	18	1	425
Teaching	0	1	23	59	53	25	161
Village Doctor	0	0	7	9	1	0	17
Artisanship	13	13	19	3	1	0	49
Housewife	52	29	34	10	2	0	127
Small Business	28	44	67	29	9	0	177
Others	20	14	28	27	15	5	109
All	243	229	295	168	99	31	1065

Table-3: Number of Institutions of Primary/Basic Education and Literacy Level in a Union

Number of institutions of Primary/Basic Education	Distribution of Respondents by Level of Literacy/Education						Total
	Illiterate	Primary	Secondary	Higher Sec	Bachelor	Higher	
4	20 (33.3)	24 (40.0)	6 (10.0)	8 (13.3)	2 (3.3)		60 (100)
5	46 (38.3)	21 (17.5)	26 (21.7)	15 (12.5)	10 (8.3)	2 (1.7)	120 (100)
6	74 (41.1)	47 (26.1)	33 (18.3)	15 (8.3)	10 (5.6)	1 (0.6)	180 (100)
7	14 (11.7)	35 (29.2)	37 (30.8)	24 (20.0)	7 (5.8)	3 (2.5)	120 (100)
8	12 (20.0)	24 (40.0)	17 (28.3)	4 (6.7)	3 (5.0)	0	60 (100)
10	8 (13.3)	10 (16.7)	25 (41.7)	13 (21.7)	3 (5.0)	1 (1.7)	60 (100)
11	50 (20.8)	49 (20.4)	72 (30.0)	41 (17.1)	23 (9.6)	5 (2.1)	240 (100)
14	14 (12.0)	21 (17.9)	43 (36.8)	22 (18.8)	11 (9.4)	6 (5.1)	117 (100)
16	3 (5.0)	3 (5.0)	23 (38.3)	11 (18.3)	16 (26.7)	4 (6.7)	60 (100)
20	2 (3.4)	1 (1.7)	18 (31.0)	15 (25.9)	14 (24.1)	8 (13.8)	58 (100)
Total	243 (22.6)	235 (21.9)	300 (27.9)	168 (15.6)	99 (9.2)	30 (2.8)	1075 (100)

Note: Figures in parentheses indicate values in per cent

Table-4: Total Monthly Income and Literacy Level

Monthly Income in Taka	Distribution of Respondents by Level of Literacy/Education						Total
	Illiterate	Primary	Secondary	Higher Sec.	Bachelor	Higher	
Up to 1500	50(23.8)	29(13.2)	17(5.7)	4(2.4)	1(1.0)	0	101(9.9)
1501-3000	92(43.8)	84(38.3)	96(32.4)	25(15.2)	9(9.0)	0	306(30.0)
3001-5000	46(21.9)	72(32.9)	83(28.0)	66(40.2)	31(31.0)	7(23.6)	305(29.9)
Up to 5000	188(89.5)	185(84.4)	196(66.1)	95(57.8)	41(41.0)	7(23.6)	712(69.8)
5001 - 10000	16(7.6)	26(11.9)	62(20.9)	49(29.9)	41(41.0)	16(51.6)	210(20.6)
10001-20000	2(1.0)	3(1.7)	14(4.7)	7(4.2)	7(7.0)	2(6.4)	35(3.4)
20001-30000	0	0	5(1.7)	3(1.8)	2(2.0)	2(6.4)	12 (1.2)
30001-45000	1(0.5)	1(0.5)	0	0	0	0	2 (0.2)
10001-45000	3(1.5)	4(1.8)	19(6.4)	10(6.1)	9(9.0)	4(12.9)	49(4.8)
Total	210(100)	219(100)	296 (100)	164(100)	100(100)	31(100)	1020(100)

Note: Figures in parentheses indicate values in per cent

Table-5: Level of Literacy/Education and Change in Income and Expenditure over the Last 5 years

Change over the last 5 years		Distribution of Respondents by Level of Literacy/Education						Total
		Illiterate	Primary	Secondary	Higher Sec.	Bachelor	Higher	
In Income (N = 1070)	Increased	167(69.0)	185(79.1)	256(85.9)	154(91.7)	96(98.0)	28(93.3)	886(82.8)
	Decreased	64(26.4)	37(15.8)	31(10.4)	12(7.1)	1(1.0)	2(6.7)	147(13.7)
	No change	11(4.5)	12(5.1)	11(3.7)	2(1.2)	1(1.0)	0	37(3.5)
In Expenditure (N = 1061)	Increased	224(94.5)	221(95.7)	275(92.6)	161(95.8)	94(95.9)	28(93.3)	1003(94.5)
	Decreased	10(4.2)	8(3.5)	18(6.1)	7(4.2)	2(2.0)	1(3.3)	46(4.3)
	No change	3(1.3)	2(.9)	4(1.3)	0	2(2.0)	1(3.3)	12(1.1)

Note: Figures in parentheses indicate values in per cent

Table-6: Estimated Values of Correlation Coefficients

Variables	Correlation Coefficient
No of primary schools – Population with higher level of education	0.357
Literacy level – Total income	0.298
Literacy level – Rate of change in household income	0.282
Literacy level – Rate of change in household expenditure	0.179
Literacy level – Increase in Savings	0.474
Literacy level – Improvement in standard of living	0.569
Literacy level – Sending Children to School	0.165

Table-7: Housing Structure by Literacy Level

Type of House	Distribution of Respondents by Level of Literacy/Education						Total
	Illiterate	Primary	Secondary	Higher Sec.	Bachelor	Higher	
Straw Made	70(28.8)	41(17.4)	23(7.7)	10(6.0)	5(5.1)	1(3.3)	150(14.0)
Tin Shade	131(53.9)	142(60.4)	170(56.7)	81(48.2)	42(42.4)	13(43.3)	579(53.9)
Semi Building	42(17.3)	59(25.1)	95(31.7)	62(36.9)	39(39.4)	13(43.3)	310(28.8)
Building	11(4.5)	8(3.4)	38(12.7)	25(14.9)	27(27.3)	6(20.0)	115(10.7)

Note: Figures in parentheses indicate values in per cent

Table-8: Impact of Education on Improvement of Living Standard by Literacy Level

		Distribution of Respondents by Level of Literacy/Education						Total
		Illiterate	Primary	Secondary	Higher Sec.	Bachelor	Higher	
Change of living standard	Sufficient	9(3.8)	24(10.4)	76(25.6)	82(48.8)	63(64.3)	19(63.3)	273(25.7)
	Moderate	119(49.6)	133(57.8)	184(62.0)	77(45.8)	29(29.6)	10(33.3)	552(51.9)
	None	112(46.7)	73(31.7)	37(12.5)	9(5.4)	6(6.1)	1(3.3)	238(22.4)
Impact of education in change of living standard	Sufficient	30(13.6)	32(14.2)	117(39.3)	101(60.1)	76(77.6)	25(83.3)	381(36.6)
	Moderate	72(32.6)	100(44.4)	138(46.3)	58(34.5)	21(21.4)	4(13.3)	393(37.8)
	None	119(53.8)	93(41.3)	43(14.4)	9(5.4)	1(1.0)	1(3.3)	266(25.6)

Note: Figures in parentheses indicate values in per cent

Table-9: Literacy Level and Understanding Importance of Education

Education is important for		Distribution of Respondents by Level of Literacy/Education						Total
		Illiterate	Primary	Secondary	Higher Sec.	Bachelor	Higher	
Cultural development	Important	105(44.1)	133(57.3)	222(74.5)	141(84.4)	87(89.7)	27(90.0)	715(67.3)
	Moderate	98(41.2)	91(39.2)	75(25.2)	26(15.6)	9(9.3)	3(10.0)	302(28.4)
	None	35(14.7)	8(3.4)	1(0.3)	0	1(1.0)	0	45(4.2)
Overall development	Important	110(46.4)	144(62.1)	223(76.1)	138(83.1)	87(88.8)	25(89.3)	727(69.0)
	Moderate	119(50.2)	85(36.6)	69(23.5)	26(15.7)	11(1.2)	3(10.7)	313(29.7)
	None	8(3.4)	3(1.3)	1(0.3)	2(1.2)	0	0	14(1.3)

Note: Figures in parentheses indicate values in per cent

Table-10: Literacy Level of Household Heads and their Practice of Sending Children to Schools and Maintaining Accounts

		Distribution of Respondents by Level of Literacy/Education						Total
		Illiterate	Primary	Secondary	Higher Sec.	Bachelor	Higher	
Sending children to school	Yes	170(75.2)	186(84.5)	255(89.8)	148(93.7)	84(93.3)	24(85.7)	867(86.2)
	No	56(24.8)	34(15.5)	29(10.2)	10(6.3)	6(6.7)	4(14.3)	139(13.8)
Maintaining accounts regularly	Yes	119(50.9)	142(62.3)	211(72.3)	123(75.0)	74(77.9)	25(83.3)	694(66.5)
	No	115(49.1)	86(37.7)	81(27.7)	41(25.0)	21(22.1)	5(16.7)	349(33.5)

Note: Figures in parentheses indicate values in per cent

Table-11: Increase in Households' Expenditure in Education in Last Five Years by Literacy Level

		Distribution of Respondents by Level of Literacy/Education						Total
		Illiterate	Primary	Secondary	Higher Sec.	Bachelor	Higher	
Increase in Expenditure	Yes	151(62.1)	171(73.1)	250(83.3)	151(89.9)	89(90.8)	26(89.7)	838(78.2)
	No	92(37.9)	63(26.9)	50(16.7)	17(10.1)	9(9.2)	3(10.3)	234(21.8)
Education brings solvency	Yes	8(4.1)	63(27.9)	199(68.9)	134(81.7)	89(94.7)	29(96.7)	522(52.4)
	No	186(95.9)	163(72.1)	90(31.1)	30(18.3)	5(5.3)	1(3.3)	475(47.6)

Note: Figures in parentheses indicate values in per cent

Table-12: Understanding of Socially Important Concepts by Literacy Level

Concepts	Level of Understanding	Distribution of Respondents by Level of Literacy/Education						Total
		Illiterate	Primary	Secondary	Higher Sec.	Bachelor	Higher	
National Economy	Clear	0%	0.9%	6.8%	16.9%	40.4%	50.0%	9.8%
	Moderate	7.0%	9.4%	25.4%	39.8%	41.4%	30.0%	21.6%
	Not Clear	93.0%	89.7%	67.8%	43.4%	18.2%	20.0%	68.6%
Social Responsibility	Clear	9.9%	10.7%	33.0%	48.8%	67.7%	73.3%	29.7%
	Moderate	35.5%	43.3%	48.1%	38.0%	26.3%	26.7%	40.0%
	Not Clear	54.5%	45.9%	18.9%	13.3%	6.1%		30.3%
Family Planning	Clear	18.8%	31.6%	53.1%	59.0%	74.7%	86.7%	44.5%
	Moderate	44.6%	41.5%	33.0%	31.9%	22.2%	10.0%	35.7%
	Not Clear	36.7%	26.9%	13.9%	9.0%	3.0%	3.3%	19.8%
Self Employment	Clear	6.2%	8.5%	28.1%	45.8%	65.7%	76.7%	26.5%
	Moderate	25.7%	39.3%	43.7%	38.6%	25.3%	13.3%	35.3%
	Not Clear	68.0%	52.1%	28.1%	15.7%	9.1%	10.0%	38.2%
Empowerment of Women	Clear	4.2%	4.3%	23.1%	44.0%	58.6%	63.3%	22.4%
	Moderate	23.3%	31.3%	45.4%	36.7%	28.3%	20.0%	33.7%
	Not Clear	72.5%	64.4%	31.5%	19.3%	13.1%	16.7%	43.9%
Balanced Food	Clear	3.3%	5.6%	27.8%	50.0%	62.6%	76.7%	25.4%
	Moderate	22.0%	29.5%	40.3%	37.3%	31.3%	20.0%	31.9%
	Not Clear	74.7%	65.0%	31.9%	12.7%	6.1%	3.3%	42.6%
Healthcare Needs and Methods	Clear	3.3%	7.7%	30.8%	54.2%	69.7%	80.0%	28.2%
	Moderate	34.4%	42.3%	40.3%	33.7%	24.2%	16.7%	36.2%
	Not Clear	62.2%	50.0%	28.8%	12.0%	6.1%	3.3%	35.6%
Effects of Drug Addiction	Clear	8.7%	12.8%	36.6%	50.0%	62.6%	76.7%	30.7%
	Moderate	36.9%	42.3%	40.7%	32.5%	27.3%	23.3%	37.2%
	Not Clear	54.4%	44.9%	22.7%	17.5%	10.1%	0	32.1%
Role of Local Government	Clear	5.4%	6.0%	26.4%	50.0%	66.7%	60.0%	25.5%
	Moderate	24.0%	39.7%	47.6%	34.9%	29.3%	36.7%	36.6%
	Not Clear	70.7%	54.3%	26.0%	15.1%	4.0%	3.3%	38.0%
Means for Poverty Reduction	Clear	2.1%	5.6%	20.1%	41.0%	60.6%	63.3%	21.1%
	Moderate	28.6%	36.3%	51.4%	39.2%	35.4%	33.3%	39.0%
	Not Clear	69.3%	58.1%	28.6%	19.9%	4.0%	3.3%	39.9%

Internal Efficiency of Secondary Educational Institutions: Results from a Reconstructed Cohort Analysis

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Abstract

Examining promotion, dropout and repetition in various grades and performance in public examinations at the end of secondary schooling, this paper explored the internal efficiency of secondary educational institutions in Bangladesh. Using the database of 598 educational institutions created for Education Watch 2005 the estimates were done through UNESCO-PRoAP software called Edu Analysis. Estimates were made available for five types of secondary educational institutions - three of which are general type (viz., government, non-government, and school-cum-college) and two are Islamic religious (viz., dakhil and alim madrasas). The findings reveal that on average, the system was 25.9% efficient with a wide variation by school type – government schools showed the highest efficiency (54.9%) and the dakhil madrasas lowest (22.7%). The provisions, in general, were more efficient for boys than for girls (32.9% vs. 20.2%). Gender variation commonly existed in all types of institutions. The madrasas were less efficient than the schools under general stream. The situation of the madrasa girls was the worst.

Introduction

The word 'efficiency' is often used as synonymous to 'productivity' in the economic literature. The economists particularly developed and refined the concept of efficiency. The concept of 'efficiency in education' was also first evolved and discussed by them (Blaug 1970, Brimer and Pauli 1971). It refers to the relationship between the inputs into an education system and outputs from that system. An education system can be said to be efficient if maximum output is being obtained from a given input or a given output is being obtained with the minimum possible inputs.

But what constitutes inputs in education system? From educationists point of view it is obviously the structure and facilities, teacher quality, teaching learning provision, curriculum and textbook, pupils' background, etc. On the other hand, output is the number of graduates and their quality. The former can be expressed in terms of expenditure per pupil-year and the later as number of pupil-years spent by the graduates of the cohort.

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After five-year cycle of compulsory primary education, the secondary education in Bangladesh is comprised of seven (3+2+2) years of schooling. The first three years is referred to as junior secondary (grades VI to VIII), the next two years as secondary (grades IX and X) and the rest two years as higher secondary (grades XI and XII). This study was confined to first five years of secondary education. Official age for studying at this level is 11-15 years. However, as the children start their primary education late and hence complete it late, a good portion of secondary school students is over aged (Ahmed et al 2006). There are different types of secondary level educational institutions in Bangladesh. These may be government or privately managed, secular or religion based, Bangla or English medium, and vocational.

Of the secondary schools in the country, majority are privately managed (BANBEIS 2003). This study was confined to six types of schools; these are junior secondary school, government school, non-government school, combined school and college, dakhil madrasa, and alim madrasa. The first four are under general stream and the rest two are under religious education stream. In the combined school-cum-college and alim madrasa category, secondary section is a part of higher secondary institution. The cadet collages, English medium schools and the vocational educational institutions were not considered in this study.

Using *Education Watch* 2005 database, this paper intends to explore the internal efficiency of secondary education in the country. The Bangladesh Bureau of Educational Information and Statistics (BANBEIS) also provides such information, however, at the aggregate level only (BANBEIS 2003). This paper also adds school type as well as gender segregated analyses of internal efficiency.

Data and Methods

The most reliable way of finding the efficiency of educational institutions is to follow a true cohort method i.e., starting with a cohort of pupils at the beginning of their study in secondary schools and follow them for consecutive five years. Establishment of such a system is costly and time consuming. A simplified method, which under some assumptions, allows reconstructing the progress of pupils from a single year data on promotion, dropout, and repetition. It is known as reconstructed cohort method.

A hypothetical cohort of 1,000 students entering class VI in a year is reconstructed and assumed that they would experience the current promotion, dropout and repetition rates for next five years. This allows finding refined estimates of cycle completion and other internal efficiency indicators including the coefficient of efficiency. In order to do so two years data on the number of students in various classes is required. The following is the definition of coefficient of internal efficiency.

It is a ratio of expected pupil years required to complete the secondary cycle by the graduates and total years actually spent to produce those graduates expressed in percentage terms.

Educational institution survey database prepared for *Education Watch* 2005 was used for this study. A total of 600 secondary level educational institutions were sampled for survey - 30 each for junior secondary, government, alim madrasa and combined school-cum-college type, and 240 each for non-government school and dakhil madrasa. Full list of educational

institutions prepared by BANBEIS in 2003 was used as sampling frame for randomly selecting the institutions. Survey of two dakhil madrasas was unsuccessful due to unwillingness of the heads of the institutions and their managing board chairs. Thus, information of 598 educational institutions was collected. Table 1 provides number of educational institutions and pupils under the study.

Table 1. Number of educational institutions and pupils under study

Type of educational institution	Number of institutions	Number of pupils
Junior secondary school	30	5,627
Government school	30	46,494
Non-government school	240	1,02,989
Combined school-cum-college	30	17,896
Dakhil madrasa	238	35,835
Alim madrasa	30	5,045
Total	598	1,83,886

Class and gender segregated data of students registered in 2004 and 2005, students registered in 2004 however repeated in the same class in 2005, and students dropped out from the system during 2004 were used in this analysis. Data were collected from the school documents. The heads of the institutions along with two or three colleagues provided the information. A team of two research assistants surveyed each institution. For further information of the fieldwork see Education Watch 2005 report (Ahmed et al 2006).

UNESCO-PROAP software called Edu Analysis was used in analyzing the data (UNESCO 2001). Estimates were generated by gender, stream, and school type. As the data were collected from the school records, any manipulation of information was beyond the control of the enumerators. Again, the school heads were unable to provide information of about 6.5% of the pupils who were subsequently excluded from the analysis. In order to make the proportion of pupils by school type in the sample equivalent to that of the population, weights were used in calculating pooled estimates. A standard statistical procedure was followed to determine the weights (Cochran 1977). BANBEIS data were used for this.

It is to be noted that the pupils of the junior secondary schools were considered only for national and gender segregated pooled estimates. These schools provide education up to grade VIII; thus, they were excluded from the school type wise analysis.

Findings

Background of the schools

The government schools and the school-cum-colleges were predominantly located in the urban areas - metropolitan cities and upazila towns. Non-government schools and the madrasas were established in both rural and urban areas. Majority of the students in both rural and urban areas enrolled in the non-government schools. The madrasas followed them in the rural areas and State owned schools in the urban areas. State owned schools were fully

funded by the government and 85% of the teachers in other schools including the madrasas received monthly subvention (popularly known as monthly payment order or MPO) from the government.

The government schools were ahead of the others in respect of infrastructure and facilities, teaching aids, science laboratory, qualified and trained teachers, library, co-curricular activities, and other necessities required for quality education. The school-cum-colleges were behind them. However, the other institutions were lagging much behind them. Parental background (education as well as economic status) of the students of government schools and the school-cum-colleges was better than that of the students in other institutions.

Promotion, dropout and repetition

On average, the promotion rate was 80.8% among those students whose names appeared in the school registers at the beginning of 2004. The average dropout rate was 11.8% during the year and repetition rate 7.4%. The promotion rate was over 81% in classes VI-IX, which dropped to 70.2% in class X. The dropout rate was over 10% in all the classes. Highest dropout and repetition rates were found among the students of class X. The repetition rate in class X was two and half times higher than that of the other classes. The average promotion and repetition rates were marginally higher for the boys than the girls; however, the dropout rate was higher for the girls than the boys. Although a small variation among the rates existed between the boys and the girls of classes VI to IX, it became much bigger in class X. Among the students of class X, the promotion rate was 76.1% for the boys and 65.2% for the girls - a difference of about 11 percentage points. The dropout rate of the girls of class X was 8.9 percentage points higher than that of the boys, and the repetition rate was two percentage points higher for the girls than the boys. Another observation is that the promotion rate was higher for the girls than the boys in first two classes, which started to be reversed from class VIII.

School type wise analysis shows that the promotion rate was highest among the students of government schools (91.3%), followed by the school-cum-colleges (86.5%) and the non-government schools (81.1%). The promotion rate was 76.3% in the dakhil and 80.7% in the alim madrasas. Three quarters of the junior secondary school students got promotion during the reference year. The dropout rate was much lower in the government schools and the combined school-cum-colleges than the other types of institutions.

Performance in public examinations

Information on students' participation and performance in the public examinations - Secondary School Certificate or SSC for the general stream and dakhil for the madrasas, for four years (2001-2004) were collected from the school records. On average, nearly a quarter of the students of class X did not participate in the school final examinations held during 2001-2004; 27.8% among the girls and 18.9% among the boys. A portion of them dropped out from school and another portion repeated in class X in the following year. The participation rate in the school final examinations was highest in the government schools (94.3%), followed by the school-cum-colleges (81.1%) and the non-government schools (76.2%). This was 76% in the alim and 66.5% in the dakhil madrasas. The boys were ahead of the girls in most of the cases.

On average, 47.6% of the students who participated in SSC or dakhil examinations were successful. Grade point averages (GPA) of these students were between 1 and 5. The boys were 3.6 percentage points ahead of the girls in successfully completing the high school education. The students of government schools did much well than those of other types. The rate of successful students was 67.9% among them. This was 57.4% in the school-cum-colleges and 39.9% in the non-government schools. Half of the students in the madrasas were able to be successful in the dakhil examinations during 2001-2004. The boys were ahead of the girls in four types of schools viz., government and non-government schools and dakhil and alim madrasas. However, the girls surpassed the boys in combined school-cum-colleges.

Among those who reached at class X, 76.6% participated in the school final examinations during 2001-2004, of which the success (getting GPA 1-5) rate was 47.6%. This means that of the students who reached at class X, 36.5% completed it successfully. This was 33% among the girls and 40% among the boys. This figure was 64% in government schools, 46.5% in school-cum-colleges, 30% in non-government schools, 39.4% in alim madrasas and 34% in dakhil madrasas.

Retention and cycle completion

Table 2 provides retention rates of the students at various stages of secondary education. At the national level, among the students enrolled in class VI, 83.6% survived up to class VII, 72.2% up to class VIII, 66.5% up to class IX, and 48.6% up to class X. Less than 40% of the students crossed the barrier of test examinations taken in the schools prior to the school final examinations (SSC or dakhil). Only these successful pupils were allowed to seat for the final examinations. Of these examinees, only a half passed the said examinations. This means that less than a fifth of the students enrolled in class VI successfully crossed the full cycle of secondary education. Separate analysis for the boys and the girls also shows the similar trends (Table 2). Of the pupils enrolled in class VI, 46% of the girls and 52.1% of the boys reached at class X. Afterwards, fall of this rate was much higher for the girls than the boys - only a third of the girls and less than a half of the boys of class VI survived at this stage. Finally, a quarter of the boys and 14.3% of the girls passed the school final examinations.

Retention of pupils in various classes and completion of secondary cycle varied between the streams (Table 3). The survival rate up to the beginning of class VII was mostly equal among the students of general stream and the madrasas. However, the students of the madrasas lagged behind those of general stream afterwards, indicating a high dropout in the madrasas. The highest gap in survival rate was found in class IX, where the madrasa students were 14 percentage points behind their peers in the general stream (54.2% vs. 68.1%). Whereas, half of the general stream students reached class X, it was 38% for the madrasa students. The completion rate was 19.2% in the general stream and 15.8% in the madrasas. Gender gap disfavouring the girls existed in both, however much bigger in the madrasas than the general stream. Only 9.9% of the madrasa girls completed the full course of secondary education.

Table 2. Reconstructed cohort analysis of secondary school students by sex, 2004-2005

Indicators		Sex		Both
		Girls	Boys	
Survival rate:	Class VI	100.0	100.0	100.0
	Class VII	84.7	82.3	83.6
	Class VIII	71.7	72.8	72.2
	Class IX	64.2	69.5	66.5
	Class X	46.0	52.1	48.6
	Test exam	31.4	48.8	38.9
Completion rate		14.3	25.0	18.8
Dropout rate		85.7	75.0	81.2
Coefficient of efficiency		20.2	32.9	25.9
Pupil years invested per graduate		29.7	18.2	23.2

Table 3. Reconstructed cohort analysis of secondary school students by stream, 2004-2005

Indicators		General (schools)			Religious (madrasas)		
		Girls	Boys	Both	Girls	Boys	Both
Survival rate:	Class VI	100.0	100.0	100.0	100.0	100.0	100.0
	Class VII	85.0	81.8	83.6	82.3	86.3	84.0
	Class VIII	72.7	73.0	72.8	63.8	71.6	67.1
	Class IX	65.8	71.2	68.1	52.1	57.0	54.2
	Class X	47.6	53.4	50.0	34.6	42.6	38.0
	Test exam	33.0	49.9	40.2	20.6	40.1	28.5
Completion rate		14.9	25.0	19.2	9.9	24.3	15.8
Dropout rate		85.1	75.0	80.8	90.1	75.7	84.2
Coefficient of efficiency		20.8	32.6	26.0	15.9	34.7	24.1
Pupil years invested per graduate		28.9	18.4	23.0	37.6	17.3	24.9

Table 4 shows that the retention rate in various classes were much higher among the students of government schools than those of others. For instance, nearly three quarters of the class VI students of the government schools survived up to class X, which was 58.8% in the school-cum-colleges, and 51.3% in the non-government schools. The survivors' rate was 37.6% in the dakhil madrasas and 39.4% in the alim madrasas. This had a direct implication on pass rates in the test examinations and secondary school completion rates. In the general stream,

the gap between the survivors' rate and the completion rate was highest in the non-government secondary schools (32.5 percentage points) and lowest in the government schools (23.8 percentage points). The gap was bigger in dakhil madrasas than the alim madrasas. Annex 1 provides above analysis for boys and girls separately.

Table 4. Reconstructed cohort analysis of secondary school students by school type, 2004-2005

Indicators	Type of educational institution				
	Non-govt.	Government	School & College	Dakhil	Alim
Survival rate: Class VI	100.0	100.0	100.0	100.0	100.0
Class VII	83.1	94.3	90.1	83.1	87.2
Class VIII	72.2	90.6	85.7	65.4	73.5
Class IX	69.8	85.6	73.9	53.9	55.2
Class X	51.3	73.8	58.8	37.6	39.4
Test exam	40.6	73.8	53.8	27.3	32.6
Completion rate	18.8	50.0	31.8	14.7	19.3
Dropout rate	81.2	50.0	68.2	85.3	80.7
Coefficient of efficiency	25.3	54.9	39.1	22.7	28.5
Pupil years invested per graduate	23.7	10.9	15.3	26.5	21.1

As already mentioned that at the national level, the completion rate was at least 10 percentage points higher among the boys than the girls. School type wise analysis shows similar type of difference in four types of educational institutions under study. These are the government and the non-government secondary schools and both types of madrasas. Contrarily, the girls of the school-cum-colleges surpassed their boy counterparts in completion rate. The gender gap in completion rate was much higher in the madrasas than the secular schools. For instance, the gender gap depriving the girls was 12.4 percentage points in the dakhil madrasas and 20.2 percentage points in the alim madrasas.

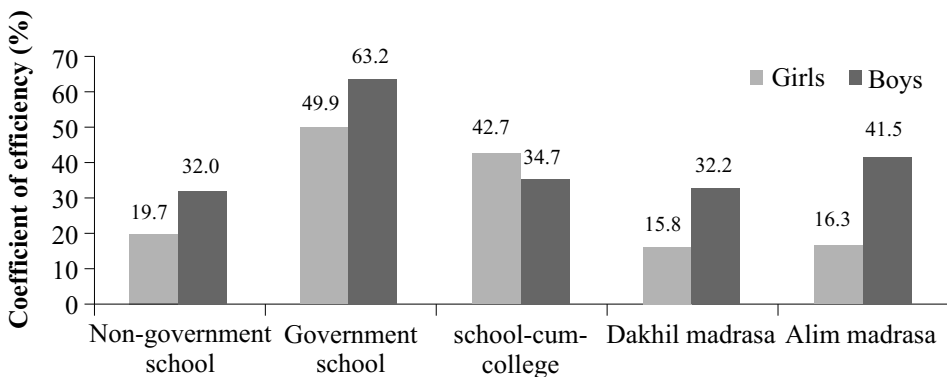
Coefficient of efficiency

Let us now take a look at the internal efficiency coefficient. It is a ratio of expected pupil years to complete the cycle by the graduates and total pupil years actually spent to produce those graduates expressed in percentage terms. The higher the figure the more efficient the system is. The secondary education system in Bangladesh as a whole was 25.9% efficient (Table 2). The coefficient of efficiency was 20.2% for the girls and 32.9% for the boys. The schools under general stream were 26% and the madrasas were 24.1% efficient (Table 3). The system was least efficient for the madrasa girls. School type wise analysis shows that the State run secondary schools were more efficient than any others. The coefficient of efficiency was 54.9% in these schools. They were followed by the school-cum-colleges (39.1%), alim madrasas (28.5%), non-government secondary schools (25.3%), and the

dakhil madrasas (22.7%) respectively (Table 3). The coefficient of internal efficiency was higher for the boys than the girls in four types of educational institutions. These are government and non-government schools and the madrasas. The school-cum-colleges were more efficient for the girls' than their counterpart boys (Figure 1 and Annex 1).

Although the duration of secondary schooling is five years, a significant portion of the students repeat in the same class more than once. Major portion of this repetition occurs due to unsatisfactory performance in the test examination or the school final examination. Pupil years invested per graduate is another indicator, which allows us to understand average years of investment to have a single secondary school graduate. Considering all students of various school types it was found that on average 23.2 years were needed to have a single graduate, which is about four and a half times higher than the normal duration of secondary cycle (Table 2). The students of the non-government schools and the dakhil madrasas had to invest more time than those of others in this regard. It took, on average, only 10.9 years to have a graduate in the government run secondary schools. The madrasas, on an average, took nearly 25 years to produce a single graduate, whereas it was 23 years in case of general stream. The madrasa girls took longer duration to complete the secondary education than others.

Figure 1. Coefficient of efficiency by school type and gender, 2004-2005



Discussion and Conclusion

This paper explored the internal efficiency of secondary education in Bangladesh. Unlike the primary education, secondary education in Bangladesh is not compulsory. In this sense, there is no constitutional or legal obligation in achieving the full efficiency of the system. However, due to some affirmative actions especially by the government and partly by non-government initiatives, enrolment in school education (both primary and secondary) has been increased in the recent past. Due to increase of parental awareness to education, enrolment and completion rates at primary level have increased, which created increased demand for secondary education.

Although many countries in the world have increased the length of their primary and basic education, Bangladesh did not. However, the first Education Commission of independent

Bangladesh in 1974 and again the National Education Committee in 1997 recommended for extending primary education up to grade VIII (GoB 1974, 1997). None of these have been materialised or no practical step has been taken in this regard, but an intension for extension of length of primary and basic education, at least at the policy level, is there. All these actually motivated the researchers to explore the efficiency of secondary education in the country.

The analysis showed that on average the secondary education system was about 26% efficient. Less than a fifth of the pupils, who enrolled in the system, completed the full cycle of secondary education. Major dropout occurred during first year of secondary education and after grade IX. There might be two interlinked reasons behind students' dropout at these phases. Problem relating to coping with the new level of education is the first one. Majority of the pupils face new school with new environment at the beginning of secondary education. Distance between home and school also increases at this stage. Those completed primary education with low quality face difficulty at secondary level. *Education Watch* studies and district level assessment of grade VI students by the high school authorities showed very poor performance of the primary school completers and the secondary school beginners (Nath and Chowdhury 2001, Ahmed et al 2002, DACC Rajshahi 2005, DACC Kurigram 2005). Grades IX and X are considered as the preparatory phase for school final examinations (SSC or dakhil). Dropout of students at this stage might happen due to increased difficulty in curriculum, compared to the previous one. Secondly, a huge increase in private cost of education might be an obstacle for many pupils in continuing their education. Other reasons related to social norms and insecurity may cause dropout, especially among the girls.

Bangladesh is committed to achieving many international educational goals. Of the eight Millennium Development Goals (MDG), two are specific to education. The third MDG target is related to eliminating gender disparity up to secondary level by 2005 and at all levels of education no later than 2015. However, the findings of this study clearly indicated that secondary education in Bangladesh is less efficient for the girls than for the boys. Bangladesh could not achieve this MDG within the specified period. It seems girls' stipend programme at secondary level is not sufficient to ensure gender parity. Sometimes the girls are not able to meet the minimum requirements (attendance and achievement) to receive stipend. We need to work more regarding gender parity so far efficiency of secondary education is concerned.

The efficiency of the educational institutions varied by their type. In general, the schools under general stream were more efficient than the madrasas. For instance, the government schools under general stream were the more efficient than all other types followed by school-cum-colleges. Both types of educational institutions were located in the urban areas. The worst performance was observed in non-government schools, which were mostly located in the rural areas. There is also an inter-link between resources the schools had and their internal efficiency coefficients. The government schools and school-cum-colleges have had more resources than other types of institutions. Except the school-cum-colleges, the systems were less efficient for the girls than for the boys. These types of disparities also go against Bangladesh's commitment to achieving MDG goals in education.

The findings also showed that the survival rates in grades VIII to X were much higher in

educational institutions under general stream than madrasas. Similar trend was also observed in participation in school final examinations (SSC or Dakhil). However, the pass rate of students was higher among the madrasa students than those under general stream. Deviation in survival rates between the two streams was about 12 percentage points, however, it was 7.6 percentage points in the case of pass rates. Such a situation reduced the gap between the coefficients of internal efficiency against two streams. Whatever the causes were, the madrasa students did not survive in education as their peers did in general stream. There is a possibility that the quality of primary education (whether from the primary schools or the ebtadayee madrasas) received by the pupils of secondary madrasas was not as high as those of the pupils enrolled in general stream. Again, infrastructure and teaching learning facilities in the madrasas were not much supportive (due to insufficiency) to help the students to survive longer. It is also a matter of investigation whether the standard of Dakhil examination is lower than that of the SSC examination or the lower quality pupils were already screened out in the madrasas before seating for Dakhil examination.

One may argue that the estimates done in this paper may be misleading if transfer of pupils from one type of school to another is not considered. Especially, those transferred from madrasa stream to general and vice versa after completing junior secondary education. First of all, we do not have such data to include those in the analysis. Secondly, there is also a scope to claim that transfer from one type of institution to another may be a sign of efficiency of the later type of institution. Again, affect on the estimates depends on the amount of transfer cases. However, it is to be noted that there is no influence of such transfer in the national level estimates - aggregate or gender based.

What policy recommendation can be considered from the findings of this study? First of all, the duration (5 years) of primary education programme or basic education is insufficient in Bangladesh. According to an UNESCO estimate, nearly 70% of the countries in the world have six or more years of primary education (UNESCO Institute of Statistics, cited in Bruns et al 2003). Following the majority of the countries we should increase the length of our primary and basic education programme. It is high time now to implement the recommendation in regard to primary cycle of education (8 years) made by the first Education Commission in independent Bangladesh and the National Education Committee (GoB 1974, 1997). The second issue is the facilities in the schools and the quality of education. Both need to be improved to have better output from the systems - both primary and secondary. There is also a need for careful attention to girls' issues. What we are doing for them at secondary level (stipend, etc.) is probably not sufficient enough to solve the whole range of barriers regarding their effective participation in schools. Special quality improvement scheme needs to be undertaken in the madrasas. Gradual improvement of the non-government secondary schools is also an urgent task.

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Annex 1.

Reconstructed cohort analysis of secondary school students by school type and sex, 2004-2005

Indicators	Type of educational institution				
	Non-govt.	Government	School & College	Dakhil	Alim
<i>Girls</i>					
Survival rate: Class VI	100.0	100.0	100.0	100.0	100.0
Class VII	84.6	96.1	91.6	81.4	86.2
Class VIII	72.2	92.2	87.7	62.9	68.0
Class IX	67.6	86.1	75.3	52.1	52.0
Class X	48.8	72.7	64.0	35.2	32.7
Test exam	32.8	72.7	58.6	20.4	21.3
Completion rate	14.2	46.1	35.9	9.8	10.2
Dropout rate	85.8	53.9	64.1	90.2	89.8
Coefficient of efficiency	19.7	49.9	42.7	15.8	16.3
Pupil years invested per graduate	30.5	12.0	14.1	37.9	36.8
<i>Boys</i>					
Survival rate: Class VI	100.0	100.0	100.0	100.0	100.0
Class VII	81.4	91.3	88.2	85.7	88.2
Class VIII	72.3	88.0	82.9	69.1	78.7
Class IX	72.3	84.9	72.0	56.6	58.2
Class X	54.4	75.5	52.6	41.1	47.2
Test exam	50.6	75.5	48.0	37.9	46.5
Completion rate	24.7	56.5	27.0	22.2	30.4
Dropout rate	75.3	43.5	73.0	77.8	69.6
Coefficient of efficiency	32.0	63.2	34.7	32.2	41.5
Pupil years invested per graduate	18.7	9.5	17.3	18.6	14.4

Examining promotion, dropout and repetition in various grades and performance in public examinations at the end of secondary schooling, this paper explored the internal efficiency of secondary educational institutions in Bangladesh. Using the database of 598 educational institutions created for Education Watch 2005 the estimates were done through UNESCO-PROAP software called Edu Analysis. Estimates were made available for five types of secondary educational institutions - three of which are general type (viz., government, non-government, and school-cum-college) and two are Islamic religious (viz., dakhil and alim madrasas). The findings reveal that on average, the system was 25.9% efficient with a wide

variation by school type - government schools showed the highest efficiency (54.9%) and the dakhil madrasas lowest (22.7%). The provisions, in general, were more efficient for boys than girls (32.9% vs. 20.2%). Gender variation commonly existed in all types of institutions. The madrasas were less efficient than the schools under general stream. The situation of the madrasa girls was the worst.

A Comparative Study of Mathematics Curriculum at Primary Level in Bangladesh and India (West Bengal)

Dr. Md. Abdul Halim^{*}

Abstract

The study was undertaken for a comparison of primary mathematics curriculum of Bangladesh with that of West Bengal of India in respect of objectives and contents, teaching processes, problems and obstacles in transaction of curriculum in classroom and strengths and weaknesses of the curriculum. Data mainly collected through documents, observations of classrooms and responses obtained through questionnaire and opinionnaire from mathematics teachers, academic supervisors, and experts (curriculum and subject specialists) from both the countries. The review, study and examination of relevant documents, analysis and interpretation of data are used in describing the findings. Significant difference is found in setting objectives and presentation of contents in mathematics of primary level textbooks of the two countries. Difference is also found in transaction of mathematics curriculum in the classroom. Other common areas are: unacceptable 'teacher-pupil ratio, low 'contact hours', and unsatisfactory skill development in mathematics and content integration with socio-cultural aspects and overcrowded classroom in urban areas.

Introduction

Comparison is one of the conscious human activities; we necessarily and quite often compare in order to make choices and to judge where we stand in relation to others and to our own past (Alexander, 2000). Comparative studies in mathematics education have impact on several areas of education including education policy, set of objectives, contents, instructional methods, and the effects of socio-cultural factors on education (Plomp and Loxley, 1993).

There have been great changes in recent decades in mathematics curricula all over the world. Many countries have reformed their mathematics programmes to keep pace with the current developments in various fields of education and technology. Any attempt at reform would take into account local conditions which can vary from one country to another. Nevertheless, reform in all countries finds common difficulties which can be overcome by using the same methods (Aram, 1986).

The universality of teaching of mathematics is a recognised fact. Perhaps no other subject is taught so universally as mathematics is done and the syllabi, methods and objectives of

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teaching this subject are quite similar in different countries of the world. The nature of the subject is such that it would easily lend itself to the promotion of inter-cultural understanding.

It was felt that to understand the nature of primary mathematics curriculum and the related aspects in Bangladesh and India; it would be very helpful to undertake a comparative study of mathematics curriculum of primary level of both the countries.

Education System of Bangladesh

The formal education system in Bangladesh begins with a 5-year primary education cycle which is followed by 3-year lower secondary (junior high school), 2-year secondary and 2-year higher secondary education. The university education comprises of 3 / 4-year Bachelor degree followed by 1 / 2-year Master's.

The Government approved a New Education Policy (NEP) in October 2000. According to the new policy primary education was to be extended to eight years of schooling in phases by 2010, but no attempt has been made in this regard yet. At the end of grade 10, there is the first public examination, and at the end of grade 12 the second public examination is held. While the bachelor's degree requires three years for pass and four years for honours courses, the master's degree extends over two years in the case of pass graduates and one year for honours graduates.

The task of reviewing and redesigning primary curriculum in Bangladesh was initiated in 1986. National Curriculum and Textbook Board (NCTB) designed and developed competency-based curriculum and instructional materials were prepared during 1987 to 1990. The new curriculum was introduced in primary schools from 1992. The existing primary curriculum in grades 1 and 2 include mother tongue Bangla, Mathematics, Environmental Studies, Religious Education and Arts and Crafts. Along with these subjects English, Social Studies and Science are compulsory subjects in grades 3 to 5.

Education System of West Bengal of India

All over India, schools which are affiliated to Central Board of Education, elementary education is up to grade-VIII while secondary education is from grades-IX to XII. As per recommendation of the Education Commission (1964-66), State Government restructured educational pattern - 10 + 2 + 3 years.

The policy of deciding the number of years for primary level is decided by State Board of Education. However, it differs from state to state. In West Bengal, elementary education is of 5 years duration (grades I-V) followed by Jr. High or Upper Primary Education (grades VI-VIII) provided in all Jr. High, Secondary and Higher Secondary schools. A child enters into the system at the age of 5+ and takes part in the first public examination at the age of 15+ after completion of 10 years of general school education and leaves after completing Higher Secondary stage at the age of 17+ (Government of West Bengal, 1999).

The curriculum is divided into two parts. The first part (non-scholastic) consists of (i) activities relating to physical activities, health habits, games and sports. (ii) activities relating to creative and productive works and (iii) activities encouraging understanding own

experiences through certain activities pertaining to direct experiences. This part is allotted 45% of the day's school hours. The second part is related to studies in scholastic areas where emphasis is given on acquiring competencies in cognitive domain of learning. The subjects to be studied in this area are language (mother tongue), Arithmetic and Environmental Studies (Natural Science, History and Geography.)

Rationale

The aims of mathematics education at primary level could be:

- a. providing proper opportunities to learners at school to acquire knowledge and skills,
- b. developing logical and rational thinking among learners ,
- c. encouraging application of mathematical knowledge and skills in day-to-day life.

The extent to which these aims are reflected in primary mathematics curriculum of the education system of a country is a major consideration for undertaking a study on mathematics. Comparison of mathematics curriculum of primary level of Bangladesh with that of West Bengal of India would enable the researcher to find out to what extent the aims mentioned are reflected in primary mathematics curriculum and these are transacted in primary classrooms of the two countries.

In the absence of any empirical study on primary school curriculum in Bangladesh, it has not yet been possible to evaluate the effectiveness of the existing mathematics curriculum as prescribed by the NCTB, Bangladesh. Even the facilities for implementing the mathematics curriculum in primary schools of Bangladesh are not known due to lack of systematic research. Whereas various research studies in India have been conducted and the findings reported that learning achievement of primary school children in general and mathematics in particular is far from satisfactory (Das, 2000).

Bangladesh and West Bengal of India are geo-politically distinct entities but the two neighbors share common historical, cultural, religious and linguistic heritage. In this context, it is of great importance to study and compare mathematics curriculum of primary level of education of both the countries.

Review of Literature

Studies conducted by Roy et. al. (1996), Amin et. al. (2001), Mollic (2000), Haque (1998), Datta (1998), Borgohain (1999), Tilakratne (1992), Pradhan (1996) provided information about improvement of teaching mathematics and the achievement level of teachers (trained and untrained, in-service and pre-service etc.). Goel (1996) shows that children with arithmetic disabilities make little or no progress and the main reasons for this include poor teaching, ill-prepared teachers, improper materials, and inadequate sequence. Bhatia (1992), Dubey (2000), Tyner (1996) and Hodges (2001), developed instructional technique which can help the students to learn better and also help teachers know how students learn better. Hsieh (1995) revealed distinct patterns in advance and average students' problem-solving approaches. Lee (1999) identified Chinese second-grade high math achievers and low-math achiever had average or above average intelligence, normal sensory functioning and no

emotional disorders. Wilson et. al. (2001) identified common features and characteristic routines of mathematics lessons in the North-east of England and St. Petersburg, Russia. Yang and Cobb (1995) conducted a cross-cultural study and found that the arithmetical understandings of Chinese children were found more advanced than those of their American counterparts. Ara (1983) and Shahjahan (1982) conducted cross-cultural study of Bangladesh and India on social science education. The present study is an attempt to compare mathematics curriculum of primary level of education in Bangladesh and in West Bengal of India.

Objectives

The objectives of the study are to:

- a. critically examine mathematics curriculum of primary level of education in Bangladesh and in West Bengal of India.
- b. identify teaching-learning process of mathematics in classroom of primary schools in Bangladesh and in West Bengal of India.
- c. identify problems and obstacles in transacting primary mathematics curriculum in classroom situation in Bangladesh and in West Bengal of India.
- d. identify the major strengths and weaknesses of primary mathematics curriculum of both the countries.
- e. compare primary mathematics curriculum of Bangladesh with that of West Bengal of India in respect of above mentioned objectives.

Methodology

Two types of data were collected - qualitative and quantitative. Data were collected from different sources such as documents on mathematics curriculum, reports of committees and commissions, mathematics teachers, academic supervisors, curriculum specialists and subject specialists. Classroom observations were also undertaken.

Sample of the Study

Documents from both countries, such as Curriculum Documents and Implementation Reports, Mathematics Textbooks, Development Plans and Programmes, National Policies on Education, Reports of Education Commissions, and Research Reports on teaching of mathematics were used. Thus, documents became the primary source of information / data for objective one.

Six districts each from Bangladesh and West Bengal were selected purposively. And following the same procedure, two sub-districts (Upazilla / Circle) were selected from each district i.e, a total of 12 sub-districts from each country was selected. Again, 5 primary schools from each sub-district were selected randomly. Thus, a total of 60 primary schools were selected from each country. Further, two mathematics teachers from each school were taken as sample for the study. Thus, the total sample size of mathematics teachers was 240; 120 from each country.

Assistant Upazilla Education Officers (ATEO) / Sub-Inspector (SI) of schools from each

country, who were responsible for supervising the classroom activities of the selected sample of the teachers, formed the sample of Academic Supervisors for the study. The numbers of Academic Supervisors selected were 120; 60 from each country.

12 curriculum specialists (6 from each country) and 8 subject specialists (4 from each country) were selected purposively from both the countries to comment on curriculum of primary mathematics.

Sample for classroom observation consisted of 24 primary schools, 12 from each country; covering 120 classes of mathematics teaching - learning process; 60 from each country in primary level (grade I-V).

Instruments

Two questionnaires, one for primary school mathematics teachers, the other for academic supervisors; one opinionnaire for the experts (curriculum and subject specialists), and an observation schedule were developed. The instruments were given to group experts of both the countries to judge the adequacy and appropriateness of items for the study. As per comments of the experts, the instruments were modified. These modified instruments were given to the respondent categories from Bangladesh and from West Bengal in India to confirm whether the items of the instruments were understood properly by the respondents or not. According to responses especially language ambiguity were checked and the instruments were finalized.

Data Collection

Data were mainly collected through (i) documents, (ii) observations in real classroom situations, and (iii) responses obtained through questionnaire and opinionnaire given to the mathematics teachers, academic supervisors, and experts (curriculum and subject specialists) from both the countries.

Data Analysis

The following two technique of data analysis were applied:

Qualitative Analysis: Critical examination and analysis of curriculum objectives of both the countries and their comparison with standard set of objectives (RCDICMDCA) were done. Likewise, aims and objectives of curriculum and grade-wise content-areas of primary mathematics from relevant documents and textbooks of both the countries were studied and analyzed.

Quantitative Analysis : There were two types of items in the instruments, namely, closed-ended type and open-ended type. The responses to each item of closed-ended type were analyzed in terms of number (frequency) of responses. The frequencies were further converted into percentages. The data supplied by the respondents to each of open-ended items were categorized on the basis of their contents into different clusters along with their frequencies and percentage.

Table-1: Set of objectives

Objectives of NCTB, Bangladesh	Objectives of BBPE, West Bengal of India	Standard set of objectives prescribed by RCDICMDCA*
(i) To help develop basic skills related to language, numeracy and counting.	(i) To develop the necessary understanding of basic concepts of mathematics at primary level and to apply those concepts in day-to day life.	(i) Development of numeracy and its application to daily life situations.
(ii) To help develop learning skills and attitudes.	(ii) To develop the ability to perform computations with speed and accuracy.	(ii) Development of manipulative skills in mathematics, particularly in basic arithmetic.
(iii) To help develop the habit of solving problems through scientific methods as well as to develop a scientific outlook in life.	(iii) To develop reasoning, analytical and problem solving abilities.	(iii) Ability to translate simple, real life situations into mathematical terms, thus acquiring an appreciation of the power of mathematics.
	(iv) To develop the ability for accurate measurement.	(iv) Development of intuitive geometrical notions, and
	(v) To develop the ability for divergent thinking and creativity.	(v) Ability to draw appropriate inferences from patterns of numbers, reading and writing of pictographs, tables etc.
	(vi) To apply the above mentioned mathematical concepts appropriately towards increased efficiency of National productivity and manners and customs of democratic society and to develop this efficiency through necessary practice of the mentioned objectives.	

* *Regional Conference on Development of Integrated Curriculum in Mathematics for Developing Countries of Asia, New Delhi, India, December, 1975.*

Conclusion and Findings

The following conclusion and findings are presented on the basis of review, study and analysis of primary mathematics curriculum of Bangladesh and of West Bengal of India and the opinion and comments obtained from the stakeholders and the findings of class observations.

Set of objectives

- The set of objectives prescribed for primary curriculum by West Bangla Board of Primary Education (WBBPE) is better than the set of objectives prescribed by Bangladesh National Curriculum and Text Book Board (NCTB) of Bangladesh, in terms of knowledge skills, understanding and specific direction to the textbook writers and teachers. But both the sets of objectives fall short of the standard set of objectives prescribed by the experts at Regional Conference on Development of Integrated Curriculum in Mathematics for Developing Countries of Asia (RCDICMDCA).

Content

- Content areas included in mathematics textbooks of both the countries are almost similar, easy to understand and written in regional languages (of both the countries) but the grade-wise distribution of topics differ in the textbooks of Bangladesh and West Bengal.
- Inclusion of introductory discussion, learning objectives/purposes and the exercises given in each lesson/unit in the textbooks of West Bengal are presented systematically and seem to be more effective compared to the textbooks of Bangladesh. However the textbooks of Bangladesh are more attractive than the textbook of West Bengal.
- More emphasis is given on spiral type of organization of the content in the mathematics textbooks of both the countries. However, the focus of this organization for different topics varies; geometry is spirally distributed in grades II to V textbooks of NCTB, Bangladesh, while the same is distributed in grades IV and V textbooks of WBBPE.
- Sufficient information is provided in Teachers' Manual of Bangladesh and teachers are encouraged to make use of it for effective teaching while the Manual in West Bengal is not good enough for effective teaching.

Competencies of teachers

- More primary mathematics teachers are recruited in West Bengal than in Bangladesh and the scholastic ability of mathematics teachers in West Bengal is much higher compared to the teachers in Bangladesh.

Classroom environment and facilities

- Word problems included in textbooks at grade-I level cause understanding problems for the pupils in Bangladesh and in West Bengal according to the views of the teachers, academic supervisors and experts of both the countries.
- The frequency of 'irregular attendance' of pupils in classroom is higher in Bangladesh than in West Bengal of India which also creates problem for effective transaction of mathematics curriculum at primary level.
- Teacher-pupil ratio and contact hours are not ideal for effective transaction of the

curriculum in both the countries.

- Inadequate number of classrooms is found in West Bengal schools. The situation is little better in Bangladesh. It is also found that classrooms are very crowded in urban areas of both the countries.

Teaching-learning process

- Number of in-service training programmes for primary mathematics teachers in West Bengal are more compared to their counterparts in Bangladesh; still West Bangla teachers demanded more such programmes including the latest teaching techniques used for teaching mathematics.
- Primary mathematics teachers of West Bengal use lesson-plan very regularly while the teachers of Bangladesh are far behind in this respect.
- Teaching-learning processes in mathematics classrooms carried out by teachers of West Bengal are far better, scientific, systematic and effective than. what their counterparts practice in Bangladesh.
- Use of teaching aids for helping learners for quicker and better comprehension of mathematical concepts is satisfactory in West Bengal compared to the situation prevailing in the schools in Bangladesh.
- Teachers of both the countries use different methods (such as question-answer method, problem-solving method, discussion method, etc.) except discovery method.
- There is a similar set of beliefs considered by both Bangladesh and West Bengal teachers for inclusion of socio-cultural aspects through illustrative examples for teaching of mathematical content to be effective in teaching mathematics.

Suggestions and Recommendations

- The objectives of primary mathematics curriculum of Bangladesh need to be revised and modified in the light of standard set prescribed by RCDICMDCA.
- West Bengal Board of Primary Education may think of adding two more objectives to the set of existing objectives prescribed for the curricula to allow children learn exact geometrical forms from own environment and stimulate development of spatial perception through intuition, which is very much needed at this level. The two objectives suggested to be included are taken from RCDICMDCA. These are: (a) development of intuitive geometrical notions, (b) ability to draw appropriate inferences from patterns of numbers, reading and writing of pictographs, tables etc.
- Word problems should be deleted from grade-I mathematics textbook of both the countries as it is not suitable for the age group of pupils of grade 1. Also 'Manipulation of concrete objects and counting' should be included in textbook (grade-I) of West Bengal which is already present in Bangladesh textbooks.
- Geometry should be included spirally in grades II to V in the textbooks of West Bengal.

- Bangladesh should adopt uniform policy to split the content lists in the mathematics textbooks for grades I to V.
- Purpose of the lesson/unit should be written in every unit of the textbooks of Bangladesh. Also introduction to each topic in the mathematics textbooks (grades-I to V) of Bangladesh should be included in an interesting way. At the end of each chapter, exercises should be included in the mathematics textbook of Bangladesh systematically.
- More pictorial presentation should be included in primary mathematics textbooks of West Bengal to make learning more interesting and easy to understand.
- Recruitment and placement policies and pay-scale of primary teachers in Bangladesh should be revised to attract and recruit more teachers with sound mathematical background for primary schools. More in-service training programmes should be conducted for mathematics teachers of Bangladesh.
- In spite of adequate number of in-service training programmes in West Bengal, latest development and modernization, latest technique of teaching with IT should be included in training programmes of West Bengal.
- Primary mathematics teachers of Bangladesh should be required to prepare lesson plan prior to actual teaching in classroom and it needs to be monitored by academic supervisors for improving the quality of techniques.
- Bangladesh teachers need to improve their teaching practices in classroom for teaching mathematics effectively with the help of appropriate teaching aids and suitable teaching methods and techniques.
- Sufficient information should be incorporated in teachers' manual of West Bengal to help and encourage teachers use the manual for effective teaching.
- Teachers of Bangladesh and West Bengal may incorporate discovery method at the primary level as it is one of the best methods suitable for teaching of mathematics which helps learners to develop imagination and to understand the abstract mathematical concepts.
- Efforts should be made by teachers of both the countries to find out the reasons of irregular attendance of pupils in classroom so that proper measures could be taken to increase regularity of pupils in the classroom.
- Efforts should be made to increase 'contact hours', and 'rational teacher-pupil ratio' at primary level of both the countries for improving the quality of education at this level.

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Inclusive Education Acts and Policies in Some Selected Countries Including Bangladesh: A Review

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Abstract

This paper presents findings of a study conducted at Flinders University of South Australia in 2005 on inclusive education. The concept and definition of inclusive education has a great deal of controversy and diversity both in theoretical and practical aspects. The comparison of inclusive education issues indicates that Bangladesh is not behind developed countries like UK, USA or Australia in enacting laws and declarations in favour of inclusive education, however, it is much behind in implementing inclusive education programme due to many reasons; one of them obviously lack of resources. Special education and integrated education models still exist both in developed countries and in Bangladesh. However, the difference is that almost all school age children with disabilities in developed countries are in educational institutions, whereas only 11% of children with disabilities are in educational institutions in Bangladesh. Bangladesh can learn from the developed country experiences to improve inclusive education practices. The suggestions and recommendations, in view of developed countries experiences, could be helpful in advancing the cause of inclusive education in Bangladesh.

Introduction

Inclusive education is currently one of the most discussed educational topics all over the world. The world has got a number of Declarations and Agreements in favour of inclusive society for all as an output of inclusive education. These include the Universal Declaration of Human Rights 1948; The UN International Covenant on Civil and Political Rights 1966; The UN Convention Against Discrimination in Education 1960; Declarations on the Rights of Mentally Retarded Persons 1971; The Rights of Disabled Persons 1975; International Year of Disabled Persons 1981; Decade of Disabled Persons 1983-1992; The UN Convention on the Rights of the Child-CRC 1989; The UNESCO Declaration on Education For All (EFA) 1990; The Salamanca Declaration on Inclusive Education 1994. These international documents acted as prime mover for education systems of different countries towards inclusive education (Florin & Florin, 1998). Bangladesh is the signatory of these

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international declarations (Directorate of Primary Education- DPE & Centre for Services and Information on Disability-CSID, 2002). The theoretical concept of inclusive education is an expression of desire to ensure equal opportunity of education to all; but in practice, inclusive education varies from one context to another, which has made the issue controversial (Wisconsin Education Association Council-WEAC, 2001). Therefore, the definition and the comprehension of inclusive education vary from country to country and even within a country.

This article has been prepared on the basis of a research that was conducted by the author for partial fulfillment of the requirements for the degree of Master of Special Education at the Flinders University of South Australia in 2005.

Objectives and Research Questions

The broad objective of the thesis was to explore the overall situation of inclusive education in some developed countries (UK, USA, and Australia) and to compare the findings with the situation in Bangladesh. The following research questions were formulated keeping the specific objective in view:

1. What is the present situation of inclusive education (from conceptual and legal points of view) in developed countries of the world?
 - i) What is/are the functional definition/definitions of inclusive education?
 - ii) What is the legislative framework of inclusive education?
 - iii) How widespread inclusive education concept is in comparison with other special-need education approaches?
2. What are the trends in inclusive education for children with disabilities?
3. What are the differences in inclusive education practices between developed countries and Bangladesh?
4. What recommendations and policy guidelines can be suggested for Bangladesh in view of the current status of inclusive education in the developed societies?

Methodology

Document analysis/ literature review: Information from secondary sources such as text books, journals, printed materials, programme reports of different agencies, and internet publications were the major source of information.

Observation and case study: Some observations and communications were also conducted to develop case studies on inclusive education practices of different organizations. Case studies of those organizational activities were developed on the basis of observation findings.

Findings

1. Definition of inclusive education

It has been mentioned earlier that there are controversies regarding the concept of inclusive education in different parts of the world as well as among the stakeholders. This study found

different definitions on inclusive education in literature of different countries. The Salamanca Declaration 1994 describes inclusive education in this way: that all children regardless of their diversity in gender, race, class, religion, ethnicity, economic and social position and special need or disability should be included in the regular education programmes in a community setting. The Centre for Studies on Inclusive Education (CSIE) describes inclusive education as a setting where children and young people of any type and abilities participating fully in the mainstream educational provisions with the presence of required supports (CSIE, 2002). WEAC (2001) discussion opened in these words: that inclusive education can be an approach to bringing assistance to children rather than taking them to support services. In contrast, some educators argue in favour of full inclusion which means all children will be placed into regular education settings full time (WEAC, 2001). Just as in other parts of the world, the concept of inclusive education varies from state to state in Australia. Some follow the integration model of inclusion and some follow full inclusion (Moss, 2003). However, most children with diverse needs in Australia are now in inclusive education programmes (Huang, Brown & Rickards, 1998).

Different countries and agencies have functional definitions of inclusive education in different ways, but the meanings of these definitions are very similar; UNESCO (2001) defines inclusive education as follows:

schools should accommodate all children regardless of their physical, intellectual, social, emotional, linguistic or other conditions. This should include disabled and gifted children, street and working children, children from remote or nomadic population, children from linguistic, ethnic or cultural minorities and children from other disadvantaged or marginalized areas or groups. (in Aniftos, 2004: 4)

The Salamanca Statement (1994) further describes inclusive education in a functional language as:

Regular schools with the inclusive orientation are the most effective means of combining discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all; moreover, they provide an effective education to the majority of children and improve the efficiency and ultimately the cost-effectiveness of the entire education system. (in Vaughan, 2002: 5)

In the US, Phi Delta Kappa's Centre for Evaluation, Development and Research (1993) provided definition of inclusion which suggests strategies for implementing inclusive education:

Inclusion is a term which expresses commitment to educating each child, to the maximum extent appropriate, in the school and classroom he or she would otherwise attend. It involves bringing the support services to the child (rather than moving the child to the services) and requires only that the child will benefit from being in the class (rather than having to keep up with the other students). Proponents of inclusion generally favour newer forms of education service delivery. . . . Full inclusion means that all students, regardless of handicapping condition or severity, will be in a regular classroom/program full time. All services must be taken to the child in that setting. (in Wisconsin Education Association Council-WEAC, 2001: 1-2)

In the UK, CSIE (2002) defines inclusive education as:

all children and young people with and without disabilities or difficulties - learning together in ordinary pre-school provision, schools, colleges and universities with appropriate network of

support. Inclusion means enabling all students to participate fully in the life and work of mainstream settings, whatever their needs. (CSIE, 2002: 1)

In addition, the Index for Inclusion published in UK defines inclusion as:

the process of increasing the participation of students in, and reducing their exclusion from, the cultures, curricula and communities of local school (CSIE, 2002: 2).

WEAC (2001) further suggests that this controversy about concepts of inclusive education depends on social values, education systems, existing facilities and resources and on individual identity of children with special needs. These definitions provide some functional ideas about inclusive education in different parts of the world. However, when we examine the practices of inclusive education, the reality is different.

2. Inclusive education acts and policies in some selected countries

a. The United Kingdom

Before early 1970s, children with disabilities in the UK were treated as uneducable and it was the responsibility of health authorities to provide training for these children (Vaughan, 2002). *The 1970 Education Act*, for the first time, included these children in the education programs a consequence of enacting this new law, 24000 children with disabilities from different training centres and 8000 children with disabilities from 100 hospitals were enrolled in education (Vaughan, 2002). This was the first formal legal initiative in the UK to ensure that all school age children were enrolled in education (Vaughan, 2002). The 1976 amendments of the Education Act gave responsibilities to the Local Education Authorities (LEA) to include children with disabilities into mainstream school, but the law was not practiced much at that stage (Vaughan, 2002). However, the Warnock Report on special education in England, Scotland and Wales (1978) raised the integration of children with special needs into education as a national agenda, as this was not considered a human rights issue, the report simply suggested that special education would be better for some children (Vaughan, 2002). In 1981, the Education Act was reformed and the new Act gave formal authority to the LEAs to integrate children with disabilities into mainstream, but faced huge opposition from a range of professionals (Vaughan, 2002). In 1992, the Audit Commission and Her Majesty's Inspectorate report found that a number of malpractices had occurred in the field in providing educational opportunities for children with disabilities, these included the time took for assessments to be conducted by LEA; some articles in previous laws were so vague that LEAs became confused in decision making, specific procedures for placement in educational settings were not clearly stated; a lack of resources in regular schools caused problems in some placements; annual review and inspections were not satisfactory, and there was lack of accountability in schools and LEAs (Vaughan, 2002).

Then, in 1993, a new education Act was passed in England that tried to overcome the limitations of previous Acts and this law was revised again in 1996 to make a consolidated mass education Act in favour of inclusion (Vaughan, 2002). *The Disability Discrimination Act-1995* outlawed any discriminatory approach towards people with disabilities in any sector of development, including education (Vaughan, 2002). In 1997, the new Labour Government published the Green Paper on Special Education in which they provided major support for all mainstream schools to become more inclusive, while *the Human Rights Act*

1998 confirmed that education of children with disabilities is a human rights issue (Vaughan, 2002). In 2001, *The Special Educational Needs and Disability Act (SENDA) Part 1* was enacted which ensured parents' rights to choose appropriate educational provision for their children and gave importance to the quality of education for other children in these schools; *SENDA Part 2* was enacted in 2002 with the object to develop more accessible curriculum, physical environment and information interchange for children with disabilities (Vaughan, 2002).

The Department of Education of England and Wales (1994) developed guidelines for identifying and assessing child with special educational needs (SEN); this document does not formally establish inclusive education, but provides statements in support of inclusion:

Children with special education needs, including those children with statements of special educational needs, should, where appropriate and taking into account the wishes of their parents, be educated alongside their peers in mainstream schools. (Department of Education, 1994 in Florin & Florin, 1998: 2)

In establishing these laws relevant to inclusive education, The UK education system has also taken a number of initiatives to make it more inclusive. It now has a sound policy framework and additional funding to implement inclusive education (Mittler, 2000 in Mittler, 2004). All regular schools, special schools and college of further education had to develop inclusion policies for next eight years (Mittler, 2004). However, there is a huge range of variations in the activities of LEAs in implementing inclusion legislations as different schools need different specialist services according to individual needs, and variations are also visible even within the same LEA due to lack of clear policy guidelines for defining future roles of special schools (Mittler, 2004; Florin & Florin, 1998). However, the number of special schools in the UK has decreased within the last few decades and 60% of all school aged children attend mainstream schools at the moment (Mittler, 2004). LEAs provide additional resources including funding and multi-professional support for assessment and intervention needs to make inclusion effective (Mittler, 2004). The UK government is also facilitating collaboration between mainstream and special schools and 80% of special schools are now under this link-program (Department for Education and Employment, 2000 in Mittler, 2004).

Some special schools in the UK developed a linked program with the nearest primary schools and small groups of students with disabilities were sent to those primary schools to attend classes with support from a teacher or teaching assistance about three hours a week on average, while mainstream students also visit special schools on a regular basis (Mittler, 2004). LEAs provide additional funding and human resource support, and other resources to selected schools to include children with special needs, with the aim of developing those schools as resource centres or model schools (Mittler, 2004). The UK government conducted a restructure to make the regular schools more inclusive and this includes curriculum reform; revision of pupil-assessment techniques; appropriate distribution of responsibilities and funding in all schools; development of obligatory special needs Code of Practice for all schools, development of school-based identification and assessment tools; providing appropriate support services; facilitating student learning through teaching assistant support, adding inclusion issues to staff development programs; and ensuring parental participation in inclusive program planning and in their implication strategies (Mittler,

2004). In summary, in the UK, the legal authority and responsibility for providing education to children with special educational needs lies mostly in the activities of the LEAs and variations can be observed in the service delivery approaches of the LEAs as some are extremely inclusive, while others practice segregation. An Index for Inclusion has been developed in the UK to conduct self-evaluation of different inclusion related programs and to update information for other bodies involved in inclusion movements (CSIE, 2000 in Mittler, 2004). Therefore, the dominance of inclusion is visible in the UK education sector while segregated settings are decreasing.

b. Initiatives in the United States of America (USA)

In the US, the education of children with disabilities is defined by different federal laws as well as state laws, as well as by civil rights movements and legal determinations of court cases (Friend & Bursuck, 1996 in Florin & Florin, 1998). The movement from segregation towards inclusion in the US began in the early 1970s (Croser, 2004). Section 504 of the *Vocational Rehabilitation Act*, enacted in 1973, described the anti-discrimination view towards people with disabilities and two years later in 1975, the fundamental law for establishing inclusive education the *Education of All Handicapped Children Act or PL94-142* was passed (Florin & Florin, 1998). This Act established, for the first time, the right of all children to access their local school and ensured the least restrictive environment (LRE) for learners in the classroom (Croser, 2004; Florin & Florin, 1998). In 1990, this Act was revised and renamed the *Individuals with Disabilities Education Act (IEEA) or PL101-476*, this new version of the law replaced the term 'handicapped' with the new one 'disabilities' and defined inclusive education more clearly as well as introducing the Individualized Education Plan (IEP) into schools (Florin & Florin, 1998: 2; Croser, 2004). Moreover, the *Assistive Technology Act (1998)* ensured the necessity of technological supports in inclusive settings (Croser, 2004). Therefore, the legal framework for inclusive education in the US was well organized from the very beginning.

The US Constitution acts as the basis of all the anti-discrimination laws enacted in different stages, the Fourteenth Amendment of the US constitution clearly stated about the protection of individual rights irrespective of diversity factors, such as race, class, ethnicity, physical appearance and traits; this amendment also gives clarification about the position of the state in relation to educational discrimination (Devine, 2002). However, the IEDA 1997 has left an option of specialized education together with inclusive schooling for those children who are not capable of being enrolled in regular education, as Section 612 (a) (5)(A) demonstrates:

to the maximum extent appropriate, children with disabilities are educated with children who are non-disabled; and that removal from the regular education environment occurs only if the nature of severity of the disability is such that education in regular classes with supplementary aids and services cannot be achieved satisfactorily. (Koltz, 2003: 1; CSIE, 2002)

As a consequence of this option for segregation, many regular schools in the US have special classes that are criticized for discriminatory practices (Mittler, 2004). Hence, several court cases have shaped the district education systems as well as enriched the IEDA into more inclusive approaches (Devine, 2002). The IEDA was revised again in 2002 (CSIE, 2002). Nevertheless, in practice, the aims and objectives of inclusive education go beyond federal

mandates; and the benefits that all children gain in inclusive schools as a result of learning to respect individual differences are highly valued (Koltz, 2003). As a result of these holistic initiatives, the US Department of Education states that over 95% of children with disabilities are now enrolled and served by regular schools in an inclusive environment (Koltz, 2003). Clearly, this is a positive outcome of the inclusive philosophy.

c. Legislative framework for inclusive education in Australia

In Australia, 19% of the population has disabilities (Australian Bureau of Statistics, 2000 in Horrocks, 2004). Australia does not enshrine anti-discrimination rights in the Constitution, but the policies initiated in Australia are very much influenced by commitments to international declarations and the recommendation outcomes gathered for the PL 94-142 and IEDA in the USA (Florin & Florin, 1998; Devine, 2002). However, Australia has enacted a number of laws to create an anti-discriminatory environment, such as the *Racial Discrimination Act 1975*, the *New South Wales (NSW) Anti Discrimination Act 1977*, the *Sex Discrimination Act 1984*, the *Queensland Anti Discrimination Act 1991* and the *Disability Discrimination Act- (DDA) 1992* (Devine, 2002). These laws ensure that no organizational body, including education authorities, can discriminate against any Australian citizen on the grounds of race, sex, political identity, disability or other special needs such as health conditions (Devine, 2002). Moreover, Australia produced a ten-year Commonwealth Disability Strategy in 1994 which affirms that Australia provides equal educational opportunities in primary, secondary and tertiary education (Florin & Florin, 1998). The *DDA* definition of disability covers wide range of diversity of people, such as presence of total or partial loss of a person's bodily or intellectual functions; total or partial loss of a part of a body; any chronic disease that is causing or capable of causing illness; malfunction of any part of a person's body; and any disorder that can make a person's perception, learning process, or thinking process different from others can be considered a disability (Devine, 2002). All these people are protected and served under the laws and policies mentioned above. Therefore, it is clear that Australia has various kinds of laws and policies to ensure inclusion.

Australia is very much different from other developed countries like the USA and England in practicing inclusive education and it differs from state to state (Florin & Florin, 1998). The Australian Constitution (1900) pronounces that 'the organization and governance of education is a responsibility of the states' (Florin & Florin, 1998: 3). Like the Federal Government in the USA and the Department of Education of the UK, the Commonwealth Government of Australia does not have any legislative authority over the state education system, but it has indirect authority through developing federal education policies and providing funding to the states (Florin & Florin, 1998). However, on the basis of *the DDA 1992*, the state governments all over Australia have developed their own inclusion policies and including The South Australian Students with Disabilities Policy 1991, The NSW Special Education Plan 1998, The Equity in Schooling Policy of Tasmania 1995 and the Victorian Program for Students with Disabilities and Impairments 1998 (Croser, 2004). Other states have legislations for providing inclusive education, such as *the Western Australia Schools in Education Act 1999* (Croser, 2004).

According to *the DDA 1992*, it is unlawful for any educational institution to refuse enrolment

to, or discriminate against, any child with disability (Devine, 2002). Therefore, in Australia, school authorities are bound to enroll children in their local school when parents want this whether the school has skilled human resources or not to manage the special needs of children with disabilities and despite the challenging environment this creates for teachers (Florin & Florin, 1998). However, the placement policies of children with disabilities in educational institutions vary in different states of Australia (Florin & Florin, 1998). In Western Australia, Tasmania, Victoria, Northern Territory and South Australia there is a provision to empower the State Education Minister to decide the placement issue on the basis of the severity of child's disability, but in NSW, Queensland and the Australian Capital Territory, the laws do not clarify this matter and the placement issue is controlled by the anti-discrimination and equal opportunity Acts in place at both federal and state levels (Florin & Florin, 1998).

Research demonstrates that most states and territories do not have uniform definition of disability (Kraayenoord, Elkins, Palmer, Rickards, Colbert et al., 2000). As a result of this, identification procedures vary in different states of Australia and many students with disabilities remain unidentified due to variations in defining disability (Kraayenoord et al., 2000). Research conducted by Kraayenoord et al. (2000) further suggests that most children with disabilities in Australia attend regular schools and some attend special classes in regular schools as an integration model, and some children with severe disabilities attend special schools. Research has also been conducted on the inclusive schooling policy of Tasmania by Julian Moss of the University of Melbourne (2003). This research suggests that Australia follows three broad approaches to implementing inclusive education in different parts of the country and those approaches are the psycho-medical based approach, the traditional centre-based special education approach and the recent sociology-based inclusive approach (Moss, 2003). Research conducted in South Australia (SA) by Horrocks (2003) reveals that by the year 2002, 92% of children with disabilities in SA were enrolled in regular schools, and the remaining 8% were enrolled either in special schools or in special units of regular schools. Children with severe or multiple disabilities mostly attend special schools (Horrocks, 2003). One NSW study showed that the number of special schools in this state as well as other states had declined, but the total number of students in special schools remained unchanged, and this indicates that there is a hidden segregation occurring in educational institutions (Dempsey & Foreman, 1997). The good thing is that research is exploring these issues from the field level.

d. Legislative framework for inclusive education in Bangladesh

After achieving independence in 1971, the People's Republic of Bangladesh enacted the constitution in 1972, and it was revised in 2000 (The Ministry of Law Justice & Parliamentary Affairs, 2000). The Constitutional provision regarding education helped moving towards conceptualisation of inclusive education. Part II of the Constitution describes education in the following way:

Article 17: The state shall adopt effective measures for the purpose of—

establishing a uniform, mass oriented and universal system of education and extending free and compulsory education to all children to such stage as may be determined by law;

Part III of the Constitution specifically mentions of non-discrimination in education as

contained in **Article 28 (3)-**

No citizen shall, on grounds only of religion, race, caste, sex or place of birth be subjected to any disability, liability, restriction, or condition with regard to access to any place of public entertainment or resort, or admission to any educational institution.

Article 28 (4)-

Nothing in this article shall prevent the State from making special provision in favour of women or children or for the advancement of any backward section of citizens. (Ministry of Law Justice & Parliamentary Affairs, 2000: 8)

The first ever education policy of Bangladesh known as the Education Commission Report 1974, suggested special education opportunity for children with special needs.

However, the concept of special education was not clear to Bangladeshi educationists during that period, as religious education and physical education were also considered special education at that time. In Education Commission Report of 1988, special education was addressed properly but inclusive education was not familiar to the policy makers yet (Ministry of Education, 1988). In 1990, Bangladesh signed the Education For All (EFA) Declaration (WECEFA) at Jomtien, Thailand in 1990 and enacted a law known as the Compulsory Primary Education Act 1990 for achieving EFA goals. Primary education was declared free for all children (Ahsan & Tonmoy, 2002). However, children with disabilities remained out of regular primary education because only special education provisions were suggested in the education policies, and education of disable children were not considered then within special education category.

In 1997, Bangladesh implemented a new education policy, and in that policy, the education of children with disabilities was described clearly (The Ministry of Education, 1997 in Ahsan & Tonmoy, 2002). The strategy for the education of children with disabilities in the National Education Policy 1997 recommends the importance of conducting a survey to ascertain the exact number and identify the type and degree of disability in Bangladesh; that regular settings would benefit children with disabilities more than the other options; that special education is also required for some children; that appropriate training is necessary for schoolteachers; that the issue of disability needs to be included in the primary education curriculum to raise awareness; that an alternative curriculum has to be followed for those handicapped students who are unable to follow the regular curriculum; that necessary educational materials have to be supplied for handicapped learners free of charge or at a low cost; and at least one special education teacher has to be appointed in regular schools (Ministry of Education, 1997 in Ahsan & Tonmoy, 2002).

Bangladesh does not have any database or survey result on total number of people with disabilities and their types yet, so Bangladesh follow the World Health Organization's (WHO) estimation that 10% of any given population have disability (DPE & CSID, 2002). Bangladesh did not have any laws to ensure the rights of people with disabilities until 2001, but Bangladesh developed a National Disability Policy in 1997 which was transformed into the *Bangladesh*.

Persons with Disability Welfare Act-2001 four years later (Ministry of Social Welfare, 2001). Part D of this Act discusses the educational rights of people with disabilities and

proposes to create opportunities for free education for all children with disabilities below 18 years of age; to provide them educational materials free of cost or at a low cost; to create opportunities for the integration of students with disabilities in regular schools; to undertake programs for imparting vocational training for people with disabilities; to arrange trainings for teachers and other employees working with people with disabilities; to incorporate/include appropriate articles and other related subjects in the introductory social science subjects; aiming to create public awareness about the lifestyle and associated problems faced by people with disabilities; and to arrange accessible transport facilities for students with disabilities to use for attending school (The Ministry of Social Welfare, 2001). The *Bangladesh Persons with Disability Welfare Act-2001* defines disability as absence or loss of total or partial body parts; any impairment in sensory abilities, such as vision or hearing problem; and any malfunction in a person's intellectual process (The Ministry of Social Welfare, 2001). After enacting this Act, the educational rights of people with disabilities received a legal base in Bangladesh.

Trends in Inclusive Education

It is clear from literature review that 'inclusive education' is very much focused in human rights declarations which mention that every child has an equal right to be enrolled in the local regular school and to receive the same type of education as their peers (Bunch & Valeo, 2004). In inclusive education, in the true sense of the term, every child is warmly received and considered a contributing member, and every individual's developmental activities are facilitated by manipulating the environment and through providing children opportunities to apply their full capabilities (Stainback & Stainback, Halvorsen & Sailor, Forest & Pearpoint, Villa, Thousand, Ayres, Yell cited in Bradley et al., 1997). Moreover, inclusion is not an educational system or a legal phrase; rather it is an educational philosophy to reform the existing teaching-learning methods of regular or special educational settings (Inos & Freagon in Walker & Ovington, 1998). However, it is clear from the literature that there is an absence of a sound universal definition for inclusive education.

Special education, integrated education models exist in addition to inclusive education in Australia, UK and the US. Some countries practice these education approaches through developing link programs and some practice these approaches in a mixed way (Mittler, 2004; Koltz, 2003). Positive responses to inclusive education have occurred for a number of reasons. Research indicates that if the environment is designed properly, even children with moderate to severe disabilities show evidence of improved educational development in regular education, and children with hearing impairment can show a remarkable development in this setting. In inclusion, all students experience a wide-ranging curriculum that helps their learning, while children with special needs get more chance to learn social norms and values in regular settings and are treated like their siblings as they share the same school. Inclusion also helps to develop a healthy family life and ultimately it facilitates social inclusion. However, some students still exist in segregated settings.

Other researches suggest that children who were educated in segregated settings had lower rates of employment and showed lower 'self-esteem' (Bradley et al., 1997: 12). Peterson in Bradley et al. (1997) showed that children with disabilities who experienced diverse groups achieved improved development and became more active than segregated children. Their

research suggests that inclusive education gives more free time to special education teachers to provide assistance, while students with special needs get more time in classroom activities as they are not attending special classes. Moreover, mainstream schoolteachers experience diverse ways of delivering instruction in the inclusive classroom (Marwell in Bradley et al., 1997). Children without disabilities can also benefit from inclusive settings as they get flexible curriculum, more technological and other support services for effective learning, and experience team-teaching in the classroom (Freagon in Walker & Ovington, 1998). Clearly, inclusive education has educational and social benefits for children with special needs and also benefits students who are already in regular education.

In the UK special education and integrated education are still visible, despite the decrease in the number of special schools (Mittler, 2004). All special schools have to prepare inclusion policies and have to work as linked partners with regular schools (Mittler, 2004). This suggests that inclusive approaches will be applied everywhere.

In the US, four categories of reforms in the education system have marked the journey towards inclusion: mainstreaming, regular education initiatives, first generation inclusion and second generation inclusion (Turnbull, Turnbull, Shank & Leal, 1999). Mainstreaming started in the early 1980s and students with special needs were directly placed in some of the mainstream school programs in this practice (Turnbull et. al., 1999). Such schools still exist in the US. Then, in the mid 1980s, due to mainstreaming practices, the regular education system had to take some initiatives in the areas of curriculum, policies and physical environments for children with special needs so that they could be mainstreamed more effectively (Turnbull et. al., 1999). By the late 1980s, regular schools started to provide additional support to all students, in first generation inclusion (Turnbull et. al., 1999). Finally, in the late 1990s, huge initiatives were taken to reform the entire school system from teaching methods to policy options, which is known as second generation inclusion (Turnbull et. al., 1999). Because of these reforms, 95% of US children with disabilities are in regular schools now, but other provisions are still used (Koltz, 2003).

In Australia, most states and territories do not have a uniformed definition of disability and identification procedures also vary in different states and most children with disabilities in Australia attend regular schools (Kraayenoord et al., 2000). Some attend special classes in regular schools where the integration model operates, and some children who have severe disabilities attend special schools (Kraayenoord et al., 2000). Australia practise full inclusion as well as partial inclusion, integration and special education. The State governments provide support to promote inclusive education. There are evidence of resource centres, linked programmes and inclusive pre schools in South Australia and Victoria.

Discussion and Recommendation

In reviewing literature, it has been observed that there is a great deal of controversy regarding the concept of inclusive education. Some believe full inclusion, others believe in partial inclusion, or integration model of inclusion or special education. It has also been observed that functional definitions of inclusive education vary between countries and within a country. For example, the *DDA* definition in Australia considers disability as total or partial loss of a person's bodily or intellectual functions; total or partial loss of a part of a body; any

chronic disease that is causing or capable of causing illness; malfunction of any part of a person's body; and any disorder that can make a person's perception, learning process, or thinking process different from others (Devine, 2002). This includes both permanent and temporary disabilities, including psychiatrist illness (Devine, 2002). In contrast, the Bangladesh Persons with Disability Welfare Act-2001 defines disability as absence or loss of total or partial body parts; any impairment in sensory abilities, such as vision or hearing problem; and any malfunction in a person's intellectual process (Ministry of Social Welfare, 2001). Therefore, people suffering from chronic diseases, psychiatrist illness or learning or perceptual problems are not considered disabled in Bangladesh. That is why the percentage of people with disabilities in Australia (19%) is higher than that of Bangladesh (10% according to WHO Report).

As mentioned earlier, the Constitution of People's Republic of Bangladesh (Article 28. 3 of part III) is against any kind of discrimination in providing human rights on the grounds of religion, race, caste, sex or place of birth or disability. Again, Article 28.4 supported the need to provide specialized facilities to meet children's special needs. Bangladesh has developed a National Disability Welfare Policy and enacted a law known as the Bangladesh Persons with Disability Welfare Act-2001. Furthermore, Bangladesh is a signatory to the international declarations made by the United Nations to ensure basic human rights for all people like most other countries in the world. Despite being a developing country, Bangladesh is not behind UK, the USA or Australia in enacting laws and policies to protect the rights of people with disabilities. However, it is important to consider the level of implementation of these laws and policies in improving the educational situation for people with disabilities.

It is to be noted that 89% of Bangladeshi school age children with disabilities are not in education because of the confusion between policy and practice. In Bangladesh, special education, integrated education, some provision of inclusive education and few placements in mainstream schools are available for children with disabilities. However, it is important to note that 'special education' is still considered by parents and educators the best option for all children with disabilities in Bangladesh; however most children with disabilities in Bangladesh are found in mainstream regular schools as there is an absence of special education opportunities in rural areas. Moreover, education provisions for children with disabilities provided by Government and NGOs are extremely inadequate considering the number of people with disabilities in Bangladesh (about 14 million). There is no dual placement provision, as found in UK and Australia, for children with disabilities in Bangladesh. Besides, there is absence of any placement policy for children with disabilities in Bangladesh like developed countries. According to the Disability Discrimination Act (DDA) 1992 in Australia, any educational institution can not refuse enrolment to or discriminate against any child with a disability (Devine, 2002). Therefore, all children have to be included in regular school programs if parents enroll them at the school. Bangladesh enacted the Compulsory Primary Education Act 1990, but the perception of this Act does not include children with special needs in education system.

There are other factors that can cause barriers to inclusion. Inclusive education requires a change in the whole school system that involves teaching techniques, assessment systems, and even the surrounding physical environment. Bradley et al. (1997) state that in this changed environment, mainstream teachers and other staff members can feel uncomfortable

and less confident, which may create negative attitudes towards inclusive education. According to Sailor (1991), the wide range of individual differences between students can cause 'social discrimination' in a school (in Bradley et al., 1997). Besides, there are some people with disabilities who do not want to be included in the mainstream, such as, some members of the Deaf Society (Gallagher, 2001). In addition, some professionals choose partial inclusion rather than full inclusion. For example, the Learning Disabilities Association of America disagrees with full inclusion and Leesburg School in the US includes children with autism in regular settings only in art, music and gym classes (Walker & Ovington, 1998). Therefore, these factors reflect the diversity in practising inclusive education.

The following suggestions and recommendations are made for advancing the cause, opportunities and facilitates of inclusive education in Bangladesh.

- **Establish a link program between regular and special schools:** Bangladesh can develop link programs between regular schools and special schools where children can be enrolled either in a special school or in a regular school. Students will attend regular schools fulltime while special schools will provide link teachers, materials, and other supports to regular schools.
- **Establish special units in regular schools:** Some regular schools in the UK, USA and Australia have special units for children with disabilities: Bangladesh has also introduced special units for children with visual impairment (DPE & CSID, 2002). These could be extended for all types of disabilities.
- **Develop resource centres:** Bangladesh can develop resource centres like Special Education Resource Unit (SERU) as in Australia at the national level as well as at district level. Bangladesh has already developed some Upazila Education Resource Centres, but requirements for including children with disabilities in the education programs are not served through those centres yet (DPE & CSID, 2002). Therefore, reform of these resource centres is necessary.
- **Restructure school clusters:** Bangladesh has already introduced a cluster and sub-cluster system in the primary education sector to deal with its large population, limited funding and inadequate human resources. Australia has also benefited from the cluster system. Therefore, the existing cluster system in Bangladesh could incorporate disability issues in their teacher training, resource management and cooperative activities.
- **Develop model schools:** It is observed in the literature review that developed countries have introduced in some regular model schools extra funding and resources with the object that other schools will follow the practices of the model schools. Bangladesh could introduce regular model schools, at least in six divisional headquarters initially, where students with disabilities would receive inclusive education with adequate support.
- **Government-NGO collaboration:** About 200 Non-Government Organizations (NGOs) are working on disability issues in Bangladesh (DPE & CSID, 2002). However, lack of coordination in activities is evident. Clearly, cooperation

between the government and NGOs is very important for advancing the cause of the disable children.

- **Inter-ministerial and agency coordination:** Developed countries like UK and Australia have developed inter-ministerial coordination among the ministries that work in the areas of social welfare and security matters, education and employment and health issues (Ford, 1998). Bangladesh can follow this example. Collaboration among lead ministries directly dealing with disability related issues, such as, the Ministries of Education, Primary and Mass Education, Health and Social Welfare is necessary for responding to the needs of children with disabilities both at the national and local levels. The Ministry of Social Welfare is already dealing with disability issue, and Ministry of Education, Ministry of Primary and Mass Education and Ministry of Health have immense scope to include the issues related to disabilities in their regular activities.

Conclusion

A thorough review and comparison of the status, provision and practices of inclusive education indicate that some confusion and absence of commitment among stakeholders and lack of resources are the main causes for implementation of inclusive education in Bangladesh. This is a common phenomenon in developing countries. In developed countries, clear understanding of what needs to be done and adequate funding has helped in successful implementation of inclusive education programs. Mittler's (2004) comparison of developed and developing countries shows that US \$ 8 billion is required to meet the target of EFA program and this is equivalent to four days of global military spending; half of what is spent on toys in the US, and less than Europeans spend on computer games or mineral water. This speaks volume about the resources available in developed and developing countries.

Bangladesh is not behind the developed countries in enacting Acts and Policies regarding special education or inclusive education. Bangladesh needs to develop required strategies based on experiences of advanced countries in regard to inclusive education. Financial assistance from international organizations will expedite the process of inclusion in the education system.

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