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Children's Access to Pre-school Education in Bangladesh

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ABSTRACT

Using *Education Watch* household survey database this paper explores children's access to pre-school education in Bangladesh. Participation in pre-school education has increased in Bangladesh at the rate of 0.6% per year and the net enrolment rate was found to be 13.4% in 2005. Enrolment of over-aged children in pre-school education made the gross enrolment ratio as high as 30.5%. Over half of the currently enrolled children of pre-school age also enrolled in primary classes and over 70% of those in the same age group were out-of-school. Only a third of the pre-school pupils got the opportunity to enrol in the English medium kindergartens and NGO-run non-formal schools where a kind of better pre-schooling exists. Urban children, especially those had educated parents and better-off economic background were more likely to have access in pre-school education compared to the others. Lack of common curricula for pre-school education creates inequity among children at their very early age. A pro-poor policy with enough responsibility of the state and scope for current providers to contribute is an urgent need.

INTRODUCTION

At least four theories are active behind our motivation to the expansion of pre-school education among the young children. These are on cognitive advantage, family support, motivation and social adjustment. Hypotheses on the first two have been tested in many studies which found positive impact of pre-schooling on child development, but inconsistent results were found on the others (Ou & Reynolds, 2004). Studies suggest that enrolment in pre-school education can enhance children's cognitive skills, literacy and social skills necessary for success, as well as promoting school achievement in the elementary grades, which ultimately reduce the need of special education and grade retention and increase levels of school attainment (Schweinhart *et al.*, 1993; Campbell & Ramey, 1994; Reynolds *et al.*, 1996; Ou, 2003).

There is also a strong logic behind spreading the provision of pre-schools among the children of disadvantaged groups (Myers, 1995). Such programmes for the high-risk families become a priority in the developing countries because early home environment does not prepare young children for school. It is suggested that if quality pre-schooling can be provided to them they will be well prepared to complete the compulsory education provision along with the children of well-off families.

Although not much attention was given on pre-schooling in the grand Jomtien conference, the Dakar forum did so with great importance. One of the six goals of Dakar framework of action is on Early Childhood Care and Education (ECCE); it urged for expanding and improving comprehensive ECCE, especially for the most vulnerable and disadvantaged children (UNESCO, 2000). However, the EFA monitoring report of UNESCO observed that progress towards wider access remains slow. Children from disadvantaged backgrounds are more likely to be excluded from ECCE (UNESCO, 2004). Comparing the children of various regions it said, a child in sub-Saharan Africa expects only 0.3 years of pre-primary schooling compared to 1.6 years in Latin America and the Caribbean and 2.3 years in North America and the Western Europe. In many developing countries, ECCE programmes are suffered by teachers with low qualifications.

Five years long primary education, starting from age six, is compulsory in Bangladesh which does not include pre-schooling. However, various national documents reflect Bangladesh's commitment to pre-primary education of the children before they start their primary education. Calling it as school preparedness education programme before class I, the national education policy 2000 suggested pre-schooling of six months duration for immediate action in some selected schools and by phases in all the schools for one year duration (GoB, 2000). The plan of action for children has suggested ECCE for children aged 4-5 years by phases within 2015. The national education commission 2003 also suggested pre-schooling for the children aged 4-5 years aiming to quality education at primary level (GoB, 2003). The commission also identified a number of sensory competencies for this stage of education. The Second Primary Education Development Programme (PEDP II) included establishment of 'baby class' in all primary schools through a partnership of school and community (DPE, 2003).

Pre-schooling is not in the official agenda of any of the education ministries[1] in Bangladesh, and thus, the schools are not bound to provide such education. The National Curriculum and Textbook Board (NCTB) did not prepare any curriculum for this stage of education. However, due to pressure from the parents and the communities some government primary schools and other formal schools introduced pre-school education in their institutions.

Various types of books suitable for pre-school aged children are also available in the market published by the commercial publishers. In addition to the formal school initiatives, the kindergartens and the English medium schools have been providing pre-school education for long time. Recently, some non-government organisations (NGO) have started such education through a non-formal mode. There is no consistency in the curriculum of these pre-primary initiatives. Majority of them use locally made textbooks and some use internationally published textbooks. Thus, different quality of education exists there. No government statistics includes the number of pupils in pre-school education.

VARIOUS PROVISIONS OF PRE-SCHOOLING

Baby classes in the formal primary schools

Due to pressure from the parents there is a provision in many formal schools to run a preparatory section for those who are not ready to enrol in class I for primary education. This education is popularly known as 'baby class' or 'junior I'. The 1998 *Education Watch* school survey investigated 885 schools of various kinds. Re-analysis of the data shows that 42-45% of the government primary, non-government primary, madrasas, and high school attached primary sections had the provision of pre-school education. This is the only grassroots level initiative in these schools, which has no recognition or permission from the ministry. The teachers do not get any extra money for this. There is no fixed textbook for this class. Bangla alphabets, numbers, rhymes, and stories are taught there.

Education Watch school survey data (1998) shows that on average, each baby class contains 52 pupils with 48.5% girls. Jahan (2005) observed inadequately organised and crowded classrooms with children aged 3 to 5/6 years in the baby classes of the government primary schools. She also observed that the young infants did not understand what was taught. Any playing material is rarely found in the classrooms. According to her the government's passive attitude to pre-schooling made less interest of the teachers in conducting the classes.

Pre-schooling in the kindergartens

The kindergartens and the English medium schools provide pre-school education relatively seriously than the above mentioned formal schools. Eighty-six percent of the kindergartens and the English medium schools had such provision. Course duration is 1-4 years depending on the community desire and school authority's decision. Following are the forms:

Year	Form 1	Form 2	Form 3	Form 4	Form 5	Form 6
Year 1	KG	KG-1	Nursery	Nursery	Play group	Play group
Year 2		KG-2	KG	KG-1	Nursery	Nursery
Year 3				KG-2	KG	KG-1
Year 4						KG-2

Majority of these schools provide 1-2 years pre-school course and use locally made textbooks of various qualities. The only exception is the English medium schools, which provide 3-4 years course. As the ultimate objective of these schools is to prepare students for O/A-level or Junior/Senior Cambridge exams, etc., they use internationally published textbooks in these classes.

BRAC pre-primary education

BRAC, an NGO famous for its non-formal primary education, organises pre-primary classes for the young infants aged 5-6 years. Some of these are established in the campuses of the formal primary schools (both government and non-government) and many outside. It is a one year programme. Each class contains 25 pupils. Classes take place two hours a day and six days a week. Two local school girls (adolescents) with minor training conduct each class. These schools are regularly supervised by the BRAC programme organisers. Currently, over 16,000 schools are in operation; 60% of the pupils are girls.

Jahan (2005) observed that the teaching learning provision in BRAC pre-primary schools is quite good. The classroom activities included teaching Bangla and English alphabets, numbers, rhymes, songs and dances. She found the pupils to be absorbed in learning activities and cooperative to each other.

Re-analysing *Education Watch* 1998 school survey data, table (Table 1) presents some information on class size in the pre-primary classes of various types of schools. The non-formal schools had the smaller class size with lesser variation among the schools. The average class size in the kindergartens was smaller, but school-to-school variation in class size was highest there. The government schools had the biggest class size.

Table 1. Class size in various types of pre-schools

School type	No. of classrooms observed	Average class size	SD of class size	CV of class size
Government primary	154	55	34	61.8
Non-government primary	65	48	28	58.3
Non-formal school	22	25	8	32.0
Madrasa	24	41	17	41.5
Kindergarten	66	26	17	65.4
High school attached	24	52	25	48.0
Total	355	46	30	65.2

Sd = Standard deviation, CV = Coefficient of variation

The aim of this paper is to explore children's access to pre-school education in Bangladesh, including the trends in access and its socioeconomic differentials.

DATA AND METHODS

Nationally representative sample household survey database of the *Education Watch*, a civil society initiative to monitoring education in Bangladesh, was used in this paper. The database was created in three different years' viz. 1998, 2000 and 2005. A similar sampling strategy was followed each year. The country was divided into eight strata – six rural and two urban. In each stratum, a four stage cluster sampling procedure was applied and 30 clusters [villages for rural and *mahallas* (city neighbourhoods) for urban] were selected randomly. Then an equal number of households were chosen in each cluster through a systematic manner, however, the number of households varied year to year. Detail description of the surveys and the methodology is available in *Education Watch* reports (Chowdhury at el., 1999, 2002; Ahmed *et al.*, 2006). Here, we present the sample relevant to this paper (Table 2).

Table 2. Study sample at a glance

Survey year	Area	Household	Population	Children aged 4-5 y	Children in pre-schools
1998	240	42,548	214,559	10,397	2,402
2000	240	30,051	150,028	7,444	1,859
2005	240	23,971	122,006	5,992	1,997

The database contains information on age and sex of children, area of residence, school enrolment status, class of enrolment, school type, causes of non-enrolment, parental education, food security status of household, and religion of children aged 4-20 years in the surveyed households.

Due to absence of any national policy and existence of various kinds of provisions it is difficult to fix a particular age group for pre-schooling. In this circumstance we decided 4-5 years of age for pre-school education – preceding two years before the official age for primary education. Following are some of the definitions used.

- *Net enrolment rate:* Proportion of children aged 4-5 years enrolled in pre-schools expressed in percentage.
- *Rate of enrolment in any class:* Proportion of children aged 4-5 years enrolled in any class expressed in percentage.
- *Gross enrolment ratio:* Number of children enrolled in pre-schools for each 100 children aged 4-5 years.

Accuracy of the estimates presented in this paper is mostly based on correct recording of age during the surveys. Like many other developing countries birth registration is not widespread in Bangladesh. It did not create much problem due to presence of expanded programme on immunisation (EPI) all over the country. In most of the cases the mothers kept the EPI card with them and showed it to the interviewers. In few cases if it was not available (lost!) the neighbours could say the accurate age due to minor age of the subjects. A matching operation of the survey data with that of the re-survey showed over 99% accuracy of age data.

FINDINGS

OVERALL PARTICIPATION

Of the children aged 4-5 years 13.4% was currently enrolled in pre-schools in 2005. This rate was 9.3% in 1998 and 9.6% in 2000 (Table 3). Although children's participation in pre-schools increased significantly over the period of seven years, the rate of increase per year was only 0.6% - lesser than that in primary education.

Table 3. Scenario of pre-school enrolment of children, 1998-2005

Year	Children aged 4-5y			Children aged 6+y	Children aged 4-5y enrolled in any class	Net enrolment for pre-primary	Gross enrolment for pre-primary
	Out of school	Enrolled in pre-primary	Enrolled in primary	Enrolled in pre-primary			
1998	72.5	9.3	18.2	12.6	27.5	9.3	21.9
2000	73.7	9.6	16.7	12.6	26.3	9.6	22.2
2005	71.1	13.4	15.5	17.1	28.9	13.4	30.5

Although the official age for primary education starts at six, a good portion of the pre-primary aged children was found in primary classes. They were 15.5% in 2005, 16.7% in 2000 and 18.2% in 1998. This shows two things. Firstly, proportion of pre-primary aged children in primary classes was decreasing over time. Secondly, over half of the pre-primary aged pupils were enrolled in primary classes, which was two-thirds in 1998. On the other hand, many primary school aged children were also enrolled in the pre-schools. They were 12.6% of the pre-school aged children in 1998 and 2000, which increased to 17.1% in 2005. This made the gross enrolment ratios higher than the net rates. The gross enrolment ratio in pre-school education increased from about 22% in 1998-2000 to over 30% in 2005. All above clearly show that over 70% of the pre-school aged children were out-of-school. Age-wise, 85% of age four and 57% of age five were out-of-school. A minor (0.2% per year) improvement was held in this regard during the last seven years.

According to the latest national census 7.7 million Bangladeshi children lie in the age group 4-5 years (BBS, 2003). This may be higher if we consider the population growth during the last five years. Thus, at least over five million children of this age group are out of school.

PARTICIPATION BY GENDER AND AREA

Although, the girls were ahead of the boys in enrolment in pre-schools earlier, the difference disappeared over the period. The urban children were ahead of their rural counterparts all the way (Table 4). For instance, about 9% of the rural and 11.4% of the urban children aged 4-5 years were enrolled in pre-schools during 1998-2000 ($p<0.01$). The rate increased in both the areas and reached respectively at 11.8% and 24.6%, with a wider gap between them ($p<0.001$). In 2005, 27.7% of the rural pre-school aged children were enrolled in any class and the gross enrolment ratio among them was 28.6%. These figures were respectively 37.5% and 44.3% in the urban areas. In other words, access to pre-schools among the children aged 4-5 years and those 6+ years was higher in the urban areas than the rural areas. Again, the proportion of pre-

school aged children's enrolment in primary schools was higher in rural areas than the urban areas.

Table 4. Various enrolment ratios by year and area, 1998-2005

Year	Area	Rate of enrolment in any class	Net enrolment rate	Gross enrolment ratio
1998	Rural	27.8	8.9	21.3
	Urban	26.7	11.4	24.5
	Level of significance	ns	p<0.001	
2000	Rural	26.1	9.3	21.2
	Urban	26.9	11.4	28.4
	Level of significance	ns	p<0.02	
2005	Rural	27.7	11.8	28.6
	Urban	37.5	24.6	44.3
	Level of significance	P<0.001	p<0.001	

Age and participation

A wide age variation was observed among the currently enrolled pre-school children, which ranged from 4-11 years. In 2005, 13.7% of the children of age four, 30.1% of age five, 24.4% of age six, 20.3% of age seven, and 11.3% of age 8-11 years enrolled in pre-schools. This means that 43.8% of all pre-school pupils were 4-5 years old (Table 5). This rate was 42.5% in 1998 and 43.3% in 2000. This rate was higher among the girls than the boys in 2000 and among the urban children than their rural counterparts in 1998 and 2005. In 2005, 43.2% of the pre-school boys and 44.5% of those of the girls were 4-5 years old, and 41.3% of the rural pre-school pupils and 55.6% of those in urban areas were in this age group. The average age of pre-school pupils decreased slowly – 6.1 years in 1998 to 6 years in 2000 and 5.9 years in 2005.

Table 5. Percentage of pre-school students aged 4-5 years by year, sex and area

Sex/Area	Year			Level of significance
	1998	2000	2005	
Boys	41.1	40.8	43.2	ns
Girls	43.9	45.6	44.5	ns
Level of significance	ns	p<0.05	ns	
Rural	41.8	43.9	41.3	ns
Urban	46.5	40.1	55.6	p<0.001
Level of significance	p<0.05	ns	p<0.001	
All	42.5	43.3	43.8	ns

Ns = not significant at p=0.05

TYPE OF INSTITUTION AND PARTICIPATION

The children took their pre-school education in various types of institutions. These are the government primary schools, registered and un-registered primary schools, NGO-run non-formal schools, madrasas, kindergartens, and the primary section of the high schools (Table 6). At the national level, majority of the children took their pre-schooling in the government primary schools (43.5%), followed by the kindergartens and the English medium schools

(together 17.3%). The non-government schools (both registered and unregistered together) and the NGO-run non-formal schools can jointly be placed in third position with little over 16% pupils in each type.

Table 6. Percentage distribution of pre-primary students by school type and year

Type of school	Year		
	1998	2000	2005
Government primary	62.0	37.7	43.5
Non-govt. primary	21.1	36.1	15.6
Non-formal school	2.8	5.4	15.9
Madrasa	3.2	7.9	6.6
Kindergarten	9.9	11.6	17.3
High-school attached	1.1	1.4	1.1

Year-wise analysis shows that the role of the government primary schools in providing pre-school education was decreasing, whereas in 1998 these schools covered nearly 62% of the pre-school children, the rate came down to 43.5% in 2005 – a reduction of 18.5 percentage points over seven years (Table 6). On the other hand, the role of the NGO-run non-formal schools and the kindergartens increased over time. The NGOs covered 2.8% of the pre-school pupils in 1998 which increased to 15.9% in 2005 – an increase of nearly six-fold. The role of the kindergartens doubled during this period (9.9% to 17.3%).

It was observed that 40% of the pre-school pupils in the government schools, 56-46% of those in the non-government and non-formal schools, 37.6% in the madrasas, 52% in the kindergartens, and 47.8% in the high-school attached section pupils were 4-5 years old, and the rest over aged.

Table 7. Percentage distribution of pre-primary students by school type, year and area

Type of school	1998		2000		2005	
	Rural	Urban	Rural	Urban	Rural	Urban
Government primary	68.1	27.5	40.6	23.3	47.9	23.3
Non-govt. primary	23.2	9.2	40.1	16.1	16.5	12.0
Non-formal school	1.9	8.2	5.9	3.0	17.2	9.9
Madrasa	3.1	3.4	8.3	5.8	7.2	3.7
Kindergarten	3.5	45.8	5.3	43.1	11.1	45.5
High-school attached	0.2	6.0	0.0	8.8	0.1	5.6

A wide variation was observed in rural and urban areas in the percentage distribution of pupils by school type. In rural areas, the government primary schools played the major role in pre-school education of children, whereas it was the kindergartens and the English medium schools who together played the major role in the urban areas (Table 7). The NGO schools and the non-government schools played mostly an equal role in the rural areas where the place of the kindergartens was behind them. On the other hand, in the urban areas the contribution of the government schools was about half of the contribution of the kindergartens. The rural high schools' role in children's access to pre-school education was almost nil and the role of such schools in urban areas was less than the NGO run non-formal schools.

CORRELATES OF PRE-SCHOOLING

Children's participation in pre-schools significantly increased with the increase of parental education. For instance, in 2005 the net enrolment rate of the children of never schooled mothers was 8.7%, which increased to 13.9% for the primary educated mothers and 20.3% for the secondary or more educated mothers ($p<0.001$). Again, it was 10.2% for never schooled fathers, 11.7% for primary educated fathers, 16.6% for secondary educated fathers and 27.6% for tertiary educated fathers ($p<0.001$). Improvement over time was much among the children of educated parents than the never schooled parents. It was observed that percentage of parents without schooling was 46% in 1998, 44% in 2000 and 31% in 2005, but the percentage of first generation learners in the pre-primary classes for the corresponding years were 33.5%, 29% and 20% - indicating less presence of first generation learners in pre-school education.

As the percentage of never schooled parents was reducing in the country over time, it is obvious that it would be reflected in the classrooms through reducing the percentage of first generation learners there. Table 8 shows that the above has reflected in the government and non-government primary schools and in the madrasas. In 2005, about 30-34% of the pre-school pupils were the first generation learners in four types of schools indicated no difference among them in admitting pupils from the disadvantaged households. The kindergartens and the high school attached pre-school sections mostly regretted assess of the children of never-schooled parents. Similar findings were observed when data were analysed for the 'always in deficit' households.

Table 8. Percentage of first generation learners in pre-schools by school type and year

School type	Year		
	1998	2000	2005
Government primary	42.4	37.6	34.1
Non-govt. primary	52.0	47.2	33.8
Non-formal school	35.5	70.1	32.9
Madrasa	52.9	51.2	30.5
Kindergarten	5.5	7.5	6.4
High-school attached	-	-	5.3

The respondents rated their households in a four point scale as a proxy to economic status considering all income and expenditure during last one year of interview, popularly known as food security status. The points in the scale are always in deficit, sometimes in deficit, breakeven, and surplus. The net enrolment rate of the children in pre-schools also significantly increased with the increase of food security status of their households. The rate of increase over time was more in the breakeven or surplus households than the deficit households. Although the access to pre-schools was more among the Muslims than the non-Muslims in 1998 and the reverse in 2000, no such difference was observed in 2005.

REGRESSION ANALYSIS

In order to predict the probability of children being enrolled in pre-schools a multivariate analysis was felt needed beyond the bivariate analyses already presented. It is important because it would help understand the influence of a particular variable on pre-schooling controlling the influences of others. Considering the dichotomous nature of the intended variable (children being enrolled or not) logistic regression analysis was thought to be suitable for this (Menard, 1995; Hosmer & Lemeshow, 1989). The model is as follows:

$$\ln [p / (1 - p)] = a + \Sigma b_i x_i$$

Where, p is the probability of a child being enrolled in pre-school; a is the constant; b_i values are estimated regression coefficients; and x_i are the background characteristics of the children.

Two models were built for the children aged 4-5 years. One considered the sampled children contained in the database of three survey years and the other for the surveyed children of 2005. The explanatory variables were sex, area of residence, mothers education, fathers education, food security status of household, and religion in both the models. An addition variable named 'year' was considered for the first model. A stepwise approach was used and the models were selected by a combination of forward selection and backward elimination. In addition to the regression coefficients, odds ratios of the coefficients and their range with 95% confidence interval are also provided as output of the analyses (Table 9 and Annex 1).

Table 9. Logistic regression analysis predicting net enrolment in pre-schools, 2005

Predicting variables	Regression coefficient	Odds ratio	95% CI	
			Lower	Upper
Area				
Rural	0	1.00		
Urban	0.63	1.88*	1.53	2.29
Mothers education				
Nil	0	1.00		
Primary	0.44	1.55*	1.26	1.91
Secondary+	0.53	1.70*	1.33	2.18
Fathers education				
Nil	0	1.00		
Primary	-0.10	0.91	0.73	1.13
Secondary	0.13	1.13	0.90	1.42
Tertiary	0.50	1.65*	1.21	2.24
Food security status				
Always in deficit	0	1.00		
Sometimes in deficit	0.52	1.67*	1.25	2.25
Breakeven	0.55	1.74*	1.31	2.31
Surplus	0.64	1.90*	1.40	2.58
Constant	-2.84			
-2 log likelihood	4384.80			
Cox & Snell R^2	0.03			
Nagelkerke R^2	0.06			

* $p<0.001$

Religion did not come out as significant variable in any of the models and sex did not appear in the second model. Thus, the first model considered six variables and the second model four. No significant variation was observed in the enrolment rates of the children in pre-schools in 1998 and 2000. However, both the rates were significantly lower than that of the year 2005 (Annex 1). On average, the girls were more likely to have access to pre-schools than the boys and the urban children compared to their rural counterparts. The 2005 model also confirmed the difference between the areas controlling the influence of the other variables (Table 9). Influence of parental education and household food security status was also there in pre-school enrolment. It is confirmed from both the models that whether the mothers had primary or secondary level of education it played an equitable role in pre-school enrolment of the children. However, never schooled mothers were significantly less likely to send their

children to pre-schools compared to the ever schooled mothers. Again, never schooled and the fathers with education up to secondary level had a similar role in pre-school enrolment of the children. They were significantly behind in sending children in pre-schools compared to those fathers having tertiary level of education. On the other hand, there was no significant difference among the households of second, third and forth categories of food security status. But they were more likely to send the children to pre-schools compared to those always in deficit.

Probabilities of children's access to pre-primary education were calculated from the above regression analyses. The calculated probabilities varied from 0.05 to 0.30 for the first model and from 0.05 to 0.39 for the second model (Table 10 and Annex 2). These findings clearly show that the parental education and household food security status were the powerful predictors regarding children's participation in pre-school education. The probability of access to pre-schools was higher where the parental education and household food security status was higher. The increase in access over time was also much among the children of these households compared to others.

Table 10. Estimated probabilities of children's participation in pre-schools, model 2

Characteristics	Probability
• Rural children, parents with no education, and household food security status is always in deficit	0.05
• Urban children, parents with no education, and household food security status is always in deficit	0.10
• Rural children, mother with secondary and father with tertiary education, and household food security status is surplus	0.24
• Urban children, mother with secondary and father with tertiary education, and household food security status is surplus	0.39

Probabilities are calculated from the coefficients of the respective regression models in Table 0 by using the following equation. $p = \exp(a + \Sigma b_i x_i)/[1 + \exp(a + \Sigma b_i x_i)]$

REASONS OF NON-ENROLMENT

The parents of the out of school children aged 4-5 years were asked to mention the major reason of non-enrolment of their children in schools. Twelve causes came out, of which few were prominent. Majority of the parents mentioned that their children were too young to enrol in schools. They were 89% in 1998, 89.7% in 1999, and 92.7% in 2005. About 7% of the parents in 1998 mentioned three causes viz. school was away from home, scarcity of money and school did not take. This figure was 5.3% in 2000 and 5% in 2005. No variation was observed among the boys and girls and the urban and rural children. However, ever schooled parents and those of better-off households were tend to mention age related concern compared to never schooled parents and those of deficit households.

DISCUSSION AND CONCLUSION

This paper for the first time examined the issues related to access in pre-school education in Bangladesh. Although no study was designed for this specific purpose, the *Education Watch* database because of its broader spectrum of coverage created opportunity to do this secondary analysis. A very simple and preliminary level of analysis was possible; however, this gives us overall reflection of the access issue at this stage of education. The country is very much engaged in achieving the goals and targets of the MDGs, especially those related to primary and secondary education. Very few programme or research initiatives are there on pre-school education. Nobody even saw the issue from the national perspective in a wider context. No government database stored information on pre-school education. Bangladesh, as one of the LDCs had to be the best place to implement quality pre-school education where quality of primary education is in a fragile condition (Nath & Chowdhury, 2001; Nath *et al.*, 2003; Ahmed *et al.*, 2005).

Any way, this study clearly shows that Bangladesh did not do much progress in pre-school education of its children. First of all, there is no clear-cut national policy on pre-school education. Although some resent documents expressed nation's desire to pre-school education (GoB, 2000, 2003; DPE, 2003), it did not see the light of the day due to not taking the responsibility of its implementation by any department or the ministry. Although there are two ministries for education in the country, the responsibility of pre-schooling should go to the Primary and Mass Education Ministry.

What ever the case is at the policy level, some parents and the school authorities did not stand alone. They initiated to address it of their own. Sometimes they demanded pre-school education for their children to the local primary school authorities. Some of the formal primary schools (less than half of all) responded rightly and positively to this demand. New kindergarten schools started to open even in the rural areas considering this as a scope to start with. Most of the kindergartens have provision of pre-school education. Recently, the non-government organisations (NGOs) started to provide pre-school education who are experienced in providing literacy skills and primary education through non-formal mode. The findings show that the scope of pre-school education is increasing day by day in the kindergartens and the NGO-run non-formal schools, but reducing in the formal schools (both government and non-government).

The second problem lies with the absence of a national curriculum. Thus, the pre-school education providers prepared their own curriculum and textbooks. The majority of them are using locally made textbooks of various qualities. Some uses NCTB prepared language textbook of class I in the pre-primary class. Few institutions, especially the national NGOs sought assistance from the foreign consultants to prepare the curriculum and the textbooks. BRAC, Plan Bangladesh, and Save the Children-USA are some of those. The third problem lies with the duration of the course. A wide range of deviation exists among the providers in this regard where the majority provides one year length course. On the other hand, the English medium schools are the only exception, which have long experience in pre-school education. These schools mostly follow the international curriculum and textbooks to prepare their students for primary education of an international standard.

With all these arrangements, over 70% of the pre-school aged children (4-5 years) are still out of school. This means that we have very insufficient room for pre-school education in the country. The scope is increasing very slowly – only 0.6 percentage points per year – less

than the rate for primary education improvement. There is urgent need to increase the speed. Although no gender gap was there in this regard, the urban children significantly surpassed their rural counterparts. Again, the children of the educated parents and those from the well-off families are getting more than those of really needy families. This means that the pre-school education, the way it is currently operating in Bangladesh, creating disparity among children at their very early age. Although a strong logic of establishing pre-school education in the developing countries is to prepare the children of high-risk families in such a way that they can compete with their counterparts equally in primary education (Myers, 1995). Our data show that such an intention is not at all working in Bangladesh. In case of Bangladesh, the high-risk families are those where both the parents never been to school, extreme poor households, small ethnic minorities, tea-garden population, various types of floating population, and so on.

Now the question is how Bangladesh can provide need-based pre-school education. Following are some of the suggestions.

1. Pre-school education should be considered as part of compulsory education. This can be done through amendment of the existing Compulsory Primary Education Act incorporating the pre-school education.
2. The duration of pre-school education can be one year for the time being, however, be extended to two years within the shortest possible time.
3. The NCTB can lead in preparing the curriculum and the textbooks for pre-school education. The primary and mass education ministry through its Directorate of Primary Education should take the responsibility of its implementation along with its current duties. Experienced NGOs and other providers should be brought together with NCTB in preparing curriculum and textbooks. They should also be involved in implementation process. Current teacher training provision should be revised through incorporating pre-school related issues in it.
4. Like any other social initiatives, the poorer sections of the population are being excluded from the benefit of pre-school education. Ways should be find out to incorporate pre-school education along with the targeted poverty alleviation programmes.
5. Presence of the over aged children in the pre-schools hampers education of the younger. This should be stopped.
6. Pre-school education should not be considered as a casual task. To make it really worthwhile and meaningful budgetary allocation should be ensured.

Note

1. Bangladesh has two ministries responsible for education. The primary and mass education ministry looks after the primary and basic education and the ministry for education looks after secondary, higher secondary and tertiary education.

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Annex 1. Logistic regression analysis predicting net enrolment in pre-schools, 1998-2005

Predicting variables	Regression coefficient	Odds ratio	95% CI	
			Lower	Upper
Year				
1998	0	1.00		
2000	- 0.07	0.94	0.84	1.04
2005	0.24	1.28*	1.15	1.42
Sex				
Boys	0	1.00		
Girls	0.11	1.12$^{\xi}$	1.03	1.22
Area				
Rural	0	1.00		
Urban	0.23	1.25*	1.11	1.41
Mothers education				
Nil	0	1.00		
Primary	0.37	1.44*	1.29	1.61
Secondary+	0.41	1.50*	1.30	1.73
Fathers education				
Nil	0	1.00		
Primary	0.12	1.13$^{\omega}$	1.00	1.27
Secondary	0.19	1.21$^{\xi}$	1.06	1.38
Tertiary	0.59	1.80*	1.50	2.17
Food security status				
Always in deficit	0	1.00		
Sometimes in deficit	0.21	1.24$^{\xi}$	1.08	1.42
Breakeven	0.30	1.35*	1.18	1.55
Surplus	0.44	1.55*	1.33	1.82
Constant	- 2.85			
-2 log likelihood	14972.16			
Cox & Snell R^2	0.02			
Nagelkerke R^2	0.04			

* $p<0.001$, $^{\xi}$ $p<0.01$, $^{\omega}$ $p<0.05$

Annex 2. Estimated probabilities of children's participation in pre-schools, model 1

Characteristics	Probability	
	1998	2005
• Rural, boys, parents with no education, and household food security status is always in deficit	0.05	0.07
• Urban, boys, parents with no education, and household food security status is always in deficit	0.07	0.08
• Rural, girls, parents with no education, and household food security status is always in deficit	0.06	0.08
• Urban, girls, parents with no education, and household food security status is always in deficit	0.08	0.09
• Rural, boys, mother with secondary and father with tertiary education, and household food security status is surplus	0.22	0.24
• Urban, boys, mother with secondary and father with tertiary education, and household food security status is surplus	0.24	0.28
• Rural, girls, mother with secondary and father with tertiary education, and household food security status is surplus	0.21	0.26
• Urban, girls, mother with secondary and father with tertiary education, and household food security status is surplus	0.26	0.30

Probabilities are calculated from the coefficients of the respective regression models in Annex 0 by using the following equation. $p = \exp(a + \Sigma b_i x_i)/[1 + \exp(a + \Sigma b_i x_i)]$