



**Consortium for Research on
Educational Access,
Transitions and Equity**

**Poverty and Equity:
Access to Education in Bangladesh**

**Altaf Hossain
Benjamin Zeitlyn**

**CREATE PATHWAYS TO ACCESS
Research Monograph No. 51**

December 2010



**University of Sussex
Centre for International Education**



**Institute of Education and Development,
BRAC University, Dhaka, Bangladesh**



Consortium for Research on
Educational Access, Transitions & Equity

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Contents

Preface.....	vi
Summary.....	vii
1. Introduction.....	1
2. The effects of poverty on educational access in Bangladesh.....	3
2.1 Access to education and income.....	4
2.2 Private tuition.....	5
2.3 Silent exclusion and income.....	6
3. Manifestations of poverty and silent exclusion.....	9
3.1 Health and access to education.....	9
3.2 School equipment and access to education.....	11
3.3 School type and access to education.....	14
4. Current policies to tackle poverty and unequal access to education.....	16
4.1 Pre-primary schooling in Bangladesh.....	16
4.2 The Primary Education Stipend Project.....	17
4.3 The Secondary Female Stipend Programme.....	19
5. Conclusions.....	21
5.1 Policy recommendations.....	22
References.....	24

List of Tables

Table 1: Proportions of households by food security status – ComSS 2009 and Education Watch 2004.....	3
Table 2: Monthly income of households from the ComSS by food security status.....	4
Table 3: Percentage of students receiving private tutoring, 2005.....	6
Table 4: Percentages of children at primary and secondary level by components of silent exclusion and gender.....	7
Table 5: Mean monthly income of the households of the silently excluded children at primary and secondary level.....	7
Table 6: Proportion of children with inadequate learning materials by school type.....	15

List of Figures

Figure 1: Proportion of children in school, dropped out and never enrolled by income group.....	5
Figure 2: Percentages of children by different health status who are silently excluded.....	11
Figure 3: Percentages of children with and without bags who are silently excluded.....	12
Figure 4: Percentages of children with and without geometry boxes who are silently excluded.....	13
Figure 5: Percentages of children who had all their schoolbooks and those that did not who are silently excluded.....	14
Figure 6: Percentages of 6-15 year-old children who are enrolled in pre-primary school by food security status and gender.....	17
Figure 7: Number and proportion of primary school children who receive the primary education stipend by food security status of their household.....	19
Figure 8: Number and proportion of girls receiving and not receiving the secondary female stipend.....	20

List of Acronyms

BRAC	Building Resources Across Communities
COMSS	Community and School Study
CREATE	Consortium for Research on Educational Access, Transitions and Equity
FFE	Food for Education
FSP	Female Stipend Programme
GOB	Government of Bangladesh
GNI	Gross National Income
GPS	Government Primary School
NGO	Non-government Organisation
PESP	Primary Education Stipend Project
RNGPS	Registered Non-government Primary School
SFSP	Secondary Female Stipend Programme
Tk.	Taka (currency of Bangladesh)

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Preface

This paper explores aspects of equitable access in Bangladesh using a large data set from six districts across the country. This shows how strongly poverty affects access to primary and secondary schools. It also influences the extent of silent exclusion – children who are over age, irregularly attending, and under achieving. Though considerable gains have been made in improving overall levels of access it is clear that inequalities remain large and may even be growing. Schemes designed to reduce inequality have suffered from poor targeting and inefficient implementation.

The paper argues that new approaches are needed that disaggregate different types of inequity that may have different causes. Health interventions are likely to be needed coupled with more effective channelling of resources towards meeting the needs of the poorest groups. The direct and indirect costs to poor households need to be minimised. Indicators of equity should be included in monitoring progress on Education for All to call government to account in making a reality of its promises to universalise access to education. This monograph, along with other CREATE research on Bangladesh, paint a picture both of progress and of need. Collectively they form the basis for new policy dialogues designed to learn from the experience of the recent past and the evidence generated from the CREATE studies.

Keith Lewin
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Summary

Bangladesh has made great improvements in the scale and quality of access to education in recent years and gender equality has almost been achieved in primary education (World Bank, 2008). Evidence from CREATE's nationwide community and school survey (ComSS) confirms results from other research (such as Al-Samarrai, 2009) which suggests that poverty remains a barrier to education for many in Bangladesh, where 40% of the population remain below the poverty line (World Bank, 2009). The ComSS data suggest that policies that have been introduced to enable the poor to attend school such as free schooling; subsidised schoolbooks and stipends for the poor to attend school are not accurately targeted or having the desired effects. Targeted assistance for sections of society who are denied access to education in what is meant by equity in this paper. This goes beyond equal opportunity and seeks justice for those who have been left out.

In this monograph we describe the influence of poverty (measured by income and food security) on indicators of access to education covered by CREATE's conceptual model, such as children who drop out of school, children who have never enrolled, silent exclusion (measured through poor attendance, poor attainment and repetition). These relationships show a pattern of a series of interrelated links between poverty and exclusion from education. While the links between physical exclusion from education (never having been to school or dropping out of school) and poverty are relatively easy to understand, it is harder to understand why poor children who are in school do worse and repeat more than their peers from wealthier households. We explore correlations between indicators of silent exclusion from education and health, access to adequate school materials and the type of school attended. What we find is that those who have poor health, lack basic school equipment and live in the catchment areas of non-government schools (who are also often the poor) are more likely to be silently excluded – that is enrolled and overage, poorly attending or poorly achieving. Using this detailed data we identify policies that will have the greatest effect on improving access to education for those currently out of school and those in school but not learning.

Poverty and Equity: Access to Education in Bangladesh

1. Introduction

Equitable access to education implies more than equal opportunities in that it means ensuring additional and particular support for the poorest and most marginalised. Equity in education requires interventions to ensure that the barriers to access to education faced by certain sections of the population are overcome through well-targeted policies. In this paper we explore the strong relationships between poverty and some related indicators and access to education. The Consortium for Research on educational (CREATE) conceptual model expands the idea of access, revealing that it does not simply mean that children must be in school – what happens in the school is important too (Lewin, 2007).

While equitable access to education is much discussed, the discourse on equitable access to education in Bangladesh usually focuses on poor children's physical access to school and only rarely touches on access to education that results in meaningful learning. For this reason, most policy interventions are targeted at meeting the needs of the family in terms of food or cash rather than children's actual learning. The precise types of support needed for poor children at school are neither identified nor provided.

According to Lewin (2007) access to education is not meaningful unless it results in:

1. Secure enrolment and regular attendance;
2. Progression through grades at appropriate ages;
3. Meaningful learning which has utility;
4. Reasonable chances of transition to lower secondary grades, especially where these are within the basic education cycle.
5. More rather than less equitable opportunities to learn for children from poorer households, especially girls, with less variation in quality between schools (Lewin, 2007:21)

This definition of meaningful access is the basis of CREATE's broad view of access and conceptual model. To measure equitable access to education, this monograph uses indicators of access to education that relate to CREATE's conceptual model of 'zones of exclusion'. Access to pre-school (zone 0), levels of children never enrolled (zone 1), children who drop out of school (zones 2 and 5) and children who are at risk of exclusion or 'silently excluded' (zones 3 and 6). Children at risk of exclusion are measured through their levels of attendance, attainment and the extent to which they are the correct age for their grade (Lewin, 2007). In section three we focus specifically on silent exclusion in order to examine some of the correlations between important manifestations of poverty and silent exclusion from education, which is difficult to measure and observe.

This paper uses these indicators, and data from the 2007 and 2009 rounds of the CREATE community and school survey (ComSS). The ComSS was based in six locations, one in each administrative division of Bangladesh. The survey included 6,696 households and 36 schools, and a total of 9,045 children aged between 4 and 15. This data was disaggregated by gender, disability, income, food security and type of school. While for all these indicators, significant relationships can be established, the indicators relating to poverty: income and food security had the biggest, most cross cutting and significant effects. For this reason we focus here upon poverty related indicators of inequality and their relationship with access to education in order

to propose the most effective policy interventions for equitable access to education for all in Bangladesh.

This is not to say that other forms of inequality such as gender inequality in education are not important. Bangladesh has achieved gender parity in enrolment at both primary and secondary education levels and has made progress towards increasing enrolment (World Bank, 2008; Raynor and Wesson, 2006:3). This is a great achievement for Bangladesh, but must not lead to complacency. As we discussed above, enrolment is only part of the story and does not guarantee access. Despite increases in enrolment, girls in Bangladesh are still less likely to complete secondary school, gain an academic qualification, study subjects that have a good marketable value, or to move on to paid employment. Girls are still significantly less likely to be entered for secondary school exams or to pass them – so despite equal enrolment what happens in school is not equal (Raynor and Wesson, 2006:7). In this way gender equality in education in Bangladesh highlights CREATE's concept of meaningful access. In this paper we show similar effects and relationships regarding indicators of poverty.

Almost all education research done in Bangladesh has identified a strong correlation between poverty and exclusion from education. Al-Samarrai (2009) has shown in a recent study that the:

Inequality in enrolment widens as children move up the education system with children in non-poor households twice as likely to be enrolled in secondary school as their poor counterparts. This is partly due to higher primary school completion rates among non-poor children. Access to tertiary education is heavily restricted but inequalities continues to widen; non-poor households are six times more likely to be enrolled in post-secondary than children from poor households. (Al-Samarrai, 2009:168)

Primary education is free and compulsory in Bangladesh, textbooks are also provided free. However there remain other direct and opportunity costs of education. The government has set up stipend schemes to pay for some of these costs for the poor and for girls. Evidence from the ComSS suggests, however, that the poor are still significantly excluded from basic education, in terms of non enrolment, drop out and silent exclusion. Therefore we will examine:

- What is the relationship between household income and access to education? In section 2.
- Manifestations of poverty that are associated with silent exclusion from education, in section 3.
- What current policies on equity in education are being pursued in Bangladesh and why they have not been effective? In section 4.
- In the light of the evidence, which policy interventions will have the largest effect on improving access to education for the poor? In section 5.

2. The effects of poverty on educational access in Bangladesh

Poverty is complex and multidimensional, and can be measured in different ways. In this study we use two relatively simple measures of poverty, one is monthly household income and the other is food security. Food security status can be used as an indication of overall economic status. Respondents in the ComSS were asked to recall and make an assessment of income and expenditure of all the members of the household during the previous year, with help from the interviewer. They were then asked to place themselves in one of the four categories in regard to perceived food security in the household - always in deficit, sometimes in deficit, sufficient to meet the needs, and surplus.

ComSS data showed that 12% of the total households suffered from constant food insecurity, while around one third of the households suffered from intermittent food insecurity. A little over a third were found to have enough to meet their food security needs, whereas only 18.8% were in the surplus food security category. Ahmed et al. (2005) used a similar categorisation of food security in their household survey of 8,212 households at 10 locations in the six administrative divisions of Bangladesh. They found that 3.2% of respondents were from households always in food deficit, 19.9% were sometimes in deficit, 45% had enough to meet their needs and 31.9% had a surplus (Ahmed et al. 2005:64) (see Table 1).

Table 1: Proportions of households by food security status – ComSS 2009 and Education Watch 2004

	Always in deficit	Sometimes in deficit	Have enough / Break even	Surplus
ComSS 2009	11.6%	31.4%	37.5%	19.5%
Education Watch 2004	3.2%	19.9%	45%	31.9%

Sources, ComSS (2009) and Education Watch 2004 - Ahmed et al., (2005:64)

The locations selected for Ahmed et al (2005) were selected in order to represent a range of socio economic conditions, based on World Food Programme classifications and were based in urban and rural areas (Ahmed et al. 2005:xxvii). Locations selected for the CREATE ComSS (2009) were only rural and selected to represent a geographical spread and the presence of local NGOs. Other CREATE research (Cameron, 2010) focuses on access to education for the urban poor in Bangladesh. These factors explain why the levels of food insecurity are different, and the ComSS respondents are poorer than other large national surveys.

Table 2: Monthly income of households from the ComSS by food security status

	Mean monthly household income in Taka	Mean monthly household income in Dollars ¹	Number of households
Always in deficit	3,074.22	44.55	772
Sometimes in Deficit	4,353.39	63.09	2,022
Have enough / break even	5,824.43	84.41	2,452
Surplus	10,809.55	156.66	1,204
Average / Total	5,964.66	86.44	6,450

Source: ComSS, 2009

Clearly this is a sample of the poor, so when we are examining the relationships between poverty and indicators of access to education using this data, we are examining the very poor relative to the poor (Table 2). 90% of individuals in this sample lived below the US\$ 1 per day poverty line (Sabates and Hossain, 2010:21) compared to 40% nationally (World Bank, 2009). In the next section we discuss the strong correlations between access to education and income. The fact that the correlations between access and income are so strong, even between the poor and the very poor indicates that interventions targeted at the severely marginalised can make a difference to access to education.

2.1 Access to education and income

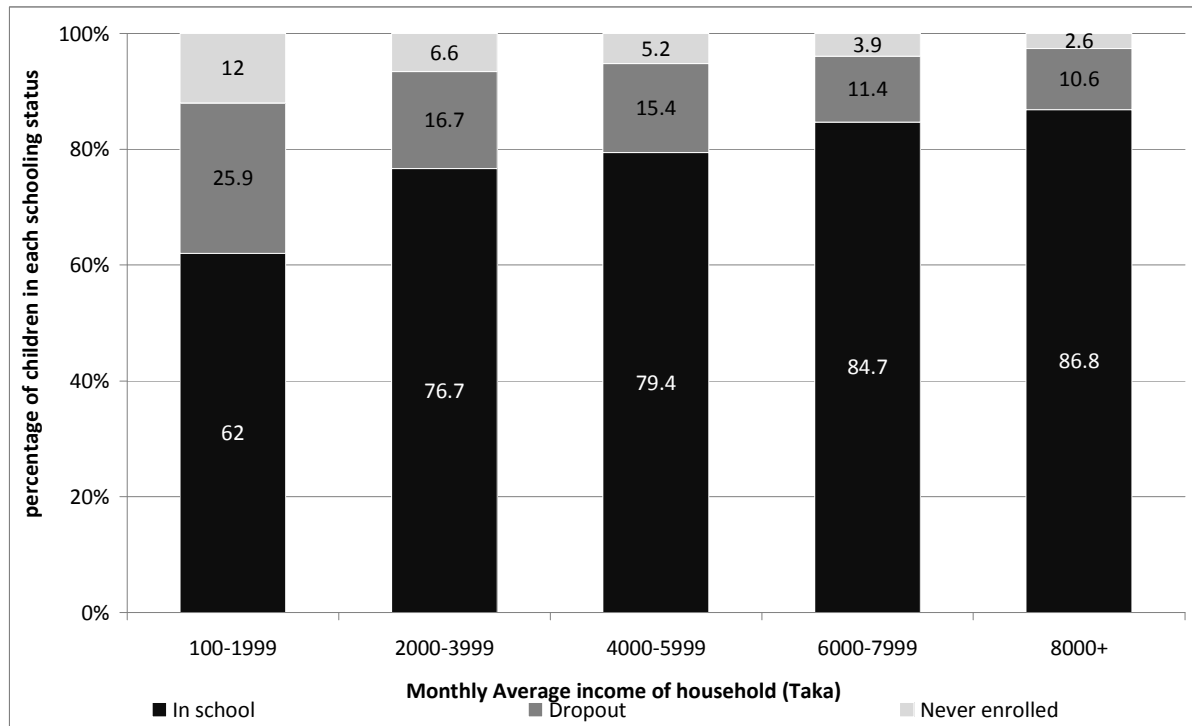
Evidence from many studies shows that educational access is strongly determined by household income (Lewin, 2007; Filmer and Pritchett, 2001). Although primary education is free and compulsory in Bangladesh, research indicates that there are substantial additional private costs and opportunity costs of education that parents must meet for their children's schooling (Ahmad, et al., 2007, Ahmed et al, 2005). These costs include examination fees, private tuition (which we discuss below) and paying for notebooks in the upper grades of primary school.

ComSS data also shows the high private costs of education per child per year. The average cost per child per year of attending primary school was Tk. 3,812, (about \$55) slightly more for boys (Tk. 3,935) and slightly less for girls (Tk. 3,692). The average yearly income per person is Tk. 14,315.18 or around US\$ 207 in this sample. World Bank figures for Bangladesh in 2008 put gross national income (GNI) per capita at US\$ 520 (World Bank, 2009). Bearing in mind that these are averages, and that within this poor sample there is considerable variation, it is not hard to see why the poor struggle to pay the costs of educating their children.

Figure 1 shows the starkly unequal participation of children in education from different income groups. Households which have less than Tk. 2,000 income per month (\$29) are sending almost 25% fewer of their children to school than those who are in the Tk. 8,000 (\$115) and above income group. Average family size is five – so households with incomes of Tk. 8000 per month, with five people have under a dollar per day per person.

¹ In 2009 US\$1 was equivalent to about 69 Taka, the average household size in the sample was five members.

Figure 1: Proportion of children in school, dropped out and never enrolled by income group



Rates of dropout and proportions of children who have never been enrolled are inversely correlated to the increase of family income (Figure 1). 12% of children from households living on incomes below Tk. 2,000 per month had never been enrolled in school at all, while a quarter had started school but dropped out. In families earning more than Tk. 8,000 per month meanwhile, 2.6% of children had never been enrolled and 10.6% had dropped out of school. The fact that income is such a strong determinant of access to education indicates that policies making education free and compulsory, free school books, along with other policy interventions which we will discuss in section four are not enough to bring about universal access to primary education. Even with these interventions, going to school has costs, which are high as a proportion of income for the poor.

2.2 Private tuition

One of the major costs of education in Bangladesh is private tutoring which is additional to costs directly associated with schools. This has implications for the pedagogy in schools, low attainment and particularly for the silent exclusion of the poor. The scale and importance of private tutoring is a phenomenon that is perpetuating inequality in education in Bangladesh. Tutors help prepare children for school exams, and children without private tutors perform poorly in exams. This is partly because of the expectation that children will learn outside the classroom. Many teachers' perception of teaching is that it should involve giving homework and checking it in school. They expect that children will do most of their learning at home and that teachers must just guide pupils and correct homework (Ahmed et al., 2005:72). This also has implications for the opportunity costs of education. Children who, by necessity, have responsibilities to contribute to the family income and cannot spend adequate time to study at home are at risk of poor attainment and dropout.

According to Ahmed et al. (2005), in the Education Watch sample discussed earlier, 43% of children had private tutors, paying an average of Tk. 152 per month for their services (Ahmed, et al., 2005:xxxii). First generation learners, the group likely to benefit most from private tuition, were least able to afford it. Children from wealthier families and those whose parents were better educated were more likely to have tutors.

Table 3 shows the incidence of private tuition in different types of school. The likelihood of receiving private tutoring appears to correspond to the socioeconomic status of the families sending children to each type of school. This suggests that private tuition depends on the family's ability to afford it more than on the characteristics of each type of school. For instance, registered non-government primary schools (RNGPS) are perceived to be of low quality, but parents do not seem to be investing in private tuition to compensate for the schools' shortfalls – presumably because they cannot afford to.

Table 3: Percentage of students receiving private tutoring, 2005

School type	GPS	RNGPS	Non-formal	Madrassa	Kindergarten	Secondary attached
%	32.1	28.5	12.3	20.2	69.3	63.2

Source: Nath, 2008, using data from Education Watch 2005.

According to Tietjen (2003): private tuition compensates for poor quality education in schools augments teachers' salaries. She reports findings from a World Bank survey, in which a quarter of households "indicated that teachers would inflict some sort of retribution (not teach in school, give poor grades) if not engaged for private tutoring" (Tietjen, 2003:19). Nath (2008) concludes that private tutors for primary school students have become a "well accepted norm". In discussions, parents expressed the view that "If a school functions well, private tutoring is unnecessary, but the schools do not function well" and that students were not able to ask teachers questions in school, but were able to do this in private tuition (Nath, 2008:19).

Teachers therefore have incentives to teach poorly and to make extra money through tutoring. This is one of many subtle mechanisms within schools that contribute to silent exclusion of the poor from education.

2.3 Silent exclusion and income

Along with the never enrolled (zone 1) and those who have dropped out from primary school (zone 2), the CREATE model of zones of exclusion includes those who are in school but at risk of dropping out (zone 3). These children are low-attenders, repeaters and low-achievers, and are referred to by Lewin as 'silently excluded' (Lewin, 2007:23).

The identification of silently excluded children is by its very nature, difficult. To identify children who are silently excluded, the ComSS in 2007 and 2009 examined the three indicators of silent exclusion identified by Lewin.

- Low attendance: the child is aged 6-15 and the parent reported that the child was absent from school for more than one day in the past week
- Low achievement: the child is aged 6-15 and their parent ranked child as being in the 'bottom 25%' of the class.

- Repetition: the child is aged 6-15 and their parents report that the child has repeated a year of school at least once.

Table 4: Percentages of children at primary and secondary level by components of silent exclusion and gender

Components of silent exclusion	Primary level			Secondary level		
	Boys	Girls	Total	Boys	Girls	Total
Low attendance	4.7	3.5	4.1	5.3	4.8	5.1
Low achievement	11.3	8.6	10.0	5.8	7.7	6.9
Repeaters	13.8	12.3	13.1	5.5	4.3	4.8
Silently excluded (zone 3)	23.1	19.7	21.4	14.7	13.5	14.0

One fifth of total primary and 14% of secondary school-going children were found to be silently excluded, having repeated years of school, having low attainment or irregular attendance. This of course only applies to those enrolled. In 2007, 5.7% of surveyed children had dropped out of school, and in 2009 this figure stood at 14%. In addition, 8.4% (2007) and 7.5% (2009) of surveyed school age children had never entered school. At primary level, repetition was the major single indicator (13.1%) of silent exclusion. Low levels of attainment were found to be the main indicator (6.9%) to silent exclusion for secondary school children (Table 4). Age in grade incongruence is also one of the major causes of silent exclusion and dropout in education in Bangladesh. This is discussed in a separate paper (Hossain, 2010). The data indicated that there were no significant gender differences in rates of silently excluded children.

These rates of silent exclusion are almost certainly underestimates. Self reported attendance is more likely to be under reported to enumerators when the expectation is that every child should attend all the time, especially if they qualify for social grants as a result. Self reported achievement resulted in too few children being classified as low ranking in class (less than 25% said that they were in the bottom 25%). Repetition is also easy to under report since it can take place several times over several years.

Table 5: Mean monthly income of the households of the silently excluded children at primary and secondary level.

School level	Mean monthly income of the household of the children							
	Low attendees	Others	Low achievers	Others	Grade repeaters	Others	Zone 3	Others
Primary	5,698	6,097+	5,385	6,169*	5,355	6,189**	5,524	6,249*
Secondary	7,429	7,339	6,176	7,393*	6,337	7,395**	6,762	7,405*

+Not significant, *Significant at $p < 0.001$, ** Significant at $p < 0.000$

Table 5 shows that surprisingly there was no significant difference in income between high attendees and low attendees. This may be related to high levels of prevalence of private tuition amongst the richer children, which could simply replace the need to attend regularly for some children. However, the low achievers and grade repeaters in primary and secondary schools come from a significantly lower income group. Children from different socio economic groups come to school and attend more or less equally but achievement levels of the children from low income groups remain very poor. This is why the concepts of silent exclusion and meaningful access are so important. Rates of enrolment and attendance do not give an accurate picture of access to education.

Many subtle (and not so subtle) mechanisms within schools in Bangladesh mean that the poor are being silently excluded - not achieving, repeating years and becoming over age. In the next section we examine the relationships between some manifestations of poverty and silent exclusion, which will shed more light on this.

3. Manifestations of poverty and silent exclusion

In this section we examine three areas related to poverty that have significant effects on access to education. We focus here on CREATE's zone 3, 'silent exclusion', with the hope of exploring why it is that the poor perform badly in education once they are enrolled in school. We are able to see how the realities of living on very low incomes and with food insecurity manifest themselves in the everyday and on access to education. We examine the relationship between health and access to education that have been shown elsewhere to be significant (Pridmore, 2007). We examine the correlations between a lack of pens, pencils and other stationary and indicators of access to education. We also examine the relationship between the type of school children attend and access to education. This may seem to be an accident of geography and catchment areas, but as we show, it is also related to poverty.

3.1 Health and access to education

3.2% of the 6-15 year old children (237) were suffering from either severe or occasional health problems. Out of them, 74.3% (176) were enrolled and 25.7% (61) were out of school (11.4% had dropped out and 14.3% had never enrolled). Among not-sick children in the same age group 12.2% were out of school. This indicates that a large number of children are excluded from basic education due to poor health. Children suffering from health problems were twice as likely as others to be in zones of exclusion 1 and 2 – never enrolled or dropped out of primary school.

To give an indication of the types of health problems suffered by children in rural Bangladesh, Chen et al.'s (1980) large epidemiological study of the causes of children's deaths in rural Bangladesh in the 1970s found that the most significant causes were diarrhoea, tetanus, measles, fever, respiratory disease, drowning, and skin disease (Chen et al, 1980:25). Pridmore's (2007) work on the links between health and access to education mentions malnutrition, micro nutrient deficiency (specifically, iron, vitamin A and iodine deficiency), undernutrition, diarrhoea, malaria and worms as common health problems, which can affect children's cognitive development and/or access to education in developing countries (Pridmore, 2007:21). In the 2007 ComSS the most common illnesses reported were coughs (64%), 'weakness' (13%) and hookworm (5%).

The data show that a higher proportion of children with poor health are present in zone 3 compared to children with good health (the difference is significant at $p < 0.000$, see Figure 2). Poor health is associated with poverty. The data show a positive correlation between those with higher incomes and lower levels of health problems. This means that poorer children were more likely to be in the category of children with health problems (correlation is significant at $p < 0.01$). This leads us to consider why poor health is correlated with all three elements of silent exclusion so strongly, but poverty is correlated only with poor attainment and repetition, but not significantly with attendance.

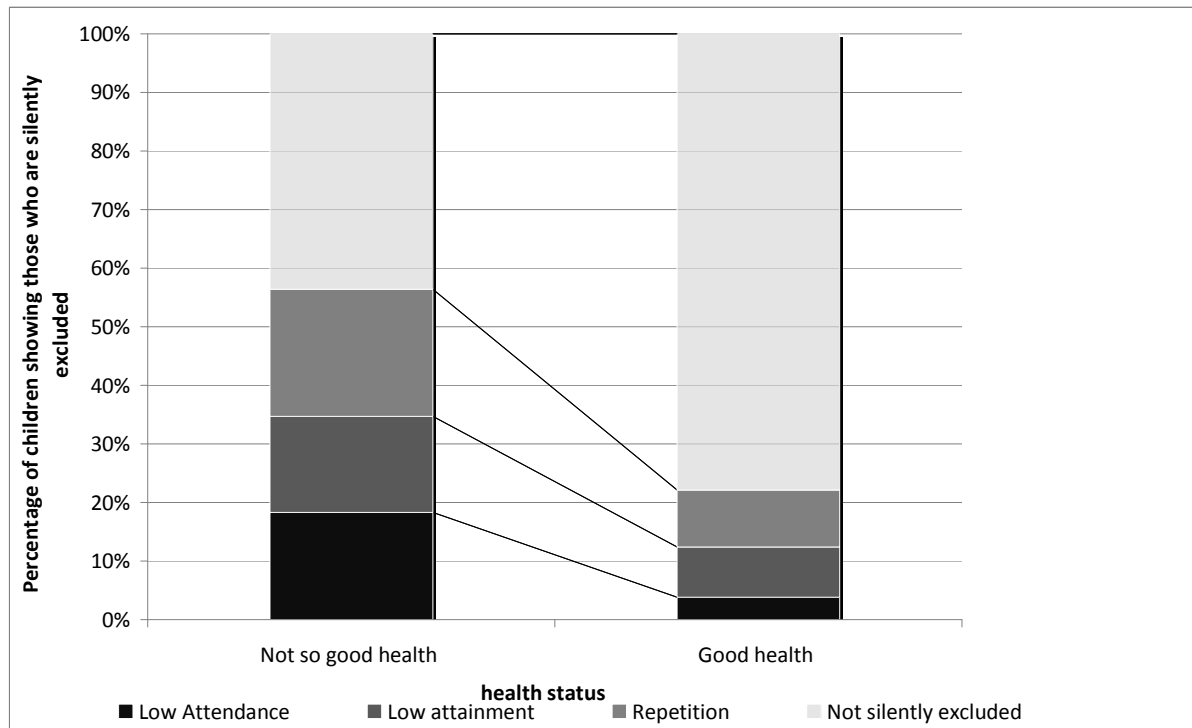
Perhaps the concept of silent exclusion containing attendance, attainment and repetition is too broad. These three elements, although linked, have different causes and are prone to problems of accurate recording and under reporting. Attendance may be connected to distance from the school, poor health and requirements for children's work in the household, as well as factors in the school. Poor attendance records in schools in many countries make measuring attendance difficult. In the ComSS it was measured by asking parents if their children had missed more than one day of school in the last week. Attainment depends on the intrinsic

qualities of a child, on their cognitive capacity, which may be linked to poor nutrition, and the learning environment they are in, and the way in which it is measured, in this study, it is measured by parent's perception of children's relative attainment. Repetition is managed and decided upon by the school and teachers and usually based on attendance and attainment. All three of these elements of silent exclusion may also be associated with the level of enthusiasm for education of the child and their family. The three indicators have different influences, some in the control of children and their families, and some not. Cameron (2010) found very limited overlap between these three elements of silent exclusion among his urban sample, indicating that different children are affected by the different elements of silent exclusion, rather than zone 3 being a coherent group of children. Perhaps this renders the categorisation of 'silent exclusion' or 'zone 3', including all these elements rather too broad (Cameron, 2010).

Poor attendance of the type measured here is perhaps more akin to dropout, to what Ananga (2010) would call 'sporadic dropout'. Ananga's typologies of dropout define sporadic dropout as: "marked by periods of continuous or intermittent non-attendance in a school term" (Ananga, 2010:2). He identifies overlap in the definitions of zone 2 (dropout) and zone 3 (silent exclusion). Sporadic dropout has previously been considered 'silent exclusion' or at risk of drop out, but he maintains, is actually a type of dropout. This may also explain the similarities found by Sabates and Hossain (2010) using the same ComSS data, between children who dropped out of school and those who 'dropped in'. Perhaps these groups, and children who attend irregularly, are children on the margin, whose education is interrupted by fluctuations in health and income.

Whether poor attendance is defined as dropout or silent exclusion, both of these are usually strongly correlated with poverty. It may be in this case that the presence of stipend schemes, with conditions attached to them regarding regular attendance (which we will discuss later) motivate the poor to attend regularly, or say that they attend regularly, even if little learning is taking place.

Figure 2: Percentages of children by different health status who are silently excluded



Differences significant at the level $p < 0.000$

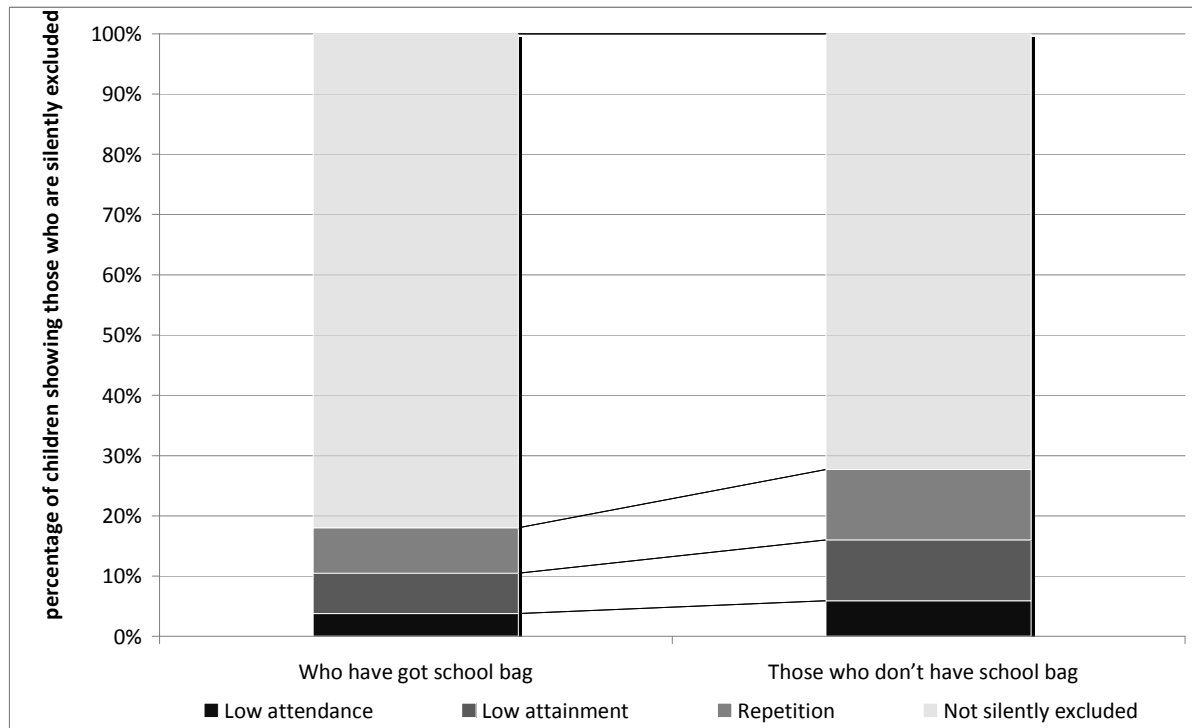
3.2 School equipment and access to education

Using the data to unpick the complex mechanisms of silent exclusion reveals some interesting relationships between school equipment and indicators of silent exclusion.

A child attending classes without writing materials such as a pen or pencil and notebook is a common picture in the schools of rural Bangladesh. Many children come to school without any learning materials. These children struggle and must try to follow classes and activities without writing anything or sometimes by sharing resources with other children. It is easy to see how these children can easily fall into the category of the silently excluded (Hossain, 2003).

The ComSS data reveal that having school bag is also a significant indicator of a child's access to education. Children without school bags were significantly low attendees, low achievers and high repeaters compared to the children who had school bags (correlation is significant at $p < 0.000$, see Figure 3). It is hard to determine from the data we have what the causal relationships are and in which directions.

Figure 3: Percentages of children with and without bags who are silently excluded

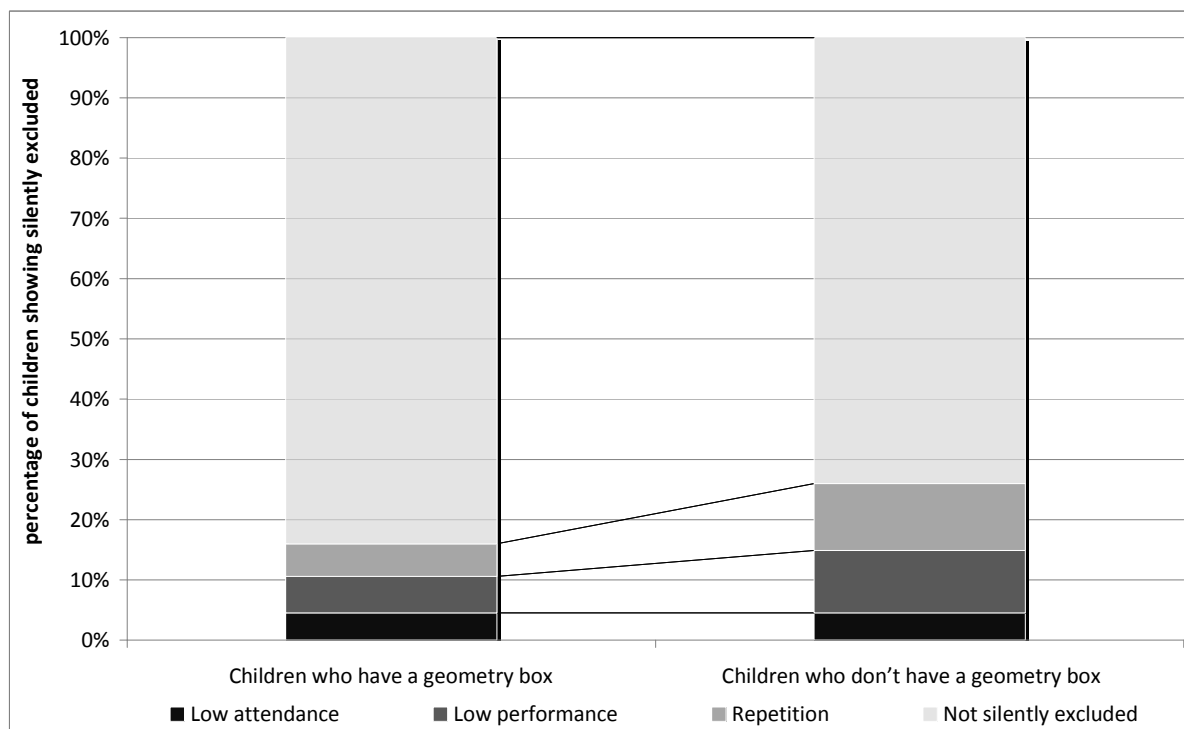


Differences are significant at the level $p < 0.000$

Possession of a geometry box is positively correlated with having access to education in the sample. A significantly higher percentage of children without a geometry box (for upper grades of primary and high school) showed lower attainment and a higher tendency to repeat years of schooling compared to children who had a geometry box. However, this difference was not significant for the other indicator of silent exclusion (zone 3), attendance of the children (Figure 4). This finding is similar to the results on poverty and almost certainly closely related. .

Clearly the lack of relatively basic school learning equipment, such as pens, pencils, books, bags and geometry sets is significantly related to silent exclusion. It is the poor who are silently excluded, and cannot afford to buy school equipment and/or send their children to school. Provision of basic school learning equipment to the poor or to all students needn't be complex or costly, compared to many policy interventions. Removing this practical barrier to the marginalised might diminish a problem of equity in access to basic education in Bangladesh and might have a positive effect on drop out.

Figure 4: Percentages of children with and without geometry boxes who are silently excluded



For low performance and repetition the difference is significant at the level $p < 0.000$

While pens, pencils, bags and geometry boxes all impose extra costs on the poorest, at primary level (and this year for the first time also at secondary level) school books are supplied by the Government of Bangladesh. For austerity reasons, an internal arrangement and practice is enforced on schools to collect and reuse 25% of the books. Teachers collect those books from the previous year's children and distribute them among 25% of children of the school.

In the lower grades (Grades 1 and 2) text books include activities which are designed to be written into the text books during classes. The children who use the books for the first time, can complete those activities in their books. However, when these books are distributed to children for a second year, the exercises are already filled in and they do not get chance to follow along to the class. This means that at least 25% of the children are at least partially excluded from those sessions. Many of the books are illegible and with printing worn off the pages completely after 4-5 months. They are not designed for or suitable for reuse. Trying to determine who the 25% who receive the second hand books are is not hard. A good hypothesis would be that they are the poorest, who could not afford to pay for books as well as private tutoring from teachers or other unauthorised school fees.

Figure 5: Percentages of children who had all their schoolbooks and those that did not who are silently excluded

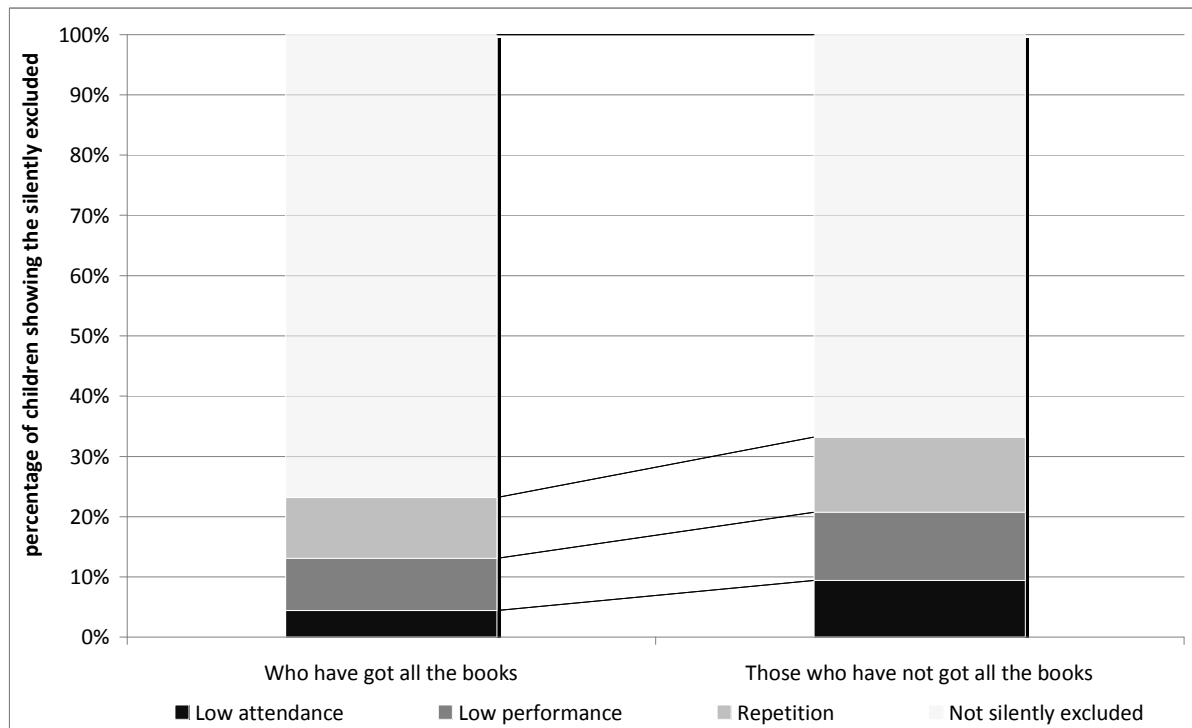


Figure 5 shows the children who did not have all the books for their grades showed lower performance in terms of attendance, achievement and repetition compared to the children those who had all the books. The relationship between possession of books and silent exclusion is also related to the type of school which children attend. In the next section we discuss differences in access to education in the different types of school in Bangladesh, which also show a correlation with indicators of poverty.

3.3 School type and access to education

In Bangladesh there are eleven types of primary school and a wide range of standards among and between them. Children in government primary schools (GPS) are on average better performing compared to those in registered non-government primary schools (RNGPS). The attainment of children in *ebtedayee madrasas*² is lower than both the previous two categories (Ahmed et al., 2003). In Bangladesh there are 6,768 of these low performing semi-religious community schools all over the country (GoB, 2006).

It is clear from the discussion in the section above, that lack of possession of learning materials is strongly correlated with a lack of meaningful access to education. 10.6% of school going children do not have writing materials. This figure is higher among children living in the RNGPS catchment areas (13.0%) compared to the children who lived in the GPS school catchment areas (9.9%) and the difference is significant at $p < 0.000$ level.

Similarly, more than half of the school going children do not have a school bag (62.5%) and geometry box (55.0%) and in both cases children from RNGPS school catchment areas have

² *Ebtedayee madrasas* are religious schools that receive government funding for teacher’s salaries and follow the national curriculum as well as providing religious education.

higher rates when compared to children from GPS school catchment areas (Table 6). The reason for this is probably because RNGPS schools were created in poor areas compared to GPS school catchment areas, or that the wealthier groups of population tend to live closer to government schools for another reason. The data show that average monthly income of the households of GPS school catchment areas is significantly higher (Tk. 6,693) than the households living in the RNGPS school catchment areas (Tk. 5,315) ($F=302.34$, $t=20.69$, $df=32551$, $p<0.000$).

Table 6: Proportion of children with inadequate learning materials by school type

Learning material	School type		Total	Level of significance
	GPS	RNGPS		
Book	4.2	1.7	3.6	Ns
Pen/pencil	9.9	13.0	10.6	$p<0.000$
School bag	59.2	73.0	62.5	$p<0.000$
Geometry box	53.2	60.9	55.0	$p<0.000$

Clearly the type of school children who attend different types of school is not an accident of geography. Children in government schools tended to come from households with higher incomes and had a greater chance of having the relevant school equipment. Whether it is these factors or other factors concerning the teaching and facilities at government schools that leads to higher attainment in government schools cannot be determined from this data.

Poverty, measured by income has a significant effect on access to education in Bangladesh, as in other countries. Once in school, the poor still do badly. Using other indicators of poverty, such as poor health, food insecurity, lack of possession of education equipment, and living in certain areas, we can see significant correlations with silent exclusion – of children nominally in school and start to unpick exclusion. Poor health, lack of school equipment and living in areas with low performing schools are all correlated with poor attainment and repetition of grades. Identification of this group and the reasons for their exclusion are difficult, formulating effective policies to deal with these problems is also challenging. In the next section we examine some policy measures that have been put in place to promote equity, to remove the barriers to access of the poor and girls.

4. Current policies to tackle poverty and unequal access to education

Currently there are several policy measures in place that attempt to tackle problems of unequal access to education in Bangladesh and specifically the problems faced by the poor in gaining access to education. In this section we will discuss and critique, in order of progression through the education system, pre primary schools, The Primary Education Stipend Project and The Secondary Female Stipend Programme based on the ComSS data.

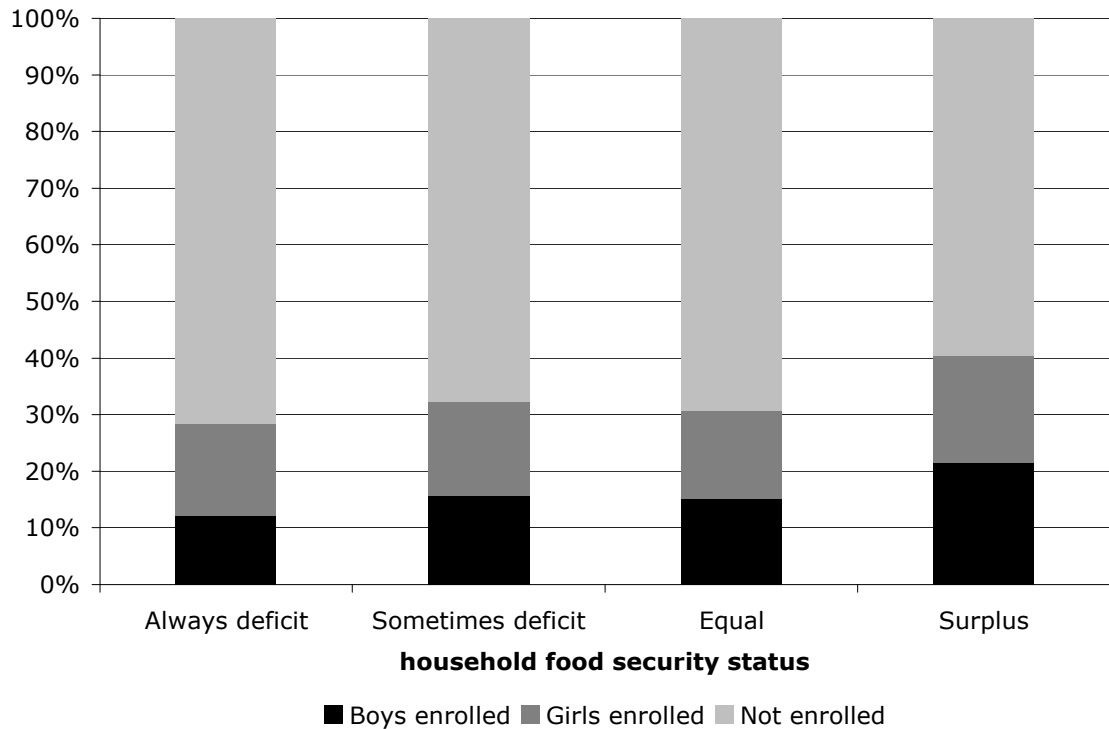
4.1 Pre-primary schooling in Bangladesh

Research has indicated the benefits of pre primary school on early childhood development (Jack et al., 2000; Laurie et al., 2003). One benefit of enrolling children in pre-primary education is that these pre-school classes can regulate the flow of children into primary schools to ensure progression at the correct age and in relatively homogenous batches.

The Government of Bangladesh has decided to set up fee free pre-primary schools in all government and registered non-government primary schools this year. However, until now there have been no formal preschool activities for children in Bangladesh, except for in a few government primary schools, to prepare children for primary schooling. Some NGOs, like BRAC and Plan Bangladesh have been providing preschool facilities to the children of poor families through their non-formal education provision. Children from well off families, mostly from urban areas, have been going to pre-schools in 'kindergarten' schools for 20 years.

A lack of access to these limited pre primary school places is strongly correlated with poverty. Household income data show that 6-15 year-old children who studied in pre primary schools came from significantly higher income households compared to the children who had not attended pre primary schools ($p < 0.000$, $F = 23.15$, $t = 1.228$, $df = 6327$). Measuring poverty by household food security status also indicated higher rates of well off children's enrolment in pre-primary schools compared to households with poor food security (Figure 6). No significant gender difference in enrolments in pre-primary school was found.

Figure 6: Percentages of 6-15 year-old children who are enrolled in pre-primary school by food security status and gender



Source: ComSS 2007

In Bangladesh, Government Primary Schools (GPS) serve 58.4% and Registered Non-government Primary Schools (RNGPS) serve 22% of the total primary school children (GoB, 2006). Both of these types of schools have their own catchment areas. The RNGPS were set up by communities and interested teachers in areas where there was no GPS or a need for extra schools. Children from relatively remote areas and comparatively poorer backgrounds usually attend RNGPS. Data show that a lower proportion of children (8.4%) in RNGPS catchment areas are enrolled in pre-primary schools compared to children in GPS catchment areas (19%). The importance of the type of school attended, which we highlighted in section 3.3, and revealed was connected to indicators of poverty, is also demonstrated in this regard.

So far, pre primary schooling in Bangladesh has been accessible only to the relatively wealthy. This is an area that the government of Bangladesh intends to change, a well-targeted pre primary school system accessible to the poorest and most marginalised would help those children get a good start to their education and enter primary school on time. Policies to promote equity in primary education have been in place for some time not, and as we shall see they have had mixed results.

4.2 The Primary Education Stipend Project

The Food for Education (FFE) programme was launched in 1993 to increase participation of children from landless and very poor families in education. Due to problems with food distribution, the programme was redesigned and renamed the Primary Education Stipend Project (PESP) in 2002. The aim of the project is to increase the enrolment, attendance, progression, and performance of primary school-aged children from poor families throughout Bangladesh by providing cash payments to targeted households (Tietjen, 2003).

The idea was that 40% of the poorest families with children enrolled in primary schools would receive a monthly stipend of 100 Taka if their children attended primary school regularly. The project used several background characteristics as indicators of poverty which were determined at the school level. These were: Children from distressed female-headed households (i.e. destitute widows and divorcees); children of day labourers; children of insolvent artisans/mechanics (i.e. potters, fishermen, blacksmiths, weavers, carpenters, cobblers, etc.); children from landless families (i.e. owning less than 0.5 acres of land) and children of sharecroppers (Tietjen, 2003:13).

Of the children in the ComSS a little more than two thirds are not receiving the stipend. 8.5% of the total were at one time receiving the stipend, but now do not or cannot. Only 23.4% of the total enrolled children are getting the primary education stipend, despite the fact that the stipends were supposed to go to the poorest 40%. Around 40% of the population of Bangladesh lives under the national poverty line (World Bank, 2009) and up to 90% of this sample live below the 1 US\$ per day poverty line (Sabates and Hossain, 2010:21). The complex administrative structures of the scheme, and problems with corruption at several levels of the project have been identified as problems with the primary education stipend project (Tietjen, 2003:16).

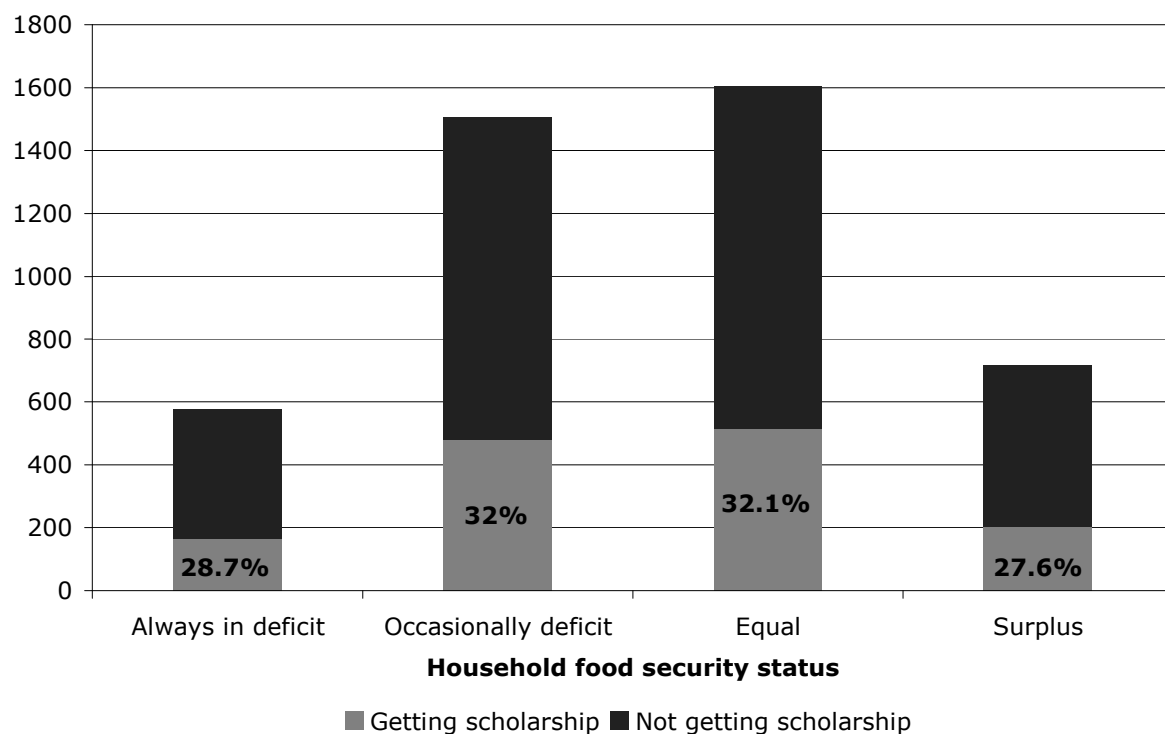
While the ComSS data does not disaggregate people by the same characteristics which the PESP uses to identify the poor, using the measures of poverty that we have we can analyse how effectively the stipend is targeted. The ComSS data show that the stipend has been distributed among all the four categories of households in terms of their food security status (Figure 6). Those in the categories of food security of always having a food deficit and those who always have a food surplus receive the stipend in almost equal proportions. The fact that the stipend scheme does not apply to non-government schools, often attended by the poorest may be one reason for this. The targeting system devised and used by the project gives equal weighting to richer and poorer *upazilas*³ meaning that it is the relatively poor in each administrative area that get the stipend, not the poorest in absolute terms (Tietjen, 2003:16). The ComSS methods of identifying the poor – by income and food insecurity provide measures which take into account absolute poverty and cut across administrative boundaries. Due to the targeting problems, less than a third of children who live in households that are always in food deficit received the stipend (Figure 7).

The conditions of the stipend prevent many poor children from receiving it. For many poor children, maintaining over 80% attendance amid demand for their time from their families (both for pecuniary and non-pecuniary activities) and securing 45% marks are nearly impossible. This is especially true when it is taken into account that they attend schools and take part in an examination system where teachers assume that much of the children's learning should take place at home with the help of private tutors.

The average private costs of primary education in 2009 were calculated as Tk. 3,812 per year, per child. This is more than three times the value of the stipend offered by the government, which is Tk. 1,200 per year per child. Therefore, even if they do receive the stipend, many households will still be unable to afford to send or keep their children in school. The government's Primary Education Stipend Project could be a lot more effective in promoting equitable access to basic education for poor children with better targeting.

³ Administrative subdivisions of Bangladesh.

Figure 7: Number and proportion of primary school children who receive the primary education stipend by food security status of their household



While the Primary Education Stipend Project was intended to target the poor and focused on primary education, a separate Secondary Female Stipend programme targeted girls in secondary school. It too has had a questionable effect on equity.

4.3 The Secondary Female Stipend Programme

The Secondary Female Stipend Programme (FSP) was piloted in six areas of Bangladesh in 1982 to help increase the enrolment and retention of girls in secondary schools. The pilot was so successful that the programme was extended in 1994. One of the initial aims of the project was to delay marriage and motherhood so a relatively long (12 year) pilot phase for the project was presumably thought necessary in order to measure the effects on fertility (Raynor and Wesson, 2006:6). The programme has been successful in increasing girl’s enrolment in secondary education, delaying marriage and reducing fertility, but less successful at removing barriers to education for the poor (Raynor and Wesson, 2006).

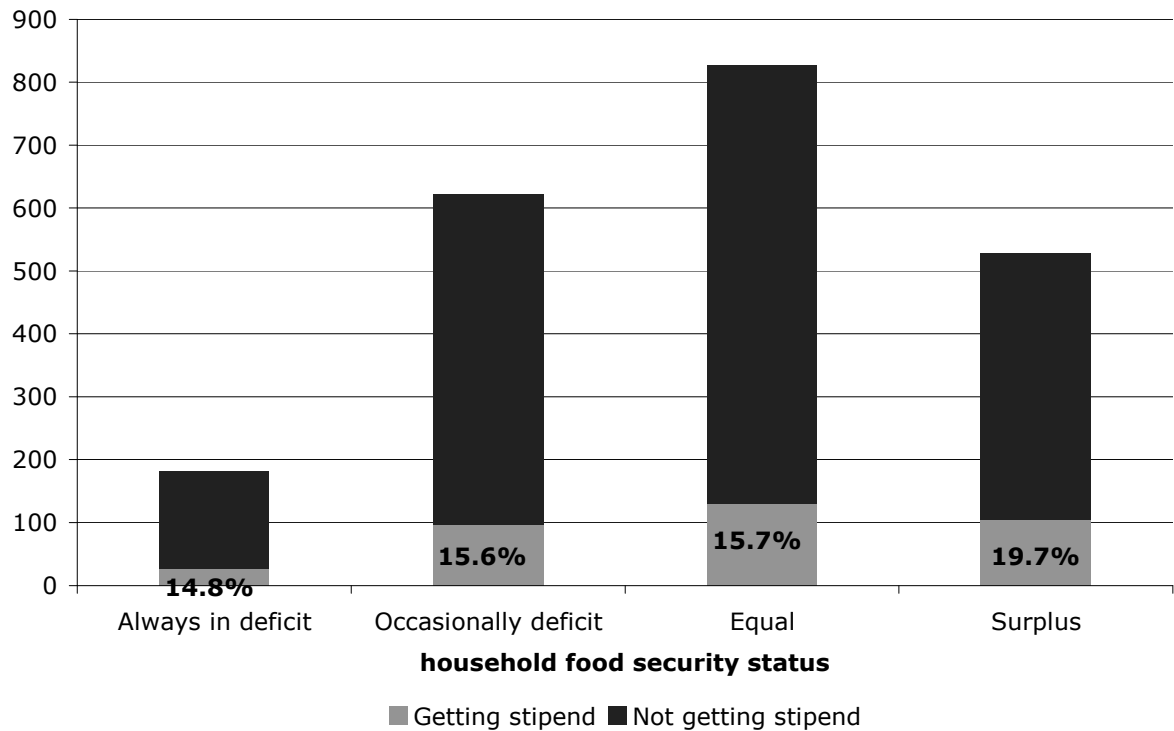
Shahidur et al., (2003) found that the benefits of the FSP were diverted disproportionately to non-poor households:

Our findings indicate that the currently untargeted stipend disproportionately effects the school enrolment of girls from households with larger land wealth. Targeting towards the land poor may reduce the overall enrolment gains of the programme while equalising enrolment effects across landholding classes.

The ComSS data also show that many more girls from food surplus households are receiving the FSP stipend as those from households that are always in food deficit (Figure 8). This stipend programme, which is targeted at reducing gender inequalities in secondary education,

has had a positive effect, but may have inadvertently led to increased inequity between the wealthy, who have better access to education and the poorest, who as we have seen, already have difficulty accessing, achieving and progressing in education.

Figure 8: Number and proportion of girls receiving and not receiving the secondary female stipend



When these figures are expressed as a proportion of each food security category who receive the stipend the ComSS data show that the proportion of girls who receive the stipend is higher in food surplus households (Figure 8). Clearly the Secondary Female Stipend Programme is being used more by those in wealthier households who could perhaps afford to send their daughters to school without a stipend. These stipends, which have used a huge proportion of the education budget, have proved a relatively ineffective tool for tackling the lack of access to education for the poorest in rural Bangladesh. In the concluding section we discuss the findings described above and recommend some alternative policies which would on this evidence, help the poorest get access to education more effectively.

5. Conclusions

Data from this large household survey (ComSS, 2009) show clear relationships between poverty and exclusion from education in Bangladesh. This exclusion takes effect in different ways. Children from poorer families are less likely to go to school, more likely to drop out of school and even once they are in school are more likely to be 'silently excluded' from education.

Using three indicators that we have described as 'manifestations of poverty': health, school equipment and school type, we suggest some reasons or factors in this relationship. Children with poor health (which is linked to income and diet) perform worse in education than others. This has been established in previous research such as Pridmore (2007) and is clear from the ComSS data.

There is also a very strong correlation between a lack of school equipment, such as books, pens/pencils and bags and a lack of access to education. This is not a surprising finding, but indicates that the Government of Bangladesh's policy of providing free books to schools is not enough or is not having the desired effect. Perhaps the inability of the poor to afford basic school equipment puts them at a disadvantage once they are in school, or perhaps silent exclusion is taking place for other reasons, such as poor health, or the effects of the prevalence of private tuition. In addition, comparatively poorer children live in RNGPS school catchment areas and go to these government assisted schools where they perform worse compared to GPS schools, which tend to have children from richer families. School type, health and school equipment are all correlated with access to education and poverty.

The scale and persistence of exclusion from education of poor people in Bangladesh raises questions about policies to improve equity in access to education in Bangladesh. CREATE data from Bangladesh reveals some disturbing findings about three large policy interventions designed to help improve access to education for those who are traditionally excluded.

Government programmes offering stipends to the poor and to girls to encourage attendance and attainment are failing to improve access for the poor for several reasons. They appear to be poorly targeted, with relatively wealthy and comfortable households benefiting from these stipend schemes equally or more than the poorest. The stipends are not being given to the required amount of families or the most deserving families. In addition the amount offered by the stipend schemes is not enough to offset the private costs or opportunity costs to the poor of going to school.

The conditions set for the stipends of 80% attendance and attainment of 45% in assessments at school are difficult for the poorest children to meet. These are the children who have the least school materials, the poorest diet and health, the greatest demands on their time outside school and the least private tuition. Somewhere the fact that they need help because their attendance and attainment are suffering due to poverty has become lost and the stipend has become a reward for pupils who attend regularly and have good attainment. The ComSS data presented here show the relationships between access to education (in terms of attendance and attainment) and poverty that these stipends are supposed to combat rather than punish.

The proportion of the education budget that the stipend schemes use must also be considered. The US\$ 600 million spent on the PESP from 2002-2008 represented at least 60% of the total development budget available to primary education (excluding donor inputs) (Tietjen,

2003:31). 60% of the development budget for primary education was spent on a scheme designed to target the poor in which only 28.7% of those in households always in food deficit received the stipend, while roughly the same proportion (27.6%) and more in absolute terms of those in households always in surplus also received the stipend. Such an expensive and inefficient policy must be reconsidered.

Pre-primary schools, which the government and NGOs are currently planning to expand, are another policy intervention that can help improve access to education. The evidence from currently existing schemes shows another correlation with poverty, with wealthier children more likely to attend pre-primary school than the poor. This is something that government and donors should take into account when designing pre-primary school systems.

5.1 Policy recommendations

A national policy on 'equity in education' should be formulated. This policy framework should aim to ensure that those disadvantaged by the system receive a greater share of resources. A framework for assessment should be designed and a requirement established that all policies contain equity provisions to help the disadvantaged by monitoring measures of distribution (such as Gini coefficients, standard deviations, participation by household income quintile). This should include maintaining and improving access for the poor and the disabled and consolidating the success of equal enrolment in education for girls. In addition to equity assessments of policies in order to ensure effective targeting of interventions, advocacy work could help to ensure that the concept of 'equity in education' is taken up as a popular campaign in the country.

To combat the effects on access to education of manifestations of poverty, instead of stipend schemes, which can be regressive rather than redistributive, expensive and inefficient, various practical interventions would help to improve access to education for the poor. A school health programme would help to reduce health inequity. Visits by doctors or local health workers to schools to check on children, and monitor indicators of their development would help to identify problems and poverty related ill health. This would also help with the identification of poor families who qualify for free school meals, schoolbooks and equipment.

A school feeding programme along the lines of the mid day meals programme in parts of India, instead of cash for education, might help to incentivise attendance at school for the poorest. If run properly, such a scheme would help to avoid undernourishment, malnourishment, micro nutrient deficiencies and related health problems among children of poor families though it might be expensive. Raising awareness of poverty related exclusion and training teachers to identify children at risk of exclusion due to poverty among teachers would be a way of avoiding some of these problems and helping with targeting of interventions. Teachers could also be trained as part of teacher training to watch out for signs of malnutrition (such as under height and weight), identify children who do not have proper school equipment, who have to work, or are from landless families. Concepts of equity should be built into education policies and into the ethos of the curriculum and methods of teaching.

Extending the scheme providing free school books to pupils to include pens/pencils, note books, geometry boxes and school bags might prove to be an important factor in providing equal access to education in schools, and tackling silent exclusion. Reusable textbooks rather than worksheet-based readers would avoid the problem of used books being worthless to

those who have to use them. To mitigate the costs of these interventions they could be means tested to limit their scope to the poorest 40% of families though this is not necessarily easy to manage. The measurement and identification of the poor and limiting interventions to them is likely to be a challenge. This is where previous interventions have failed and is a topic which merits further research.

Inequality in the quality of education provided by different types of schools should be tackled. Whether this is by tighter regulation of non-government schools to bring them up to the standard of government schools, better funding, training or nationalising all schools is a topic that is the subject of considerable debate in Bangladesh (Sabur and Ahmed, 2010). While the government recognises that the poor and marginalised need a 'second chance' to access education through non-formal, NGO run schools, in reality these schools may be the only chance of education for the poorest. These schools are often the third or fourth choice of school, after a state system that has effectively stopped expanding and registered non-government schools that serve poorer more marginalised groups, but not the poorest. There is a risk of further disadvantaging the poor in these schools. While diverse providers of education can offer solutions to a lack of access, the whole system needs to be effectively managed if it is to promote equity rather than inequity (Sabur and Ahmed, 2010:19).

The issue and effects of age in grade incongruence and a lack of regular progression are discussed by Hossain (2010). These are major problems in education in Bangladesh, which have received scant attention in research and policy. They also have an equity aspect as, like other indicators of a lack of access to education, they are strongly correlated with poverty. Policy measures designed to improve age in grade congruence and regular progression through the education system, such as a well-maintained birth registration system and an accessible pre primary school system would benefit the poor disproportionately.

The Government of Bangladesh, NGOs and donor community should take equity measures such as the ones suggested here to ensure that discrimination based on poverty does not entrench socio economic inequality. Education has the potential to liberate people from poverty, but the strong correlation between a lack of access to education and poverty leads to the intergenerational transmission of poverty. These measures are important because as the data presented here show, poverty has terrible effects on access to basic services such as education, in addition, as Wilkinson and Pickett (2009), among others, argue inequality itself has corrosive effects on all levels and many aspects of societies.

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Report summary:

CREATE's nationwide community and school survey (ComSS) confirms results from other research which suggests that poverty remains a barrier to education for many in Bangladesh. In this monograph we describe the influence of poverty on indicators of access to education. We describe a series of interrelated links between poverty and exclusion from education. While the links between physical exclusion from education (never having been to school or dropping out of school) and poverty are relatively easy to understand, it is harder to understand why poor children who are in school do worse and repeat more than their peers from wealthier households. Those who have poor health, lack basic school equipment and live in the catchment areas of non-government schools (who are also often the poor) are more likely to be silently excluded – on average, poorly attending or poorly achieving.

Author notes:

Altaf Hossain is a Team Leader in the Research Policy Studies and Advocacy Unit in BRAC University Institute of Educational Development in Bangladesh. Working with Dr. Manzoor Ahmed and others, he has contributed to several of the annual Education Watch publications. He was part of a team that designed, planned and implemented a large community and school survey for CREATE in Bangladesh. He has also written several monographs for CREATE and is completing his doctorate in education from the University of Sussex. His research interests include education assessment and evaluation.

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