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3-8

# **The Impact of Food for Education Programs in Bangladesh**

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## Executive Summary

Educating children can help them and their families to move out of poverty. Yet even with free tuition, the cost of attaining education remains high for poor families in developing countries owing to competing demands on children's time and other associated costs. One way to attract children from poor households to school, and keep them in school, is to provide food as an incentive for attendance. Food for education (FFE) programs provide immediate sustenance for the hungry, but perhaps more important, they empower future generations by educating today's children. This case study from Bangladesh provides evidence of the impact of FFE interventions in enhancing educational attainment and improving nutrition and describes the movement forward and the challenges ahead. The study also reviews the impact of FFE programs in other countries.

FFE programs include interventions that feed children in school and those that give food to poor families if they send their children to school. The design, implementation, and impacts of FFE programs vary depending on many factors and from country to country. A review of international experience with the impacts of FFE programs shows that they have been successful in improving educational attainment, dietary intake, nutritional status, and academic performance of participating children.

FFE programs are increasingly attractive to policy makers because they address the two major human development goals: education and nutrition. Yet several operational, budgetary, and political economy considerations need to be addressed to improve the efficacy of these programs.

The government of Bangladesh has tried two types of food-based interventions to increase primary education and food security of poor households. Your assignment is to recommend changes in the FFE program in Bangladesh, including possibly the scaling up of the programs, taking into account expected benefits and leakages. Discuss the policy options that the government of Bangladesh can consider in implementing a new FFE program, but which some stakeholders might resist. Justify

your recommendations in light of the consequences for the various stakeholders.

## Background

Education is the key to breaking the cycle of poverty. Poverty, however, has kept generations of families from sending their children to school. Because day-to-day survival must be their priority, poor families often cannot provide children with educational opportunities that could help lift them from destitution. Even if schooling is free, costs such as books and other school materials, clothes, shoes, and transportation can be a heavy economic burden. In many poor families, children must contribute to the household's livelihood and cannot be spared.

Food insecurity at the household level constricts the opportunities that an education can provide. When a family is hungry, finding food is all that matters. Hunger is a barrier to learning. A hungry child is less likely to concentrate, less likely to perform well at school, and more likely to drop out. In a nutshell, children from poor and food-insecure families face significant constraints in going to school, continuing schooling, and learning in school. Supply-side interventions focusing on building more schools and hiring more teachers may not be sufficient to address these challenges.

Food for education (FFE) programs are demand-side interventions that can attract disadvantaged children to primary education and prevent drop-outs while simultaneously alleviating short-term hunger and enabling children to learn. These programs can also improve household food security.

FFE programs have been implemented in two basic forms: school feeding, where children are fed in school; and food-for-schooling, where families are given food if their children attend school. Although both programs combine educational opportunity with food-based incentives, there are some differences.

The primary objective of school feeding programs is to provide meals or snacks to alleviate short-term hunger, enabling children to learn. In contrast,

food-for-schooling programs try to reach out and feed families, in addition to students. The objective of food-for-schooling programs is to help meet the immediate consumption needs of the family while developing the long-run human capital of children by transferring food to families conditional upon primary school enrollment of those children.

FFE programs vary from country to country in design and implementation. The heterogeneity of FFE interventions (and consequently potential impacts) emerges mainly from the following factors:

- location of food distribution;
- type of food distributed;
- place of food production and procurement;
- program implementing agency;
- targeting;
- sustainability; and
- complementary activities.

Table 1 presents the typologies and variations of FFE programs.

In recent years, a number of complementary activities have augmented FFE programs. School feeding and food-for-schooling programs have been viewed as vehicles to deliver other services to provide a more holistic package to school children. The package may include de-worming treatment, latrine installation, micronutrient supplementation, teacher training in health education, provision of safe drinking water, HIV/AIDS prevention education, construction of school gardens, and malaria prevention measures.

## **International Experience with FFE Programs**

This section reviews international experience (excluding that of Bangladesh) with the impact of FFE programs on educational attainment, dietary intake, nutritional status, and academic performance of participating children. Most evaluations have covered only school feeding programs; evaluations of FFE programs (that is, in-school feeding combined with take-home rations) are scarce. Moreover, except for Bangladesh, food-for-

schooling has not been implemented as a separate program in other countries.

### Educational Attainment

An evaluation of a school meal program in Jamaica found that, after the first semester, the treatment class showed better school attendance than the control classes (Powell and Grantham-McGregor 1983). Another evaluation of a school feeding program in Burkina Faso found that school canteens were associated with increased school enrollment, regular attendance, consistently lower repeater rates, lower dropout rates, and higher success rates on national exams, especially among girls (Moore and Kunze 1994).

School feeding programs have also proven effective in reducing the education gap between girls and boys. For example, program evaluation results from Cameroon, Morocco, Niger, and Pakistan show that although food is the initial motivation for sending girls to school, parents of participating girls develop an interest in the education of their daughters. This change in attitudes is an important factor in enhancing parents' commitment to education beyond the duration of food assistance (WFP 2002).

### Dietary Intake

School feeding programs are likely to improve the nutrient intake of participating children. A study in Huaraz, Peru, shows that children who received breakfast at school increased their dietary intake of energy by 2 percent, protein by 28 percent, and iron by 4 percent compared with the control group (Jacoby et al. 1996). An evaluation of a school feeding program in Jamaica assessed the dietary impact of school breakfast consisting of a bun and a half pint of milk. Results show that the program provided 32 percent and 45 percent of daily energy and protein requirements, respectively (Chambers 1991). Another study examined the impact of a large school lunch program on consumption of calories and protein by schoolchildren in São Paulo, Brazil. Participation in the program was associated with availability of an additional 357 calories and 8.5 grams of protein (Dall'Acqua 1991).

*Table 1: Typologies and Variations of FFE Programs*

Factor	FFE Modality		
Location of food distribution	At school (school feeding)		
	Take-home rations (food-for-schooling)		
	Combined (in-school feeding and take-home rations)		
Type of food delivered	Foodgrains (for food-for-schooling)	Regular	
		Fortified	
	Prepared food	Prepared at school	Regular
			Fortified
Pre-prepared		Regular	
		Fortified	
Location of food production and procurement	Locally produced and procured		
	Not locally produced or procured	Nationally	
		Regionally	
		Donor country	
Program implementers	National government		
	Nongovernmental organizations (local or international)		
	International organizations/food aid donors		
	Joint effort		
Targeting	Geographic targeting	Communities	
		Regions	
		Municipalities	
		Rural/urban	
	Categorical targeting (intended beneficiaries)	Children (both girls and boys)	
		Girls	
		Families	
		AIDS orphans	
		Displaced children	
		War-affected children	
Sustainability	National government commitment and capacity exist to run the program	Food supplies available	
		Institutional capacity exists	
		Community is involved	
	International community is involved	Phase-out process is explicitly planned	
		International resources and commitments are sufficient	
Complementary activities	De-worming treatment		
	Latrine installation		
	Micronutrient supplementation		
	Teacher training in health education		
	Provision of safe drinking water		
	HIV/AIDS prevention education		
	Construction of school gardens		
	Malaria prevention measures		

Few studies have meticulously measured whether food intake from a school feeding program is additional to the child's normal food intake at home or whether the food is substituted away from the child at home. Based on an experimental design and rigorous econometric analysis, Jacoby (2002) assessed the impact of a school feeding program on children's calorie intake in the Philippines. The empirical results show that virtually all calories from school feeding food remain with the participating child. In other words, there is no evidence of intrahousehold reallocation of calories in response to the feeding program.

To counter the harmful effects of micronutrient malnutrition, some school feeding programs provide fortified food, and the provision of such food was shown to increase the dietary intake of micronutrients. For example, in Peru, researchers studied the effect of a breakfast program that included iron-fortified rations. The program had a major impact on iron intake, increasing it by 46 percent, in addition to increasing energy and protein by 25 percent and 28 percent, respectively (Jacoby et al. 1996).

### Nutritional Status

Evidence of the impact of school feeding programs on child nutritional status is limited, owing partly to the cost and complexity of obtaining accurate and reliable anthropometric and food intake data and partly to the methodological difficulties of isolating the effect of food intake from other factors affecting nutritional status.

Several studies have shown that food alone does not guarantee improved nutritional status. Some reviews even show that food-based interventions alone have little measurable impact on nutritional status, morbidity, or mortality levels except in crisis situations (Clay and Stokke 2000).

Nevertheless, evaluations show that some school feeding programs do improve children's nutritional status. For example, a randomized, controlled trial in which breakfast was given to undernourished versus adequately nourished children in Jamaica showed positive results; compared with the control group, the breakfast group experienced significant

improvement in height and weight (Powell et al. 1998).

### Academic Performance

In most developing countries, academic achievement is disappointing, especially at the primary education level. The many causes of this problem can be addressed in several ways, through both supply-side and demand-side interventions. Health and nutrition inputs have often been included in strategies to improve academic performance because poor health and nutrition are known to affect children's ability to learn (Pollit 1990; Simeon and Grantham-McGregor 1989). It is likely that giving children a daily breakfast or a meal at school may improve their scholastic achievement through several mechanisms: increasing the time spent in school, improving certain cognitive functions and attention to tasks, and, perhaps indirectly, improving nutritional status (Grantham-McGregor et al. 1998). It is difficult to infer a causal relationship, however, since other confounding factors are also likely to affect learning. For example, poor social backgrounds and low socioeconomic household characteristics are often linked to both poor diet and poor school performance (Chandler et al. 1995).

Pollit (1995) reviewed studies conducted in Chile, the United Kingdom, and the United States from 1978 to 1995. The author concluded that brain function is sensitive to short-term variations in the availability of nutrient supplies. This finding is particularly strong for undernourished children, for whom omitting breakfast alters brain function, particularly the speed and accuracy of information retrieval in working memory. This evidence has strong implications for the developing world, where a large percentage of schoolchildren are nutritionally at risk.

Three rigorous studies conducted in Jamaica provide evidence of the beneficial impact of FFE on cognitive outcomes (Powell and Grantham-McGregor 1983; Simeon and Grantham-McGregor 1989; Chandler et al. 1995). Besides studies based on experimental design, some studies have examined school feeding programs directly to determine the impact on academic performance. For example, in 22 out of 30 provinces in Burkina Faso, the success rate on a national exam for sixth-grade pupils was

higher for schools that had school feeding programs (Moore and Kunze 1994).

## **FFE in Bangladesh**

The government of Bangladesh devotes a significant share of its budget to providing incentives for children to attend school. As a result of these educational investments, Bangladesh has made commendable progress in the education sector in the past decade. Currently more than 90 percent of children are enrolled in school, and disparities in enrollment between boys and girls have been removed.

Bangladesh implemented the food-for-schooling and the school feeding components of FFE separately.<sup>1</sup> In an effort to increase primary school enrollment of children from poor families, the government of Bangladesh launched the food-for-schooling program in 1993. The food-for-schooling program provided a free monthly ration of food-grains (rice or wheat) to poor families in rural areas if their children attended primary school. In 2002 the Primary Education Stipend (PES) program, which provides cash assistance to poor families if they send their children to primary school, replaced the food-for-schooling program.<sup>2</sup>

In 2002, to diminish hunger in the classroom as well as to promote school enrollment and retention rates, the government of Bangladesh and the World Food Programme (WFP) launched the school feeding program in chronically food-insecure areas of the country. The school feeding program provides a mid-morning snack to children in primary schools.

### Features of the Food-for-Schooling Program

Poor children enrolled in primary school grades 1 to 5 were eligible for the food-for-schooling program. Before it was terminated in 2002, the program covered about 27 percent of all primary schools in Bangladesh. The 2.1 million food-for-

schooling beneficiary students accounted for about 13 percent of all students in primary schools. By 1999/2000 the annual cost of food-for-schooling had increased to Tk 3.94 billion (US\$77 million), which was equivalent to Tk 1,897 (US\$37.19) per beneficiary student per year.<sup>3</sup> The food-for-schooling program accounted for a significant share of Bangladesh's expenditure on primary education, increasing from 4.7 percent in 1993/1994 to 19.9 percent in 1997/1998.

The food-for-schooling program targeted out-of-school children from poor households. It used a two-step targeting mechanism. First, economically disadvantaged areas with low literacy rates were selected. Second, within these areas, primary-school-age children became eligible for food-for-schooling benefits if their households were

- landless or nearly landless (owning less than half an acre of land);
- day laborers;
- headed by a female (that is, a female who is widowed, separated from her husband, or divorced or has a disabled husband); and/or
- engaged in low-income occupations (such as fishing, pottery, weaving, blacksmithing, and cobbling).

Based on these targeting criteria, local community groups prepared a list of food-for-schooling beneficiary households in the community at the beginning of each year. Because of resource constraints, the total number of beneficiary households was limited so that no more than 40 percent of students in a school received food-for-schooling rations.

If a household was selected to participate in the food-for-schooling program, it was entitled to receive a free ration of up to 20 kilograms of wheat or 16 kilograms of rice per month, depending on the number of children attending primary school. To maintain their eligibility, children had to attend 85 percent of classes each month.

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<sup>1</sup> In Bangladesh, the food-for-schooling program was called the Food for Education or FFE program. In this case study, FFE refers to both school feeding and food-for-schooling.

<sup>2</sup> The primary reason for terminating the food-for-schooling program was increased leakage (pilferage) in food distribution over the years.

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<sup>3</sup> The official exchange rate for the Taka (Tk), the currency of Bangladesh, was Tk 58.00 per US\$1.00 in 2003, on average.

Each school had a designated private grain dealer who received the monthly supply of foodgrains from the government. Each student's parent or guardian picked up the ration from the dealer on a specified date each month.

### The Performance and Impact of the Food-for-Schooling Program

In September and October 2000, researchers from the International Food Policy Research Institute (IFPRI) surveyed a cross-section of households, including program beneficiaries and nonbeneficiaries and primary schools with and without the food-for-schooling program. They collected information from food-for-schooling foodgrain dealers and program implementation officials. IFPRI researchers used a variety of quantitative and qualitative methods to evaluate the program (Ahmed and del Ninno 2005; Ahmed et al. 2004).

Among their key findings were the following: food-for-schooling was successful in increasing primary school enrollment, promoting school attendance, and reducing dropout rates. The enrollment increase was greater for girls than for boys. A number of other studies also suggested that food-for-schooling raised primary school enrollment (Khandker 1996; Meng and Ryan 2004; Ravallion and Wodon 1997). IFPRI also found that food-for-schooling promoted school attendance. In 2000 the overall rate of school attendance was 70 percent in food-for-schooling schools and only 58 percent in nonprogram schools.

Food-for-schooling encouraged children to stay in school. About 40 percent of the students in food-for-schooling schools received food-for-schooling foodgrain. From 1999 to 2000, only 6 percent of the food-for-schooling beneficiary students dropped out, compared with 15 percent of the students in food-for-schooling schools who did not receive benefits.

In addition, the program significantly increased food consumption for the beneficiary households, even after controlling for effects of income and other factors.

The targeting errors of exclusion and inclusion were quite large—a sizable number of poor households were excluded from the program, even while many nonpoor households were included. The

analysis also suggested that a large proportion of the nonpoor households met the official selection criteria. These criteria, therefore, provided scope for perverse discretion in the beneficiary selection process.

The evidence is clear that the food-for-schooling program in Bangladesh was successful at getting poor students enrolled in school, especially girls. Because Bangladesh did not invest in school resources at the same rate that enrollment increased, however, class sizes rose. Parents, teachers, and policymakers expressed concern about the decreasing quality of food-for-schooling schools, and specifically the perceived negative impact of crowding in classrooms on student achievement.

As a part of IFPRI's survey in 2000, a standard achievement test was given to students in both food-for-schooling and nonprogram schools. Based on these data, a study by Ahmed and Arends-Kuenning (2006) looked into the impact of the food-for-schooling program on education quality. The analysis revealed that class size had no statistically significant effect on student achievement. As the percentage of students who received food-for-schooling grew, however, test scores of nonbeneficiary students in food-for-schooling schools decreased, implying that there were negative peer effects of food-for-schooling on nonbeneficiary students. For example, the food-for-schooling beneficiary students were poorer and less academically experienced than the nonbeneficiary students; therefore, teachers may have had to give more attention to them than to the nonbeneficiary students. The study concludes that the negative impact of the food-for-schooling program on the learning of nonbeneficiary students operated primarily through peer effects, not through class size.

A well-functioning food-based intervention program distributes food at the lowest possible cost and to all intended beneficiaries. In any public food distribution system, however, there are incentives and opportunities for the unauthorized diversion of food from the system for sale in the open market. To the extent that such leakages occur, the government incurs the cost, and the benefits accrue not to the intended or targeted consumers, but to those who gain access to and misappropriate resources.

An IFPRI assessment at an early stage of the food-for-schooling program suggested that it operated with a low level of leakage—only 7 percent (Ahmed and Billah 1994). The IFPRI evaluation in 2000, however, found that leakage had increased substantially, ranging from 16 to 20 percent (Ahmed et al. 2004). The increase in leakage was the primary reason for terminating the food-for-schooling program in 2002 and replacing it with the primary education stipend program—a cash-based education incentive program.

A change in the management of food distribution—from school management committees to private grain dealers—was mainly responsible for the increase in leakage. Until 1998 school management committees (SMCs) took food from local public food warehouses to schools. The SMC convened the parents of all beneficiary students on school premises on a set day each month to collect their rations. This system established a sense of group solidarity among recipients, which facilitated collective action against pilferage when it occurred. As a result, receiving short rations was rare in the SMC distribution system.

In 1999—to relieve teachers of food distribution responsibilities and to improve education quality—the government gave the food distribution task to private grain dealers. The dealers distributed food-for-schooling rations to individual beneficiaries from their shops. The IFPRI evaluation found evidence that food-for-schooling grain dealers often diverted grain to the black market for extra profit.

### Features of the School Feeding Program

Pervasive undernutrition remains the most serious obstacle to children's physical and cognitive development in Bangladesh. Hunger reduces children's ability to concentrate and retain what they have learned at school. These children come from poor and ultra-poor families, many of whom live in highly food-insecure areas of the country, such as remote rural regions, urban slums, and flood-prone areas.

In July 2002 the government of Bangladesh and the World Food Programme (WFP) launched the school feeding program in chronically food-insecure areas of Bangladesh. The objectives of the school feeding program are to

- contribute to increased enrollment, improved attendance, and reduced drop-out rates in primary schools, particularly among children from food-insecure areas;
- improve the attention span and learning capacity of students by reducing short-term hunger and micronutrient deficiency; and
- sensitize and build capacities of local communities to operate school feeding.

The school feeding program is the first effort in Bangladesh to direct incentives directly to primary-school children themselves rather than cash or food to parents for sending their children to school.

The program provides a mid-morning snack to all children in the intervention schools. The snack consists of a packet of 8 biscuits weighing 75 grams, providing a total of 300 kilocalories (kcal), and meeting 75 percent of the recommended daily allowance of vitamins and minerals.

Each student is entitled to one packet of biscuits for each day of school attendance. These biscuits are produced locally at a cost of US\$0.056 a packet. Since there are 240 school days in a year, the cost amounts to US\$13.50 per child per year.

Under the school feeding program, the private sector manufactures and delivers the required biscuits. The WFP provides biscuit manufacturers with wheat and micronutrient mix and advises them on hygiene and quality control. WFP-imported wheat earmarked for school feeding is bartered against biscuits from contracted local factories. The biscuits are delivered to WFP's partner NGOs and stored at regional warehouses before being sent to schools.

In 2003 the school feeding program covered 1.21 million primary school children in 6,126 schools in 36 upazilas (specifically, in the rural areas of 32 upazilas and in urban slums in 4 upazilas in Dhaka City) in 9 districts of Bangladesh.<sup>4</sup>

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<sup>4</sup> The administrative structure of Bangladesh consists of divisions, districts, *upazilas* (subdistricts), and unions, in decreasing order by size. There are 6 divisions, 64 districts, 489 *upazilas* (of which 29 are in 4 city corporations), and 4,463 unions (all rural).

### The Impact of the School Feeding Program

In late 2003 IFPRI conducted a comprehensive evaluation of the impact of the Bangladesh's school feeding program (Ahmed 2004). Most of the program children had been eating school feeding biscuits every school day for more than a year before the IFPRI surveys. Based on survey data, econometric models captured the impact of the school feeding program alone, isolating the effects of income and other factors.

The evaluation found that the school feeding program significantly increases rates of enrollment and attendance and reduces dropout. It has raised school enrollment by 14.2 percent and increased school attendance by 1.3 days a month. It has reduced the probability of dropping out of school by 7.5 percent.

The program also substantially improves the diet of the children in the program. Energy (calories) consumed from school feeding biscuits are almost entirely (97 percent) additional to a child's normal diet. In other words, the child's family does not give him or her less food at home for eating the school feeding biscuits at school. These findings are based on a specifically designed experiment and an econometric model to assess the impact of school feeding on children's energy intake.

The biscuits are the single most important source of vitamin A in the diet of program participants. After rice, they are the most important source of energy, protein, and iron. The average energy consumption of participating students is 11 percent and 19 percent higher in rural and urban slum areas, respectively, than in corresponding control areas.

Many participating students appear to share school feeding biscuits with younger siblings and sometimes other household members. Sharing creates an interesting spillover effect: school feeding biscuits account for 7 percent of total energy for children aged two to five in beneficiary households in rural areas. Clearly, sharing dilutes the benefit of supplemental nutrition for individual schoolchildren. It can, however, be quite beneficial for the young siblings, since nutrient supplements have a proportionally greater effect on the nutritional status of younger children.

The school feeding program improves child nutritional status: it increases the body mass index (BMI)

of participating children by an average of 0.62 points. This gain represents a 4.3 percent increase over the average BMI of schoolchildren in the control group—a sizable increase that is partly due to the fact that most participating children were undernourished to begin with.

The school feeding program also improves academic performance. Participation in the school feeding program increases test scores by 15.7 percent. Participating students do especially well in mathematics. Students from urban slums do better in achievement tests than do students from rural areas, probably owing to the difference in quality between urban and rural primary schools.

An extremely high percentage of mothers report several positive effects of the school feeding program on their children. They note that children's interest in attending school and concentration on studies have increased; they are livelier and happier than before, and their incidence of illness has declined.

### **Stakeholder Groups**

Several stakeholder groups with direct or indirect interest in the food and educational interventions discussed can be identified.

#### Policymakers

Motivated by the need to reduce hunger in the short run and poverty in the long run, policy makers in government ministries such as education are assigned responsibility for designing cost-effective programs that will attain human development goals. Their success in designing, implementing, and monitoring and evaluating the intervention programs reflects the government's success in addressing the welfare and development concerns of its citizens. In democracies, this kind of success can be a valuable tool for reelection.

#### Beneficiary Families

Poor families who derive benefits from FFE programs partly depend on them for their survival. Implemented well, the programs can reduce hunger in the family, increase the nutritional status of children, and educate children who otherwise would not attend school. In the long run the programs can help them climb out of poverty. Yet

beneficiary households have little say in the design and implementation of the programs, in spite of the fact that the level of poverty, food security, and education of their children depend on how the programs are designed and implemented.

### Local Community Groups

Although few programs have delegated the responsibility of selecting the beneficiaries to local community groups, inclusion of rightly targeted households depend on the effective functioning of the local groups. The members of the selection groups have a stake in the program operations since their membership brings power and status within their community.

### School Authorities and Teachers

Any school-based program that involves school-teachers has implications for how teachers are engaged in delivering the programs. Appropriate program design can reduce the workload of the teachers by keeping them focused on educating children without too much involvement in the management and delivery of food. They can easily substitute one type of work for the other, yet they are rarely consulted in the design of FFE programs.

## **Policy Options**

The Bangladesh experience with FFE (food-for-schooling and school feeding programs) suggests that FFE programs improve both enrollment and attendance and reduce dropouts. Because the direct and opportunity costs<sup>5</sup> of schooling are the main factors that prevent children from poor families from attending school, food-for-schooling programs, which target income transfers to the poor, are likely to generate greater impacts on school enrollment and retention rates than those created by school feeding programs.

The encouraging findings of IFPRI's evaluation of school feeding suggest that the program could be scaled up to benefit many more Bangladeshi children—but care must be taken with targeting. To achieve maximum benefit for the cost, the program should cover those areas where undernutrition is a serious problem, school enrollment and attendance

rates are low, and dropout rates are high. Urban slums, in particular, are promising areas for expansion. Besides low enrollment and high dropout rates, urban slum children are threatened by violence and other social disruptions. Some of these threats can be mitigated if children can be drawn to school.

Bangladesh's school feeding program is a far simpler and less expensive program to implement and manage than a full school lunch program. The program is highly cost-effective. It is inexpensive compared with related programs, with a cost of US\$18 per child per year, of which US\$13.50 goes to produce the biscuits. On average, WFP-supported school feeding programs in other countries cost US\$34 a year per child.

By using pre-packaged biscuits, the program in Bangladesh avoids the costs of cooking at the schools and diminishes teachers' responsibility for food management. The packaged biscuits also offer better quality control and hygiene than school-cooked meals. Because of their low cost and high impact, nutrient-fortified snacks may in many countries prove a better program option than a full meal.

Clearly, impacts will be the greatest when school feeding and food-for-schooling are combined. Together, school feeding and food-for-schooling programs are powerful tools for alleviating day-to-day hunger pains, reducing food shortages within households, helping children learn while in school, and creating opportunities for families to send children to school and keep them there. By combining the two programs, governments can alleviate hunger and reduce poverty in the long run.

Policymakers need information with which to decide on program modification, extension, or termination. Independent and carefully designed evaluations to assess program performance (related to, for instance, targeting and leakage) and to determine program impact strengthen the empirical basis on which governments and donors can make informed policy choices. Information on targeting performance and cost-effectiveness of FFE programs, however, is deficient. Without such information, the placement and implementation of programs can be arbitrary and motivated primarily by political considerations. Reputable researchers should use state-of-the-art evaluation methods

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<sup>5</sup> Opportunity cost represents the lost earning when a child goes to school.

(such as randomized design, baseline information, and control groups).

For future program design, research, and evaluation agendas, the following policy-relevant questions could be addressed:

- Are there substantial longer-term effects that can be quantified for beneficiaries of FFE programs?
- What is the level of hunger among school-age children? How do they experience it? Can one describe it? Can it be measured?
- What specific nutritional problems can FFE address, and how? Is it only short-term hunger that can be addressed by school feeding? Are there other nutrition issues that can be tackled in FFE programs?
- What are the effects of increased access to education by girls on the attitudes of parents and communities?
- Can national standards and guidelines be specified for FFE, and can they be universally applied?
- Should governments be obliged to treat education and nutrition as rights and fulfill their obligations to the population in these areas?
- Should international organizations such as WFP and the United Nations Children's Fund (UNICEF) play an advocacy role to motivate national governments to adopt policy guidelines for the right to food and the right to education?

## Assignment

The government of Bangladesh has tried two types of food-based interventions to increase primary education and food security of poor households. Your assignment is to recommend changes in the FFE program in Bangladesh, including possibly the scaling up of the programs, taking into account expected benefits and leakages. Discuss the policy options that the government of Bangladesh can consider in implementing a new FFE program, but which some stakeholders might resist. Justify your recommendations in light of the consequences for the various stakeholders.

## Additional Readings

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