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Do Crowded Classrooms Crowd Out Learning? Evidence From the Food for Education Program in Bangladesh

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In Bangladesh, pervasive poverty has kept generations of families from sending their children to school, and without education, their children's future will be a distressing echo of their own. Many children from poor families in Bangladesh do not attend school either because their families cannot afford books and other school materials, or because the children contribute to their family's livelihood and cannot be spared. In some areas, there is also a lack of schools. Among those who enter primary school, only about 40 percent of them complete it. The great success of the Food for Education (FFE) program of the Government of Bangladesh has led to larger classes, but do these crowded classrooms crowd out learning?

How Does the FFE Program Work?

The Government of Bangladesh launched the FFE program in 1993. The FFE program provided a free monthly ration of foodgrains to poor families in rural areas if their children enrolled in primary school, and maintained an 85 percent attendance rate. The family could consume the grain, or sell it and use the cash to meet other expenses. Before the program was terminated in June 2002, the FFE program covered about 27 percent of all primary schools and enrolled about one-third of all primary school students. FFE beneficiary students accounted for about 13 percent of all students in primary schools in Bangladesh. The cost of the program (including the value of foodgrains) was approximately US\$37 per beneficiary student per year. A two-step targeting mechanism was used, selecting poor areas, then poor households within those areas.

Data from school and household surveys conducted in Bangladesh by the International Food Policy Research Institute (IFPRI) in September-October 2000 were used to evaluate the FFE program. The surveys included primary schools with and without the FFE program, and a cross section of households including program beneficiaries and nonbeneficiaries. The sample included 600 households in 60 villages in 30

unions in 10 *thanas*, and 110 schools in the same 30 unions from which the household sample was drawn. In addition, a standard academic achievement test, designed to assess the quality of education received by students, was given to students in both FFE and non-FFE schools.

The Impact of the FFE Program

IFPRI analysis showed that the FFE program led to increased enrolment and class attendance rates, particularly among girls. However, classrooms of FFE schools became more crowded: on average, classrooms in FFE schools had 22 percent more students (67 students) than classrooms in non-FFE schools (55 students). Within FFE schools, the average test score is lower for FFE beneficiaries than nonbeneficiary students, which brings down the aggregate score in FFE schools. In non-FFE schools, average test scores of all students are comparable to nonbeneficiaries in FFE schools. Boys consistently outperformed girls in the achievement test in all subjects in all types of schools, regardless of FFE beneficiary status.

Does classroom crowding (resource dilution) or the lower ability of FFE children (peer effect) affect test scores of non-FFE students in FFE schools? IFPRI's multivariate analysis does not support the resource dilution hypothesis. Class size has no effect on student achievement.

Results of the peer effect analysis, however, show that the learning performance of non-FFE students in FFE schools is negatively affected when an average of 44 percent of the students in

class are FFE beneficiaries. This is probably due to the teachers having to go more slowly to accommodate poorly performing FFE students. These students come from poorer families. Evidence from household surveys show that children from poor families are less likely to have educated parents who could help them in their studies at home, to afford study materials, and to find enough time to do the homework, as many of them

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must contribute to their family's livelihood. Moreover, from birth, these children are often deprived of the basic nutritional building blocks that they need in order to learn.

Nevertheless, there are benefits to non-FFE beneficiaries from being in an FFE school because FFE schools must meet certain minimum educational quality standards to maintain FFE eligibility. For example, in FFE schools, at least 10 percent of Grade 5 students must qualify for the national annual scholarship examination. No such performance standards are required for non-FFE primary schools. These benefits to non-FFE beneficiaries outweigh the negative peer effects up to the point when FFE beneficiaries reached 69 percent of the students in the classroom. After 69 percent, the benefits derived from minimum performance standards vanish.

The overall effect at the community level is measured by the Minimum Learning Achievement, the percentage of children in a community who attain a minimum achievement score, weighted by the enrolment rate in that community. The minimum learning achievement in FFE communities is higher than in non-FFE communities (despite the latter tending to be richer) due to the increased enrolment from the FFE program. Particularly, major benefits accrued to the children from poor families who would not have attended school without the FFE program.

Results and Conclusions

As a food-based social safety net, the FFE program in Bangladesh served a wider purpose than simply providing the poor with immediate sustenance through take-home food rations, important as that is. It has empowered children from poor families with education, thereby paving their pathway out of poverty.

The FFE enrolment increase was greater for girls than boys, yet boys consistently outperformed girls on the achievement tests. Having drawn them into school, improving the quality of girls' education will ultimately strengthen the beneficial effects of women's education on various family-level outcomes, such as children's schooling, child health and nutrition, and women's fertility.

The concern that learning performance of non-FFE students in FFE schools may be adversely affected by increased class size generated by the FFE program appears to be unfounded. But, unchecked, the negative peer effect could hinder student achievement. In the FFE program, this was offset by the required minimum educational quality standards. Setting clear standards for performance is important, even at the primary level. Minimum performance standards should be incorporated in the design of the recently implemented Primary Education Stipend program (a cash-for-education program that has replaced the government's FFE program), as well as in the ongoing pilot testing of the school-feeding program launched by the Government of Bangladesh with support from the World Food Programme.

Keywords: food-for-education, school enrolment, targeting, Bangladesh

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