



**Impact Evaluation of Burkina Faso's  
BRIGHT Program**

Executive Summary

March 2009

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## EVALUATION OF THE BRIGHT PROGRAM: EXECUTIVE SUMMARY

The BRIGHT program was designed to improve the educational outcomes of children in Burkina Faso.<sup>1</sup> It focused on girls in particular and was implemented in 132 rural villages throughout the 10 provinces of the country in which girls' enrollment rates were lowest. It consisted of constructing primary schools with three classrooms and implementing a set of complementary interventions. These included inputs such as separate latrines for boys and girls; canteens; take-home rations and textbooks; and “soft” components, such as a mobilization campaign, literacy training, and capacity building among local partners (see Box 1 for details). The program was implemented during 2005 to 2008.

The program was financed by the Millennium Challenge Corporation (MCC) through a two-year Threshold Country Program (TCP). It was implemented by a consortium of NGOs—Plan International, Catholic Relief Services (CRS), Tin Tua, and the Forum for African Women Educationalists (FAWE)—under the supervision of USAID.

### BOX 1 COMPONENTS OF THE BRIGHT PROGRAM

The BRIGHT program consisted of the construction of 132 primary schools and developing a set of complementary interventions designed to increase girls' enrollment rates. The schools were based on a prototype that included three classrooms, housing for three teachers, and separate latrines for boys and girls. In addition, schools were deliberately located near a water source, and a water pump was installed close by. The complementary interventions included the following:

- **School canteens (daily meals for all).** Daily meals were offered to all boys and girls.
- **Take-home rations.** Girls who had a 90 percent attendance rate received 8 kilograms of dry cereal each month to take home.
- **School kits and textbooks.** Textbooks and school supplies were to be provided to all students. This was not fully realized until 2008.
- **Mobilization campaign.** The purpose of the mobilization campaign was to bring together communities and those with a stake in the education system to discuss the issues involved in, and barriers to, girls' education. The campaign included informational meetings; door-to-door canvassing; providing gender-sensitivity training to ministry officials, pedagogical inspectors, teachers, and community members; instituting girls' education day; radio broadcasts; posters; and providing awards for female teachers.
- **Literacy.** The literacy program had two components: adult literacy training and mentoring for girls. For each of the two project years, Tin Tua organized adult literacy training and training for student mothers/female role models.
- **Local partner capacity building.** Training encompassed local officials in the Ministry of Education, Bisongo monitors, and teachers. Specific training included the completion of school registers.

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<sup>1</sup> The official name is “Burkinabe Response to Improve Girl's Chances to Succeed”.

This report documents the main findings from the impact evaluation of the BRIGHT program. In general, the main conclusion is that BRIGHT had positive impacts on school enrollment and math and French test scores for both girls and boys. The evaluation was conducted by an independent research contractor, Mathematica Policy Research, Inc. (MPR), and two consultants, Leigh Linden (Columbia University) and Harounan Kazianga (Oklahoma State University). Data for the evaluation were collected by a team of researchers at the University of Ouagadougou, led by Jean Pierre Sawadogo.

## A. Overview of the Evaluation

The impact evaluation sought to answer three key questions: (1) What was the impact of the program on school enrollment? (2) What was the impact of the program on test scores? (3) Were the impacts different for girls than for boys? While two other reports have documented that the program was implemented as intended, by and large,<sup>2</sup> this evaluation focuses on assessing its impacts.

To estimate the program's impacts, we assessed how children in BRIGHT villages fared relative to how they would have fared had BRIGHT not been implemented. This assessment is important because even in the absence of BRIGHT, it is likely that enrollment would have increased in the 132 villages in which it was implemented. School construction and enrollment both were increasing in the period prior to the implementation of BRIGHT, and the government of Burkina Faso launched a program, Plan Decennal de Developpement de l'Education de Base (PDDEB) for the period 2002-2011 PDDEB's goals include increased access to schooling and the promotion of girls' education. Moreover, during 2007–2008, the total number of children enrolled in school rose in the 10 provinces in which BRIGHT was implemented—in the 132 BRIGHT villages and the remaining villages as well.

Hence, our ability to assess the program's success turns on the issue of whether, and the extent to which, we can ascertain what part of the improvement in educational outcomes in the 132 BRIGHT villages was due to the program itself and what part would have happened even if the program had not been implemented.

### 1. Evaluation Design

The evaluation design involved comparing children in the 132 BRIGHT villages (participant group) with children in 161 similar villages that had applied to participate in BRIGHT but were not chosen (comparison group). The statistical technique used to estimate program impacts is called regression discontinuity, which takes advantage of the fact that all 293 villages that applied to the program were given an eligibility score by the Burkina Faso Ministry of Education based on their potential to improve girls' educational outcomes.

Short-term impacts of BRIGHT were assessed one to two years after the program began. School construction began around October of 2006, and most schools were constructed by April 2007. Outcome data were collected from January through April 2008. Many villages that were set to receive BRIGHT schools constructed provisional classrooms during the year before the actual school construction was scheduled to begin.

### 2. Data Collection

Evaluation data on the participant and comparison groups were collected by a team from the University of Ouagadougou, with oversight from MPR, from the following sources:

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<sup>2</sup> "BRIGHT Project Final Evaluation Report" (CERFODES 2008) and "Threshold Country Program Final Report" (USAID 2009).

- A household survey administered about a year after the program was implemented. The survey included questions on households' demographics, children's educational outcomes (such as enrollment and attendance), and parents' perceptions of education. The target sample for the survey was a random sample of 30 households with school-age children in each of the 293 villages that applied to the BRIGHT program. The response rate was about 97 percent.
- Tests on math and French administered to all children ages 5 to 12 who lived in those households interviewed in the household survey, regardless of whether they were enrolled in school. These tests were administered immediately after the household survey. A total of 21,730 children took the tests.
- A school survey administered in two waves. In the first wave, information was collected on the schools' characteristics. In the second wave, attendance and enrollment data were collected for children who were enrolled in school, based on parents' reports from the household survey. The target sample for the survey was the three closest primary schools within 10 kilometers of the villages that applied to the BRIGHT program that children from that village attended regularly. This yielded 360 schools.
- Application data from the form submitted by the 293 villages when they applied to the program. This information was used to compute the eligibility score, which in turn determined which villages were eligible to participate in the BRIGHT program.

## B. Implementation

By and large, the BRIGHT program seems to have been implemented as intended, based on the CERFODES and USAID final reports cited previously. The schools were constructed and the set of complementary interventions were implemented for the most part according to the original plans. From the standpoint of this evaluation, there are three key findings related to program implementation:

- **The infrastructure of BRIGHT schools is better than that of the schools attended by children in the comparison group (Table 1).** On average, BRIGHT schools had a larger number of usable classrooms, desks, and blackboards than comparison schools. BRIGHT schools are also much more likely to have a water supply, latrines, and a preschool facility.
- **Teachers in BRIGHT schools seem comparable to teachers in comparison schools.** While the BRIGHT schools are more likely to have female teachers, there does not seem to be much difference in terms of teachers' average education level and experience.
- **By the time outcome data were collected for the evaluation, about 60 percent of the comparison villages had a school.** This implies that, even if BRIGHT had not been implemented, some of the 132 participating villages would have built a school anyway. Hence, the impact of the program needs to be interpreted not only as having increased access to schooling but also as having potentially improved the quality of schooling.

**Table 1. BRIGHT Schools vs. Comparison Schools**

	BRIGHT Schools	Comparison Schools
<b>Infrastructure</b>		
Number of:		
Classrooms	3.10	2.87
Usable classrooms	2.98	2.71**
Legible blackboards	2.91	2.53**
Percent with:		
Enough Desks	87	44***
Water supply	86	40***
Latrines	97	54***
Separate latrines	89	36***
Preschool facility	9	2***
<b>Teachers (in numbers)</b>		
Total	2.54	2.77
Female	1.10	0.61***
With secondary education	0.10	0.12
With 0 to 5 years of experience	1.94	1.81
<b>Sample Size (Schools)</b>	<b>132</b>	<b>228</b>

\*/\*\*/\*\*\*Difference statistically significant at the 10%/5%/1% significance level.

Source: School surveys (MPR 2007 and 2008).

### C. Impacts

**BRIGHT had a positive impact on school enrollment.** The impact of BRIGHT on enrollment was an improvement of about 20 percent, based on household survey data. The impact on whether a child was present on the day we visited the school, however, was about 16 percentage points (Table 2). These effects are larger than those of other educational interventions in developing countries, particularly given that 60 percent of the comparison group villages had a school by the time the outcome data were collected. The effects imply that BRIGHT was responsible for increasing enrollment rates from about 35 percent to 55 percent (household-reported outcome) or from about 31 percent to 47 percent (school-based outcome).

**Table 2. Impacts of BRIGHT**

Outcomes	Estimated Impact
<b>Enrollment (percentage points)</b>	
Enrolled in school <sup>a</sup>	20***
Present in school on day of visit <sup>b</sup>	16***
<b>Test Scores (standard deviations)</b>	
Math	0.40***
French	0.37***
<b>Sample Size (Children)</b>	<b>17,984</b>

<sup>a</sup>Based on household survey. <sup>b</sup>Based on our visit to the classroom on the day of the school survey.

\*/\*\*/\*\*\* Statistically significant at the 10%/5%/1% significance level.

Source: Household survey (MPR 2008), school surveys (MPR 2007 and MPR 2008), and application data (Burkina Faso Ministry of Education 2005-2006).

**BRIGHT had positive impacts on math and French test scores.** The impacts on both outcomes were approximately 0.4 standard deviations (Table 2). This increase in test scores is larger than many other

successful education interventions in the developing world, which have effect sizes typically between 0.1 and 0.3 standard deviations (although as noted below, BRIGHT is a more costly intervention, since it involves building schools). In this context, an impact of this size implies that, for a student who started at the 50th percentile of our sample, attending a BRIGHT school is predicted to increase his or her test score to approximately the 80th percentile.

**The impacts of BRIGHT were positive for both boys and girls.** In terms of enrollment, the impacts for girls were about 5 percentage points higher than the impacts for boys. In terms of test scores, the impacts for girls and boys were statistically indistinguishable.

We were unable to disentangle from all of the intervention components (schools, dry rations, textbooks, etc.) those most responsible for the positive impacts. To do this, some of the BRIGHT schools would have had to implement some components but not others. While this was theoretically possible, it was not logistically feasible to implement the program in this way, given the project's timeline.

Descriptive evidence based on the parents' responses to the household survey suggests that the presence of a school near a household seems to be a crucial feature of the program. According to our estimates, schoolchildren in BRIGHT villages do not travel as far or as long from home to school as those in the comparison village (1 km vs. 1.5 km; 18 vs. 24 minutes of travel time). Moreover, the household survey also indicated that, for 72 percent of the children in BRIGHT villages, the distance from home to school is one of the two most important reasons to enroll in school (Table 3). Similarly, the most common reason reported by parents in the comparison villages for *not sending* their child to school was that there was no school in the village or that the nearest school was too far away (about a third of parents reported one of these two reasons). Parents also reported that the availability of textbooks and canteens were important reasons for enrolling their children in school. Dry rations and separate latrines were seen as much less important.

**Table 3. Parents' Reasons for Enrolling Children in BRIGHT Schools—Participant Group**

Reason	Most Important (%)	Among Two Most Important (%)
Distance	54	72
Textbooks	12	43
Canteens	6	33
Dry rations	1	3
Separate latrines	0	0
Other	26	38
<b>Sample Size</b>	<b>3,940</b>	<b>3,940</b>

Source: Household survey (MPR 2008).

## D. Policy Implications

The evaluation revealed that BRIGHT increased both enrollment and test scores of children in Burkina Faso. The estimated impacts are larger than those of other recently evaluated education interventions in developing countries. As such, the program may serve as a model for policymakers interested in improving these outcomes in similar contexts.

To assess whether a program like BRIGHT should be implemented in other contexts, we need to consider the alternative policy interventions available in these contexts. In thinking about comparing BRIGHT with other recently evaluated education interventions in the developing world, it is important to remember that many of those were launched in areas in which schools already existed. Examples include



providing textbooks to schools in Kenya and hiring extra teacher aides in India. Most BRIGHT villages, however, had no school before the program was implemented. Therefore, these other interventions may not be feasible policy instruments with which to increase the educational outcomes of children in contexts similar to that of BRIGHT's.

Although the magnitude of BRIGHT's estimated impacts is larger than that observed in typical education interventions in developing countries, a cost-effectiveness analysis would be needed to assess whether the effects are large on a per-dollar basis. In particular, it would be useful to know whether building a less expensive school of the sort typically built in Burkina Faso would have generated similar impacts. While this evaluation cannot answer this question definitively, we found suggestive evidence indicating that part of the impact of BRIGHT came from having built a school in villages in which no school would have been available, and part from having built a school with a better infrastructure and add-on components than the typical school that would have been available without BRIGHT.

In the end, the question that remains is: will the observed effects persist over time? Policymakers in Burkina Faso consistently voiced concern about whether children in BRIGHT villages would continue to go to school after the third year (there are only three classrooms). A new project now underway—BRIGHT II—is providing three additional classrooms in the same 132 villages. This initiative may provide a good opportunity to assess the long-term effects of this type of intervention.



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