Pakistan - Learning and Educational Achievement in Punjab Schools (LEAPS) - 2003

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Sampling

Sampling Procedure

The sample comprises 112 villages in 3 districts of Punjab-Attock, Faisalabad and Rahim Yar Khan. The districts represent an accepted stratification of the province into North (Attock), Central (Faisalabad) and South (Rahim Yar Khan). The 112 villages in these districts were chosen randomly from the list of all villages with an existing private school. This allows us to look at differences between private and public schools in the same village. Although these villages are thus bigger and richer than average villages in these districts, we believe this is a forward-looking strategy and the insights earned here will soon be applicable to a significant fraction of all villages in the country.

Deviations from Sample Design

None.

Response Rate

The attrition has been remarkably small, averaging 3-4 percent in each year.

Weighting

The LEAPS survey was designed using a two-stage sampling strategy. First, mauzas were selected with equal probability from the universe of all rural mauzas with at least one private primary school. Mauza selection was stratified at the district level -- 46 mauzas were selected from each district. Several mauzas were subsequently dropped because their private schools were found to have closed, and a few very large mauzas with more than 20 schools were also dropped for logistical reasons. This resulted in a final sample of 112 mauzas, 37 of which are in Attock, 43 in Faisalabad, and 32 in Rahim Yar Khan.

Following the selection of mauzas, a sample of sixteen households were chosen from a census of all households within each sample mauza. This selection was also stratified -- 12 households were randomly selected from the population of households with at least one child enrolled in class three, and 4 households were randomly selected from the population of households with children between 8 and 10 years old, none of whom were enrolled in school. Households without children between the ages of 8 and 10 were not included. This sampling strategy was designed to provide the counterpart to our survey of class three children at the school level.

Depending on the empirical question of interest, it is sometimes important to use the included household probability weights. Households with enrolled children and households with no enrolled children are weighted differently, and without weights estimates of population means like enrollment rates for class three eligible children will be inaccurate. Note that the use of weights does not allow researchers to recover all the possible parameters of interest in a village. Households without children between 8 and 10 years old are not included in the sample, so while the LEAPS data gives accurate estimates of class three enrollment rates, it cannot be used to estimate the enrollment rates of other populations. Furthermore, because mauzas were selected from the population of mauzas with at least one private school and were not selected with probability proportional to population, findings from these mauzas cannot be used to make generalizations about the district in which they reside.

Questionnaires

Overview

The LEAPS project consists of a variety of questionnaires distributed to different groups in each village in order to obtain a complete picture of the educational environment.

School Survey: Head teachers and school ownders were asked a variety of questions about about infrastructure, prices, costs and other facilities available in the neighborhood of the school.
Teacher surveys: The LEAPS project administered three sets of teacher surveys. A shorter roster was administered for all teachers in the school and for all teachers who had left the school in the previous two years. This roster yields information on above 5000 teachers in the LEAPS project schools. A longer questionnaire was administered to the teachers of the tested children. This questionnaire includes detailed socioeconomic information about the teacher and yields data on just above 800 teachers. In addition, a questionnaire was also administered to the head-teacher (where the head-teacher was different from the class teacher) with questions on management practices and bonus schemes, along with other modules.

Child Tests: All children in Class 3 (approximately 12,000) were tested in the LEAPS project schools with specially designed tests in Urdu, Mathematics and English. These tests were administered by the LEAPS team to ensure impartial test circumstances. Further, for a sample of 10 randomly selected children in every class (roughly 6000 in total), a short questionnaire was administered to the child with information on parental literacy, family structure and household assets (in classes with less than 10 children, all children were chosen).

Household surveys: Information on the educational inputs that children receive from home, a full-fledged household questionnaire was fielded for 1800 households in the sampled villages, with a special focus on covering those households with a child enrolled in class 3. To ensure that we could compare the activities of enrolled with out-of-school children we also sampled households with eligible kids who were not in school in a stratified fashion.

Data Collection

Data Collection Dates

Start	End	Cycle
2003	2003	N/A

Time Periods

Start	End	Cycle
2003	2003	N/A

DATA COLLECTION NOTES

A significant fraction of our effort so far has been on data generation. The first step in engendering evidence-based policy making is to gather the evidence. The tracking, repeated testing of children, surveys of teachers, head-teachers and schools and the longitudinal database of households takes up to 6 months a year to produce among all the participants in the project. Some highlights of the data-generation process include: 1. Test Development: At the beginning of the LEAPS project, we piloted an extensive testing instrument that could be used in Pakistan at the primary level. The items in the test were then analyzed and the test was re-piloted prior to the first survey. In the second year, we added and piloted new items, leading to an increase in the total number of questions available through the item-bank for the project. This norm-referenced test has very high reliability, and is now being used in other provinces as well (Sindh). The tests were designed after studying the curriculum. The design of the tests also ensures that we covered all concepts relevant to the subject. In Urdu and English we start with the alphabets, move on to word-recognition and then sentence construction and comprehension. In Mathematics we start with counting, move on to addition and subtraction, multiplication and division and then fractions and word problems. The tests are graded and analyzed using Item Response Theory, which is the international bestpractice for evaluating test results. For a detailed description of the tests and in introduction to Item Response Theory, please see the “Test Feasibility Report.” 2. Tracking Children: In 2004 we tested 12,000 children in 838 public and private schools in Grade 3 and re-tested them in Grades 4 (2005) and 5 (2006). In 2006, we also included Grade 3 children, increasing the total number of children tested to 25,000. These children all need to be tracked through the year to find out where they are the next year. In the transition children could (a) drop-out (b) remain in the same school and be promoted; (c) remain in the same school and not be promoted; (d) switch schools within the village and be promoted (in which case they would be tested in another school) and be promoted; (e) switch to schools within the village and not be promoted and (f) switch to schools outside the village or leave the village all together. Although close to 1800 children out of 12,000 were no longer in the same class-school combination that they would have been if they did not switch schools and were promoted, we were able to determine the status of all except 500. In one previous study, authors could track only 10 percent of the children compared to our rate of above 95 percent. 3. Surveying Households: We have now created a longitudinal dataset of 1800 households across the 3 years, and in each of the years there are close to 750 children on whom we also have information on learning from the school testing exercise. This is the first database in low-income countries that combines detailed household information (including consumption aggregates) with school-level inputs and learning.

SUPERVISION

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Data Processing

No content available

Data Appraisal

No content available

Related Materials

Questionnaires

LEAPS Questionnaire Round 1

Title	LEAPS Questionnaire Round 1
Author(s)	World Bank
Country	Pakistan
Filename	leaps_surveys_round1.pdf

LEAPS Questionnaire Round 2

Title	LEAPS Questionnaire Round 2
Author(s)	World Bank
Country	Pakistan
Filename	leaps_surveys_round2.pdf

LEAPS Questionnaire Round 3

Title	LEAPS Questionnaire Round 3
Author(s)	World Bank
Country	Pakistan
Filename	leaps_surveys_round3.pdf

LEAPS Questionnaire Round 4

Title	LEAPS Questionnaire Round 4
Author(s)	World Bank
Country	Pakistan
Filename	leaps_surveys_round4.pdf

Technical documents

LEAPS Metadata Year 1

Title	LEAPS Metadata Year 1
Date	2008-04-14
Country	Pakistan
Filename	LEAPS Metadata - Year 1.pdf

Test Feasibility Survey

Title	Test Feasibility Survey
Filename	TestFeasibility.pdf

Surveyor Manual: Household Questionnaire

Title	Surveyor Manual: Household Questionnaire
Filename	Public Data/Questionnaires/Surveyor Manual Household Survey 1.pdf

Other materials

Data Cleaning

Title	Data Cleaning
Filename	Public Data/Other Materials/Data Cleaning.doc