
The Annual Status of Education Report survey: Monitoring learning levels of children in rural India

The Annual Status of Education Report (ASER) survey is a household-based survey of school-aged children in all rural districts in India. It is the only annual survey that yields data on children's basic learning levels in this country (ASER Centre, n.d.-k). It evolved out of the work of a non-governmental organisation called Pratham.¹

Origins and context

Since its inception, Pratham's work has focused on helping underprivileged children to learn reading and arithmetic. In order to gain an understanding of the skill levels of the children with whom they were working, and to track the effectiveness of their programs, Pratham staff members developed simple one-page assessment tools. These tools served as the basis for the assessment tools that are now used in the ASER survey (ASER Centre, n.d.-a).

The ASER survey has been conducted every year since 2005. Initially the survey was managed from within Pratham's existing organisational structure. In 2008 the ASER Centre was established as an autonomous unit within the Pratham network, and this unit has been responsible for the survey since then (ASER Centre, n.d.-b).

The ASER survey reaches households in every rural district in India. The survey eschews the typical school-based approach to assessing learning outcomes because this approach cannot yield data that are representative of the entire population of school-aged children in a context where a complete and accurate school sampling frame does not exist; and where the percentages of school-aged children either not enrolled in school or not attending school regularly are high enough to affect the representativeness of any in-school sample (ASER Centre, n.d.-g).²

Each year the number of school-aged children assessed in reading and arithmetic is between 500 000 and 600 000 (ASER Centre, n.d.-d). The survey samples such a large number of children because it aims to obtain district-level learning estimates that can feed into the annual district-level government planning processes (R. Banerjee, personal communication, 4 March 2014). The survey would not be so broad in scope, large in size or fast in terms of data collection without the involvement of local educational institutions and community groups, since it is volunteers from these institutions and groups who travel – sometimes under difficult conditions – to sampled villages to collect the data.

The ASER survey is described as 'citizen-led' (ASER Centre, n.d.-k). This description applies not only because the data collection activities are completed by volunteers in each district, but also because the data are collected in each village in a way that engages the locals, and thereby raises awareness of local issues of schooling and learning levels, and triggers discussion about possible solutions to these issues.

The ASER Centre receives institutional support from, among others, the William and Flora Hewlett Foundation. The ASER survey receives no government funding, and relies on the donations of individuals and organisations from within India and abroad.

1 Information about Pratham is available at <http://www.pratham.org/>.

2 Regarding a school sampling frame, a complete and accurate frame does not exist because many private schools are not recognised by governments, and therefore do not appear on 'official' school lists (ASER Centre, n.d.-g). For some examples of the percentages of school-aged children who are not enrolled in school or do not attend school regularly, refer to the ASER 2012 Annual Report (ASER Centre, 2013).

Purpose

The ASER survey aims to obtain reliable, district-level estimates of the status of rural children's school enrolment and skills in reading and arithmetic, and to measure the change in these estimates over time (ASER Centre, n.d.-m).

Measurement objectives

Assessment domains

Each year the ASER survey measures skills in reading and arithmetic. The tasks in the reading and arithmetic tools are described below.

Table 1: Tasks in the ASER survey's reading and arithmetic tools

Tool	Task	Task description
Reading	1	from a set of 10 different letters, select any five of them and read them aloud
	2	from a set of 10 common, everyday words, select any five of them and read them aloud
	3	read a text aloud that consists of four sentences (equivalent to Std I difficulty – Std I is the first grade of primary school)
	4	read a text aloud that consists of eight to 10 sentences (equivalent to Std II difficulty – Std II is the second grade of primary school)
Arithmetic	1	from a set of eight different one-digit numbers, select any five of them and say them aloud
	2	from a set of 10 different two-digit numbers, select any five of them and say them aloud
	3	from a set of eight different two-digit subtractions that require borrowing, select any two of them and calculate the answers (equivalent to Std II difficulty)
	4	from a set of four three-digit by one-digit divisions, select one and calculate the answer (equivalent to Std IV difficulty – Std IV is the fourth grade of primary school)

In addition to measuring these skills, the ASER survey measures other different skills from year to year. Some examples of the domains in which other skills have been measured are reading comprehension, reading in English, problem solving and everyday maths (ASER Centre, n.d.-h).

Contextual information

Contextual information is collected about the households of the surveyed children. This information covers the number of children in the household and their enrolment status, the age and level of education of the mother and father, household amenities and household possessions.³

³ Information on father's education level has been collected since 2009. Information on household assets and amenities has been collected since 2008. In 2011, information about language spoken at home was also collected. For an example of the household survey sheet that is used to collect household contextual data, see ASER Centre (2012a).

Contextual information is also collected in one government school with primary grades within each sampled village. This information covers student enrolment and attendance, teacher numbers and attendance, the teaching tools and aids in an observed classroom, services and facilities, and school grants and activities. Some of the information about services and facilities is collected to be tracked against particular indicators linked to the 2009 Right of Children to Free and Compulsory Education Act (also known as the Right to Education (RTE) Act).⁴

Since 2008, contextual information has also been collected in each sampled village about road connectivity to the village, the electricity supply, and the availability of services such as schools, a post office and a health clinic.⁵

Target population and sampling methodology

The target population for the reading and arithmetic assessments is children living in rural areas who are aged between five and 16 years. The target population for enrolment information and other background information is children living in rural areas who are aged between three and 16 years. A sample of the target population is obtained via a two-stage sampling process. In the first stage, villages are sampled from each rural district. Since 2006, there has been a rotating panel of 30 villages in total per district, as illustrated below.

Table 2: Illustration of the rotating panel of villages in each district the ASER survey

	Year X		Year X+1		Year X+2	
	Number of villages	Year when villages were first sampled	Number of villages	Year when villages were first sampled	Number of villages	Year when villages were first sampled
	10	X-2	10	X-1	10	X
	10	X-1	10	X	10	X+1
	10	X	10	X+1	10	X+2
<i>Total number of villages per district</i>	30	–	30	–	30	–

The 10 villages that join the rotating panel each year are sampled using probability proportional to size (PPS) sampling methods, so that the probability of a village being sampled is proportional to the population of the village (ASER Centre, n.d.-m).

In the second stage, households are sampled from each sampled village. The sampling of households is undertaken on the day the survey is administered. In this technique, the field investigators (usually two volunteers trained by the ASER Centre) walk around the village and construct a map with the help of local people. They then use the map to divide the village into even sections or naturally occurring hamlets, randomly select four sections or hamlets, and select five households at intervals from each of these to obtain a total of 20 households.⁶ (ASER Centre, 2013, 2014).⁷

In each sampled household, all children within the target population aged three to 16 are surveyed and all children aged five to 16 are assessed.

4 For an example of the school observation sheet that is used to collect data about the school, see ASER Centre (2012b).

5 For an example of the village information sheet, see the ASER 2012 (ASER Centre, 2013, p. 28).

6 For examples of the instructions given to the field investigators to sample households from the village, see the ASER 2012 report and the ASER 2013 (ASER Centre, 2013, pp. 10-12; 2014, pp. 16-18).

7 Since villages are selected with PPS, households across all sampled villages have a more or less equal probability of being sampled (ASER Centre, n.d.-m).

Assessment administration

The field investigators who administer the assessment are trained at district-level workshops by master trainers who have been trained at state-level workshops that are conducted by the ASER Centre state teams. Before the state-level training the ASER Centre state teams themselves are introduced to the year's tools and processes at a national workshop.

The ASER survey uses one-page tools. The reading tool is developed in 20 languages. The field investigator administers the assessment one-on-one and orally to each child who is in the sample. Usually the children are asked to read in the language that is the medium of instruction in their school. If the child is not enrolled in school, the child can choose the language in which he or she wants to be tested.⁸

Both the reading and the arithmetic assessments are administered in a manner similar to adaptive testing: the assessment begins at task three and then proceeds either up to task four or down to task two, depending on whether or not the child completes task three to a satisfactory standard. This administration method means that each child completes only two or three tasks per domain.

Achievement data are recorded by the field investigator on the one-page household survey sheet. The investigator records only the highest achievement level attained by each child.

All contextual information is collected by the field investigator through observation and questioning, and recorded on one-page survey sheets. Most of the variables that store contextual information indicate simply the presence or absence of a particular attribute or possession. The exceptions are the few numerical variables.

Reporting and dissemination

Data are collected between September and November each year and the ASER report is always released in mid-January of the year following the data collection. The reports have followed the same structure over the years: some key statistics are presented first in a graphical format, a summary of the major findings follows, and finally statistics are given in graphical and tabular format for both the national level and the state level.⁹

A summary of the information presented for both the national level and the state level is given below.

- Data on enrolment status are disaggregated by age, gender and school type, and reported as percentages.
- Trends over time in enrolment status are reported for children attending private school and children who are out of school.
- Data on achievement in the reading and arithmetic assessments are disaggregated by grade and reported as percentages indicating the highest achievement level attained.
- Trends over time in achievement in the reading and arithmetic assessments are reported as percentages at particular achievement levels for particular grades; for the reporting of these trends, the data are disaggregated by school type.
- Contextual data from the observed schools are reported mainly as percentages, and cover:
 - student and teacher attendance
 - school funds and activities
 - presence of multi-grade classes
 - presence and use of computers
 - presence and status of head teachers
 - presence of services and facilities identified under the *RTE Act* as compliance indicators.

⁸ The choice would be between all the main regional languages used in the area (R. Banerjee, personal communication, 4 March 2014)

⁹ For an example ASER report structure, see the ASER 2012 and the ASER 2013 (ASER Centre, 2013, 2014).

In addition to these results, an annual report may contain:

- data on achievement in any other skills assessed, disaggregated by grade and reported as percentages, and
- a small number of other tables that vary from year to year, and show, for example, percentages of children who attend paid tuition, percentage of children with home language different to language of instruction, and percentage of children at different achievement levels crossed with the level of education attained by their fathers.

Every year the annual report also has a 'Notes on ASER' section. This usually consists of various papers, each of which discusses some aspect of the year's results in more detail. Sometimes these papers investigate links between contextual factors and children's performance on the assessments.

Annual reports and data from summary tables are available for download on the ASER Centre website (ASER Centre, n.d.-f, n.d.-l). Other technical documentation, including papers describing the survey's sampling processes and various analyses undertaken by researchers, are also available on the website (ASER Centre, n.d.-n).

The ASER Centre prepares annual policy briefs that are disseminated widely, along with survey results, both within and outside government at the national, state and district level (Pratham, 2009). The ASER survey results also receive considerable media attention both inside and outside India.¹⁰

Influence

Attention in India and elsewhere in recent years has been directed towards achieving universal primary education. As is also the case in many other countries, India has found that improvements in school attendance mean little if children are not actually learning when they are at school.

In the current policy climate – in which the aim is to continue to improve on school access and retention figures while increasing efforts to make sure that children are gaining the skills they need – the ASER survey is an important source of information for governments at the state and national level.

The ASER survey has had an influence at the state level in India, in that many states have initiated programs aimed at improving learning outcomes in response to ASER results. Moreover, assessment of student learning outcomes is becoming a feature of state systems, and several states have used or are using ASER-like tools to conduct these assessments (ASER Centre, n.d.-c).

The results of the ASER survey are also referenced in discussions about low learning levels in reports and strategy documents released by the national government. For example, ASER survey results were referenced in *Towards Faster and More Inclusive Growth: An Approach to the 11th Five Year Plan, the Mid Term Appraisal for Eleventh Five Year Plan (2007–2012)*, and the *Twelfth Five Year Plan (2012–2017): Social Sectors* (Planning Commission - Government of India, 2006, 2011, 2013). In addition, full-page summaries of the ASER survey findings appeared in the annual economic survey documents for the financial years 2011 to 2012 and 2012 to 2013 (Ministry of Finance - Government of India, 2012, 2013).

In discussing the survey's influence, the ASER Centre website states that it has become an important policy input (ASER Centre, n.d.-c). The references in key national government documents, especially those documents related to planning, do suggest that the ASER findings are taken into consideration when formulating educational policy initiatives. The website also cites as an example of the survey's influence the fact that the *Twelfth Five Year Plan (2012–2017): Social Sectors* emphasises the need for assessments of learning to ensure that policy goals and targets are being met (ASER Centre, n.d.-c).

Following several years of successful survey implementation, the ASER Centre was established in 2008. The ASER Centre aims to foster a culture of measurement and analysis, and to strengthen the links between evidence and action (ASER Centre, n.d.-j). Although it is most active within India, its influence has extended to other countries, most notably in supporting the introduction of ASER-like surveys in Pakistan, Tanzania, Kenya, Uganda, Mali and Senegal.¹¹

¹⁰ See ASER Centre (n.d.-e) for details of the extent to which ASER survey results feature in the media.

¹¹ For ASER Pakistan, see <http://www.aserpakistan.org/>; for Uwezo in Tanzania, Kenya and Uganda, see <http://www.uwezo.net/>; for Bèkunko in Mali, see <http://omaes.net/index.php/educ/beekungo>; for Jangandoo in Senegal, see <http://www.lartes-ifan.gouv.sn>.

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The ACER Centre for Global Education Monitoring supports the monitoring of educational outcomes worldwide, holding the view that the systematic and strategic collection of data on educational outcomes, and factors related to those outcomes, can inform policy aimed at improving educational progress for all learners.

<http://www.acer.edu.au/gem>