

Mozambique is poised to meet the MDG goal of 100 percent primary education enrollment. The achievement will have limited impact if the quality of the education that pupils have access to is lacking. Education quality will critically determine whether the promise of the newfound mineral wealth is shared among all Mozambicans and whether the economic growth will be concentrated in the extractive industries, while innovation, education and training remain underdeveloped.

Highlights

Input availability

- Mozambique's schools were relatively well endowed with the basic inputs for teaching. Three quarters (74%) of classrooms had blackboards as well as exercise books and pens. There were fewer than 20 pupils per class and just over two thirds (69%) of pupils had the necessary textbooks. Seventy four percent of schools had available toilets but only 34 percent of schools had toilets sufficiently clean for use, suggesting that available inputs are not well maintained.

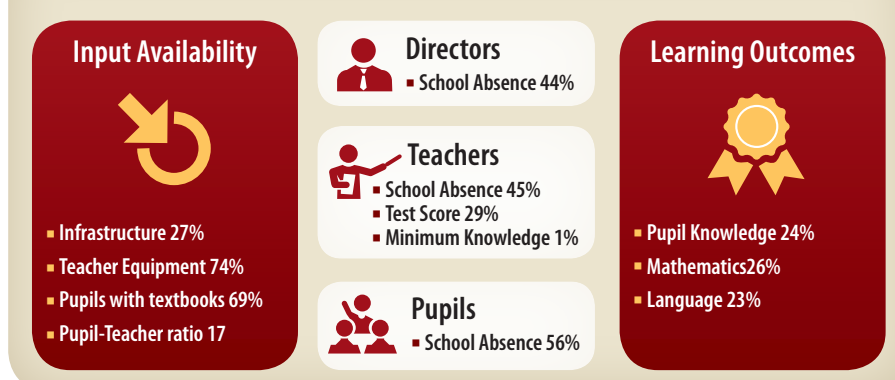
Teacher effort

- Almost half (45%) of teachers were not in school during an unannounced visit and a further 11 percent were at school, but not in the classroom when they were supposed to be teaching. The result is that pupils only get an average of 1hr 41min of teaching per day. Stated differently: out of 190 school days, pupils received only 74 effective teaching days.
- A key determinant of teacher absence was whether the Director was present at school. In schools where the Director was absent, teachers were twice as likely to be absent: 64 percent versus 34 percent.

Teacher ability

- Teachers in Mozambique have serious gaps in knowledge and teaching ability. The average teacher score on the teacher assessment (in Portuguese, mathematics and pedagogy) was 29 percent. Only 65 percent of mathematics teachers could do double digit subtraction (e.g. 86-55) and only 39 percent could do subtraction with decimals (e.g. 12.15-11.83).
- There were some teachers who performed better: for example, the best performing decile (10%) of teachers scored 44 percent in the teacher assessment.

FIGURE 1. Service Delivery Indicators in the Education Results Chain



Pupil performance and attendance

- While the country is reaching nearly 100 percent primary school enrollment, absence among enrolled pupils was high: on average 56 percent of pupils were absent.
- Grade 4 pupils in Mozambique had the lowest performance compared to other SDI countries surveyed (in Portuguese, mathematics and non-verbal reasoning), scoring an average 24 percent. Only 49 percent of pupils could add single digits (e.g. 7+8) and only 5 percent could subtract double digits (e.g. 57-49).
- Pupils have serious socio-economic impediments: compared to those who did not have breakfast, the pupils who had breakfast before school scored 10 percent higher on the test.

Links between teacher performance and pupils' learning outcomes

- In schools with the best performing pupils (e.g. the top 5 percent of pupils in mathematics scores) teachers were 17 percent more knowledgeable and 30 percent less likely to be absent. There were no significant differences in the availability of inputs such as textbooks, equipment and infrastructure.

SDI Results

Availability of Key Inputs

Mozambique is doing relatively well on equipment and textbooks: **74 percent of schools had a blackboard, notebooks and pens for pupils and 69 percent of pupils had textbooks.**¹ The regional gaps are pronounced: in the North region only 56 percent of schools had a blackboard as well as notebooks and pens for the pupils. Overall, class sizes are relatively high when we consider the number of enrolled pupils. However, the class sizes drop from 42 to 17 when taking into account pupil absence.² Seventy four percent of schools had toilets available but only 34 percent of schools had toilets that were sufficiently clean for use, suggesting there were inputs available but not well maintained.

Teacher effort: What providers do?

In order for pupils to learn, a teacher has to be present at school, in the classroom and actively teaching

when in the classroom. The SDI results show that 45 percent of teachers were not in school during an unannounced visit, which translates into a loss of 1hr 56min of teaching time. A further 11 percent were at school, but not in the classroom when they were supposed to be teaching, leading to another 47min loss of teaching time. When in the classroom, teachers taught 95 percent of the time, with 21min being lost. Cumulating the sources of lost teaching time, pupils received roughly 39 percent of the scheduled teaching time. This means that **out of a possible 190 school days, pupils received only 74 effective teaching days** (or 317 hours of class time), or an average of 1hr 41min of teaching per day from a total of 4hr 17min they should be receiving.³ While absence rates in the South were much lower than the rest of the country, this is no cause for complacency as they are still very high (30%) when compared to other countries.

The majority of teacher absences were reportedly due to having a family member sick (31%) or because teachers were attending school-related meetings⁴ (20%). For Directors the most frequent reported reason for absence was school-related meetings (36%).

One key determinant of teacher absence was absence among Directors. When a Director was present at the school the average absence rate was 34 percent, while when a Director was absent the average absence rate was 64 percent. **This implies that in schools where the Director was absent, teachers were almost twice as likely to be absent,** suggesting that leadership and accountability matters in the performance of teachers.

Which teachers were most likely to be absent from class? It turns out that younger teachers were more likely to be absent. Unlike in other SDI countries, there were no differences in absence by gender, by teacher education levels, or whether they were born in the district where they teach.

Teacher Ability: What providers know?

Are teachers competent in the curricula they are supposed to teach? The share of grade 4 teachers

FIGURE 2. Only four in ten teachers are in the classroom teaching.

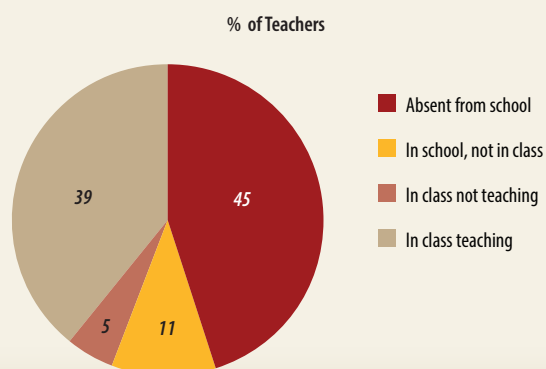
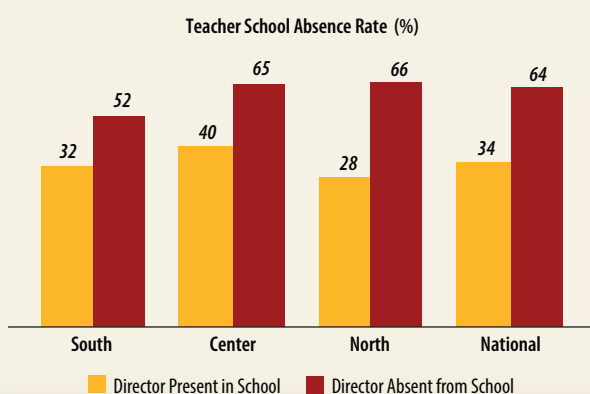


FIGURE 3. Lack of supervision by Directors contributes to high absence rates among teachers.



1 Please note that SDI does not measure all aspects of infrastructure.

2 The indicator of pupil-teacher ratio is not measured looking at pupils enrolled, but using direct observation and computing the number of pupils per teacher in grade four classes.

3 See Annex for the definition of indicators and more information.

4 Examples of school-related meetings: meetings of the Zona de Influência Pedagógica (ZIP; Pedagogical Influence Zone), meetings of the Serviços Distritais de Educação, Juventude e Tecnologia (SDEJT; District Services of Education, Youth and Technology), among others.

who mastered 80 percent of the grade 4 curriculum was shockingly low: 1 percent. As an example, only two thirds of mathematics teachers (65%) could perform the calculation: $86 - 55$ correctly, and when asked to correct a letter written by a grade 4 pupil, teachers only found 2 out of 20 mistakes (such as grammar, punctuation spelling, syntax, and salutation). Women, recent graduates and teachers in the South region performed better in the teacher assessment.

Pedagogical skills were consistently worse than teachers' competencies in mathematics and language. On average, teachers scored only 15 out of 100 points in pedagogy, reflecting difficulties in successfully preparing a lesson plan (19 out of 100), correctly assessing children's writing (14 out of 100) and using pupils test scores to make some statements about class learning patterns (7 out of 100).

Pupil performance and attendance

While the country is reaching nearly 100 percent primary school enrollment, absence rates among enrolled pupils are high. **While officially there are over 40 pupils enrolled per class only an average of 17 pupils effectively attend.** Pupil absence is highest in the center (62%) and the north regions (65%) and relatively less in the south region (24%).

The SDI survey tested grade 4 pupils and found severe gaps in pupil knowledge. In particular, results show that among the pupils assessed only a quarter could identify words (such as father, respect, outside), only 17 percent could read a sentence and less than a tenth could read a paragraph. In mathematics, the results are also worrisome: only half of pupils could do simple addition (e.g. $7 + 8$) and only 18 percent could do double digit addition (e.g. $27 + 28$). Figure 5 shows that the girls in the center and north performed substantially worse. For example, in the central region boys scored 42 percent higher than girls in Portuguese and 18 percent in mathematics. Similarly, in the north, boys scored 48 percent higher in Portuguese and 24 percent higher in mathematics. These results may partly reflect the fact that the average number of female teachers is lower in the central (32%) and north region (20%) compared to the south (46%).

Pupils have serious socio-economic impediments: compared to those who did not have breakfast, the

FIGURE 4. Pedagogical skills are consistently below teachers' mathematics and language test scores.

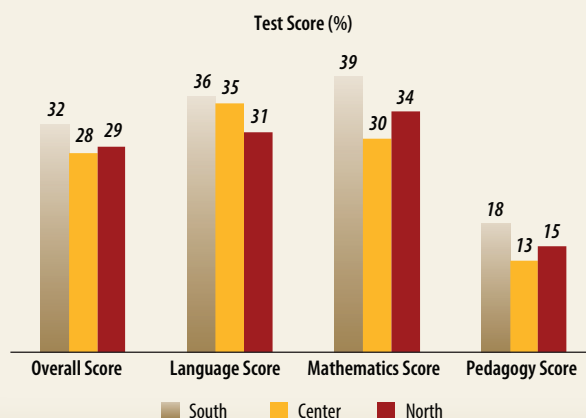


FIGURE 5. Gender gap is particularly evident in the Central and North regions.

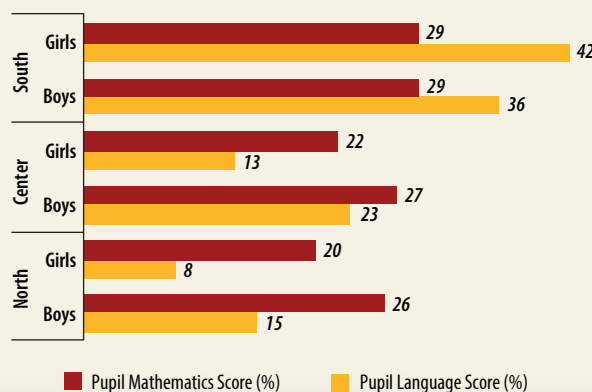
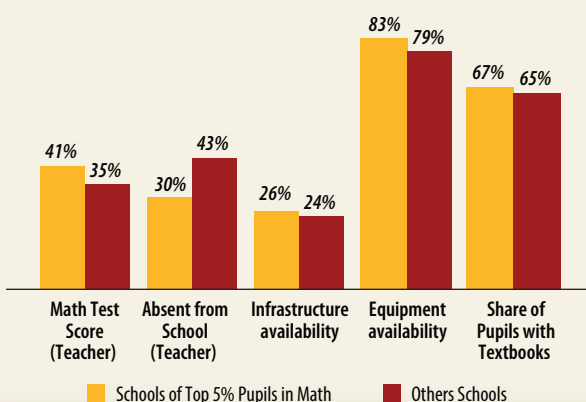


FIGURE 6. How do schools of the top 5% pupils differ?



pupils who had breakfast before school scored 10 percent higher on the test. A quarter of pupils did not have any breakfast before class and another 35 percent had breakfast with no proteins.

Links between teacher performance and pupils' learning outcomes

Figure 6 shows the characteristics of the schools where the pupils who tested in the top 5 percent in mathematics attend. **The schools with the best pupils had teachers that were absent less often (30% versus 43%) and performed better on the test (41% versus 35%).** There were no significant differences in the availability of inputs such as textbooks, equipment and infrastructure.

How does Mozambique compare to other SDI countries?

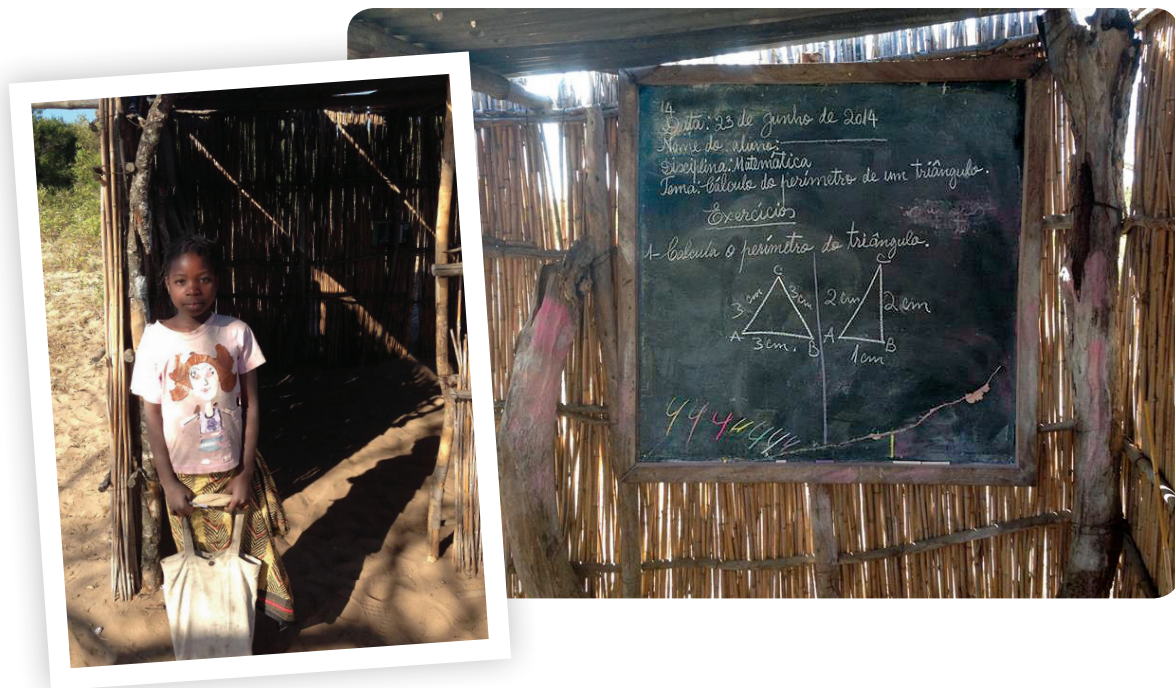
Mozambique performed poorly relative to the countries where SDI surveys have been implemented (Tanzania, Senegal, Kenya, Uganda, Nigeria* and Togo). Textbook availability and access to teaching equipment (e.g. blackboard etc.) is relatively high compared to the other SDI countries. The performance gaps were especially significant in teacher's school absence where 45 percent of Mozambican teachers were absent from school compared to the worst performer among the other countries, Uganda with 27 percent. As a result

Mozambique's children receive 1hr 41min of teaching time compared to an average of 3hr 2min among the comparison countries. Mozambican teachers also performed the worst in teacher assessment. For example the average test score in mathematics, language and pedagogy was 29 percent compared to the best performing country — Kenya with score of 57 percent — and the worst performer — Nigeria and Togo scoring 34 and 36 percent respectively. Table 1 shows selected elements of the teacher assessment by country. In the language assessment, for example, teachers in Mozambique only found 2 out of 20 mistakes (such as grammar, punctuation spelling, syntax, and salutation), compared to an average of 28 percent in other SDI countries (about 6 out of 20 mistakes). In mathematics, only 65 percent of teachers in Mozambique could subtract 86-55 compared to 77 percent, the teacher average scores in the other SDI countries. In summary, pupils in Mozambique are at a disadvantage in terms of the quality of the service they receive compared to their peers in other SDI countries, which translates into significantly lower scores on pupil performance. In fact, pupils in Mozambique are the lowest performers among SDI countries, scoring an average 24 percent compared to an average of almost 53 percent in the other SDI countries.

TABLE 1. Teacher Competence across SDI Countries

	Mozambique	Kenya	Nigeria*	Tanzania	Togo	Uganda
Overall Score	29	58	38	48	35	44
Language						
<i>Language Average Score</i>	34	63	49	42	50	54
Grammar task	83	92	64	73	74	89
Composition task	10	49	24	22	26	37
Mathematics						
<i>Mathematic Average Score</i>	33	77	42	65	33	58
Adding double digit numbers	87	98	89	97	79	96
Subtracting double digits	65	86	70	86	65	79
Comparing fractions	17	40	16	50	13	21
Subtraction of decimal numbers	39	83	45	67	18	57
Pedagogy						
<i>Pedagogy Average Score</i>	15	35	18	36	19	25
Preparing a lesson plan	19	39	20	58	27	31
Assessing children's abilities	14	33	23	18	33	25

* Surveyed states in Nigeria are: Anambra, Bauchi, Ekiti, and Niger.



At a Glance

TABLE 2. SDI Education Indicators by Geographic Area: Ability, Efforts and Inputs Across Countries

	Mozambique	Kenya	Nigeria*	Senegal	Tanzania (round 1)	Tanzania (round 2)	Togo	Uganda
Pupil Learning								
Test Score (%) (Math, Language)	24	71	45	Not Comparable	50	45	45	53
Mathematics Test Score	26	62	40	Not Comparable	58	44	44	58
Language Test Score	23	80	46	Not Comparable	37	45	45	53
What providers know (ability)								
Minimum knowledge (%) (At least 80% in Math and Language)	1	39	4	Not Comparable	21	3	3	19
Test Score (%) (Math, Language and Pedagogy)	29	57	34	Not Comparable	48	36	36	45
What providers do (effort)								
School absence rate (Teacher)	45%	15%	14%	18%	23%	15%	18%	27%
Classroom absence rate (Teacher)	56%	42%	22%	29%	53%	47%	34%	56%
Director absence rate	44%							
Time spent teaching per day	1hr - 41min	3hr - 40min	3hr - 44 min	3hr - 15min	2hr - 04min	2hr - 47min	2hr - 52min	2hr - 55min
Schedule teaching time	4hr - 17min	5hr - 40min	4hr - 53min	4hr - 36min	5hr - 12min	5hr - 55min	5hr - 29min	7hr - 20min
What providers have to work with (availability of inputs)								
Pupil-teacher ratio	17	32	20	34	74	44	43	50
Share of pupils with textbooks (%)	69	71	38	Not Comparable	25	69	69	5
Equipment availability (%)	74	72	56	Not Comparable	89	28	28	81
Infrastructure availability (%)	27	59	17	Not Comparable	41	23	23	60

* Surveyed states in Nigeria are: Anambra, Bauchi, Ekiti, and Niger.

TABLE 3. SDI Education Indicators by Geographic Area: Ability, Efforts and Inputs Across Mozambique

	Mozambique	Urban	Rural	South	Center	North
<i>Pupil Learning</i>						
Test Score (%) (Math, Language)	24	24	24	38	21	15
Mathematics Test Score	26	26	26	29	25	23
Language Test Score	23	23	23	39	19	12
<i>What providers know (ability)</i>						
Minimum knowledge (%) (At least 80% in Math and Language)	1	2	1	4	0	1
Test Score (%) (Math, Language and Pedagogy)	29	27	30	32	28	29
<i>What providers do (effort)</i>						
School absence rate (Teacher)	45%	33%	48%	30%	48%	53%
Classroom absence rate (Teacher)	56%	39%	61%	41%	58%	68%
Director absence rate	44%	30%	41%	30%	49%	43%
Time spent teaching per day	1hr - 41min	2hs - 7min	1hr - 36min	2hr - 16min	1hr - 38min	1hr - 20min
<i>What providers have to work with (availability of inputs)</i>						
Pupil-teacher ratio	17	29	16	28	15	14
Share of pupils with textbooks (%)	69	65	69	69	67	72
Equipment availability (%)	74	79	74	90	80	57
Infrastructure availability (%)	27	28	27	27	33	18



Annex. Definition of the Education Service Delivery Indicators

School absence rate
Share of a maximum of ten randomly selected teachers absent from school during an unannounced visit.
Classroom absence rate
Share of teachers who are present in the classroom during scheduled teaching hours as observed during an unannounced visit. Teachers may be found teaching outside, and these are marked as present for the purposes of the indicator.
Time spent teaching per day (also known as Time on Task)
Amount of time a teacher spends teaching during a school day. This indicator combines data from the Staff Roster Module (used to measure absence rate), the Classroom Observation Module, and reported teaching hours. While inside the classroom distinction is made between teaching and non-teaching activities. Teaching is defined very broadly, including actively interacting with pupils, correcting or grading pupil's work, asking questions, testing, using the blackboard or having pupils working on a specific task, drilling or memorization.
Minimum knowledge among teachers
This indicator measures teacher's knowledge and is based on mathematics and language tests covering the primary curriculum administered to all mathematics or language teachers that taught grade three in the previous year or grade four in the year the survey was conducted. It is calculated as the percentage of teachers who score more than 80 percent on the language and mathematics portion of the test. Test score: This indicator measures teacher's knowledge and it is calculated as the overall score of a mathematics, language, and pedagogy tests covering the primary curriculum administered at the school level to all mathematics and language teachers that taught grade three in the previous year or grade four in the year the survey was conducted.
Infrastructure availability
Unweighted average of the proportion of schools with the following available: functioning electricity and sanitation. Specifically: (i) functioning toilets operationalized as being clean, private, and accessible; and (ii) sufficient light to read the blackboard from the back of the classroom.
Teaching Equipment availability
Unweighted average of the proportion of schools with the following available: functioning blackboard with chalk, pencils, and notebooks. Specifically: (i) functioning blackboard and chalk, (ii) the share of pupils with pens is equal to or above 90 percent, and (iii) the share of pupils with notebooks in that classroom is equal to or above 90 percent.
Share of pupils with textbooks
Number of mathematics and language books used in a randomly selected grade four classroom divided by the number of pupils present in the classroom.
Pupil- teacher ratio
Average number of grade four pupils per grade four teacher. The indicator of teachers' availability is measured as the number of pupils per teacher in one randomly selected grade four class at the school based on the classroom observation module.

About the SDI surveys

The SDI survey was conducted between March and June, 2014. The fieldwork involved collecting information from 200 primary schools, 1006 teachers, and 1,731 grade four pupils. The results provide a representative snapshot of the quality of service delivery and the physical environment within which services are delivered in public primary schools. The survey provides information on three dimensions of service delivery: measures of (i) teacher effort; (ii) teacher knowledge and ability; and (iii) the availability of key inputs, such as textbooks, basic teaching equipment and infrastructure (such as availability of sanitation, quality of lighting in classrooms, etc.). Mozambique is the seventh country where SDI surveys have been implemented, the other being: Tanzania, Senegal, Kenya, Uganda, Nigeria and Togo. This allows for comparison across countries and benchmarking country performance.

The Service Delivery Indicators (SDI) Program

The SDI initiative is a partnership of the World Bank, the African Economic Research Consortium (AERC), and the African Development Bank to develop and institutionalize the collection of a set of indicators that would gauge the quality of service delivery within and across countries and over time. The ultimate goal is to sharply increase accountability for service delivery across Africa, by offering important advocacy tools for citizens, governments, and donors alike; to work toward the end goal of achieving rapid improvements in the responsiveness and effectiveness of service delivery.

More information on the SDI survey instruments and data, and more generally on the SDI initiative can be found at: www.SDIndicators.org and www.worldbank.org/SDI, or by contacting SDI@worldbank.org.

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