

# Are our Children Learning?

Literacy and Numeracy across East Africa

August 2012





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This report has been compiled and prepared by Sam Jones, who also exercised great care in ensuring the integrity of the underlying data. Youdi Schipper of Uwazi at Twaweza provided technical and analytical support. John Mugo, Benjamin Piper and Njora Hungi provided detailed comments that considerably strengthened this report. Editing support was provided by Hannah-May Wilson. Overall guidance and quality assurance were provided by Sara Ruto and Rakesh Rajani.

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All the data used in the report are drawn from the Uwezo 2011 and earlier national assessments and can be downloaded from [www.uwezo.net](http://www.uwezo.net).

## Executive Summary

**T**his report compiles, compares and presents the headline findings of the 2011 Uwezo national assessments in Kenya, Uganda, and Tanzania (mainland). These assessments constitute by far the largest such exercise of its kind in Africa. About 350,000 children in over 150,000 households across the three countries were tested in their ability to perform basic numeracy and literacy tasks at the Standard 2 level. Standard 2 represents the ground level competencies expected after completing two years of primary education.

The principal finding is that despite significant gains in expanding access to primary schooling, actual literacy and numeracy outcomes remain significantly deficient across the region. Although children are now enrolled in school in unprecedented numbers, they are not learning core skills expected at their age and grade level. Specifically, the Uwezo assessments find that:

- (a) more than two out of every three pupils enrolled at Standard 3 level in East Africa fail to pass basic tests in English, Kiswahili or numeracy set at the Standard 2 level;
- (b) improvements in basic literacy and numeracy occur only slowly as children progress through the education system, implying that the quality of learning remains low *throughout* primary school;
- (c) there are large differences in average test scores *between* countries in East Africa. While overall levels are low, Kenyan pupils perform best in literacy and numeracy. Ugandan children perform worst in the lower levels but slowly overtake Tanzanian children and outperform them from Standard 6 onwards;
- (d) there are significant differences in average test scores among districts *within* East African countries, with large disparities in all three countries;
- (e) there are minimal differences in test scores between boys and girls: gender disparities do not appear to be significant in the early years of education;
- (f) the poor do worse everywhere; children from socio-economically disadvantaged households perform worse on all tests at all ages; and
- (g) students in non-government (private) schools perform better than pupils in government (public) schools in all three countries, a difference which is particularly marked in Tanzania.

These findings paint a grim picture of the state of education in East Africa, and have been criticized by some for giving a bad name to educational progress. The Uwezo methodology, sampling frame, tools and processes have been developed in consultation with national and international experts, and are subject to rigorous scrutiny. Comprehensive information on the methodology and the full datasets are also publicly available. The fact that the findings of the 2011 survey are largely consistent with the results from 2009/10 survey further indicates that the Uwezo methodology and management are robust, rigorous and reliable. Uwezo welcomes further scrutiny and evidence-based challenges, for they can only strengthen the survey.

Finally, while the findings are worrying, there are reasons to be hopeful. First, across East Africa, some schools and districts perform relatively better despite facing similar constraints as others. These schools and communities constitute a potential source of solutions on how to improve children's learning. Second, there is a marked shift in the public debate towards focusing on quality and learning outcomes, and asking a sharper set of questions that can guide better policy choices and achieve greater value from existing investments. Third, globally there is increased experimentation on innovations to spur learning that can benefit East Africa, should we choose to pay attention.

The opportunity to help every child learn is there. This report seeks to help inform that opportunity.

# Introduction



# 1. Introduction

At the turn of the century, ministers of education from 100 countries made a clear commitment to provide quality primary education to all children, free of charge at the World Education Forum held in Dakar, Senegal.<sup>1</sup>

Specifically, the delegates agreed to:

“Ensure that by 2015 all children, particularly girls, children in difficult circumstances, and those belonging to ethnic minorities, have access to and complete free and compulsory primary education of good quality.” (Goal 2)

They also committed to:

“Improve all aspects of the quality of education and ensure excellence of all so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy, and essential life skills.” (Goal 6)

These commitments resonated across East Africa, bringing a renewed emphasis on primary education. Subsequently substantial progress has been made in increasing primary school enrolment across the region. Evidence from a variety of household surveys, including those described here, indicate that today upwards of 90% of all eligible children are enrolled in primary school in Kenya, Tanzania and Uganda (see Appendix A). However, despite these significant achievements, there is a growing concern that children are in school but are not learning. While access to education has expanded, the quality of education has stagnated and may in fact have deteriorated further.

In contrast to statistics on school enrolment, publicly available data on learning outcomes such as basic literacy and numeracy competencies is rarely available. A core motivation behind the Uwezo initiative is to fill this gap, and to help *shift the public and policy focus from educational inputs to learning outcomes*.

Since 2009, Uwezo has implemented large-scale nationally representative household surveys to assess the *actual* basic literacy and numeracy competencies of school age children across Kenya, Tanzania and Uganda. In terms of their geographical coverage, these surveys represent the most extensive independent assessment of education outcomes in all three countries available to date.<sup>2</sup>

The objective of this report is to compare and present the headline findings of the second round of the Uwezo learning assessment surveys which were implemented in 2011 in Kenya, Tanzania (mainland) and Uganda. This report is structured as follows: Section 2 briefly presents the Uwezo surveys; Section 3 presents the main findings; and Section 4 a brief conclusion. Further information also is provided in a set of appendices (see box below).

Appendix A provides more East Africa specific data

Appendices B, C and D give country-specific results on average test scores, differentiated by Standard (grade) of attendance, population sub-groups and districts.

Appendix E gives examples of the literacy and numeracy tests applied in the surveys.

Appendix F provides full East Africa district ranking

Finally, the results presented in this report differ slightly compared to the country-specific reports from both rounds of the Uwezo surveys. This is because the data has been thoroughly cleaned, new sample weights have been calculated in order to more closely reflect population-level characteristics, and corrections have been applied for missing observations to enhance comparability over time. While the estimates are slightly different, there are no major differences that require changes of our previous reports.

<sup>1</sup> The relevant ministers for education from both Uganda and Tanzania were participants at this meeting. For a list of country representatives in Dakar see: [www.unesco.org/education/efa/wef\\_2000/listpartwef.pdf](http://www.unesco.org/education/efa/wef_2000/listpartwef.pdf).

<sup>2</sup> “Independent” means that the surveys were *not* undertaken and/or analysed by government (public) agencies.

# UWEZO SURVEYS



## 2. Uwezo Surveys

The Uwezo learning assessment surveys began in Kenya in 2009, followed by Tanzania and Uganda in 2010. These constituted the first round of the Uwezo surveys (hereafter, referred to as “Uwezo 1”). The surveys were conducted again in all three countries in 2011 and represent the second round of the exercise (hereafter, referred to as “Uwezo 2”).

### 2.1 Coverage of the surveys

Both Uwezo 1 and Uwezo 2 employed survey methods that produced a nationally representative random sample of the target population (children of primary school age up to and including children aged 16.) This means that the statistics calculated from the surveys can be used to monitor performance and outcomes at the national level, and also can be used to make comparisons over time. The samples also are representative at the district level, which means that comparisons can be made between districts both within and between countries.

The main difference between Uwezo 2 and Uwezo 1 is that the former covered a much larger number of districts in each country, and many more households and children overall. A key benefit of greater coverage means adding precision to the results, enabling us to examine differences in outcomes between many more individual districts. Table 1 provides an overview of the coverage of the two survey rounds in each country. The increase in coverage between Uwezo 1 and Uwezo 2 is substantial; the number of districts sampled has risen from around 38% to 90% of districts in the region (now including virtually all districts in Tanzania and Uganda) and the number of children sampled has more than doubled (taking the three countries together). In both Tanzania and Uganda, which had smaller samples in the first round compared to the Kenya sample, the number of children surveyed has roughly trebled. This makes Uwezo surveys one of the largest sample-based studies ever undertaken in the region.

**Table 1: Coverage of the Uwezo 1 and Uwezo 2 surveys**

| Country  | Round             | Districts | %   | Schools | Villages | Households | Children |
|----------|-------------------|-----------|-----|---------|----------|------------|----------|
| Kenya    | 1 (Sept/Oct 2009) | 70        | 44  | 2,029   | 2,029    | 33,760     | 79,693   |
|          | 2 (Feb/Mar 2010)  | 122       | 77  | 3,474   | 3,628    | 55,843     | 131,971  |
| Tanzania | 1 (May 2010)      | 38        | 32  | 1,010   | 1,077    | 18,952     | 37,683   |
|          | 2 (Mar/Apr 2011)  | 119       | 100 | 3,709   | 3,825    | 59,992     | 114,761  |
| Uganda   | 1 (April 2011)    | 27        | 34  | 748     | 792      | 12,412     | 32,882   |
|          | 2 (Apr/May 2011)  | 79        | 99  | 2,115   | 2,360    | 35,481     | 101,652  |
| Total    | Uwezo 1           | 135       | 38  | 3,787   | 3,898    | 65,124     | 150,258  |
|          | Uwezo 2           | 320       | 90  | 9,298   | 9,813    | 151,316    | 348,384  |

Notes: all cells (excluding Country, Round, ‘%’) refer to the number of units sampled and retained in the dataset after cleaning; the ‘%’ column refers to the proportion of districts in the sample frame out of all districts in the country; the number of schools sampled is often slightly smaller than the number of enumeration areas (villages) as not all enumeration areas contained a school.

Source: calculated from the Uwezo 1 and Uwezo 2 data.

The Uwezo approach is adapted from the Annual Status of Education Report (ASER – see [www.asercentre.org](http://www.asercentre.org)). Like Uwezo, ASER is an annual household based nationwide survey of the basic literacy and numeracy abilities of children aged between 6-16 years. In results released in January 2012, ASER documented having done in the assessment in 558 districts and reached 14,283 schools, 327,372 households and tested 633,465 children across India.

## 2.2 The Uwezo Research Design

A few technical words are in order about the design of the Uwezo surveys, as well as how the results should be interpreted (further details on these issues can be found in the technical report). First, all the surveys have followed a three stage random sampling process, entailing: (1) selection of districts (strata) by simple random selection, with each district given an equal probability of selection; (2) selection of enumeration areas (typically villages) with probability proportional to population size; and (3) selection of households in each enumeration area by systematic sampling. This design ensures that the surveys are representative at the national and district level for all children aged between 6 and 16 (or 7 and 16 in the case of Tanzania) and who are resident in households at the time of the survey (rather than living in institutions). Sample weights have been calculated to reflect the sample design and include a number of *ex post* corrections to ensure appropriate weights of the different age cohorts covered in the survey.

Second, with respect to calculation of the statistics presented here, sample weights are employed throughout. Where the data are pooled across countries the results are weighted by the respective population sizes of the countries. Put differently, the pooled results can be read as estimates for an average child in East Africa (i.e., selected at random from Kenya, Tanzania or Uganda). Due to the large sample sizes involved in all the survey rounds, virtually all the differences in estimates for a given statistic across sub-groups are statistically significant at conventional levels.

Finally, a note on how to read the results from the literacy and numeracy tests applied in the Uwezo surveys. Strictly speaking, the tests scores provide an estimate but would fall short of being total proof of the ‘true ability’ of the

children or their learning curve. As stated in Uwezo 2010:<sup>3</sup> “to assess learning, a measure of change, one would need to control for children’s knowledge at the start of their school careers in Kenya, Uganda and Tanzania”. In the presentation of our results we focus uniquely on the pass rates for the literacy and numeracy tests.

We do so because measuring these pass rates are of most direct policy relevance – children enrolled at Standard 3 level or higher *should* be able to pass tests set at the Standard 2 level. The share of children failing to meet this standard constitutes a learning gap. Quantifying the size of this gap is a fundamental motivation for the Uwezo surveys, and we retain a clear focus on this aspect in the present report.

## 2.3 The literacy and numeracy tests

The content of the Uwezo surveys is described in the country-specific reports and on the Uwezo website.<sup>4</sup> For every household surveyed, a short set of questions was administered to the head of household in order to collect basic information about the household (for example, the number of occupants and asset ownership per household). Additionally, a short literacy and numeracy test was administered to each child in the household aged between 6 and 16 years.

The enumerators also recorded further details about each child including whether s/he attends school and at what grade. A literacy test gauging reading and comprehension competencies in English language was administered. In all three countries, English language is taught as a subject from Standard 1 and is indeed the language of primary leaving examinations in Kenya and Uganda.<sup>5</sup> Additionally, in Tanzania and Kenya (but not in Uganda) a further literacy test was administered in Kiswahili. In these literacy tests, children were asked to recognize a letter from the alphabet, read a word, read a paragraph, and read and comprehend a short story.

3 Uwezo 2011. *Are Our Children Learning? Literacy and Numeracy across East Africa*. [www.uwezo.net](http://www.uwezo.net)

4 Available from [www.uwezo.net](http://www.uwezo.net).

5 All three countries have language policies favouring indigenous languages. In Kenya and Uganda the language of the catchment area (or Kiswahili in multi ethnic environments in Kenya) ought to be the language of instruction in lower primary with English taking over in upper primary. This policy tends to be followed more widely in Uganda than in Kenya. In Tanzania, Kiswahili is the medium of instruction through the primary school cycle, though English is taught as a subject from Standard 1.

Table 2: Sample Tests Uwezo East Africa 2011

**ENGLISH TEST - KENYA**

| Letters | Words    | Paragraph             |
|---------|----------|-----------------------|
| a u     | day shop | Sara has one brother. |
| m q     | pet girl | His name is Tom.      |
| g c     | eye road | Tom is six years old. |
|         |          | He is in class one.   |

**STORY**

Peter and Mary live in Kitui. Kitui is a hot and sunny place. They always wear light clothes. They like playing in the sun. They are happy when it rains. Last year it rained a lot. They helped their father plant some trees. Mother planted maize and beans. There was a lot of food. Mother took some maize to the market. She sold it and got a lot of money. Mother used the money to buy shoes for us. We were all very happy.

Q1. Where does Peter live?  
Q2. What did mother sell?

**KUSOMA TANZANIA**

| Silabi  | Maneno      | Aya                              |
|---------|-------------|----------------------------------|
| wa du   | bata paa    | Mimi ni mwanafunzi.              |
| nywe mo | kwetu chura | Ninasoma darasa la pili.         |
| kwa bi  | kuku ndoo   | Mwalimu wetu anafundisha vizuri. |
|         |             | Ninajua kusoma na kuandika.      |

**Hadithi**

Halima ni mwanafunzi wa darasa la pili. Siku moja alipotoka shule alimkuta Daudi amekaa chini ameinamisha kichwa. Halima alimsogelea Daudi na kumuuliza mbona amekaa, an tatizo gani? Daudi alijibu kuwa kichwa kinauma. Halima aliamua kumsaidia Daudi kubeba mfuko wake wa vitabu na kumsindikiza hadi nyumbani. Walipofika nyumbani walimkuta mama Daudi. Mama Daudi aliwapokea na kuwakaribisha. Mama Daudi alimshukuru Halima kwa wema alitenda kumsindikiza Daudi.

Maswali.

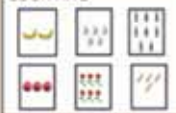
1. Kwa nini Daudi alikaa chini?
2. Hadithi hii inatufundisha nini?

In the numeracy tests, children were asked to recognize numbers and count, as well as to perform basic calculations. Below are sample tests while Appendix E provides full sets per country of the literacy (English and Kiswahili) and numeracy tests used in the 2011 Uwezo survey round.

All the tests were set according to the Standard 2 level curriculum for each country, which is the expected level of attainment after two years of completed primary education. Therefore, assuming that education quality standards are maintained, one would expect all pupils attending Standard 3 or above to correctly answer the entire test questions. This is termed a 'pass' in the presentation of the results below. The tests reflect the national curriculum of each country. Due to different emphases in national curricula, the tests contained in the surveys are not exactly the same.

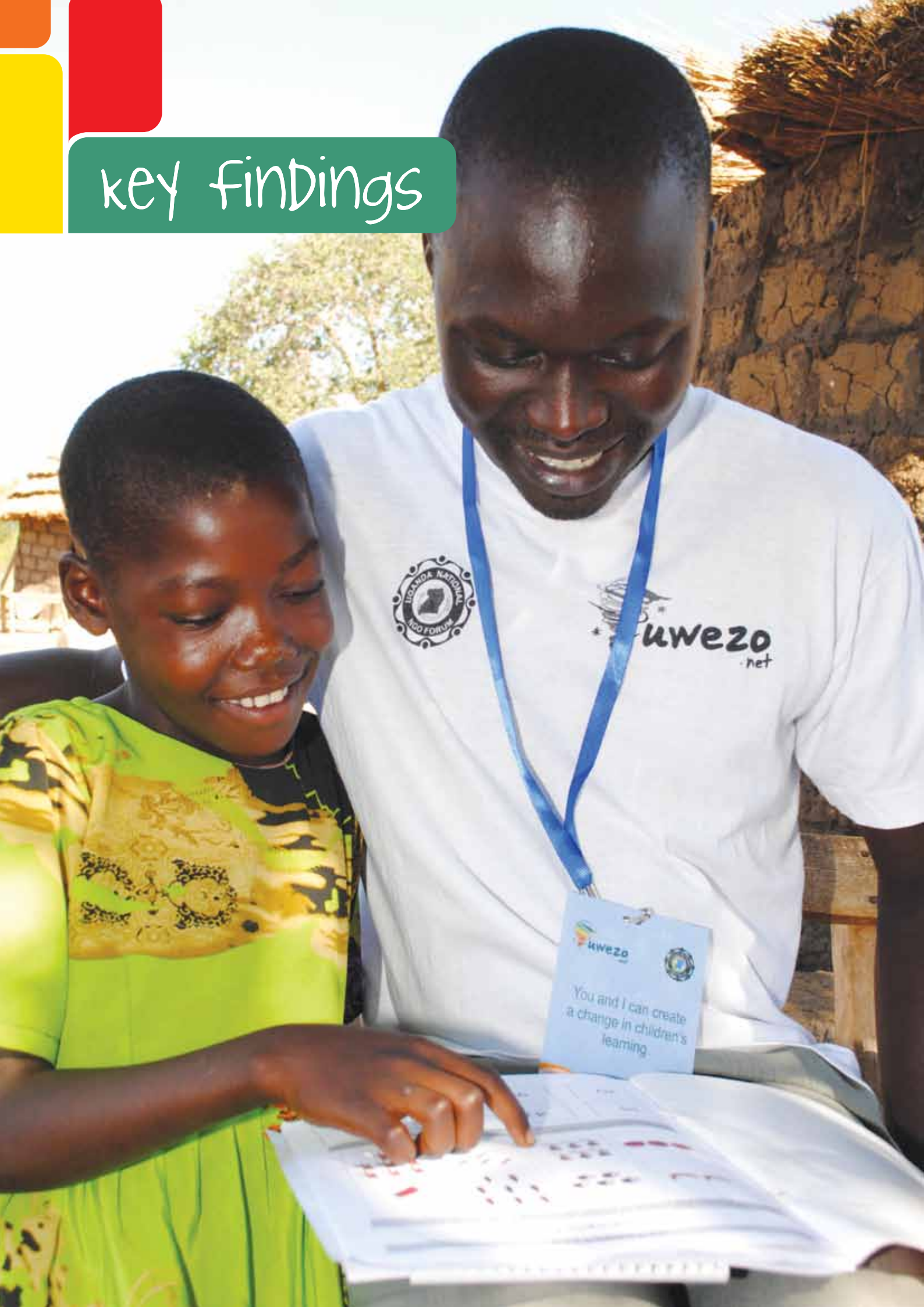
Therefore they are not strictly comparable – i.e., a “pass” in Kenya does not necessarily equal a “pass” in Tanzania. Hence this presentation ought to be viewed as a comparison of the mastery of children of Standard 2 level of their national curriculum. This notwithstanding an analysis of the tests shows that they are more similar than different. The levels in the literacy test are constant, while a few differences are present in the numeracy test across the three countries.

**NUMERACY - UGANDA**

| NUMBER                                                                                                                                                                                                                                                                                                                                      | ADDITION                                                                                                                                                                                                                                    |         |         |         |          |         |                                                                                                                                                                                                                                             |      |     |       |       |       |       |      |     |       |                                                                                                                                                                               |         |         |          |         |         |         |
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| 6 x 2 =                                                                                                                                                                                                                                                                                                                                     | 9 x 2 =                                                                                                                                                                                                                                     |         |         |         |          |         |                                                                                                                                                                                                                                             |      |     |       |       |       |       |      |     |       |                                                                                                                                                                               |         |         |          |         |         |         |
|                                                                                                                                                                                                                                                                                                                                             | DIVISION                                                                                                                                                                                                                                    |         |         |         |          |         |                                                                                                                                                                                                                                             |      |     |       |       |       |       |      |     |       |                                                                                                                                                                               |         |         |          |         |         |         |
|                                                                                                                                                                                                                                                                                                                                             | <table style="width: 100%;"> <tr> <td>4 ÷ 2 =</td> <td>6 ÷ 2 =</td> </tr> <tr> <td>9 ÷ 3 =</td> <td>25 ÷ 5 =</td> </tr> <tr> <td>4 ÷ 4 =</td> <td>18 ÷ 6 =</td> </tr> </table>                                                              | 4 ÷ 2 = | 6 ÷ 2 = | 9 ÷ 3 = | 25 ÷ 5 = | 4 ÷ 4 = | 18 ÷ 6 =                                                                                                                                                                                                                                    |      |     |       |       |       |       |      |     |       |                                                                                                                                                                               |         |         |          |         |         |         |
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| 9 ÷ 3 =                                                                                                                                                                                                                                                                                                                                     | 25 ÷ 5 =                                                                                                                                                                                                                                    |         |         |         |          |         |                                                                                                                                                                                                                                             |      |     |       |       |       |       |      |     |       |                                                                                                                                                                               |         |         |          |         |         |         |
| 4 ÷ 4 =                                                                                                                                                                                                                                                                                                                                     | 18 ÷ 6 =                                                                                                                                                                                                                                    |         |         |         |          |         |                                                                                                                                                                                                                                             |      |     |       |       |       |       |      |     |       |                                                                                                                                                                               |         |         |          |         |         |         |

To aid comparability across countries, only equivalent questions across the surveys are included in the combined literacy and numeracy results. For example, since division is not offered at Standard 2 level in Tanzania, this data has not been presented in this analysis.

# key findings



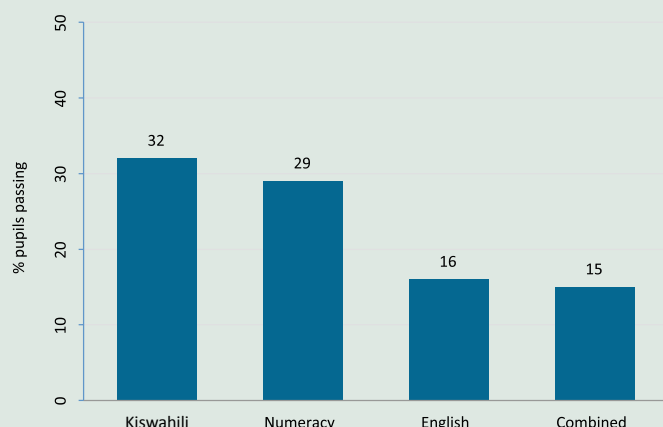
### 3. key findings

#### Fact 1: Less than one third of the pupils in East Africa possess basic literacy and numeracy skills

Consistent with the results of Uwezo 1 (see Fact 8), the Uwezo 2 results confirm that the basic numeracy and literacy skills of primary school children are deficient across the region. Figure 1, which takes the three countries together, shows the percentage of children enrolled at Standard 3 of primary school that are able to pass each of the three standard 2 leveled tests included in the survey questionnaire.<sup>6</sup> In addition, the figure also shows the percentage of Standard 3 pupils in the region that passed both the literacy questions in their country's medium of instruction (English in Kenya and Uganda; Kiswahili in Tanzania) *and* the (common) numeracy questions – i.e. this measures the proportion able to pass both tests combined.<sup>7</sup>

The figure shows that very few children enrolled in Standard 3 can pass any of the individual tests. Specifically, a little less than one in three children were able to pass the Kiswahili (32%) and numeracy tests (29%), but only one in six passed the English test (16%). Similarly, less than one in six were able to pass both the literacy and numeracy tests combined (15%). These results imply that the vast majority of pupils are not acquiring basic competencies during the early years of primary school as expected in the national curricula.

Figure 1: Test pass rates for children enrolled in Standard 3, all East Africa



Notes: "Combined" refers to passes on both the (common) numeracy test questions and the literacy test questions.

Source: calculated from the Uwezo 2 data.

“These results imply that the vast majority of pupils are not acquiring basic competencies during the early years of primary school as expected in the national curricula.”

<sup>6</sup> Country-specific data on test pass rates is reported in Appendices B, C and D.

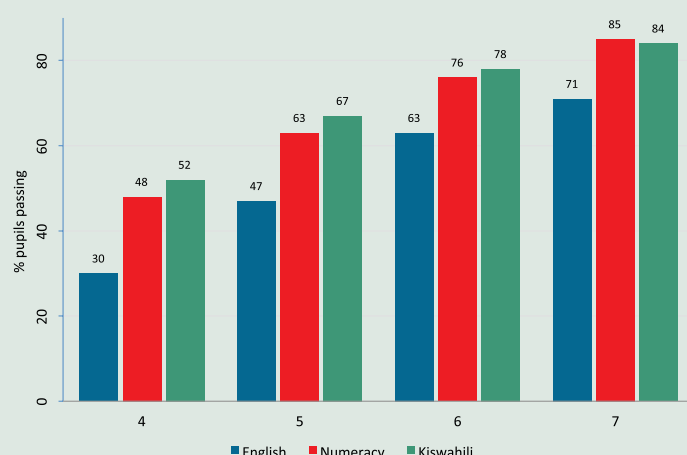
<sup>7</sup> The common numeracy questions are those that were included in the numeracy tests in each country and survey round. They are (in order of increasing difficulty): number recognition; addition; subtraction; and multiplication.

## Fact 2: Two in every 10 children in Standard 7 in East Africa do not have Standard 2 level literacy and numeracy competencies.

Do these low findings continue to hold throughout primary school? Figure 2 plots the pass rates on the individual tests for pupils enrolled above Standard 3. The figure shows that as children progress through the school system to higher classes, pass rates consistently increase on all the Standard 2 level tests. This tells us that children are learning *some* basic skills, albeit not at the expected time as set by the curriculum. The biggest learning leaps occur in upper primary level between Standards 4 to 5, and Standards 5 to 6 suggesting that many children are acquiring Standard 2 level skills in the later years of their primary education.

Given the low level at which the tests are set, it is concerning that the pass rates increase only slowly. In Standard 4, for example, only around one half of students are able to pass the Kiswahili test while the pass rates are lower for both numeracy and English. Only in Standard 7 do more than two thirds of children pass each one of the individual tests. This indicates that the effective literacy and numeracy competencies of many children remain low *throughout* primary school. Equally worrying is that a number of children who are preparing for the end of cycle national examinations have no mastery of basic literacy and numeracy skills.

Figure 2: Test pass rates by Standard for children enrolled in school, all East Africa combined



Notes: numbers along the horizontal axis refer to Standards 4 to 7 of primary school. Further note that the Kiswahili aggregate only combines Kenya and Tanzania.

Source: calculated from the Uwezo 2 data.

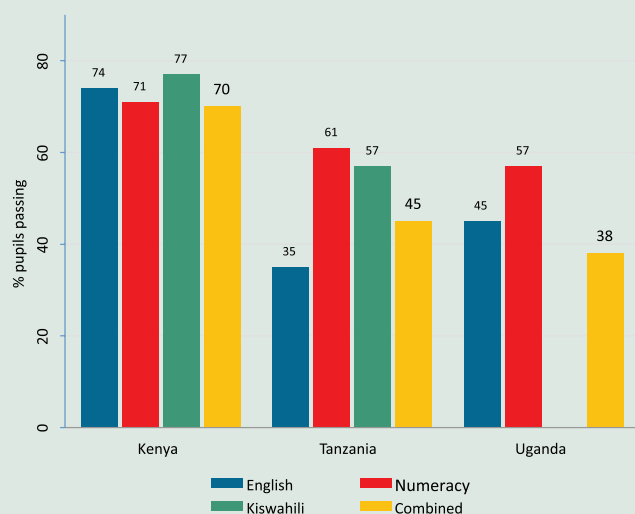
“The biggest learning leaps occur in upper primary level between Standards 4 to 5, and Standards 5 to 6 suggesting that many children are acquiring Standard 2 level skills in the later years of their primary education.”

## Fact 3: There are large differences among countries in East Africa

The previous two findings referred to results for the region as a whole. However, there are substantial differences across Kenya, Tanzania and Uganda with respect to the basic literacy and numeracy skills (test results) of school age children. This is illustrated in Figure 3, which plots the percentage of children aged between 10 and 16 that are able to pass each of the individual tests (English, numeracy and Kiswahili), as well as the main literacy and numeracy tests combined.

The figure shows that Kenyan children outperform children from other East African countries on all tests. This is most apparent in the literacy tests. The pass rate of Kenyan children on the English test is more than double that of Tanzanian children (39 percentage points higher), and is 29 percentage points higher than children from Uganda. These results may reflect the effect of the mediums of instruction as English is more widely used across primary school. However, even on the Kiswahili test, which is more

Figure 3: Test pass rates for children aged 10-16, by country



Notes: calculations refer to all children (enrolled in school or not); “Combined” refers to passes on both the (common) numeracy test questions and the literacy test questions in the primary national language of instruction; Kiswahili test was not implemented in Uganda.

Source: calculated from the Uwezo 2 data.

“...the better performance of Kenyan pupils is relative. It remains the case that only one third of Standard 3 Kenya pupils (and even fewer in Tanzania and Uganda) can pass a Standard 2 level test.

widely spoken in Tanzania than in Kenya, Kenyans perform best – 20% more Kenyan children aged 10-16 pass the Kiswahili test compared to children in Tanzania. Differences among the three countries are smallest on the numeracy test but there too Kenyan pupils perform better (on average) than children from the other two countries.

Two additional points can be made. First, it should not be forgotten that the better performance of Kenyan pupils is only relative. In overall terms, it remains the case that at Standard 3 around one third of Kenya pupils (and even fewer Tanzanian and Ugandan pupils) can pass a Standard 2 level test.

Second, whilst Figure 3 indicates that Ugandan children tend to perform worst in the region (with the exception of the English test), there are subtle differences between Tanzania and Uganda when one considers performance on the tests at each specific Standard (see Appendices B to D).<sup>8</sup> Ugandan pupils perform comparatively worse at lower grades, but demonstrate faster ‘catch-up’ at higher grades.

For example, the proportion of Ugandan children that pass both the literacy and numeracy test (combined) are lower than in Kenya and Tanzania at Standards 1 through 5. However, from Standard 6 onwards, Ugandan pupils slightly outperform Tanzanian pupils.

Thus, in Standard 7, nearly 90% of Kenyan pupils pass both the literacy and numeracy tests (combined), which compares to around 80% of Ugandan pupils but only two thirds (66%) of Tanzanian pupils.

A potential explanation for this relative ‘catch-up’ of Ugandan pupils is wider use of English as the language of instruction in upper primary school (which would boost pass rates on the English literacy test).<sup>9</sup>

<sup>8</sup> These issues also are discussed in further detail in the accompanying technical report (see [www.uwezo.net](http://www.uwezo.net)).

<sup>9</sup> High repetition rates in Uganda are indicated in external data sources, such as UNESCO (2011), *Global Education Digest 2011: Comparing Education Statistics Across the World*, Montreal: UNESCO Institute for Statistics

**Fact 4: There are large differences in test results between districts within individual countries**

The Uwezo surveys are representative at the district-level within each country. Therefore, it is instructive to consider the extent to which numeracy and literacy skills differ across districts. This can help identify specific (geographical) areas of relative excellence and failure within the education system, which is highly policy-relevant as local conditions vary between different regions, as do budget allocations.

To investigate this question we calculated the average pass rate on the literacy and numeracy tests combined for children aged 10-16 in each district. Next, for each country, these district-level pass rates were ranked from lowest to highest.

Table 3 lists the top and bottom ten districts in the region which confirms the existence of large disparities between districts and countries – the top ten districts are all located in Kenya (particularly in the Central region), while the worst ten are all found in Uganda (particularly the Northern region).



The district-level results also reinforce the finding of large comparative differences in performance between countries. For example, the best performing district in Uganda achieved an average pass rate of 72%, which is only slightly higher than the median district pass rate in Kenya.

Table 3: Summary of best and worst performing districts across East Africa

| Rank | Country | Region      | District      | Combined<br>% pass | Enrolment<br>% |
|------|---------|-------------|---------------|--------------------|----------------|
| 1    | Kenya   | Central     | Thika West    | 92.1               | 90.7           |
| 2    | Kenya   | Central     | Kikuyu        | 89.9               | 97.2           |
| 3    | Kenya   | Nairobi     | Nairobi East  | 89.4               | 91.5           |
| 4    | Kenya   | Central     | Nyeri South   | 88.2               | 95.7           |
| 5    | Kenya   | Central     | Gatanga       | 86.9               | 96.7           |
| 6    | Kenya   | Central     | Kirinyaga     | 86.7               | 96.7           |
| 7    | Kenya   | Rift Valley | Kajiado North | 86.4               | 85.4           |
| 8    | Kenya   | Eastern     | Imenti South  | 85.6               | 92.9           |
| 9    | Kenya   | Central     | Ruiru         | 85.2               | 86.0           |
| 10   | Kenya   | Central     | Gatundu       | 85.1               | 92.6           |
| 311  | Uganda  | Northern    | Amuru         | 25.3               | 95.0           |
| 312  | Uganda  | Northern    | Dokolo        | 23.3               | 95.7           |
| 313  | Uganda  | Western     | Bundibugyo    | 22.7               | 95.3           |
| 314  | Uganda  | Eastern     | Bugiri        | 22.1               | 96.9           |
| 315  | Uganda  | Eastern     | Kaliro        | 20.6               | 88.0           |
| 316  | Uganda  | Northern    | Amolatar      | 20.3               | 94.5           |
| 317  | Uganda  | Northern    | Nakapiripirit | 19.4               | 60.7           |
| 318  | Uganda  | Northern    | Moroto        | 19.1               | 61.0           |
| 319  | Uganda  | Northern    | Kaabong       | 16.9               | 60.3           |
| 320  | Uganda  | Northern    | Kotido        | 9.7                | 40.8           |

Notes: rank order is calculated from the pooled mean test score of each district in each country; enrolment refers to primary and secondary school; sample is restricted to children aged 10-16; "Combined" refers to passes on both the (common) numeracy test questions and the literacy test questions in the primary national language of instruction.

Source: calculated using the Uwezo 2 data.

Table 3b: Summary of best and worst performing districts in Tanzania

| Rank | Region        | District       | Combined<br>% pass | Enrolment<br>% |
|------|---------------|----------------|--------------------|----------------|
| 1    | Arusha        | Arusha         | 80.2               | 96.7           |
| 2    | Iringa        | IringaMjini    | 78.5               | 89.1           |
| 3    | Kilimanjaro   | Moshi Urban    | 72.5               | 86.0           |
| 4    | Kagera        | Bukoba Urban   | 71.1               | 90.9           |
| 5    | Kilimanjaro   | Rombo          | 70.2               | 93.9           |
| 6    | Morogoro      | Morogoro Urban | 69.7               | 86.9           |
| 7    | Dar es Salaam | Temeke         | 68.8               | 78.6           |
| 8    | Mbeya         | Mbeya Urban    | 68.4               | 95.9           |
| 9    | Tanga         | Tanga          | 66.4               | 95.7           |
| 10   | Dar es Salaam | Ilala          | 66.3               | 90.1           |
| 110  | Shinyanga     | Kishapu        | 31.8               | 84.3           |
| 111  | Shinyanga     | Kahama         | 31.7               | 80.3           |
| 112  | Mtwara        | Mtwara Rural   | 30.6               | 82.3           |
| 113  | Mara          | Serengeti      | 29.8               | 63.9           |
| 114  | Kigoma        | Kibondo        | 28.6               | 73.1           |
| 115  | Tanga         | Kilindi        | 28.2               | 83.1           |
| 116  | Shinyanga     | Meatu          | 28.0               | 87.0           |
| 117  | Mwanza        | Ukerewe        | 27.7               | 87.9           |
| 118  | Dodoma        | Mpwapwa        | 27.7               | 81.7           |
| 119  | Shinyanga     | Bariadi        | 25.4               | 73.8           |

Notes: "Combined" refers to the average pass rate (per district) on both the (common) numeracy test questions and the Kiswahili literacy test questions; rank order is based on the "Combined" pass rate; enrolment refers to primary and secondary school; sample is restricted to children aged 10-16.

Source: calculated using the Uwezo 2 data.

Table 3a: Summary of best and worst performing districts in Kenya

| Rank | Region        | District        | Combined<br>% pass | Enrolment<br>% |
|------|---------------|-----------------|--------------------|----------------|
| 1    | Central       | Thika West      | 92.1               | 90.7           |
| 2    | Central       | Kikuyu          | 89.9               | 97.2           |
| 3    | Nairobi       | Nairobi East    | 89.4               | 91.5           |
| 4    | Central       | Nyeri South     | 88.2               | 95.7           |
| 5    | Central       | Gatanga         | 86.9               | 96.7           |
| 6    | Central       | Kirinyaga       | 86.7               | 96.7           |
| 7    | Rift Valley   | Kajiado North   | 86.4               | 85.4           |
| 8    | Eastern       | Imenti South    | 85.6               | 92.9           |
| 9    | Central       | Ruiru           | 85.2               | 86.0           |
| 10   | Central       | Gatundu         | 85.1               | 92.6           |
| 113  | Rift Valley   | Samburu North   | 41.3               | 62.9           |
| 114  | Coast         | Tana Delta      | 40.7               | 84.0           |
| 115  | Rift Valley   | Turkana South   | 40.5               | 69.2           |
| 116  | North Eastern | Lagdera         | 40.5               | 63.4           |
| 117  | North Eastern | Wajir East      | 37.1               | 78.8           |
| 118  | North Eastern | Wajir West      | 36.0               | 71.6           |
| 119  | North Eastern | Wajir North     | 35.2               | 66.2           |
| 120  | North Eastern | Ijara           | 33.9               | 58.0           |
| 121  | Rift Valley   | Turkana Central | 30.8               | 61.4           |
| 122  | Rift Valley   | Samburu East    | 26.5               | 47.9           |

Notes: "Combined" refers to the average pass rate (per district) on both the (common) numeracy test questions and the English literacy test questions; rank order is based on the "Combined" pass rate; enrolment refers to primary and secondary school; sample is restricted to children aged 10-16.

Source: calculated using the Uwezo 2 data.

Table 3c: Summary of best and worst performing districts in Uganda

| Rank | Region   | District      | Combined<br>% pass | Enrolment<br>% |
|------|----------|---------------|--------------------|----------------|
| 1    | Central  | Kampala       | 69.3               | 94.3           |
| 2    | Central  | Wakiso        | 64.5               | 92.6           |
| 3    | Western  | Mbarara       | 54.9               | 93.1           |
| 4    | Western  | Bushenyi      | 52.3               | 95.6           |
| 5    | Central  | Mityana       | 50.4               | 96.1           |
| 6    | Western  | Kiruhura      | 50.0               | 95.3           |
| 7    | Central  | Nakaseke      | 49.6               | 95.8           |
| 8    | Central  | Luwero        | 47.7               | 94.7           |
| 9    | Western  | Ibanda        | 47.4               | 92.9           |
| 10   | Central  | Nakasongola   | 46.7               | 97.4           |
| 70   | Northern | Amuru         | 25.3               | 95.0           |
| 71   | Northern | Dokolo        | 23.3               | 95.7           |
| 72   | Western  | Bundibugyo    | 22.7               | 95.3           |
| 73   | Eastern  | Bugiri        | 22.1               | 96.9           |
| 74   | Eastern  | Kaliro        | 20.6               | 88.0           |
| 75   | Northern | Amolatar      | 20.3               | 94.5           |
| 76   | Northern | Nakapiripirit | 19.4               | 60.7           |
| 77   | Northern | Moroto        | 19.1               | 61.0           |
| 78   | Northern | Kaabong       | 16.9               | 60.3           |
| 79   | Northern | Kotido        | 9.7                | 40.8           |

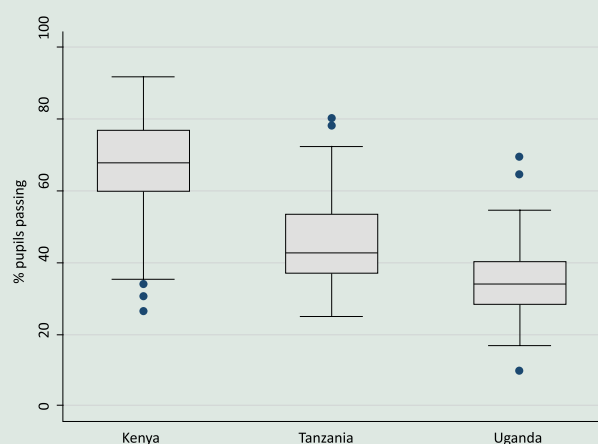
Notes: "Combined" refers to the average pass rate (per district) on both the (common) numeracy test questions and the English literacy test questions; rank order is based on the "Combined" pass rate; enrolment refers to primary and secondary school; sample is restricted to children aged 10-16.

Source: calculated using the Uwezo 2 data.

The data presented above reveal two further issues. In some districts, the percent of children who passed the Uwezo test is higher than number enrolled in school. This could imply that a number of children not enrolled, or those who may have completed primary education and not

progressed further, do possess basic literacy and numeracy skills in the relatively well performing districts. In some low performing districts, children faithfully attend school, even when they have little to show for it.

Table 4: Summary of district-level average pass rates on the numeracy and literacy tests combined, by country



“In some low performing districts, children faithfully attend school, even when they have little to show for it.”

Table 4 plots the pass rates of the bottom ten percent of districts (that is the lowest and highest rates of the bottom ten percent), the median pass rate, and the range of pass rates of the top ten percent of districts (more details in Appendix 1). The data reveals that the top districts in Kenya achieved a pass rate of between 84% and 92%; in Tanzania the top districts recorded an average pass rate of between 63% and 80%; while in Uganda, the top districts recorded an average pass rate between 48% and 70%. The median pass rates indicates that 50% of all districts in Kenya achieved an average pass rate of at least 68%; in Uganda, however, 50% of districts (the median) achieved a pass rate of 34% or less.

What do these results mean? The broad range of values covered by the district-level averages implies there is substantial geographical variation in literacy and numeracy *within* each country (by district). In other words, the expected literacy and numeracy skills of the ‘average’ pupil in each district varies considerably according to their location. The best performing district in Tanzania, for example, achieves an average pass rate of 80% compared to 25% in the worst performing district, a difference of 55 percentage points.<sup>10</sup>

Additionally, these results point to specific pockets of excellence and/or failure in each country. In Kenya, the range covered by the bottom 10% of districts is comparatively large, which indicates the existence of a small number of very poorly performing districts (mostly arid districts in the Rift Valley and North Eastern regions, see Table 3a). In contrast, although both Tanzania and Uganda have districts with very low average scores, one finds that the range covered by the top 10% districts is comparatively larger.

This points to the existence of a small number of particularly better performing districts in these countries, which are typically located in wealthier urban areas or agriculture rich districts. The district-level results also reinforce the finding of large comparative differences in performance between countries. For example, the best performing district in Uganda achieved an average pass rate of 72%, which is only slightly higher than the median district pass rate in Kenya. This means that almost half of Kenyan districts outperform the best district in Uganda.

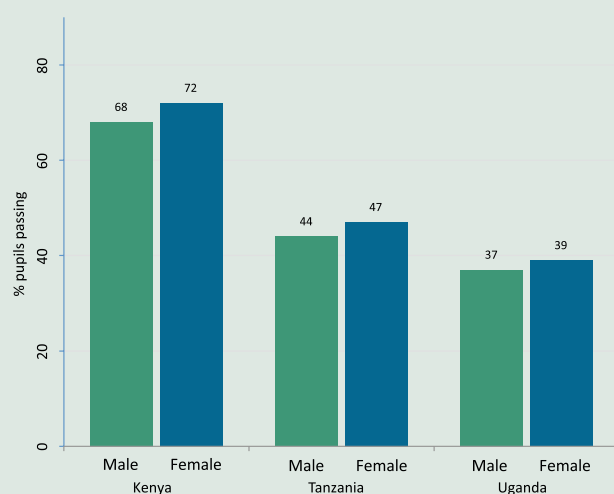
<sup>10</sup> As detailed in the technical report, the extent of geographical inequality in learning outcomes is highest in Tanzania and lowest in Uganda, measured by the variation between district pass rates (the standard deviation).

### Fact 5: There are minimal differences between boys and girls in their literacy and numeracy skills

Figure 4 plots the percentage of male and female children aged 10-16 in each country that are able to pass both the literacy and numeracy tests. For all three countries, the figure confirms the existence of some gender difference.

In fact, on average, girls slightly outperform boys in all countries. These trends are constant for both literacy and numeracy test scores.

Figure 4: Pass rates on literacy and numeracy tests (combined) for children aged 10-16, by gender and country



Source: calculated from the Uwezo 2 data.

“...commitments to public education for all aside, the reality is that opportunity to develop skills is highly unequal across East Africa.”

### Fact 6: Children from poorer households perform worse on tests at all ages.

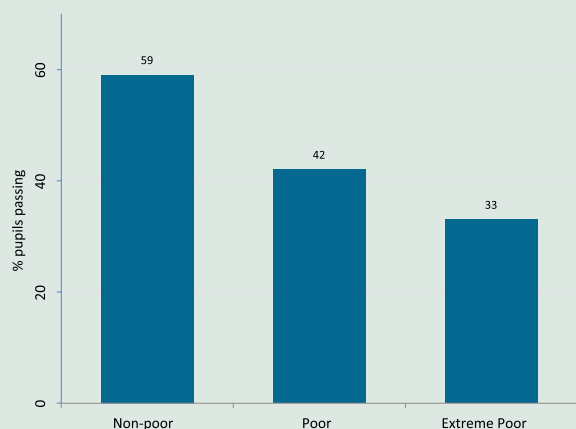
Various factors may be associated with differences in literacy and numeracy between children in East Africa. Among these, conditions within the child's household, such as its socio-economic status, are often critical. For instance, higher income households may be better able to afford additional learning materials (such as books and pencils) as well as put fewer demands on children to engage in income-earning activities.

To investigate this issue, the households in the sample were categorized into three socio-economic groups according to a number of simple questions – namely the durable assets owned, whether they have access to electricity and/or clean water, and whether the mother in the household has any formal education.<sup>11</sup> Admittedly, this is only a crude categorization; even so, one finds large differences across the socio-economic groups in the

numeracy and literacy test results. This is shown in Figure 5, which plots the percentage of children aged 10-16 in each socio-economic group (for the region as a whole), that are able to pass both the literacy and numeracy tests (combined). The figure shows a large difference between the poor and non-poor. The gap between the poor and non-poor is 18 percentage points, while the gap between the ultra-poor and the non-poor is 27 percentage points. This means that twice as many children (around 6 out of 10 children aged 10-16) from non-poor households are able to pass both tests compared to children from ultra-poor households (around 3 in 10 children). This data demonstrates that commitments to public education for all aside, the reality is that opportunity to develop skills is highly unequal across East Africa.

<sup>11</sup> To ensure comparability, the three socio-economic status categories are defined in the same way for each country in the region; i.e., they are *not* country-specific categorizations.

Figure 5: Pass rates on literacy and numeracy tests (combined) for children aged 10-16, by categories of socio-economic status, all East Africa



“At age 10, for instance, the pass rate among the non-poor (33%) is twice that of the poor (16%) and three times that of the ultra-poor (10%).

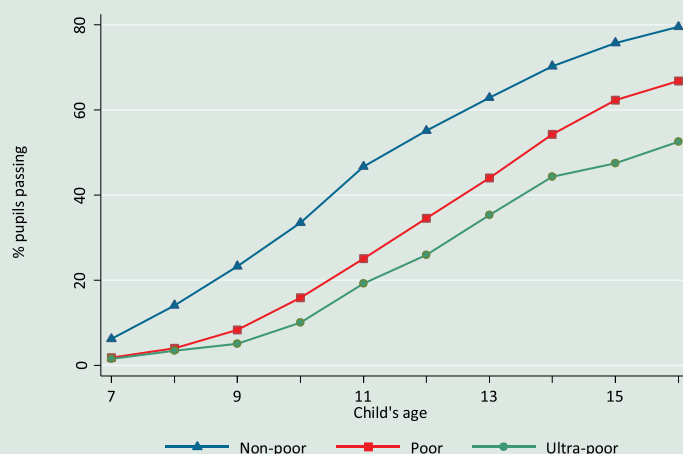
This learning gap between the poor and non-poor also is found consistently at all ages i.e., it is highly persistent. This is shown in Figure 6, which plots the pass rates on the combined tests for children of specific ages (from 7-16 years of age).

Two main points stand out. First, the pass rate for the non-poor, indicated by the top line (connected by triangles) is always above the other two lines, meaning that pass rates are always higher for this group. At age 10, for instance, the pass rate among the non-poor (33%) is twice that of the poor (16%) and three times that of the ultra-poor (10%). On average, the learning disadvantage of coming from a poor household, compared to coming from a non-

poor household, is equivalent to about two years (and more for ultra-poor households). This is because at age 12, around 34% of children from non-poor households pass both tests, which is equal to the pass rate of 10 year olds from non-poor households.

Second, one notes a slowly widening gap between the ultra-poor and the other groups with regards to the combined test pass rates (as shown in the figure), especially after 14 years of age. Among other things, this is likely due to higher dropout rates and lower rates of continuation to secondary school among ultra-poor children.<sup>12</sup>

Figure 6: Pass rates on literacy and numeracy tests (combined), by socio-economic status and age, all East Africa



“On average, the learning disadvantage of coming from a poor household, compared to coming from a non-poor household, is equivalent to about two years (and more for ultra-poor households).

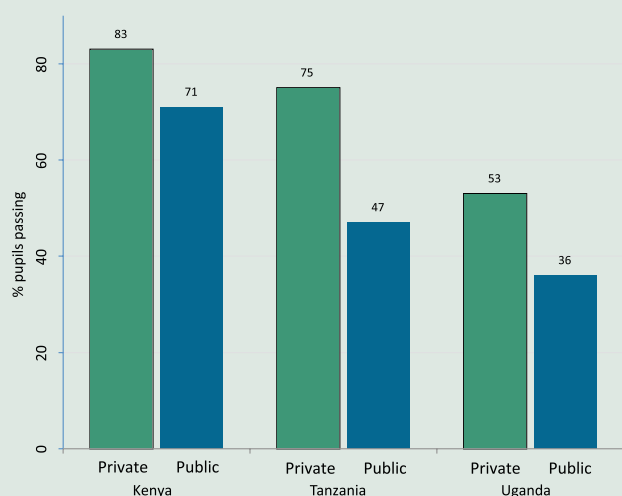
<sup>12</sup> Less than 4% of all children from ultra-poor households aged 10-16 are enrolled in secondary school, compared to 15% of non-poor children.

## Fact 7: Pupils in private schools perform better than pupils in government (public) schools

In addition to the differences in literacy and numeracy test results due to location and socio-economic status, there are also large differences associated with the type of school attended. This is indicated by Figure 7, which plots the percentage of children aged 10-16 that are able to pass both the numeracy and literacy tests (combined) according to whether they attend either government (public) schools or private schools. The graph shows that private schools generate relatively higher pass rates in all countries. For example, the pass rate in Tanzanian government schools is 47% versus 75% in private schools. In part, the difference between Tanzania and the other countries is likely to be driven by the much smaller share of pupils attending private schools, even among the non-poor, suggesting they may be particularly selective.

Two further points come out of these data. First, the gap in results between public and private schools is much larger in Tanzania than in either Uganda or Kenya. This is seen from the distance between the private and public school bar heights in the figure. In Tanzania pupils of private schools perform more than one and half times better than those in government schools. In Kenya and Uganda this distance is smaller. Second, regardless of the type of school attended, large differences between countries in East Africa remain evident. For each type of school (either public or private), pupils from Kenya outperform pupils in Uganda and Tanzania. Moreover, on average, pupils in lower performing government schools in Kenya still outperform pupils from the better performing private schools in Uganda.

Figure 7: Pass rates on literacy and numeracy tests (combined) for children aged 10-16, by type of school and country



“The gap in results between public and private school is much larger in Tanzania than in Kenya or Uganda

## Fact 8: The 2011 Uwezo survey results are highly consistent with those of the first round.

Finally, it is useful to check whether the first and second rounds of the Uwezo surveys lead to similar conclusions, whether there is consistency and whether enough attention has been paid in order to allow comparisons over time. On the one hand, one would anticipate the results to be similar as all surveys were nationally representative and a maximum of two years (in the case of Kenya) separates the two rounds, which is a short time frame to achieve large scale changes in education outcomes. On the other hand, some differences are to be expected, mainly due to the larger number of districts covered in the second

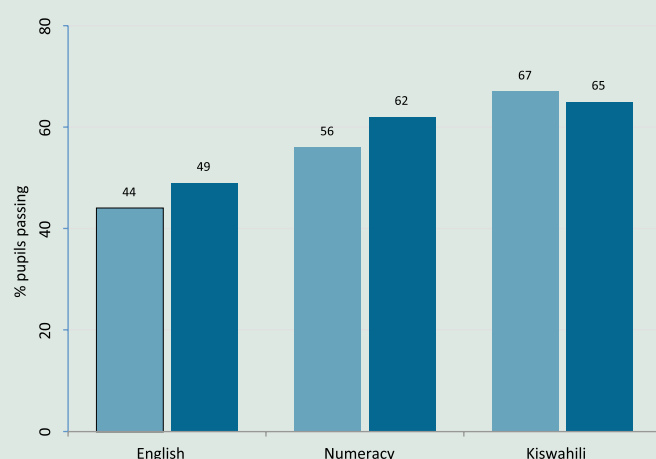
round. Indeed, the East Africa report for the first round of the Uwezo surveys (see [www.uwezo.net](http://www.uwezo.net)) noted there may be a slight skew in the results owing to the fact that less than half of all districts were included in the sample. As noted in Section 2, this concern was addressed in Uwezo 2 which covered more than three quarters of all districts in each country, implying the second round results are more robust.

Looking at the region as a whole (i.e., taking Kenya, Uganda and Tanzania together as a single group), Figure

8 compares results between the two rounds of the Uwezo surveys on the literacy (English and Kiswahili) and numeracy tests. The figure shows the percentage of children aged 10-16 in the region that are able to pass each test. Only children above the age of 10 are included

as, by this age, they are expected to have completed at least 2 years of primary school education, and therefore should be able to pass the tests. The figure clearly shows that differences in the pass rates between the two rounds are small.

Figure 8: Literacy and numeracy test results for children aged 10-16 by Uwezo survey round, all East Africa



Only children above the age of 10 are included as, by this age, they are expected to have completed at least 2 years of primary school education, and therefore should be able to pass the tests.

The findings from the two survey rounds also are consistent for each country considered separately (Table 4). The data shows the percentage of children aged 10-16 in each country that correctly answered the numeracy and literacy tests combined. The differences are rather small, suggesting a high degree of consistency between the two rounds. This suggests the survey methodology and administration are likely to be robust and reliable.

**Table 4: Percentage of children aged 10-16 passing both literacy and numeracy tests, by country**

|                    | Round 1     | Round2      |
|--------------------|-------------|-------------|
| Kenya              | 65.6        | 69.7        |
| Tanzania           | 44.3        | 45.4        |
| Uganda             | 30.6        | 37.9        |
| <b>East Africa</b> | <b>45.9</b> | <b>49.8</b> |

Notes: Round 1 surveys were undertaken in 2009 (Kenya) and 2010 (Uganda and Tanzania); Round 2 surveys were all undertaken in 2011.

Source: calculated from the Uwezo 1 and Uwezo 2 data.



# CONCLUSIONS

## 4. CONCLUSIONS

This report has summarized the main findings of the second round of the Uwezo surveys (Uwezo 2) implemented in Kenya, Tanzania (mainland) and Uganda during 2011. These surveys, which are some of the largest sample-based household surveys ever to be undertaken in Africa, provide independent evidence regarding the actual literacy and numeracy skills of over 100,000 children (aged 6-16) in each of three countries and over a wide spread of districts. The surveys are nationally representative and therefore provide a solid basis to investigate both levels and trends in learning outcomes.

The principal finding of Uwezo 2 echoes that of Uwezo 1. Despite important gains in access to primary schooling throughout the region, evidenced by generally high enrolment rates, large numbers of children are simply not learning. In all three countries, more than two thirds of children in Standard 3 do not have the basic literacy and numeracy skills set at the Standard 2 level. Moreover, these basic skills are acquired only slowly, and many children only achieve them after five or more years of completed education (instead of just two).

The surveys also reveal a number of other important findings. There are large differences in average test scores *between* countries in East Africa. Kenyan pupils perform best in literacy and numeracy. Ugandan pupils perform worst during the early years of primary schooling, but exhibit faster progress and slightly outperform pupils in Tanzania by the end of primary school. There are also large differences in average test scores between districts *within* each country. In Kenya there are a small number of very poorly performing districts. In Tanzania and Uganda there are larger numbers of poorly performing districts as well as a small number of very strong performers.

Differences in test performance (between individuals and districts) are due to a large number of factors. Importantly, however, there are few differences in test scores between boys and girl, and in fact girls slightly outperform boys in all three countries. Nonetheless, children from socio-economically disadvantaged households perform worse on tests at all ages, which suggests that inequality in educational opportunity is persistent. Also pupils in private schools perform much better than pupils in government

(public) schools in all three countries, a difference which is particularly marked in Tanzania.

A detailed technical report provides a more extensive analysis of the Uwezo surveys (available from [www.uwezo.net](http://www.uwezo.net)). Among other things, future research will seek to further unpack the determinants of learning outcomes and their variation across the region.

When such findings are released, it is natural to ask what the solutions are. Indeed Uwezo itself has been created not only to conduct research but to spur improvements in literacy and numeracy levels. Still, we hesitate to provide a set of ready-made answers; if anything, experience teaches us that solutions that appear obvious may not in fact be effective. In our view the question of what should be done needs to be approached with a great deal of skepticism and an openness to think differently. In that spirit, we recommend the following five considerations:

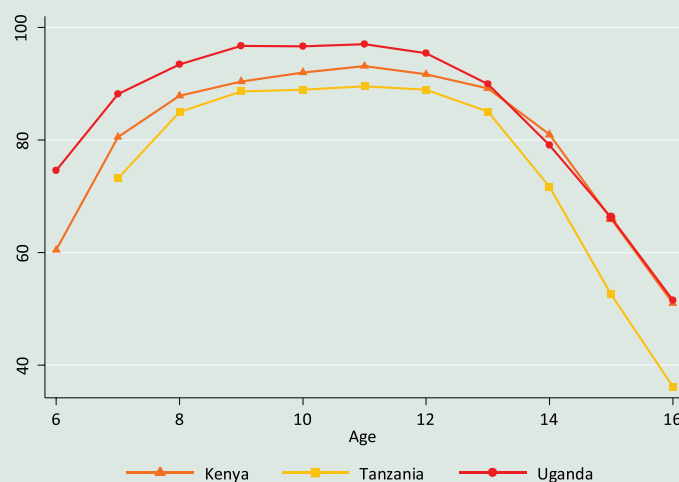
- *Do not do more of the same.* In the face of poor results, politicians, education managers and NGOs often call for *more* to be done, or *more resources* to be invested in the same interventions, when in fact the key problem may be the choice of interventions rather than lack of resources.
- *Insist on rigorous evidence.* Too many policies and budgets are determined on the basis of past practice, ideological preference or political whim. Policy makers and school administrators alike would do better to examine the evidence for the effectiveness of different interventions so as to develop a more informed sense of what works.
- *Focus on learning outcomes instead of educational inputs.* Among the public and policy makers alike, education is often characterized in terms of physical inputs such as classrooms, desks and books, as well as human inputs such as numbers of qualified teachers and enrolled pupils. While these aspects can no doubt contribute, the ultimate measure of success that should focus all our minds should be learner abilities, i.e. not how many desks are there but can Juma read.

- *Learn from what works.* While overall results are poor, some schools and districts do better than others despite facing similar constraints as others. Their success may be explained by historical and income advantages in part, but there may be other factors of success regarding management of institutions, collective action and innovation that others could emulate.
- *Experiment and test out new ideas.* The basic mode of classroom pedagogy today in most schools has not changed much over decades. It may be worthwhile to consciously create a culture and room for ‘disruptive’ ideas and technologies and test whether innovations and different approaches, such as cash on delivery and others, work better.

These five considerations are more about a way of thinking and approaching a problem than proffering any specific solution. And perhaps that is the key point. Indeed, when a hugely expanded schooling infrastructure and continuing to spend a fifth of the national budget continues to bring such poor results, our key challenge may be less about identifying a policy or technocratic fix, setting up a new project or raising funds, and more a reflection of the failure of our educational imagination. If Uwezo findings can stimulate education leaders and the public alike, including teachers and parents, to pause, and to wonder whether we are doing the right thing, and instead think about what works and how to scale it up, it will have done a large part of its job.

## APPENDIX A: EAST AFRICA ADDITIONAL DATA

Figure A.1: Proportion of children enrolled in primary school, by age



Notes: this figure plots the proportion of children of a given age who are enrolled in primary school; note that primary school in Tanzania starts at age 7, which is a year later than in Uganda and Kenya.

Source: calculated from the Uwezo 2 data.

Table A1: Summary of district-level average pass rates on the numeracy and literacy tests combined, by country

|          | Bottom 10% |        | Median | Top 10% |        |
|----------|------------|--------|--------|---------|--------|
| Kenya    | 26.5       | - 50.0 | 67.6   | 84.3    | - 92.1 |
| Tanzania | 25.4       | - 33.3 | 42.8   | 63.1    | - 80.2 |
| Uganda   | 9.7        | - 22.7 | 34.1   | 47.7    | - 69.3 |

Notes: bottom and top 10% give the highest and lowest district average pass rates for the group of districts in the top and bottom 10% of districts in each country.  
Source: calculated from the Uwezo 2 data.

Table A2: Percentage of children aged 10-16 passing Uwezo tests, by gender and country

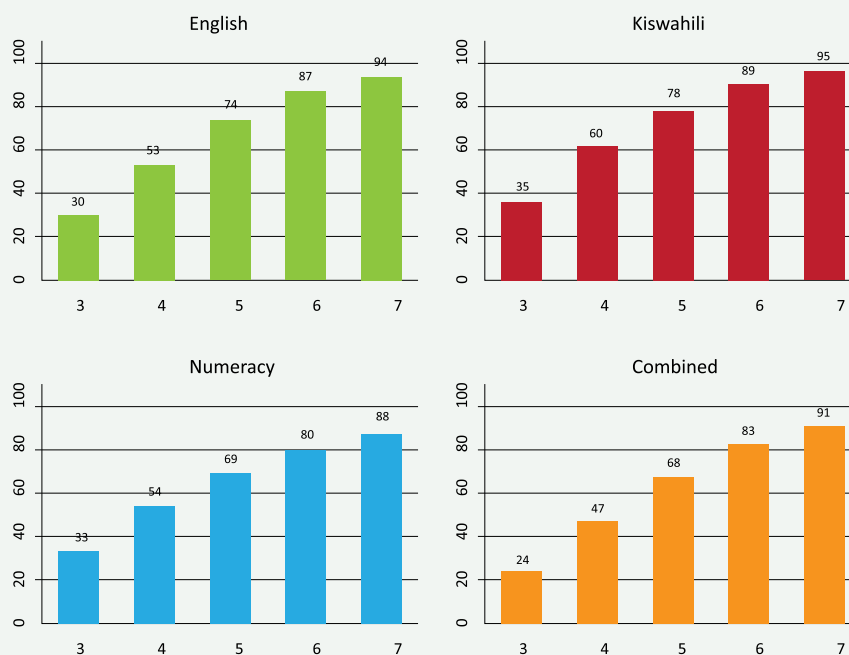
| Country  | Test     | Males | Females | Difference |
|----------|----------|-------|---------|------------|
| Kenya    | Literacy | 72.4  | 76.6    | -4.2       |
|          | Numeracy | 70.0  | 72.9    | -2.9       |
|          | Combined | 67.7  | 71.8    | -4.0       |
| Tanzania | Literacy | 55.2  | 59.0    | -3.7       |
|          | Numeracy | 59.9  | 61.3    | -1.4       |
|          | Combined | 44.3  | 46.5    | -2.2       |
| Uganda   | Literacy | 42.9  | 46.2    | -3.3       |
|          | Numeracy | 56.6  | 57.2    | -0.5       |
|          | Combined | 36.6  | 39.2    | -2.6       |

Notes: 'Literacy' tests refer to English in both Kenya and Uganda, and Kiswahili in Tanzania; 'Combined' test refers to pupils that pass *both* literacy and numeracy tests.

Source: calculated from the Uwezo 2 data.

## APPENDIX B: ADDITIONAL TABLES AND FIGURES FOR KENYA

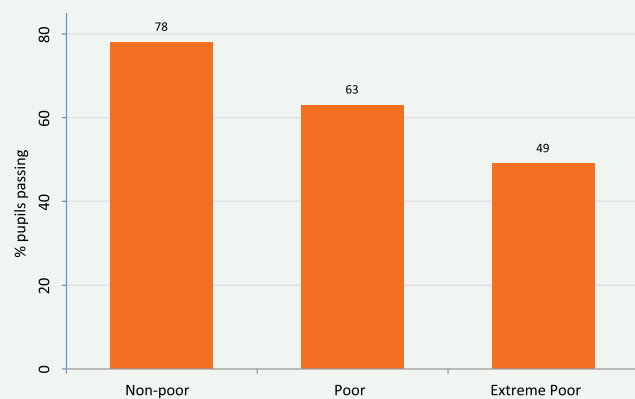
Figure B.1: Test pass rates by Standard for children enrolled in school, Kenya



Notes: numbers along the horizontal axis refer to Standards 3 to 7 of primary school; “Combined” refers to passes on both the (common) numeracy test questions and the English literacy test questions.

Source: calculated from the Uwezo 2 data.

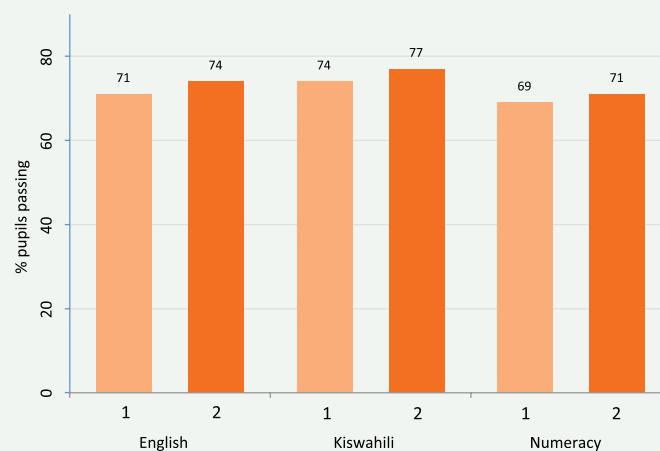
Figure B.2: Pass rates on literacy and numeracy tests (combined) for children aged 10-16, by categories of socio-economic status, Kenya



Notes: socio-economic status categories are as described in the text.

Source: calculated from the Uwezo 2 data.

Figure B.3: Test results for children aged 10-16, by Uwezo survey round, Kenya

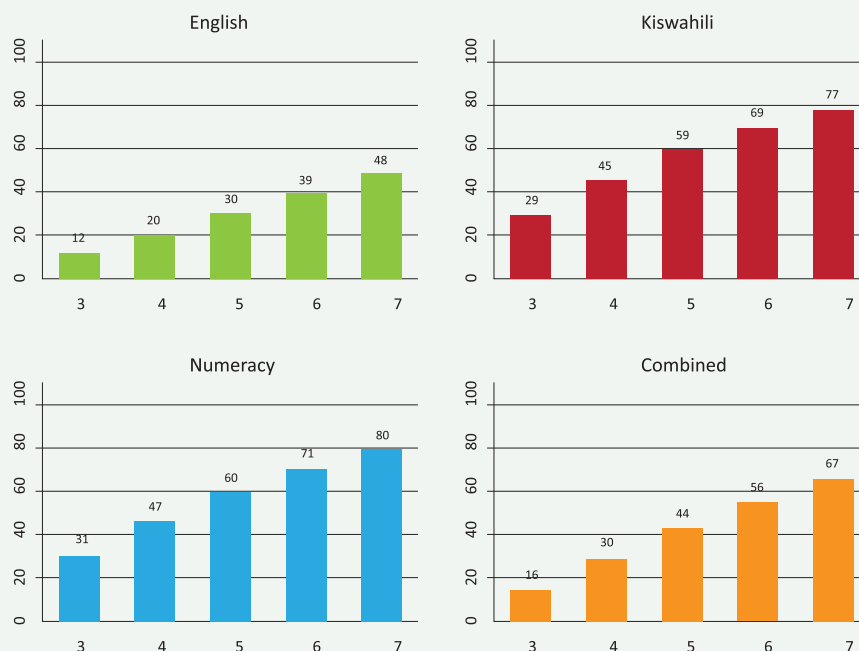


Notes: survey round indicated in numbers along the horizontal axis.

Source: calculated from the Uwezo 1 and Uwezo 2 data.

## APPENDIX C: ADDITIONAL TABLES AND FIGURES FOR TANZANIA (MAINLAND)

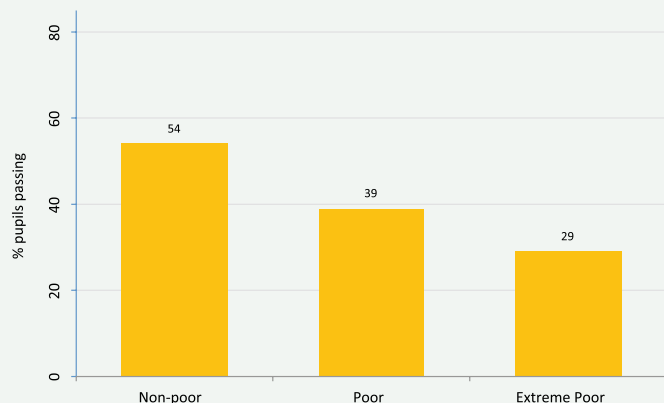
Figure C.1: Test pass rates by Standard for children enrolled in school, Tanzania



Notes: numbers along the horizontal axis refer to Standards 3 to 7 of primary school; “Combined” refers to passes on both the (common) numeracy test questions and the Kiswahili literacy test questions.

Source: calculated from the Uwezo 2 data.

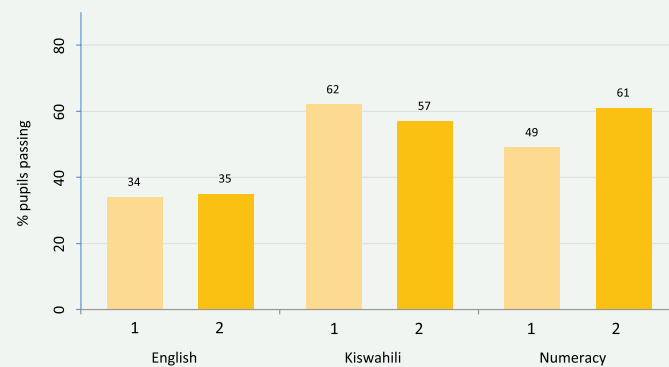
Figure C.2: Pass rates on literacy and numeracy tests (combined) for children aged 10-16, by categories of socio-economic status, Tanzania



Notes: socio-economic status categories are as described in the text.

Source: calculated from the Uwezo 2 data.

Figure C.3: Test results for children aged 10-16, by Uwezo survey round, Tanzania



Notes: survey round indicated in numbers along the horizontal axis.

Source: calculated from the Uwezo 1 and Uwezo 2 data.

## APPENDIX D: ADDITIONAL TABLES AND FIGURES FOR UGANDA

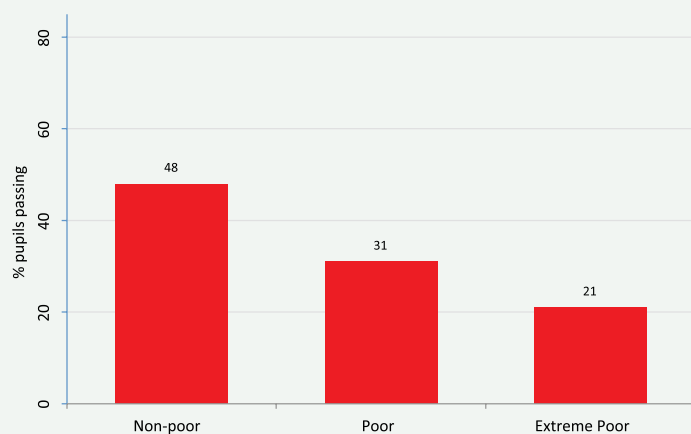
Figure D.1: Test pass rates by Standard for children enrolled in school, Uganda



Notes: numbers along the horizontal axis refer to Standards 3 to 7 of primary school; “Combined” refers to passes on both the (common) numeracy test questions and the English literacy test questions.

Source: calculated from the Uwezo 2 data.

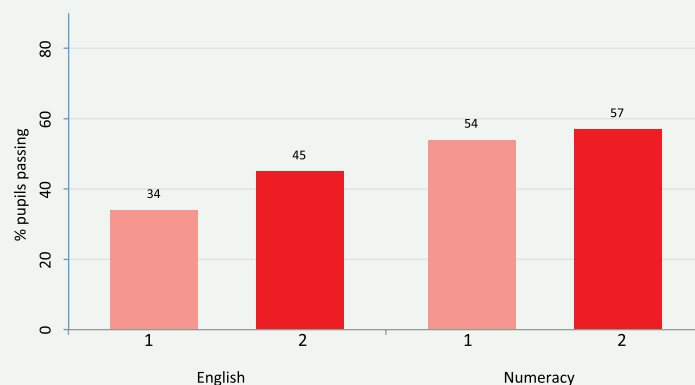
Figure D.2: Pass rates on literacy and numeracy tests (combined) for children aged 10-16, by categories of socio-economic status, Uganda



Notes: socio-economic status categories are as described in the text.

Source: calculated from the Uwezo 2 data.

Figure D.3: Test results for children aged 10-16, by Uwezo survey round, Uganda



Notes: survey round indicated in numbers along the horizontal axis.

Source: calculated from the Uwezo 1 and Uwezo 2 data.

## APPENDIX E: UWEZO LITERACY AND NUMERACY TEST EXAMPLES

### Numeracy Test

| NUMERACY TEST - KENYA                                                                                |  |                                                                                                 |  |
|------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------|--|
| NUMBER                                                                                               |  | ADDITION                                                                                        |  |
| RECOGNITION 10-99                                                                                    |  | $33 + 12$<br>$26 + 52$<br>$63 + 24$<br>$82 + 10$                                                |  |
| 13 45 62<br>84 27 58                                                                                 |  |                                                                                                 |  |
| COUNT AND MATCH                                                                                      |  | SUBTRACTION                                                                                     |  |
|                                                                                                      |  | $37 - 12$<br>$48 - 27$<br>$70 - 29$<br>$26 - 13$                                                |  |
| WHICH IS GREATER?                                                                                    |  | MULTIPLICATION                                                                                  |  |
| 13 and 57    37 and 12<br>51 and 46    26 and 81<br>39 and 62    48 and 29<br>25 and 17    74 and 91 |  | $2 \times 2 =$ $3 \times 4 =$<br>$3 \times 3 =$ $2 \times 4 =$<br>$6 \times 2 =$ $9 \times 2 =$ |  |
|                                                                                                      |  | DIVISION                                                                                        |  |
|                                                                                                      |  | $8 \div 2 =$ $6 \div 4 =$<br>$12 \div 3 =$ $10 \div 2 =$<br>$15 \div 5 =$ $20 \div 4 =$         |  |

| HISABATI - TANZANIA                                                                          |  |                                                                                                 |  |
|----------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------|--|
| UTAMBUZI WA NAMBA                                                                            |  | KUZUNUSHA NAMBA                                                                                 |  |
| 19 75 69<br>56 35 87                                                                         |  | 39 14 56 38<br>$+29$ $+17$ $+26$ $+29$                                                          |  |
| TAJA IDADI                                                                                   |  | KUTOA NAMBA                                                                                     |  |
|                                                                                              |  | 92 34 53 80<br>$-74$ $-17$ $-24$ $-68$                                                          |  |
| NAMBA IPI NI KUBWA Zaidi?                                                                    |  | MULTIPLICATION                                                                                  |  |
| 19 au 29    71 au 99<br>10 au 13    62 au 28<br>82 au 42    80 au 28<br>23 au 11    22 au 50 |  | $2 \times 2 =$ $3 \times 4 =$<br>$3 \times 3 =$ $2 \times 4 =$<br>$6 \times 2 =$ $9 \times 2 =$ |  |

| NUMERACY - UGANDA                                                                                                                                                                                                                                                                           |   |                                                                                       |   |   |   |     |  |  |  |     |  |  |  |     |  |  |  |                                                                                                  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---------------------------------------------------------------------------------------|---|---|---|-----|--|--|--|-----|--|--|--|-----|--|--|--|--------------------------------------------------------------------------------------------------|--|
| NUMBER                                                                                                                                                                                                                                                                                      |   | ADDITION                                                                              |   |   |   |     |  |  |  |     |  |  |  |     |  |  |  |                                                                                                  |  |
| RECOGNITION 10-99                                                                                                                                                                                                                                                                           |   | 35    425    121    216<br>$+51$ $+132$ $+642$ $+42$                                  |   |   |   |     |  |  |  |     |  |  |  |     |  |  |  |                                                                                                  |  |
| 15 47 25<br>23 30 94                                                                                                                                                                                                                                                                        |   |                                                                                       |   |   |   |     |  |  |  |     |  |  |  |     |  |  |  |                                                                                                  |  |
| COUNTING                                                                                                                                                                                                                                                                                    |   | SUBTRACTION                                                                           |   |   |   |     |  |  |  |     |  |  |  |     |  |  |  |                                                                                                  |  |
|                                                                                                                                                                                                                                                                                             |   | 78    634    635    194<br>$-34$ $-323$ $-112$ $-34$                                  |   |   |   |     |  |  |  |     |  |  |  |     |  |  |  |                                                                                                  |  |
| PLACE VALUE                                                                                                                                                                                                                                                                                 |   | MULTIPLICATION                                                                        |   |   |   |     |  |  |  |     |  |  |  |     |  |  |  |                                                                                                  |  |
| <table border="1"> <thead> <tr> <th>Number</th> <th>H</th> <th>T</th> <th>O</th> </tr> </thead> <tbody> <tr> <td>263</td> <td></td> <td></td> <td></td> </tr> <tr> <td>453</td> <td></td> <td></td> <td></td> </tr> <tr> <td>578</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> |   | Number                                                                                | H | T | O | 263 |  |  |  | 453 |  |  |  | 578 |  |  |  | $2 \times 1 =$ $4 \times 6 =$<br>$13 \times 2 =$ $3 \times 8 =$<br>$6 \times 2 =$ $9 \times 2 =$ |  |
| Number                                                                                                                                                                                                                                                                                      | H | T                                                                                     | O |   |   |     |  |  |  |     |  |  |  |     |  |  |  |                                                                                                  |  |
| 263                                                                                                                                                                                                                                                                                         |   |                                                                                       |   |   |   |     |  |  |  |     |  |  |  |     |  |  |  |                                                                                                  |  |
| 453                                                                                                                                                                                                                                                                                         |   |                                                                                       |   |   |   |     |  |  |  |     |  |  |  |     |  |  |  |                                                                                                  |  |
| 578                                                                                                                                                                                                                                                                                         |   |                                                                                       |   |   |   |     |  |  |  |     |  |  |  |     |  |  |  |                                                                                                  |  |
|                                                                                                                                                                                                                                                                                             |   | DIVISION                                                                              |   |   |   |     |  |  |  |     |  |  |  |     |  |  |  |                                                                                                  |  |
|                                                                                                                                                                                                                                                                                             |   | $4 \div 2 =$ $6 \div 2 =$<br>$8 \div 3 =$ $25 \div 5 =$<br>$4 \div 4 =$ $18 \div 6 =$ |   |   |   |     |  |  |  |     |  |  |  |     |  |  |  |                                                                                                  |  |

### English Test

| ENGLISH TEST - KENYA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                  |                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------------------|
| Letters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Words                            | Paragraph                                                                        |
| a u<br>m q<br>g c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | day shop<br>pet girl<br>eye road | Sara has one brother. His name is Tom. Tom is six years old. He is in class one. |
| STORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                  |                                                                                  |
| <p>Peter and Mary live in Kitui. Kitui is a hot and sunny place. They always wear light clothes. They like playing in the sun. They are happy when it rains. Last year it rained a lot. They helped their father plant some trees. Mother planted maize and beans. There was a lot of food. Mother took some maize to the market. She sold it and got a lot of money. Mother used the money to buy shoes for us. We were all very happy.</p> <p>Q1. Where does Peter live?<br/>Q2. What did mother sell?</p> |                                  |                                                                                  |

| ENGLISH TEST - TANZANIA                                                                                                                                                                                                                                          |                                   |                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------------------------------------------------|
| Letters                                                                                                                                                                                                                                                          | Words                             | Paragraph                                                                     |
| v b<br>c k<br>e n                                                                                                                                                                                                                                                | boy leg<br>three come<br>iri book | Our school is good. Boys play at school. We sing good songs. Then we go home. |
| STORY                                                                                                                                                                                                                                                            |                                   |                                                                               |
| <p>Musa is a good teacher. He teaches us well. He comes to class in the morning. He does not like lazy pupils. All the pupils at my school love him. I love him too.</p> <p>Questions.<br/>1. Who is a good teacher?<br/>2. Which pupils does Musa not like?</p> |                                   |                                                                               |

| ENGLISH TEST - UGANDA                                                                                                                                                                                                                                                                                                                                   |                                   |                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|------------------------------------------------------------------------|
| Letters                                                                                                                                                                                                                                                                                                                                                 | Words                             | Paragraph                                                              |
| i e<br>d p<br>a n                                                                                                                                                                                                                                                                                                                                       | dig nose<br>good leg<br>foot play | My uncle has a shop. It is a big shop. He is happy. He will buy a car. |
| STORY                                                                                                                                                                                                                                                                                                                                                   |                                   |                                                                        |
| <p>Last week our teacher told us a story. It was about an old man. His name is Mr. Okello. His wife is called Nora. They had four children. He was a good man. He used to tell his children stories. The stories were about small animals.</p> <p>Questions.<br/>1. What was the name of the old man?<br/>2. How many children did Mr. Okello have?</p> |                                   |                                                                        |

### Kiswahili Test

| KUSOMA KENYA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                     |                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------|
| Silabi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Maneno                              | Aya                                                                                  |
| ka ye<br>gi ra<br>si du                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | moto kuni<br>jani picha<br>njia uma | Leo kuna baridi sana. Watoto wamevaa vavuni. Wote wamekaa ndani. Mama amesema hivyo. |
| Hadithi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                     |                                                                                      |
| <p>Mimi ninaitwa Nuru. Ninasema shule ya msingi ya Bahati. Ninasema darasa la pili. Mimi huenda shule kuanzia Jumatatu hadi Jumatano. Jumamosi na Jumatatu ni siku ya kupumzika. Shule yetu ni ya watichana na wawulana. Wanafunzi wote huwa dani dani kila siku. Shule yetu ina madarasa manano. Ina ofisi ya mwalimu mkuu na ofisi ya karami. Walimu wetu wawili wana shi shuleni. Kuna uwaga mmoja wa mpina. Kuna mti mingi nyani na mau. Shule yetu ina walimu wazuri. Ninaipenda shule yetu sana.</p> <p>Maswali:<br/>1. Nuru anasema darasa gani?<br/>2. Shule ya akina Nuru ina darasa ngapi?</p> |                                     |                                                                                      |

| KUSOMA TANZANIA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                      |                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------------------------------------------------------------------------------------------------|
| Silabi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Maneno                               | Aya                                                                                                      |
| wa du<br>nyee mo<br>kwa bi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | bata paa<br>kwatu chura<br>kuku ndoo | Mimi ni mwanafunzi. Ninasema darasa la pili. Walimu wetu wanafundisha nyuri. Ninajua kusoma na kuandika. |
| Hadithi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                      |                                                                                                          |
| <p>Halima ni mwanafunzi wa darasa la pili. Siku moja alipotaka shule alimkuta Daudi amekaa chini ameanamisha kichwa. Halima alimtopeleza Daudi na kumaliza mbono amekaa, anafahia gani? Daudi alijibu kuwa kichwa kinauma. Halima aliamka kumsaidia Daudi kubeba mfuko wake wa vitabu na kumsindikiza hadi nyumboni. Walipofika nyumboni walimkuta mama Daudi. Mama Daudi alispekeke na kuachoribisha. Mama Daudi alimshukuru Halima kwa wema aliotenda kumsindikiza Daudi.</p> <p>Maswali:<br/>1. Kwa nini Daudi alikaa chini?<br/>2. Hadithi hii inatufundisha nini?</p> |                                      |                                                                                                          |

## APPENDIX F: EAST AFRICA DISTRICT RANKING

| Country  | District        | Region      | Rank | Country  | District         | Region        | Rank |
|----------|-----------------|-------------|------|----------|------------------|---------------|------|
| Kenya    | Thika West      | Central     | 1    | Kenya    | Mandera West     | North Eastern | 40   |
| Kenya    | Kikuyu          | Central     | 2    | Kenya    | Sotik            | Rift Valley   | 41   |
| Kenya    | Nairobi East    | Nairobi     | 3    | Kenya    | Nandi North      | Rift Valley   | 42   |
| Kenya    | Nyeri South     | Central     | 4    | Kenya    | Kangundo         | Eastern       | 43   |
| Kenya    | Gatanga         | Central     | 5    | Kenya    | Nandi Central    | Rift Valley   | 44   |
| Kenya    | Kirinyaga       | Central     | 6    | Kenya    | Emuhaya          | Western       | 45   |
| Kenya    | Kajiado North   | Rift Valley | 7    | Kenya    | Imenti North     | Eastern       | 46   |
| Kenya    | Imenti South    | Eastern     | 8    | Tanzania | Moshi Urban      | Kilimanjaro   | 47   |
| Kenya    | Ruiru           | Central     | 9    | Kenya    | Tharaka          | Eastern       | 48   |
| Kenya    | Gatundu         | Central     | 10   | Kenya    | Mbeere           | Eastern       | 49   |
| Kenya    | Githunguri      | Central     | 11   | Kenya    | Koibatek         | Rift Valley   | 50   |
| Kenya    | Kiambu          | Central     | 12   | Kenya    | Suba             | Nyanza        | 51   |
| Kenya    | Muranga North   | Central     | 13   | Kenya    | Kitui            | Eastern       | 52   |
| Kenya    | Nyandarua South | Central     | 14   | Tanzania | Bukoba Urban     | Kagera        | 53   |
| Kenya    | Lari            | Central     | 15   | Kenya    | Kajiado Central  | Rift Valley   | 54   |
| Kenya    | Masaba          | Nyanza      | 16   | Kenya    | Nandi South      | Rift Valley   | 55   |
| Kenya    | Mbooni          | Eastern     | 17   | Tanzania | Rombo            | Kilimanjaro   | 56   |
| Kenya    | Nyandarua North | Central     | 18   | Kenya    | Hamisi           | Western       | 57   |
| Kenya    | Manga           | Nyanza      | 19   | Kenya    | Trans Nzoia West | Rift Valley   | 58   |
| Kenya    | Taita           | Coast       | 20   | Tanzania | Morogoro Urban   | Morogoro      | 59   |
| Kenya    | Laikipia East   | Rift Valley | 21   | Kenya    | Yatta            | Eastern       | 60   |
| Tanzania | Arusha          | Arusha      | 22   | Kenya    | Embu             | Eastern       | 61   |
| Kenya    | Gucha           | Nyanza      | 23   | Uganda   | Kampala          | Central       | 62   |
| Kenya    | Keiyo           | Rift Valley | 24   | Kenya    | Kibwezi          | Eastern       | 63   |
| Kenya    | Marakwet        | Rift Valley | 25   | Tanzania | Temeke           | Dar Es Salaam | 64   |
| Kenya    | Naivasha        | Rift Valley | 26   | Kenya    | Mwingi           | Eastern       | 65   |
| Tanzania | Iringa Mjini    | Iringa      | 27   | Kenya    | Butere           | Western       | 66   |
| Kenya    | Mombasa         | Coast       | 28   | Kenya    | Rongo            | Nyanza        | 67   |
| Kenya    | Nakuru          | Rift Valley | 29   | Tanzania | Mbeya Urban      | Mbeya         | 68   |
| Kenya    | Baringo Central | Rift Valley | 30   | Kenya    | Bungoma North    | Western       | 69   |
| Kenya    | Makueni         | Eastern     | 31   | Kenya    | Kisumu West      | Nyanza        | 70   |
| Kenya    | Nakuru North    | Rift Valley | 32   | Kenya    | Laikipia West    | Rift Valley   | 71   |
| Kenya    | Baringo North   | Rift Valley | 33   | Kenya    | Marsabit         | Eastern       | 72   |
| Kenya    | Mwala           | Eastern     | 34   | Kenya    | Molo             | Rift Valley   | 73   |
| Kenya    | Buret           | Rift Valley | 35   | Kenya    | Nandi East       | Rift Valley   | 74   |
| Kenya    | Eldoret East    | Rift Valley | 36   | Kenya    | Mandera Central  | North Eastern | 75   |
| Kenya    | Meru South      | Eastern     | 37   | Kenya    | Tigania          | Eastern       | 76   |
| Kenya    | Wareng          | Rift Valley | 38   | Tanzania | Tanga            | Tanga         | 77   |
| Kenya    | Kisii Central   | Nyanza      | 39   | Kenya    | Nyando           | Nyanza        | 78   |

| Country  | District         | Region        | Rank |
|----------|------------------|---------------|------|
| Tanzania | Ilala            | Dar Es Salaam | 79   |
| Kenya    | Rachuonyo        | Nyanza        | 80   |
| Kenya    | Bomet            | Rift Valley   | 81   |
| Kenya    | Kakamega Central | Western       | 82   |
| Kenya    | Lamu             | Coast         | 83   |
| Kenya    | Teso North       | Western       | 84   |
| Kenya    | Kericho          | Rift Valley   | 85   |
| Tanzania | Songea Urban     | Ruvuma        | 86   |
| Kenya    | Bondo            | Nyanza        | 87   |
| Kenya    | Samia            | Western       | 88   |
| Kenya    | Busia            | Western       | 89   |
| Kenya    | Kakamega North   | Western       | 90   |
| Uganda   | Wakiso           | Central       | 91   |
| Kenya    | Trans Nzoia East | Rift Valley   | 92   |
| Kenya    | Rarieda          | Nyanza        | 93   |
| Tanzania | Mwanga           | Kilimanjaro   | 94   |
| Kenya    | Taveta           | Coast         | 95   |
| Kenya    | Malindi          | Coast         | 96   |
| Tanzania | Hai              | Kilimanjaro   | 97   |
| Kenya    | Kyuso            | Eastern       | 98   |
| Tanzania | Kilolo           | Iringa        | 99   |
| Kenya    | Mt Elgon         | Western       | 100  |
| Tanzania | Mufindi          | Iringa        | 101  |
| Kenya    | Kakamega South   | Western       | 102  |
| Kenya    | Bungoma East     | Western       | 103  |
| Kenya    | Kuria East       | Nyanza        | 104  |
| Tanzania | Same             | Kilimanjaro   | 105  |
| Kenya    | Migori           | Nyanza        | 106  |
| Kenya    | Mutomo           | Eastern       | 107  |
| Kenya    | Kilifi           | Coast         | 108  |
| Kenya    | Kisii South      | Nyanza        | 109  |
| Kenya    | Kwanza           | Rift Valley   | 110  |
| Tanzania | Shinyanga Urban  | Shinyanga     | 111  |
| Kenya    | Narok North      | Rift Valley   | 112  |
| Kenya    | Igembe           | Eastern       | 113  |
| Tanzania | Njombe           | Iringa        | 114  |
| Kenya    | Trans Mara       | Rift Valley   | 115  |
| Kenya    | Bunyala          | Western       | 116  |
| Tanzania | Moshi Rural      | Kilimanjaro   | 117  |
| Tanzania | Ulanga           | Morogoro      | 118  |

| Country  | District        | Region        | Rank |
|----------|-----------------|---------------|------|
| Kenya    | Mandera East    | North Eastern | 119  |
| Kenya    | Gucha South     | Nyanza        | 120  |
| Tanzania | Ileje           | Mbeya         | 121  |
| Tanzania | Makete          | Iringa        | 122  |
| Tanzania | Pangani         | Tanga         | 123  |
| Kenya    | Kaloleni        | Coast         | 124  |
| Kenya    | Loitoktok       | Rift Valley   | 125  |
| Tanzania | Kinondoni       | Dar Es Salaam | 126  |
| Tanzania | Iringa Rural    | Iringa        | 127  |
| Kenya    | Moyale          | Eastern       | 128  |
| Kenya    | West Pokot      | Rift Valley   | 129  |
| Kenya    | Pokot Central   | Rift Valley   | 130  |
| Tanzania | Kibaha          | Coast         | 131  |
| Tanzania | Kyela           | Mbeya         | 132  |
| Uganda   | Mbarara         | Western       | 133  |
| Kenya    | Laikipia North  | Rift Valley   | 134  |
| Tanzania | Kigoma Urban    | Kigoma        | 135  |
| Kenya    | Teso South      | Western       | 136  |
| Tanzania | Newala          | Mtwara        | 137  |
| Tanzania | Dodoma Urban    | Dodoma        | 138  |
| Tanzania | Ilemela         | Mwanza        | 139  |
| Tanzania | Mtwara Urban    | Mtwara        | 140  |
| Kenya    | Pokot North     | Rift Valley   | 141  |
| Tanzania | Simanjiro       | Manyara       | 142  |
| Tanzania | Songea Rural    | Ruvuma        | 143  |
| Tanzania | Lushoto         | Tanga         | 144  |
| Tanzania | Kisarawe        | Coast         | 145  |
| Tanzania | Manyoni         | Singida       | 146  |
| Uganda   | Bushenyi        | Western       | 147  |
| Kenya    | Samburu Central | Rift Valley   | 148  |
| Tanzania | Tabora Urban    | Tabora        | 149  |
| Tanzania | Chunya          | Mbeya         | 150  |
| Tanzania | Korogwe         | Tanga         | 151  |
| Tanzania | Musoma Urban    | Mara          | 152  |
| Uganda   | Mityana         | Central       | 153  |
| Kenya    | Tana River      | Coast         | 154  |
| Kenya    | Isiolo          | Eastern       | 155  |
| Tanzania | Singida Urban   | Singida       | 156  |
| Tanzania | Babati          | Manyara       | 157  |
| Kenya    | Msambweni       | Coast         | 158  |

| Country  | District      | Region      | Rank |
|----------|---------------|-------------|------|
| Uganda   | Kiruhura      | Western     | 159  |
| Kenya    | Narok South   | Rift Valley | 160  |
| Uganda   | Nakaseke      | Central     | 161  |
| Tanzania | Nyamagana     | Mwanza      | 162  |
| Tanzania | Mbeya Rural   | Mbeya       | 163  |
| Kenya    | Bungoma South | Western     | 164  |
| Tanzania | Hanang        | Manyara     | 165  |
| Tanzania | Rungwe        | Mbeya       | 166  |
| Tanzania | Maswa         | Shinyanga   | 167  |
| Uganda   | Luwero        | Central     | 168  |
| Tanzania | Mbinga        | Ruvuma      | 169  |
| Uganda   | Ibanda        | Western     | 170  |
| Uganda   | Nakasongola   | Central     | 171  |
| Tanzania | Mafia         | Coast       | 172  |
| Tanzania | Karatu        | Arusha      | 173  |
| Tanzania | Mvomero       | Morogoro    | 174  |
| Uganda   | Hoima         | Western     | 175  |
| Uganda   | Kabarole      | Western     | 176  |
| Tanzania | Mbarali       | Mbeya       | 177  |
| Tanzania | Kilombero     | Morogoro    | 178  |
| Tanzania | Arumeru       | Arusha      | 179  |
| Uganda   | Rukungiri     | Western     | 180  |
| Tanzania | Kiteto        | Manyara     | 181  |
| Tanzania | Nachingwea    | Lindi       | 182  |
| Tanzania | Mbulu         | Manyara     | 183  |
| Tanzania | Kondoa        | Dodoma      | 184  |
| Tanzania | Ludewa        | Iringa      | 185  |
| Uganda   | Masaka        | Central     | 186  |
| Tanzania | Kasulu        | Kigoma      | 187  |
| Tanzania | Mkuranga      | Coast       | 188  |
| Uganda   | Mbale         | Eastern     | 189  |
| Tanzania | Mpanda        | Rukwa       | 190  |
| Tanzania | Singida Rural | Singida     | 191  |
| Tanzania | Bukoba Rural  | Kagera      | 192  |
| Tanzania | Bukombe       | Shinyanga   | 193  |
| Tanzania | Bagamoyo      | Coast       | 194  |
| Tanzania | Bunda         | Mara        | 195  |
| Uganda   | Ntungamo      | Western     | 196  |
| Tanzania | Liwale        | Lindi       | 197  |
| Tanzania | Namtumbo      | Ruvuma      | 198  |

| Country  | District       | Region        | Rank |
|----------|----------------|---------------|------|
| Uganda   | Lyantonde      | Central       | 199  |
| Kenya    | Samburu North  | Rift Valley   | 200  |
| Uganda   | Kabale         | Western       | 201  |
| Tanzania | Lindi Urban    | Lindi         | 202  |
| Tanzania | Masasi         | Mtwara        | 203  |
| Kenya    | Tana Delta     | Coast         | 204  |
| Kenya    | Turkana South  | Rift Valley   | 205  |
| Kenya    | Lagdera        | North Eastern | 206  |
| Tanzania | Kilwa          | Lindi         | 207  |
| Uganda   | Mpigi          | Central       | 208  |
| Tanzania | Kwimba         | Mwanza        | 209  |
| Tanzania | Muheza         | Tanga         | 210  |
| Tanzania | Kigoma Rural   | Kigoma        | 211  |
| Uganda   | Kalangala      | Central       | 212  |
| Uganda   | Kanungu        | Western       | 213  |
| Tanzania | Misungwi       | Mwanza        | 214  |
| Tanzania | Urambo         | Tabora        | 215  |
| Uganda   | Jinja          | Eastern       | 216  |
| Tanzania | Magu           | Mwanza        | 217  |
| Uganda   | Gulu           | Northern      | 218  |
| Uganda   | Mukono         | Central       | 219  |
| Tanzania | Igunga         | Tabora        | 220  |
| Uganda   | Kasese         | Western       | 221  |
| Tanzania | Rufiji         | Coast         | 222  |
| Tanzania | Karagwe        | Kagera        | 223  |
| Tanzania | Biharamulo     | Kagera        | 224  |
| Tanzania | Morogoro Rural | Morogoro      | 225  |
| Uganda   | Rakai          | Central       | 226  |
| Uganda   | Isingiro       | Western       | 227  |
| Tanzania | Kilosa         | Morogoro      | 228  |
| Tanzania | Uyui           | Tabora        | 229  |
| Uganda   | Kitgum         | Northern      | 230  |
| Uganda   | Busia          | Eastern       | 231  |
| Tanzania | Geita          | Mwanza        | 232  |
| Tanzania | Sikonge        | Tabora        | 233  |
| Tanzania | Lindi Rural    | Lindi         | 234  |
| Tanzania | Iramba         | Singida       | 235  |
| Tanzania | Handeni        | Tanga         | 236  |
| Kenya    | Wajir East     | North Eastern | 237  |
| Tanzania | Ngorongoro     | Arusha        | 238  |

| Country  | District         | Region        | Rank |
|----------|------------------|---------------|------|
| Tanzania | Ngara            | Kagera        | 239  |
| Tanzania | Ruangwa          | Lindi         | 240  |
| Uganda   | Manafwa          | Eastern       | 241  |
| Kenya    | Wajir West       | North Eastern | 242  |
| Tanzania | Mbozi            | Mbeya         | 243  |
| Tanzania | Tandahimba       | Mtwara        | 244  |
| Uganda   | Kisoro           | Western       | 245  |
| Tanzania | Dodoma Rural     | Dodoma        | 246  |
| Uganda   | Moyo             | Northern      | 247  |
| Uganda   | Kapchorwa        | Eastern       | 248  |
| Tanzania | Sumbawanga Urban | Rukwa         | 249  |
| Tanzania | Nzega            | Tabora        | 250  |
| Uganda   | Kiboga           | Central       | 251  |
| Tanzania | Sengerema        | Mwanza        | 252  |
| Tanzania | Monduli          | Arusha        | 253  |
| Kenya    | Wajir North      | North Eastern | 254  |
| Uganda   | Sironko          | Eastern       | 255  |
| Uganda   | Bukwo            | Eastern       | 256  |
| Tanzania | Kongwa           | Dodoma        | 257  |
| Tanzania | Shinyanga Rural  | Shinyanga     | 258  |
| Tanzania | Muleba           | Kagera        | 259  |
| Uganda   | Arua             | Northern      | 260  |
| Uganda   | Kamwenge         | Western       | 261  |
| Tanzania | Sumbawanga Rural | Rukwa         | 262  |
| Uganda   | Kyenjojo         | Western       | 263  |
| Uganda   | Pader            | Northern      | 264  |
| Uganda   | Kumi             | Eastern       | 265  |
| Kenya    | Ijara            | North Eastern | 266  |
| Tanzania | Nkasi            | Rukwa         | 267  |
| Uganda   | Masindi          | Western       | 268  |
| Uganda   | Soroti           | Eastern       | 269  |
| Tanzania | Tunduru          | Ruvuma        | 270  |
| Tanzania | Musoma Rural     | Mara          | 271  |
| Tanzania | Tarime           | Mara          | 272  |
| Uganda   | Lira             | Northern      | 273  |
| Uganda   | Amuria           | Eastern       | 274  |
| Uganda   | Kayunga          | Central       | 275  |
| Tanzania | Kishapu          | Shinyanga     | 276  |
| Uganda   | Kibaale          | Western       | 277  |
| Tanzania | Kahama           | Shinyanga     | 278  |
| Uganda   | Buliisa          | Western       | 279  |

| Country  | District        | Region      | Rank |
|----------|-----------------|-------------|------|
| Uganda   | Oyam            | Northern    | 280  |
| Kenya    | Turkana Central | Rift Valley | 281  |
| Tanzania | Mtwara Rural    | Mtwara      | 282  |
| Uganda   | Kaberamaido     | Eastern     | 283  |
| Uganda   | Adjumani        | Northern    | 284  |
| Tanzania | Serengeti       | Mara        | 285  |
| Uganda   | Abim            | Northern    | 286  |
| Uganda   | Bukedea         | Eastern     | 287  |
| Uganda   | Sembabule       | Central     | 288  |
| Uganda   | Mubende         | Central     | 289  |
| Uganda   | Nebbi           | Northern    | 290  |
| Uganda   | Katakwi         | Eastern     | 291  |
| Tanzania | Kibondo         | Kigoma      | 292  |
| Uganda   | Pallisa         | Eastern     | 293  |
| Uganda   | Butaleja        | Eastern     | 294  |
| Uganda   | Iganga          | Eastern     | 295  |
| Uganda   | Bududa          | Central     | 296  |
| Tanzania | Kilindi         | Tanga       | 297  |
| Uganda   | Mayuge          | Eastern     | 298  |
| Tanzania | Meatu           | Shinyanga   | 299  |
| Tanzania | Ukerewe         | Mwanza      | 300  |
| Tanzania | Mpwapwa         | Dodoma      | 301  |
| Uganda   | Nyadri          | Northern    | 302  |
| Uganda   | Apac            | Northern    | 303  |
| Uganda   | Yumbe           | Northern    | 304  |
| Uganda   | Koboko          | Northern    | 305  |
| Uganda   | Tororo          | Eastern     | 306  |
| Uganda   | Budaka          | Eastern     | 307  |
| Kenya    | Samburu East    | Rift Valley | 308  |
| Uganda   | Kamuli          | Eastern     | 309  |
| Tanzania | Bariadi         | Shinyanga   | 310  |
| Uganda   | Amuru           | Northern    | 311  |
| Uganda   | Dokolo          | Northern    | 312  |
| Uganda   | Bundibugyo      | Western     | 313  |
| Uganda   | Bugiri          | Eastern     | 314  |
| Uganda   | Kaliro          | Eastern     | 315  |
| Uganda   | Amolatar        | Northern    | 316  |
| Uganda   | Nakapiripirit   | Northern    | 317  |
| Uganda   | Moroto          | Northern    | 318  |
| Uganda   | Kaabong         | Northern    | 319  |
| Uganda   | Kotido          | Northern    | 320  |



This report compiles, compares and presents the headline findings of the 2011 Uwezo national assessments in Kenya, Uganda, and Tanzania (mainland). About 350,000 children across the three countries were tested in their ability to perform basic numeracy and literacy tasks at the Standard 2 level.

The Uwezo methodology, sampling frame, tools and processes have been developed in consultation with national and international experts, and are subject to rigorous scrutiny. Comprehensive information on the methodology and the full datasets are also publicly available.

The principal finding is that despite significant gains in expanding access to primary schooling, actual literacy and numeracy outcomes remain significantly deficient across the region. Although children are now enrolled in school in unprecedented numbers, they are not learning core skills expected at their age and grade level.

While the findings paint a grim picture of education in East Africa, there are reasons to be hopeful. First, the schools and districts that perform relatively better constitute a potential source of solutions on how to improve children's learning. Second, there is a marked shift in the public debate towards focusing on quality and learning outcomes, and asking sharper questions on how to achieve greater value from existing investments. Third, globally there is increased experimentation on innovations to spur learning that can benefit East Africa, should we choose to pay attention.

The opportunity to help every child learn in East Africa is there. This report seeks to help inform that opportunity.



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