International Common Assessment of Numeracy (ICAN) 2022 Sub-Saharan Africa

Understanding Foundational Literacy and Numeracy in SSA

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The photographs used in this report are taken by staff from the People's Action for Learning (PAL) Network member organisations and the PAL Network Secretariat as they visited rural communities.

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Executive summary

The PAL Network is a South-South partnership of organizations on three continents that do citizen-led assessments and actions (CLAs) to improve children's basic reading and math skills. Citizen-Led Assessments are conducted orally, one-on-one with each child, and are simple and quick. The goal of this is to obtain reliable data on children's foundational learning that can build awareness and inform policy and practice.

The development of common global educational goals and the need for comparable data to monitor education quality targets have meant that many low- and middle-income countries (LMICs) face increasing pressure to participate in existing international and regional assessment programs. The PAL Network responded to the need for a comparable, low-cost assessment that meets Global South realities by developing ICAN (the International Common Assessment of Numeracy). It is a simple-to-use and scalable tool that measures children's foundational numeracy and is designed to align with SDG 4.1.1(a).

This report is part of PAL Network's larger commitment to increasing the salience of foundational literacy and numeracy (FLN) in the Global South. PAL Network's FLN advocacy work for the Sub-Saharan Africa (SSA) region is supported by the Bill and Melinda Gates Foundation (BMGF). It includes two pillars: engagement with regional organizations (ECOWAS, EAC, and SADC) and a policy scan conducted by PAL Network. As part of the first pillar, this project was implemented in 3 countries in Africa: Kenya, Mozambique, and Nigeria, to measure children's foundational numeracy and reading abilities.

Data was collected from 546 rural communities. More than 16 thousand children between 5 and 16 years old were assessed from approximately 11 thousand households. As part of the sampling strategy, we surveyed 1 district in each country that had been assessed in 2019 (the first round of ICAN), providing an estimation of pre- and post-pandemic learning outcomes.

The Contextual Questionnaire helped us collect relevant information about the communities we visited, which can help us understand the results that children got in the assessments. In Kenya and Mozambique, most households do not have access to electricity, while in Nigeria, more than 94% of households have access. Access to technology is also low, with only 18% of children living in households with access to a computer or tablet. However, most children in these challenging contexts are enrolled in schools.

Children's enrollment in most locations across Kenya and Nigeria are high, even in these difficult contexts. In almost all sampled Kenyan and Nigerian locations, the enrollment rates approach 100%. In the sampled locations in Mozambique, however, there are still many children that are not enrolled in school.

Depending on the country, the curriculum objectives expect children to be able to read the stories that our reading assessment presented by grade 2 (Mozambique and Nigeria) or grade 3 (Kenya), but we see that even in grades 4-6 or 7-8 in all locations there is a large proportion of children who still struggle with reading at the story level. There is no location where the percentage of children in grades 4-6 that reach this level is more than 53%.

There are no clear differences by gender in the performance in the reading assessment. The only country in which there seems that girls perform better than boys across locations and grades is Nigeria, where we see gaps that go from 3 to 15 percentage points. For the rest of the locations in Kenya and Mozambique, differences are very small and not constant across grades.

Our data also allows us to analyze the learning trajectory of children in these locations. Even though in our sample locations in Kenya and Nigeria we see a growth trajectory, where the percentage of children reaching story level grows with every additional year of schooling, this growth is too slow. In grade 3, where we would expect 100% of children in Nigeria reaching this level, we only see this in around 16-40%, depending on the location. In Kenya children should be able to read the text that is presented to them in Grade 3, but only between 13-30% of children in Grade 4 can actually read the passage. In the locations in Mozambique, we see a very flat trajectory, where there is almost no growth in this indicator in the three locations at least until Grade 4.

In mathematics, we find that the percentage of children that cannot solve a subtraction of two two-digit numbers with borrowing (mapped to grades 2-3)

is high across locations even if we consider children in Grades 4-6. In the Kenyan locations between 66 and 71% of children in Grades 4-6 can solve this task. It is only in grades 7-8 in these locations when 9 out of 10 children can do this kind of subtraction. In the locations in Mozambique and Nigeria the situation is even more worrisome.

It is very uncommon in our sampled locations that by grades 2-3 children attain the Minimum Proficiency Level for Grade 2. Even in grades 4-6 there is a great percentage of children below this minimum proficiency threshold: 21-33% in the sampled locations in Kenya, 21-37% in the sampled locations in Nigeria, and 66-78% in the sampled locations in Mozambique. Only in 3 out of 9 locations in our sample more than 9 out of 10 children achieve the MPL of grade 2 by grades 7-8.

The MPLs are also useful to understand how our assessment outcomes might differ by gender, providing useful insights about how learning is distributed. Across most of our sample it seems that girls are performing better than boys, however, it is interesting to note how these inequalities can present themselves differently across locations, even within the same country. In all the locations in Nigeria and two out of three locations in Kenya, girls perform better than boys. These differences range from 5 to 7 percentage points. In Ribaue and Larde (Mozambique) there is a difference that favors boys, which is smaller in the former (4 percentage points), and very visible in the latter (17 percentage points), making this gender gap largest in this sample.

Regarding changes in learning after the pandemic, our results do not show uniform signs of learning loss between 2019 and 2022. In fact, the percentage of children reaching the MPL for grade 2 has increased in Mwala (Kenya) and Ikorodu (Nigeria). In Mwala, the

improvement is concentrated in grades 1 to 4, where there are around 10 percentage points more children in each grade achieving the MPL in 2022 compared to 2019. Ikorodu, an increase of similar magnitude can be observed from grade 4.

Our location in Larde (Mozambique) is the only one that shows clear evidence of learning loss, concentrated from grades 3 to 5. In these grades, we see a decrease in the percentage of children achieving the MPL for grade 2 of between 6 and 10 percentage points. It is curious to note here that Larde had the lowest performance among the three districts before the pandemic, and even so is the only one showing clear signs of a decrease in performance.

These results might be counterintuitive, as many of us would expect to see large drops in learning after the pandemic. However, our study is not the only one that does not find a sizable learning loss, at least not in all the locations that were surveyed. It is important to acknowledge in this sense that there is enough evidence to say that it is not advisable to assume that the effects of the pandemic are the same across different contexts. There is a need for a nuanced understanding of how learning levels may have been impacted in different locations, which should be addressed with more and higher-quality data.

But what we believe that these results show very clearly is that the problems of absence of foundational literacy and numeracy learning outcomes is not something that the pandemic generated. These problems were there before and are more related to a long history of inefficacy in how we teach children how to acquire these skills than to the two years that the world had to adapt to the COVID-19 pandemic. This means that, while "recovery" is definitely needed in some contexts of the Global South, most of them require systemic improvement.

Acknowledgement

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Introduction

The People's Action for Learning (PAL) Network is a south-south partnership of 17 member organisations working to promote children's foundational learning across Africa, Asia, and America. PAL Network members conduct citizen-led assessments (CLAs) and learning intervention programmes (actions) aimed at improving learning outcomes.

CLAs assess children's basic reading and math competencies. They are conducted orally, one-on-one with each child, so as not to assume that children can read; they are administered in households rather than in schools, to reach all children irrespective of their schooling status. Such community-led action also encourages citizen agency and involvement of "everyday people," thus increasing the visibility of children's poor foundational learning outcomes throughout the global south. In addition to producing reliable and periodic evidence on children's learning, CLAs directly inform policy and practice. They give nationally relevant snapshots of what children can or cannot do. Each new member of the network retains the core principles underlying CLAs but adapts the assessment and survey tools to align with the national curriculum framework so that learning is measured according to their own national standards.

The PAL Network recognised the development of common global goals for education, as reflected in Sustainable Development Goal 4 and the need for comparable data to monitor education quality targets. Existing international and regional assessments are based on models and methods that emerged in the context of Global North countries, which have characteristics that are often very different from those of Global South countries. These characteristics include several decades of universal enrollment, comprehensive records of all schools in the country, and significant proportions of literate parents who are better able to support their children's learning in these education systems. These assessments are in general designed to inform policymakers and education planners rather than teachers, parents, and other actors on the ground. They do not generate actionable information at lower levels of performance where a large proportion of children in the Global South are usually located. School systems urgently need this type of evidence in the Global South.

The PAL Network responded to the need for a comparable, low-cost assessment that meets Global South realities by developing a new assessment tool, ICAN (International Common Assessment of Numeracy), in 2019. ICAN is a simple-to-use and scalable tool that measures children's foundational numeracy and is designed to align with SDG 4.1.1 (a). It is relevant to Global South contexts, as it measures foundational numeracy skills in early primary grades. ICAN expands the content that is typically assessed in CLAs, as it not only covers the number knowledge subdomain, but also assesses knowledge in geometry, measurement, and data analysis.

PAL Network believes identifying problems and intervening to resolve them early in children's

schooling trajectory is critical. A policy scan conducted by PAL Network reveals existing challenges and gaps. It investigates contextual and global views on bridging global, regional, and local policy contexts to improve African children's Foundational Literacy and Numeracy (FLN) skills.

ICAN 2022-SSA builds on the experience of both country-based Citizen-Led Assessments and ICAN as the first common assessment of the PAL Network. The project is part of PAL Network's larger commitment to increasing the salience of Foundational Literacy and Numeracy (FLN) in the Sub-Saharan Africa (SSA). This project includes two pillars:

1. Engagement with regional organisations (ECOWAS, EAC and SADC) on the FLN situation in Sub-Saharan Africa.

2. Providing evidence about the current state of learning in SSA and evidence on what works to improve learning.

This project was implemented in three countries of SSA: Kenya, Mozambique, and Nigeria. There were three PAL Network member organisations that led the work in each country:

1. In Kenya, Usawa Agenda, implementer of the CLA Uwezo Kenya.

2. In Mozambique, Facilidade-ICDS, implementer of TPC Mocambique assessment.

3. In Nigeria, LEARNigeria , implementer of the CLA LEARNigeria.

Data was collected from 546 rural communities. More than 16 thousand children between 5 and 16 years old were assessed from approximately 11 thousand households. Among the locations that were surveyed in each country, the same districts[1] and communities that were sampled as part of ICAN 2019 were retained – giving data comparison points pre- and post-pandemic for numeracy learning outcomes. These districts were Ikorodu (Nigeria), Larde (Mozambique), and Mwala (Kenya).

PAL Network member organisations participating in this project selected additional administrative units that they considered most strategic for their advocacy efforts to complete the sample. Nigeria and Mozambique chose two additional districts each.

[1]Districts are called sub-counties and Local Government Areas in Kenya, and Nigeria respectively.

In Nigeria, two additional local government areas in Lagos State were chosen: Badagry and Somolu. In Mozambique, two additional districts in the province of Nampula were selected: Malema and Ribaue. In Kenya, PAL Network member organization Usawa Agenda could use their recent experience conducting Uwezo 2021 and spread the remaining sample in a larger territory. They covered 3 counties: Machakos, Kitui and Makueni in the country's Eastern Region.

The ICAN tool was used for numeracy assessment paired with the reading component of CLA tools of each country. CLA tools provide a quick assessment of children's reading skills and can classify children into different levels that can be easily communicated to relevant stakeholders. These tools were designed in each country and are mapped to their national curriculum. However, these tools are not comparable across languages or countries.

PAL Network organisations in the 3 countries participated in the collaborative process that gave rise to ICAN. They had also previously designed and tested the language assessment tools and were responsible for fieldwork.

Objectives of the project

1. To assess children's foundational numeracy and literacy skills in sampled rural communities across Kenya, Mozambique, and Nigeria using the ICAN tool for numeracy and CLA reading assessments.

2. To provide reliable data on children's foundational learning outcomes that can build awareness and inform policy and practice, particularly in the context SSA.

3. To advocate for the importance of Foundational Literacy and Numeracy (FLN) in the Global South and to increase awareness of the challenges and potential solutions for improving FLN skills in Sub-Saharan Africa.

4. To assess the impact of the COVID-19 pandemic on children's numeracy learning outcomes by comparing the pre-pandemic and post-pandemic data from the district in each country that was part of the ICAN 2019.

Tools

ICAN 2022-SSA includes two types of instruments: a) the assessment tools (ICAN and CLA reading tools), and b) contextual questionnaires used to collect data at village, household, and child levels.

Assessment Tools

Numeracy tool (ICAN 2022)

Definitions of foundational numeracy commonly include knowledge on numbers, measurement, geometry, and simple data display. The minimum proficiency level descriptor for numeracy under SDG

4.1.1(a) requires learners to demonstrate skills in number sense and computation, shape recognition and spatial orientation.

ICAN tasks align with the Global Proficiency Framework, which defines minimum proficiency levels that learners are expected to demonstrate more generally rather than focusing on specific education objectives in individual countries. ICAN has 26 assessment items, half of which test the child's number knowledge, such as counting, comparing number of objects, number recognition, operations (without and with carry-over, borrow and remainder) and solving real-world problems. The rest of the tool includes questions from geometry, measurement, and data display domains. A snapshot of the domain-wise distribution is shown in Fig. 1 below:

50%

NUMBER KNOWLEDGE

- Counting, comparing number of objects
- Number recognition
- Operations (without and with carry-over, borrow and remainder)
- Real world problems

50%

GEOMETRY
- Position and direction
- Shapes and figures

MEASUREMENT
- Length and capacity
- Time and calendar
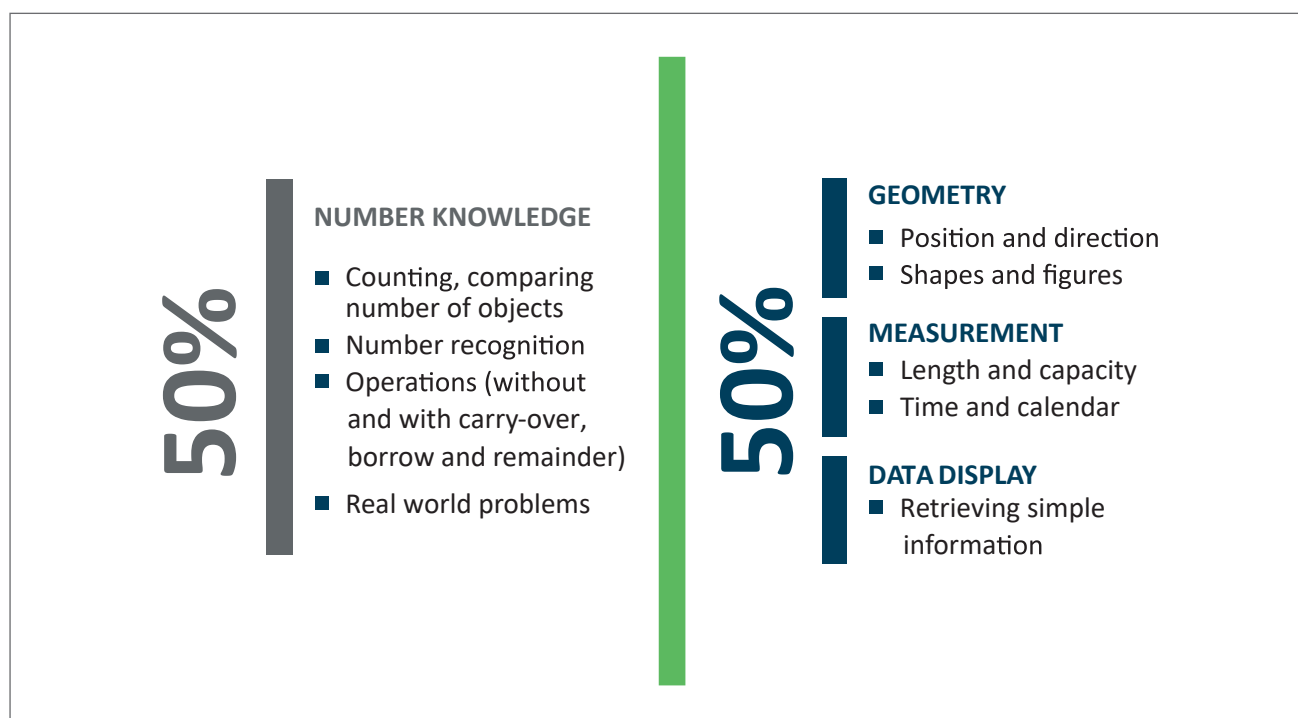
DATA DISPLAY
- Retrieving simple information

Figure 1. ICAN subdomains and skills.

More information about ICAN can be found in the report released in 2020 (PAL, 2020).

These design features of ICAN feed into the monitoring of SDG4.1.1(a). In August-September 2020, a policy linking exercise was conducted with educators and curriculum specialists in Kenya and Nigeria. The objective of this exercise was to map ICAN items to the Global Proficiency Framework, determine the level of assessment alignment, and

establish cut-off scores that could be used to produce benchmarks for 2nd and 3rd grade levels. After the mapping of the items, ICAN was classified as "additionally aligned" to the GPF. The benchmarking exercise set the Minimum Proficiency Level (MPL) for Grade 2 at 17 correct responses, and the MPL for Grade 3 at 21 correct responses. These benchmarks are used in this document to report the mathematics outcomes. More details about the exercise that was conducted, and its results can be found in the Policy Linking report (PAL, 2020a).

Literacy tools

The reading component of CLAs was used to assess children's foundational literacy in each country. While the tools differ from each other slightly, they are all able to classify children into five learning levels:

1. pre-reading, where the child cannot recognise letters;

2. letter, where the child can identify letters by their name;

3. word, where the child can read isolated words;

4. paragraph, where the child can read short paragraphs of 4 or 5 sentences;

5. story level, where the child can read a short story with appropriate vocabulary.

Children in the story level are asked 2 or 3 questions to measure their understanding of the story they have read.

The main difference in the assessments lies in the grade to which they are mapped to in the long passage (story). For Mozambique and Nigeria, the assessment is mapped to Grade 2 curriculum objectives, whereas in Kenya the assessment is mapped to Grade 3. The assessments measured children's proficiency in Kiswahili and English in Kenya, Portuguese in Mozambique, and English in Nigeria.

Although the assessments are very similar, the stimuli used in the items are not the same. Therefore, the results of the reading assessments are not comparable across countries *stricto sensu*, unlike the case of ICAN. This is an important cautionary note at the time of interpreting the results of the assessments.
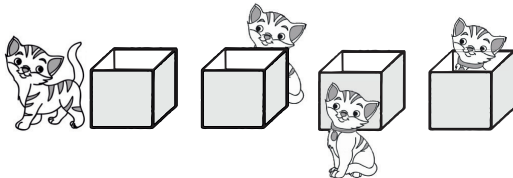
ICAN & Reading assessments tools
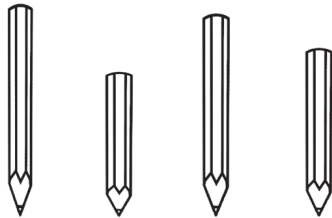
SET 1

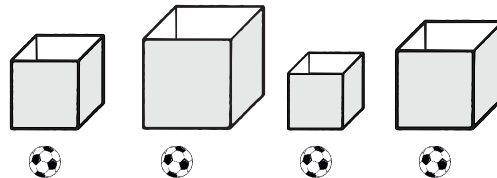**Q1** In this picture, which cat is inside the box?

Q2 In this picture, which child is farthest from the tree?

Q3 In this picture, which is the shortest pencil?

Q4 Here are 4 balls of the same size. Now look at the box kept next to each ball. If we completely fill each box with the kind of balls shown, which box will have the most number of balls?
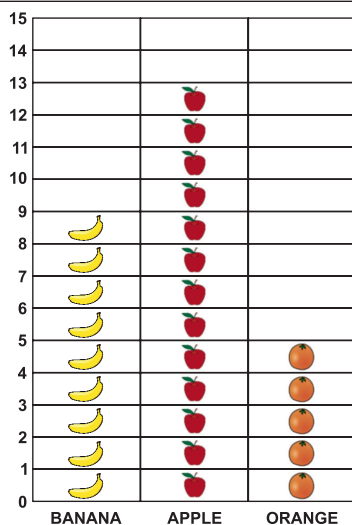
1

PAL NETWORK-AxA-FINAL 2022

SET 1

Look at the chart given below carefully.

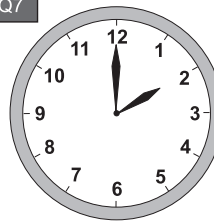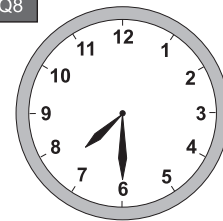| 15 | | | |
14			
13		🍎	
12		🍎	
11		🍎	
10		🍎	
9		🍎	
8	🍌	🍎	
7	🍌	🍎	
6	🍌	🍎	
5	🍌	🍎	
4	🍌	🍎	🍊
3	🍌	🍎	🍊
2	🍌	🍎	🍊
1	🍌	🍎	🍊
0	BANANA	APPLE	ORANGE

Q5 How many apples are there?

Q6 How many more bananas are there than oranges?

What is the time in this clock?

Q7

Q8

Look at the calendar given below.

MARCH 2022						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Q9 What is the day on 4th March?

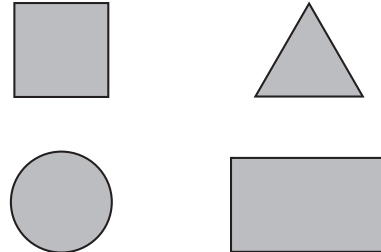**Q10** What is the date on the second Monday of March?

2

PAL NETWORK-AxA-FINAL 2022

6

SET 1

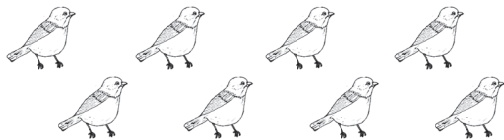| Q11	Which of these is a straight line?
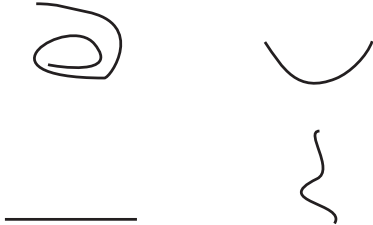
Q12	Look at these shapes. Which of these is a triangle?

Q13	How many birds are here? Choose the correct number.

6	8	9	5

Q14	There are 4 groups of objects given here. Look at them carefully. Which group has the most number of objects?

3

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SET 2

Read all numbers

Q15	3		Q16	2
Q17	8
Q18	0		Q19	9

Solve the following questions.

Q20	Q21	Q22	Q23
3 2 + 1 5 ————	4 6 - 2 1 ————	2 x 4 =	9 ÷ 3 =

SET 3

Read all numbers

Q24	48		Q25	22
Q26	84
Q27	97		Q28	30

Solve the following questions.

Q29	Q30	Q31	Q32
5 6 + 1 7 ————	7 8 - 2 9 ————	4 2 x 6 ————	7 ⟌ 9 3

Q33	Listen to the question carefully, solve and answer.

There were 43 children in the park. Out of these, 25 of them have gone home. How many children are left in the park now?

Q34	Listen to the question carefully, solve and answer.

A shopkeeper has 48 apples. He keeps 3 apples in each box. How many such boxes will he need to keep all the apples?

4

PAL NETWORK-AxA-FINAL 2022

ICAN tool

Kenya English

ENGLISH

Letter Sounds

cr	fr
sp	nd
dr	gr
mp	bl
ck	th

- Start here for all children aged 5-16 years irrespective of their schooling status
- The child should read any 5. At least 4 letters sounds should be read correctly
- If the child cannot read any 4 correctly, score him/her at the **PRE-READING LEVEL**

Words

act	tooth
trip	grow
clamp	sweep
wind	fly
screen	plate

- Give these to the child who has correctly read the LETTER SOUNDS
- The child should read any 5. At least 4 words should be read correctly
- If the child cannot read at least 4 words correctly, score him / her at **LETTER SOUNDS LEVEL**
- If the child correctly reads the words, take him/her to the PARAGRAPH

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Paragraph 1

Lulu and Seth love reading storybooks. Their mother took them to the library yesterday. The library is in the main town. They found many interesting books there. Some books had very nice pictures too. They wished they could read them all.

Paragraph 2

Road safety is very important. Our teacher taught us how to cross the road. She said that, you look right then left. She then said that, you look right again. If the road is clear, you can cross. You cross quickly without running.

- Let the child choose any of the two paragraphs and read.
- If the child correctly reads the paragraph, take him/her to the STORY
- If the child cannot read the paragraph (makes more than 2 mistakes), mark him/her at **WORD LEVEL**

Story

Sara is an old lady. She lives near the shores of Lake Vuli. She has three beautiful girls. She loves all the children in her village too. The children like playing with her. Sometimes, they chase her around.

Sara is very generous. She spends some of her money buying gifts. She buys toys for the children. She likes baking cakes too. She shares cake with her friends when they visit. On her birthday, many children visited her. They sang nice songs and wished her a long life.

Questions

1. Where does Sara live?
2. Why did the children wish Sara a long life?

- Only give the story to children who have correctly read the paragraph
- If the child cannot read the story (makes more than 4 mistakes), mark him/her at **PARAGRAPH LEVEL**
- If the child correctly reads the story, mark him/her at **STORY LEVEL**
- Ask the child who has correctly read the STORY the two questions and mark **CAN DO** or **CANNOT DO** for each

6   PAL NETWORK-AxA-FINAL 2022

Nigeria English

SAMPLE 1

LearNigeria

LETTER		WORDS	
i	s	bag	bank
m	a	pot	rest
f	g	mango	hut
u	r	leg	sand
b	t	cat	bring

- Start here for all children aged 5 -15years
- Let the child attempt to read **ALL** letters
- The child should read at least **FOUR** letters correctly
- If the child reads FOUR letters correctly, ask him/her to read words
- If child **cannot** read at least **FOUR** letters correctly mark him/her at *beginner level*

- Give Words to children who have successfully read at least **FOUR** letters correctly
- Let the child attempt to read **ALL** words
- The child should read at least **FOUR** words correctly
- If the child reads **FOUR words** correctly, ask him/her to read paragraph
- If child **cannot** read at least **FOUR** words correctly mark him/her at *letter level*

1

SAMPLE 1

LearNigeria

PARAGRAPH 1

My name is Musa Ado. I live in a town. I go to school every day. The school is very big.

PARAGRAPH 2

My name is Maria. I have a nice new dress. It is a pink dress. I wear it every Friday.

STORY

My friends call me *Fishy*. I like to eat fish every day. I have a fishing rod. I use it to catch fish. Every day I go to River Niger. I always take my catch home. Yesterday I fried some of the fish. I dried the rest.

In school, I listen to my teacher. He says fish is rich in protein. Protein is good for my body. All my friends now like fish very much.

Q1. What does *Fishy* use to catch fish?
Q2. Why is Fishy called Fishy?

- Give Paragraph to children who have successfully read at least **FOUR** words correctly
- Let the child choose any of the two paragraphs and read.
- **TWO** errors are allowed. Error types include skipping words, and failure to read as a string of words making a sentence
- If the child can read fluently as whole sentences, not as a string of words and without stopping often, then ask the child to read the story. If not, then mark the child at *word level*

- Give Story to children who have successfully read the paragraph
- **THREE** errors are allowed. Error types include skipping words, and failure to read as a string of words making a sentence
- If the child can read with ease, does not stop frequently or does not read a sentence as a string of words making a sentence and ask the comprehension questions. If not then mark the child at *paragraph level*

2

PORTUGUÊS -Testes de Leitura

Sample 1

NÍVEL 1. Leitura de Letras/ Sons: Para avaliar se as crianças são capazes de reconhecer letras / sons

t	m	h	f	p
o	d	a	j	e

NÍVEL 2. Leitura de palavras simples: para avaliar a consciência fonológica, ond o aluno conecta letras ou sons para formar palavras

1

ata	comer	ser	macaco	sair
menino	sol	beber	lua	voar

NÍVEL 3. Leitura de parágrafos: Para avaliar a fluência de leitura de um texto curto conectado com base nas competências de leitura da primeira classe.

A Paula tem uma amiga.
Elas brincam no quintal.
Elas pulam todo dia.

NÍVEL 4. Leitura de história: Para avaliar a fluência de leitura de uma história mais longa do nível de segunda classe

A Machamba do Senhor Daúdo

O Senhor Daúdo tem uma Machamba onde semeou Milhoe Mapira. Nas férias, os seus filhos ajudam na limpeza do capim velho. Na altura da colheita, osvizinhos ajudam armazenar os produtos no celeiro. O milho é vendido e a mapira fica para o consumo familiar. Com o dinheiro, compra cadernos para os seus filhos.

2

Nível 5: Compreensão:

Para avaliar se as crianças podem responder a perguntas de compreensão simples baseadas na história

1. O que o senhor Daúdo cultiva na sua machamba?

2. O que o senhor Daúdo faz com o dinheiro da venda do Milho?

3. Para que serve o celeiro para o Senhor Daúdo?

Contextual questionnaire

ICAN 2022-SSA's contextual questionnaires were used to collect information on key socio-economic indicators. Information was collected at three levels:

- For each surveyed child
  - o Past and current preschool and school status
  - o Enrolment in paid tuition classes
  - o Parent's education
  - o Duration of school closures due to COVID-19
- For each sampled household
  - o Basic infrastructure and assets
  - o Availability of reading material in the household
- For each sampled community
  - o Basic infrastructure and facilities
  - o Availability of schools and pre-schools

SurveyCTO, a well-known digital platform, was used for data collection. The assessments were printed on paper, so it was easy for children to handle. They were also given blank sheets of paper and a pen/pencil to do any necessary calculations. Surveyors recorded their responses in the assessment application. The contextual questionnaire was entirely administered using the application.

Implementation

Sampling

Selection of target population

To select the locations that were to participate in this survey, the districts[2] and communities that were sampled as part of ICAN 2019 became the starting points. These were Ikorodu in Nigeria, Larde in Mozambique, and Mwala in Kenya. The selection of these locations provided pre- and post-pandemic data comparison points for numeracy learning outcomes. PAL Network member organisations participating in this project selected additional administrative units to complete the sample. Their selection was based on locations that would be strategic for advocacy in their own countries. Nigeria and Mozambique chose two additional districts each. In Nigeria, two additional local government areas in Lagos State, Badagry and Somolu, were chosen. In Mozambique, two additional districts in the Province of Nampula Malema and Ribaue were selected. In Kenya, PAL Network member organisation Usawa Agenda could use their recent experience of conducting Uwezo 2021 survey and spread the remaining sample in a larger territory. They covered 3 counties, Machakos, Kitui and Makueni in the country's Eastern Region.

Selection of rural communities and households

A two-stage sample design was used to ensure that the survey generated a representative picture of the target population. The sampling strategy was consistent across all locations in three countries.

The first stage of the sampling process involved using the Probability Proportional to Size (PPS) sampling technique, where rural communities were selected from each district (or in the case of Kenya, from each county). In PPS, communities with larger population are more likely to be selected in the sample. This method is most useful when, as in this study, the sampling units differ in size. In the second stage, 20 households were randomly selected from each of the selected rural communities.

As explained previously, in Kenya, the sampled communities were drawn from three counties, so the sample design was adapted to be able to have the required minimum sample size in each country: 50, 91[3], and 48 were selected from Kitui, Machakos, and Makueni, respectively.

Selection of children

ICAN 2022-SSA's assessments are conducted in households, unlike traditional school-based approaches- enabling outreach to all children (aged 5-16 years), irrespective of their schooling status. This age range is carefully chosen to consider various factors such as the age of entry and completion of primary school, the prevalence of overage children

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[2]Districts are called sub-counties and Local Government Areas in Kenya, and Nigeria respectively.

[3]Including 60 ICAN communities.

in primary classes, and the reality that older children struggling with foundational tasks despite several years of schooling in many Global South countries.

Sample sizes

The development and implementation of the sampling plan was a collaborative exercise involving the PAL Network member organisations and the PAL Network Secretariat. The PAL Network member organisations identified the locations to be surveyed; arranged the official sampling frame of all rural communities in the sampled district; worked with local sampling experts to do the sampling; and kept track of rural communities surveyed and the use of replacement rural communities, if any. PMTs used a series of sampling formats to document the completion of each of these tasks.

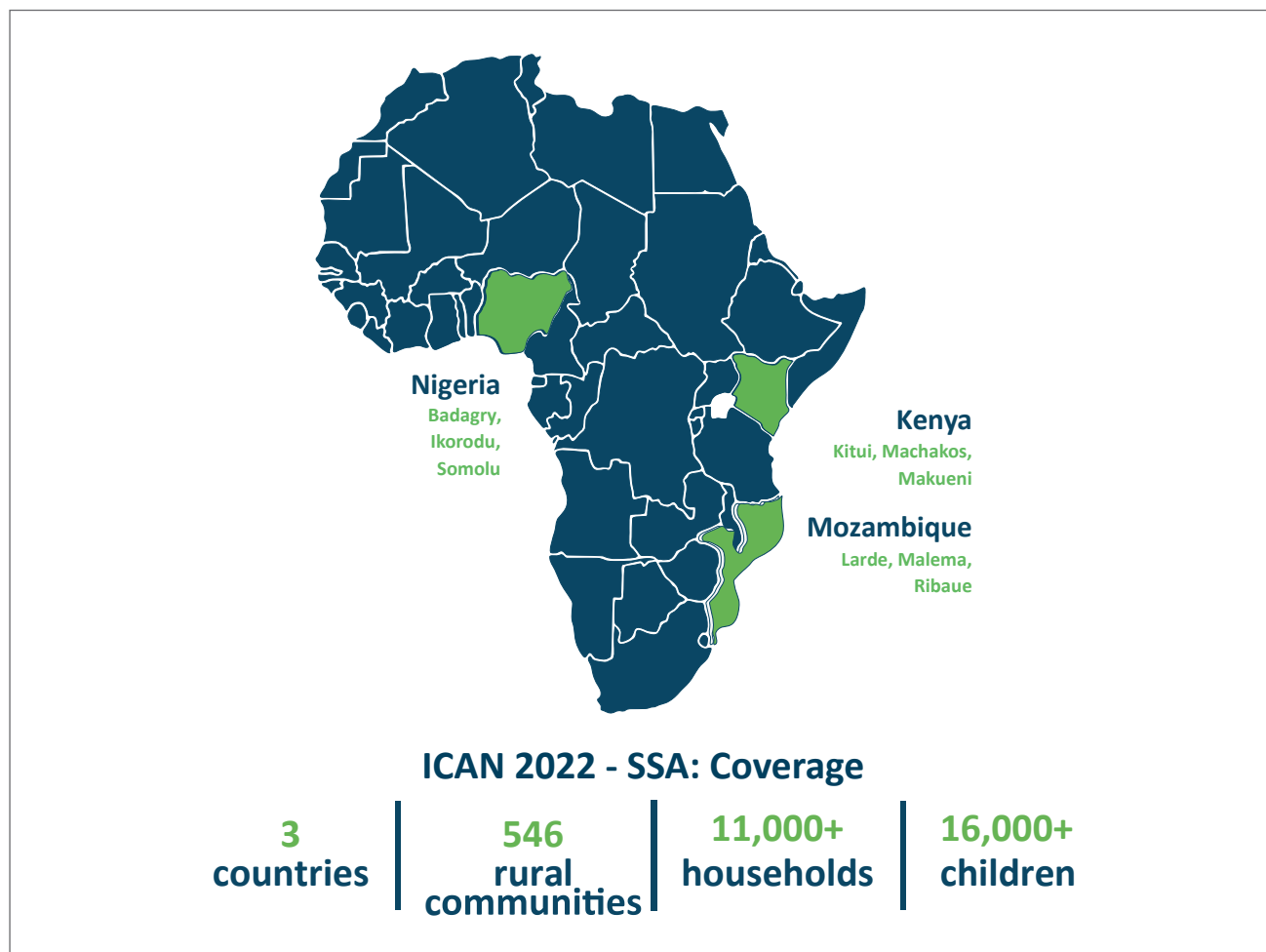A detailed sample description can be found in the figure and table below:

ICAN 2022 - SSA: Coverage

Nigeria — Badagry, Ikorodu, Somolu

Kenya — Kitui, Machakos, Makueni

Mozambique — Larde, Malema, Ribaue

| 3 countries | 546 rural communities | 11,000+ households | 16,000+ children |

Figure 2. ICAN 2022-SSA coverage.

Table 1. Sample size by location.

	Surveyed rural communities	Surveyed households	Surveyed children
Kenya	**190**	**3,936**	**4,817**
Kitui	50	1,083	1,496
Machakos	92	1,878	2,064
Makueni	48	975	1,257
Mozambique	**176**	**3,519**	**5,984**
Larde	58	1,142	1,920
Malema	59	1,181	2,272
Ribaue	59	1,196	1,792
Nigeria	**180**	**3,602**	**5,869**
Badagry	60	1,194	2,023
Ikorodu	60	1,211	1,988
Somolu	60	1,197	1,858
Grand total	**546**	**11,057**	**16,670**

Training

ICAN 2022-SSA followed the CLA principles of partnership to administer the assessments and involved collaboration with local institutions, NGOs, and/or individuals volunteers in each sampled district. To ensure the success of the survey, robust training was a crucial component of the process. The training workshops were divided into two tiers, first at the country level, and then at the district level.

The country-level training workshops consisted of a 3-day virtual training session organised by the PAL Network Secretariat for the Network member organisations implementing this project. Since PAL's in-country teams had prior experience in conducting CLAs, and the same team members had also conducted PAL Network's common assessments in the past, the training was relatively short. The training session each day was for three hours. The primary objective was to train the country-level Project Management Teams (PMTs), who later trained the field enumerators in their respective districts. In addition to mastering field processes, PMTs were also trained on back-end processes such as quality control systems and financial reporting requirements.

PMTs led the district-level training workshops in each surveyed district. They trained field enumerators to understand and practice the survey processes before surveying the field. The training workshops spanned over three days and consisted of classroom sessions and a practice field visit. Daily attendance was mandatory, and field enumerators took a quiz that assessed their understanding of the process.

The training workshops were designed to ensure that all implementing teams understood the survey processes correctly in a standardised manner. The field visit was essential to the training as it allowed the teams to practice the tools and procedures before conducting the survey. This approach ensured that the survey process was uniform across all districts and data quality was maintained. Figure 3 outlines the training process:

Figure 3. Training outline.

Quality control

The ICAN 2022-SSA survey implemented stringent quality control measures at every stage to ensure the robustness of all survey processes and data reliability. Quality control processes were developed based on two key principles: they must be simple and they should be actionable. Simplicity was the key as these processes were designed to be implemented at scale with the help of local field enumerators. Field processes for quality control were kept simple so that various levels of people could be trained quickly, and information on the field could be collected accurately.

Processes were also meant to be actionable, as they were designed to ensure that the quality was checked at each stage of the survey and immediate corrective action was taken where required.

During the survey: Monitoring
During the survey, the PMTs visited the communities that were assigned to the enumerators to support the field enumerators needing additional help.

After the survey: Recheck
After the survey was completed, the PMTs who coordinated the fieldwork conducted two types of rechecks: 1) "desk" recheck of all survey data. In this the rechecking teams verified whether all essential information had been filled correctly in the SurveyCTO application, and 2) field recheck during which PMTs and District Coordinators (DCs) revisited selected communities to ensure that field enumerators had visited the communities and collected information as per the administration protocols. Some communities were selected purposively based on the feedback from the desk recheck, and others were sampled randomly for field recheck.

The community could be resurveyed if the recheck process revealed that the survey did not meet quality standards.

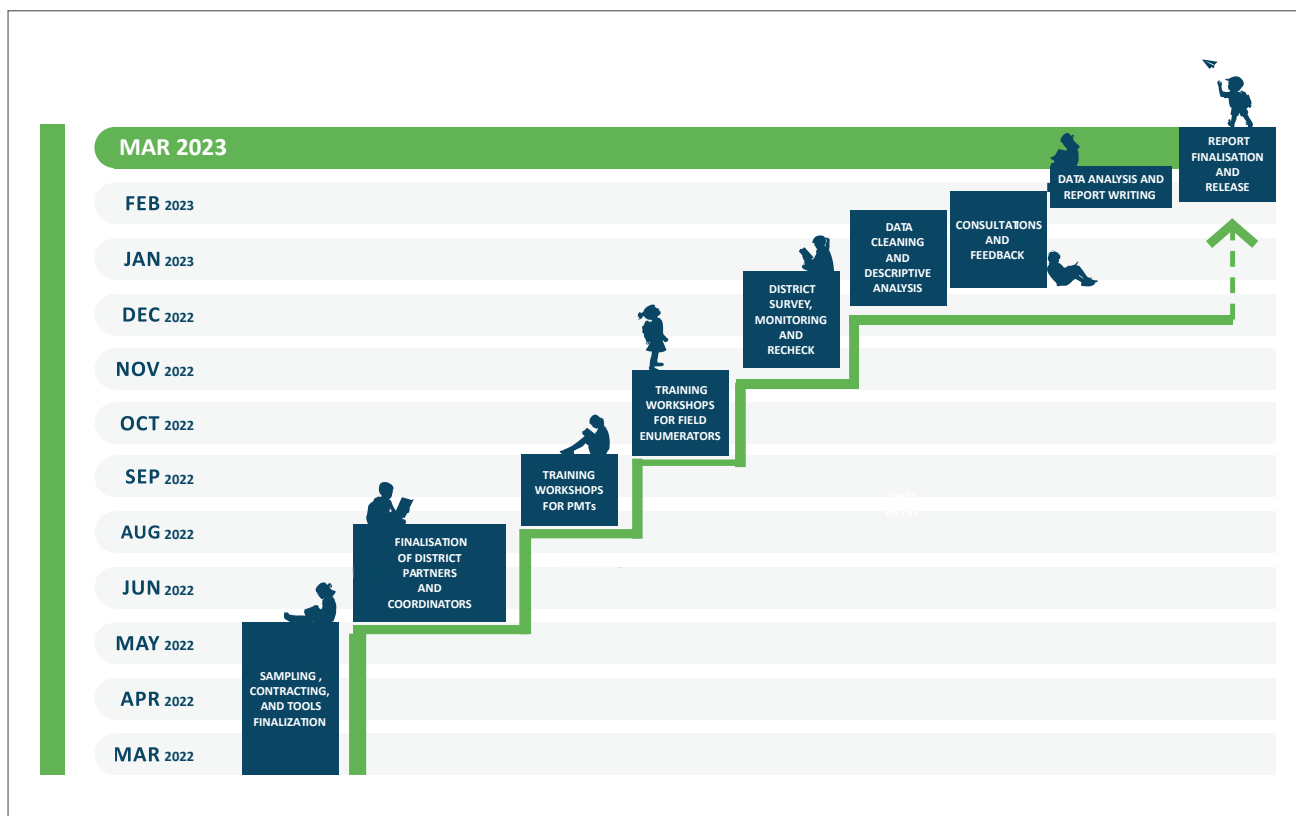The timeline of this project can be observed in the figure below.

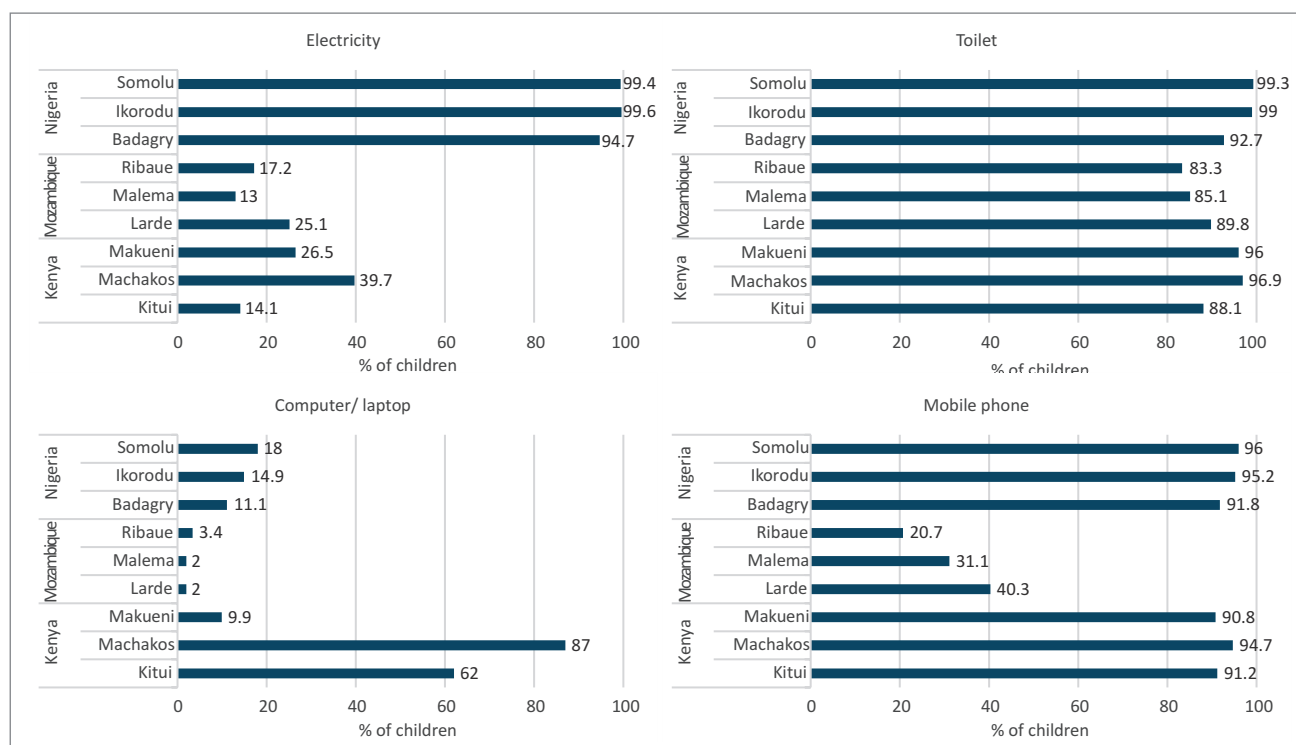Figure 4. Project timeline.

Results

Context

Contextual questionnaires were used to record relevant information about the sampled communities and households, which helped contextualise children's performance. A lack of access to many essential goods and services was observed in many sampled locations. In the locations from Kenya and Mozambique, most households declared that they did not have access to electricity. In Kitui (Kenya) and Malema (Mozambique), around 13% of households had access to electricity. In all the locations from Nigeria, more than 94% of households had access to electricity. In most locations across all three countries, households had built-in toilet. In Malema, Ribaue (Mozambique) and Kitui (Kenya), approximately 15% of households did not have toilets.

Access to technology in these locations was also very low. The vast majority of the households did not have a computer. Somolu (Nigeria) had the highest number of computers and tablets and 18% children live in such technology-enabled households. Access to mobile phones was more widespread in the locations in Kenya and Nigeria. In Mozambique there was no location where more than 50% children lived in households with access to mobile phones.
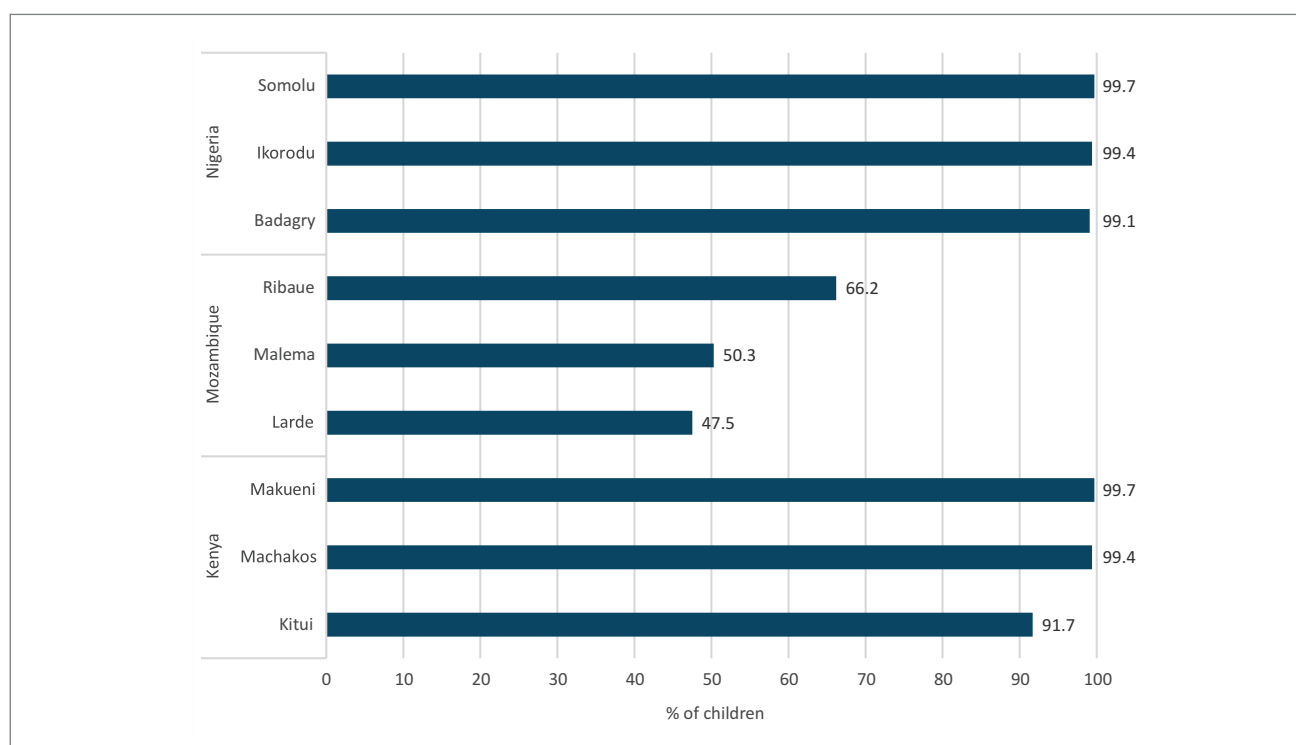
Graph 1. Percentage of children living in households with access to essential goods by location.

Electricity

Location	%
Nigeria — Somolu	99.4
Nigeria — Ikorodu	99.6
Nigeria — Badagry	94.7
Mozambique — Ribaue	17.2
Mozambique — Malema	13
Mozambique — Larde	25.1
Kenya — Makueni	26.5
Kenya — Machakos	39.7
Kenya — Kitui	14.1

% of children

Toilet

Location	%
Nigeria — Somolu	99.3
Nigeria — Ikorodu	99
Nigeria — Badagry	92.7
Mozambique — Ribaue	83.3
Mozambique — Malema	85.1
Mozambique — Larde	89.8
Kenya — Makueni	96
Kenya — Machakos	96.9
Kenya — Kitui	88.1

% of children

Computer/ laptop

Location	%
Nigeria — Somolu	18
Nigeria — Ikorodu	14.9
Nigeria — Badagry	11.1
Mozambique — Ribaue	3.4
Mozambique — Malema	2
Mozambique — Larde	2
Kenya — Makueni	9.9
Kenya — Machakos	87
Kenya — Kitui	62

% of children

Mobile phone

Location	%
Nigeria — Somolu	96
Nigeria — Ikorodu	95.2
Nigeria — Badagry	91.8
Mozambique — Ribaue	20.7
Mozambique — Malema	31.1
Mozambique — Larde	40.3
Kenya — Makueni	90.8
Kenya — Machakos	94.7
Kenya — Kitui	91.2

% of children

Children's enrolment in most locations across Kenya and Nigeria is high, even in these difficult contexts. Almost in all the sampled Kenyan and Nigerian locations, the enrolment rates range between 98.8-99.7%. Nearly all children are enrolled. Only Kitui (Kenya) has enrolment rates of less than 90%. In Mozambique, however, there are still many children who are not enrolled in schools. In Larde and Malema, around half of the sampled children are out of school. In Ribaue, one third of the children are not enrolled.

Graph 2. Percentage of children enrolled in school by location.

Location	%
Nigeria — Somolu	99.7
Nigeria — Ikorodu	99.4
Nigeria — Badagry	99.1
Mozambique — Ribaue	66.2
Mozambique — Malema	50.3
Mozambique — Larde	47.5
Kenya — Makueni	99.7
Kenya — Machakos	99.4
Kenya — Kitui	91.7

% of children

Private schooling is popular in the sampled locations Nigeria and between 61 and 68% of children attend private schools. In the Kenyan locations, between 8 to 15% of children attend private schools. In comparison, almost all children enrolled in schools in the locations in Mozambique attend government schools.

Graph 3. Percentage of children attending government and private schools by location.
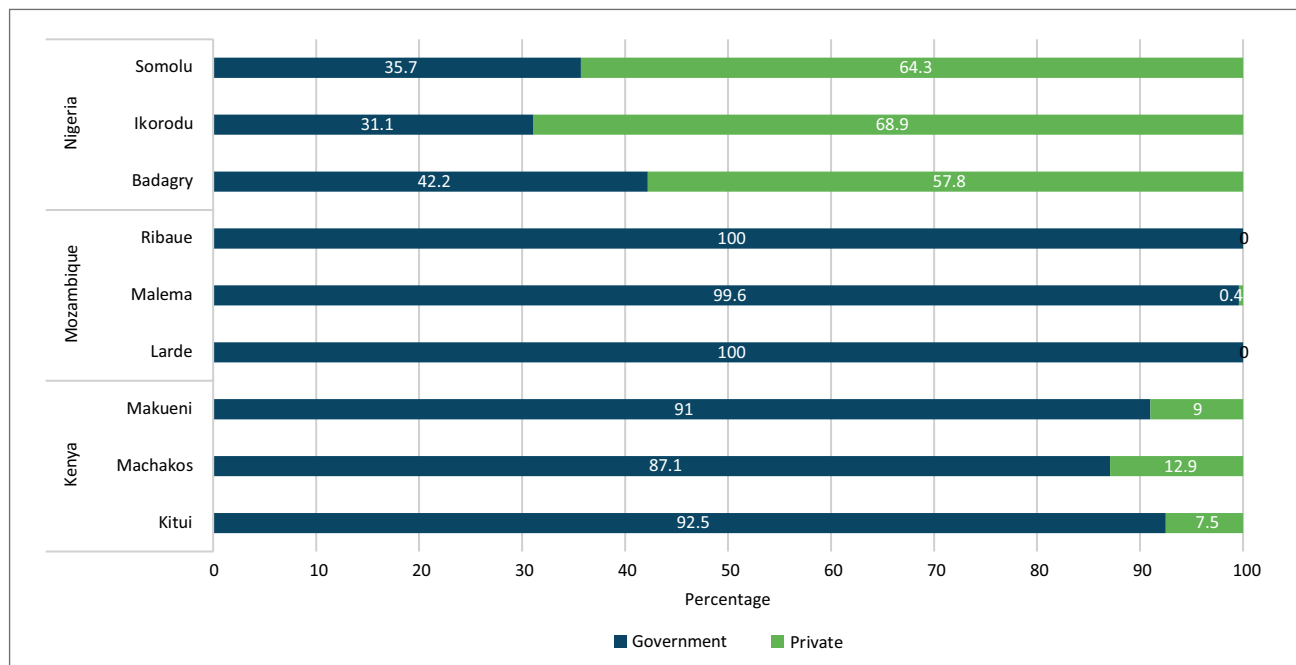
Most schools in the sampled locations had to remain closed during the COVID-19 related lockdowns. In all the locations more than 80% of children attend schools that closed at some point during the COVID-19 pandemic. However, there were some interesting heterogeneity within the countries. For example, in Kenya, in Kitui, according to the parents, 80% of children attend schools that did close. In contrast in Makueni, almost 97% of children attend schools that were closed. Similar variations are observed between Ribaue and Larde or Malema in Mozambique, and between Ikorodu and Badagry or Somolu in Nigeria.

Graph 4. Percentage of children that attended schools that closed during the pandemic by location.
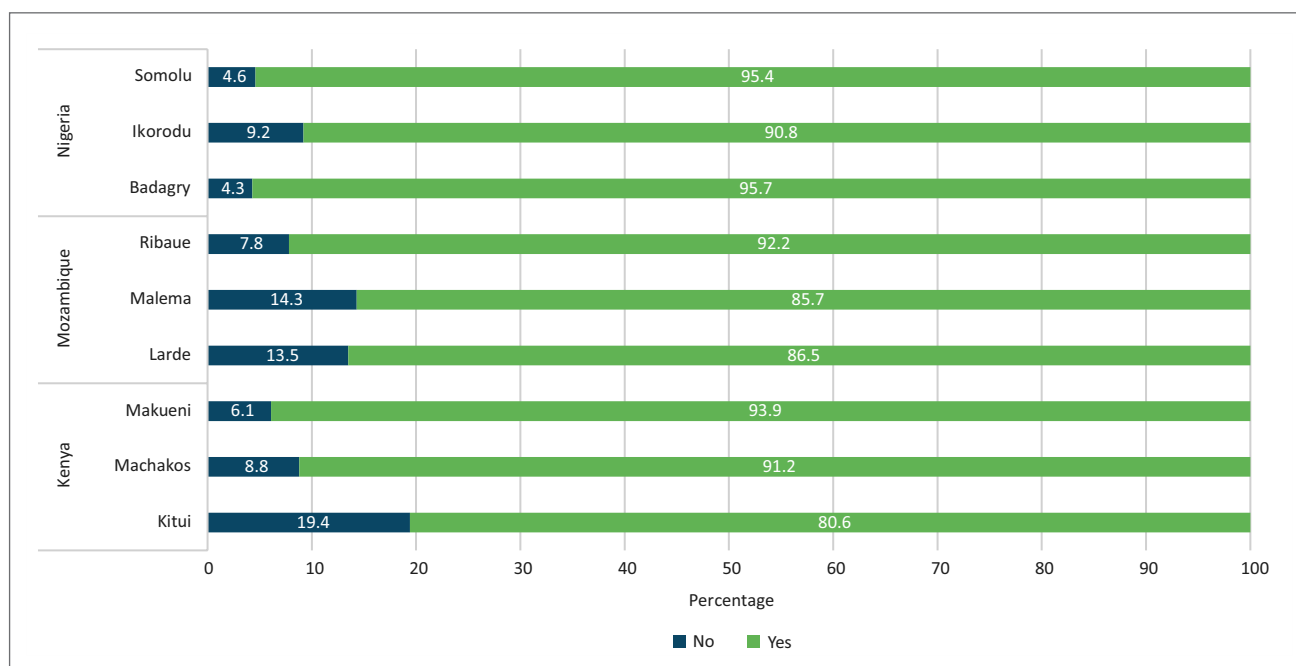
During the survey, most parents declared that schools had reopened. The only clear exception to this pattern was Malema (Mozambique), where around 20% of the children were enrolled in schools that were closed at the time of the survey (end of 2022). it is not known however if COVID was still the main cause of these closures or there were other reasons.

Graph 5. Percentage of children that attend schools that were open at the time of the survey by location.
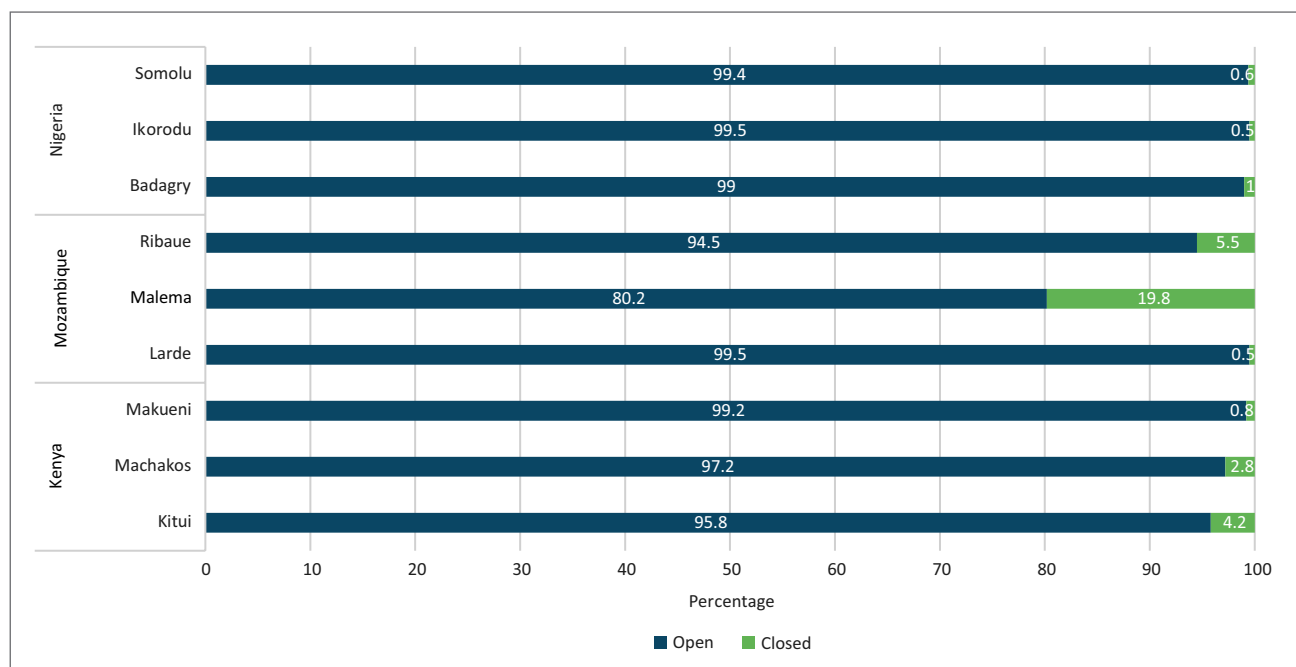
2022 assessment results

The reading tools that were used in each country allowed the classification of children into five levels: pre-reading, letters, words, paragraph and story. As explained above, depending on the country, the curriculum objectives expected children to be able to read these stories by Grade 2 (Mozambique and Nigeria) or Grade 3 (Kenya), but it was seen that even in Grades 4-6 or 7-8 in all locations there was a large proportion of children who still struggled with reading at the story level. There is no location where the percentage of children that reach this level was more than 53%. Even in the best performing locations in Nigeria and Kenya only 80% and 68% of children respectively reached this level by Grades 7-8. In the locations in Mozambique only around 25% of children in Grades 7-8 could reach the story level.

Graph 6. Percentage of children by grade and location, who can read a story at Grade 2/3 level
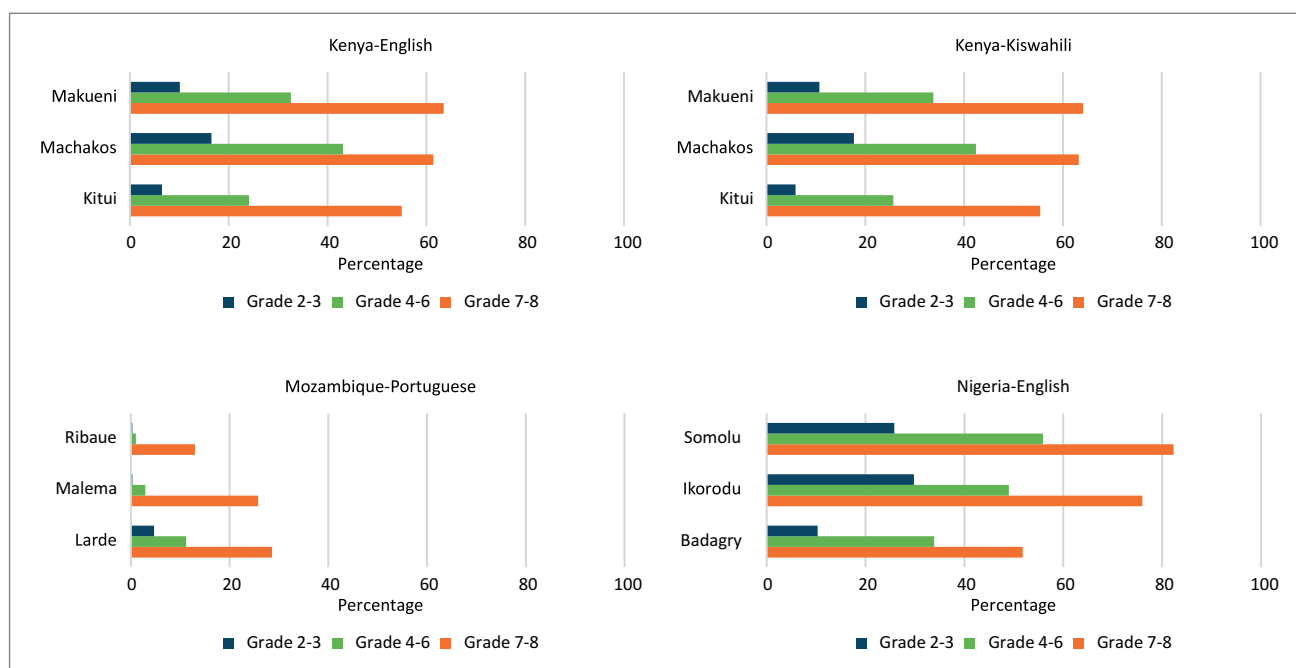
There are no clear differences by gender in the performance in the reading assessment. The only country where girls seem to perform better than boys across locations and grades is Nigeria. For the rest, differences are very small and not constant across grades.

Graph 7. Percentage of children by gender, grade, and location who could read a story at grade 2/3 level.
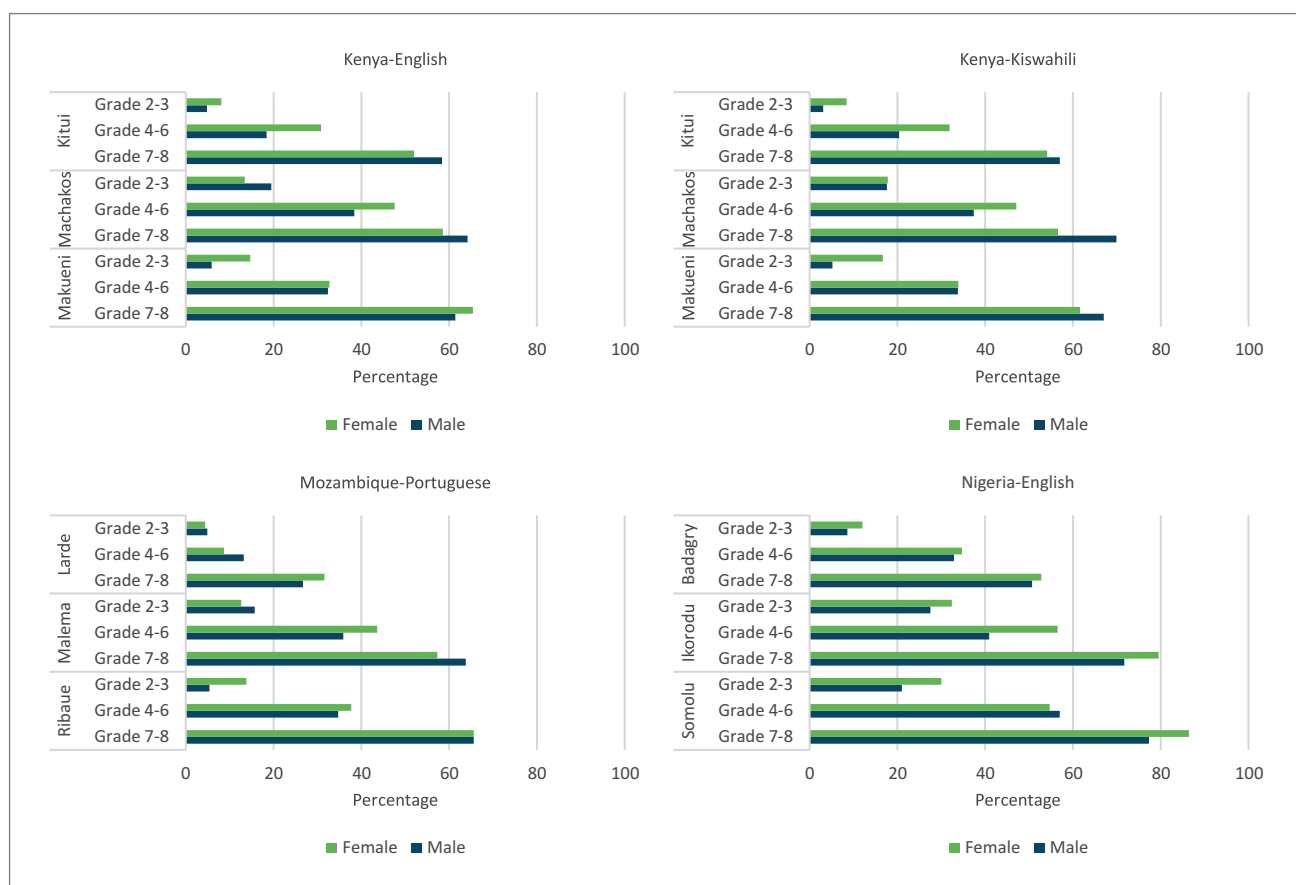
Socio-economic status can be a relevant predictor of performance in PAL's assessments. In Kenya, almost across all grades, children in the wealthiest third of the sample are more likely to reach the story level than children from the poorest third. The difference can be as much as 25 percentage points. Something similar can be observed in most of the Nigerian locations.

It is interesting to note though that this trend is not observed in all the locations. In Mozambique the difference between these two groups is only clear in Grade 7-8 in Larde. However, this may be due to lack of heterogeneity in the sampled population, and wealth terciles might actually be very similar here.

Graph 8. Percentage of children by socio-economic status, grade, and location who could read a story at grade 2/3 level.
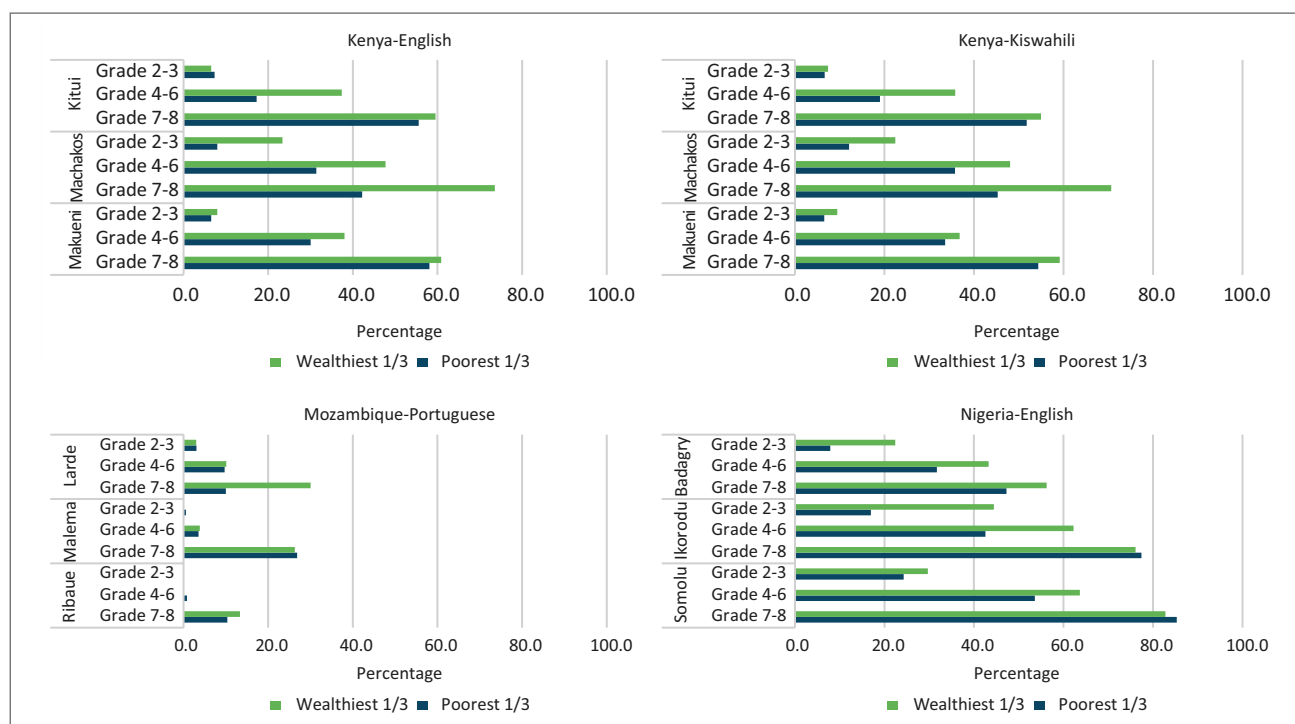
Learning trajectories allow us to visualize the growth associated with an additional year of schooling in specific learning indicators. Even though in our sample locations in Kenya and Nigeria we see a growth trajectory, where the percentage of children reaching story level grows with every additional year of schooling, this growth is too slow. In grade 3, where we would expect 100% of children in Nigeria reaching this level, we only see this in around 40% in Ikorodu and Somolu (Nigeria). In Badagry (Nigeria), this percentage is only 16%. In Kenya children should be able to read the text that is presented to them in Grade 3, but only between 13 (Kitui) and 30% (Machakos) of children in Grade 4 can actually read the passage.

It is interesting to note that the locations in Kenya and Nigeria all start from similar levels, but as the years of education increase their trajectories start differing. This is especially notable in the case of Badagry (Nigeria), which has a growth rate of 7.6 percentage points per year between grades 1 and 5, in comparison to Somolu, which has a rate of 11. In

this sense, even in locations that start from a similar point in the same country, the difference in the productivity of learning per year can be of 45%.

In the locations in Mozambique, we see a very flat trajectory, where there is almost no growth in this indicator in the three locations at least until Grade 4, when we start seeing some improvement in Larde. In these locations, each additional year of schooling is not associated with any increase in the percentage of children that can read the story that is presented to them.

Learning trajectories make evident a problem that teachers face in the classrooms: as children progress in schooling without achieving the objectives set in curriculum, they have to decide whether they focus on the skills that children should have already learned and the content that is prescribed, for which many children are not prepared to acquire due to lack of foundational skills. In Grade 7 in all Kenyan locations, around 40% of children cannot read a story, how can teachers impart more complex knowledge?

Graph 9. Percentage of children by highest grade attended and location who could read a story at grade 2/3 level.
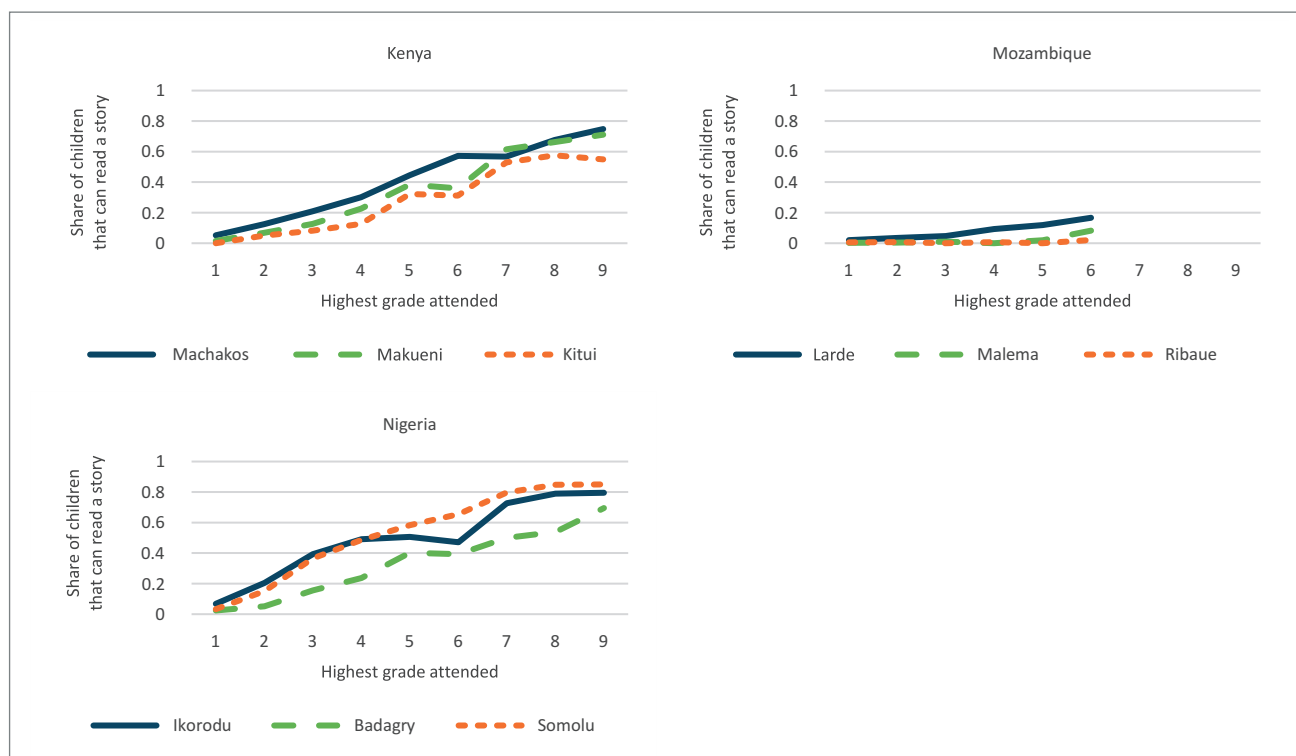

Numeracy results

As previously stated, ICAN assesses students in different mathematics subdomains. A sample of tasks corresponding to each of the subdomains in the assessment is presented here.

One of the geometry tasks in the assessment asks students to recognize a common 2-dimensional shape (e.g. triangle). As the graph below shows, most students in the sampled locations could perform this very basic task. However, it is seen that in many locations many children in Grades 4-6 could not solve this task. In some locations, such as Kitui (Kenya), Larde or Ribaue (Mozambique), there is around 20% of children in these grades that could not recognise a common shape.

Graph 10. Percentage of children by location and grade who could recognise and name a common 2-dimensional shape.
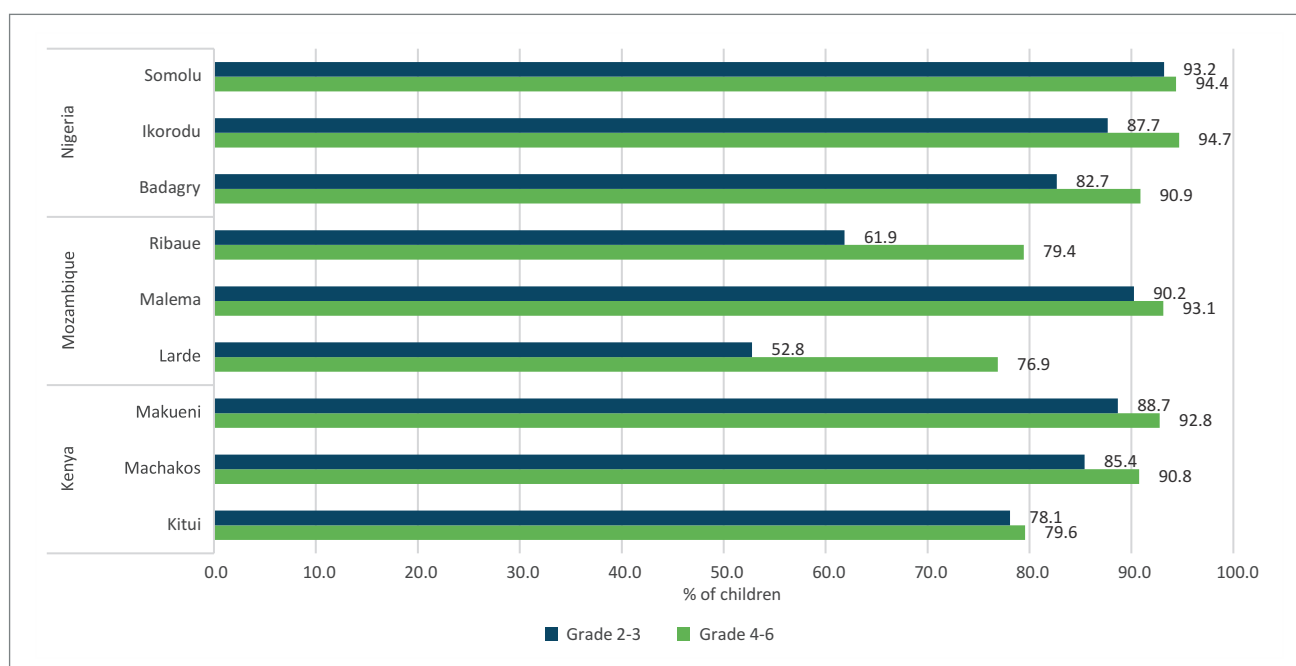
In measurement, the assessment presented children a drawing of pencils of different lengths and asked them to identify the longest. As in the previous task, most children could perform this task. It is curious to see that the performance of children in the sampled locations in Mozambique in this item tends to be better than for the locations in Kenya and Nigeria, which is in general not the case throughout this report.

Graph 11. Percentage of children by location and grade who could recognize the longest pencil among a set of pencils of different lengths.
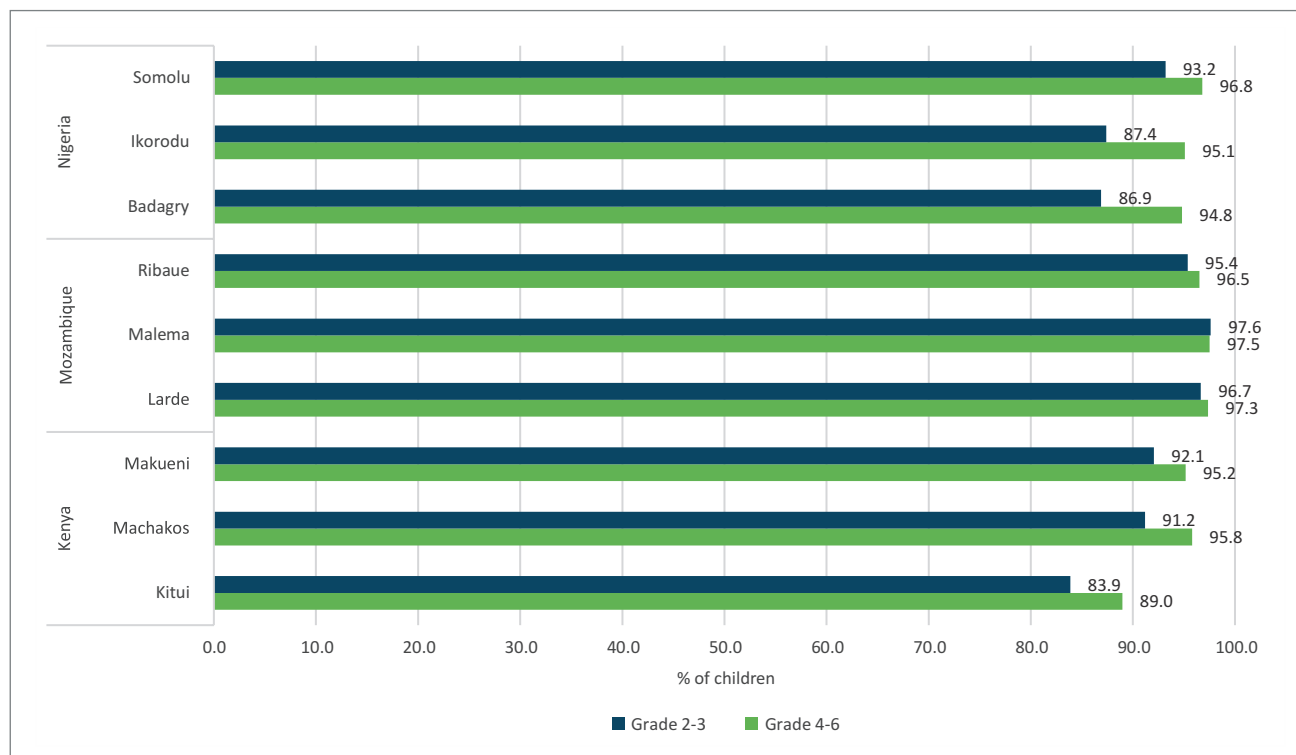
Tasks involving data analysis are more complicated for children, even if they are mapped to Grade 2 in the GPF. It is interesting to note that there is great variation even within countries in the performance of children in this item. In the sampled locations in Kenya, even in Grades 4-6 only between 53 and 71% of children could respond to a question that asked them to compare two columns in a simple data display. In the sampled locations in Nigeria, the performance is even lower, and the best performing location only has 1 out of 2 children in Grades 4-6 who could answer this question. As in the previous item, children in the selected locations in Mozambique perform better than children in the sampled locations in Kenya and Nigeria. Here the percentage of children in Grades 2-3 who could answer this question in the relatively worst performing location is 64%, which is more than the best performing location in Nigeria.

Graph 12. Percentage of children by location and grade who could extract information by comparing two columns in a simple data display.
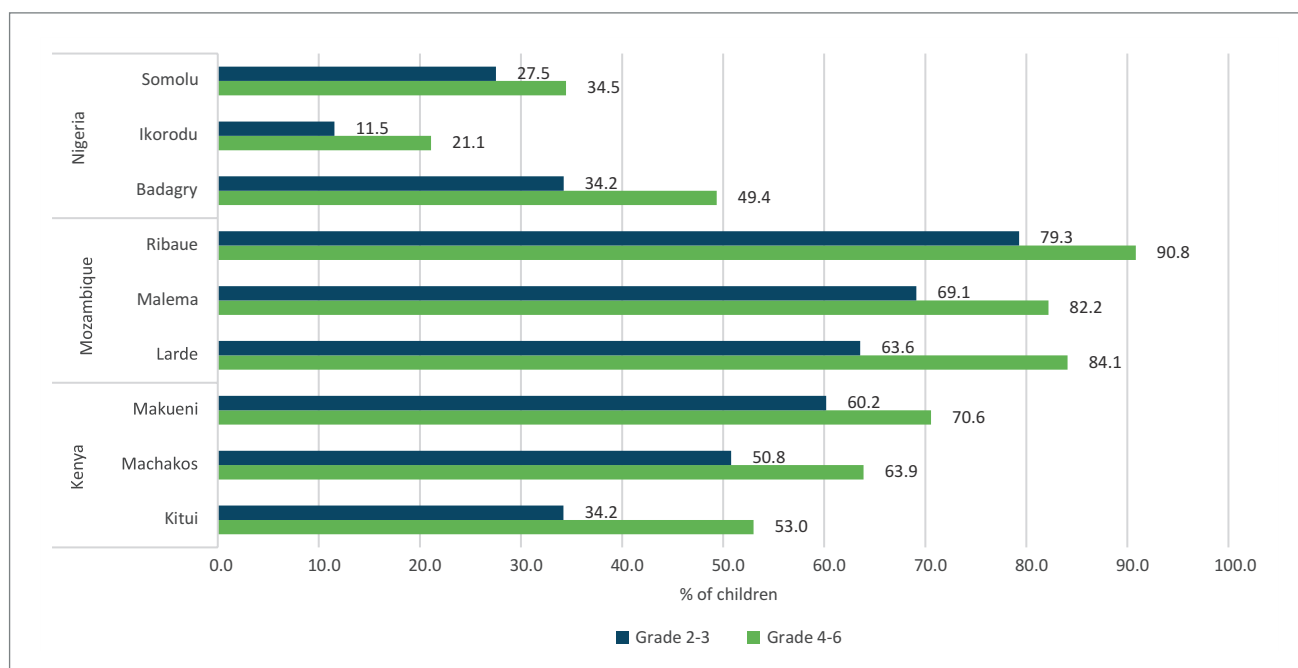
Numbers is probably the subdomain that gets most of the attention in teaching. One of the tasks in ICAN asks children to recognise 5 two-digit numbers. In general, children in Grades 2-3 and 4-6 are able to recognise at least 4 out of 5 two-digit numbers, although there is some variation in these percentages. In all the locations in Kenya and Nigeria, at least 74% of children in Grade 2-3 were able to identify 4 out of 5 numbers, and in all cases the percentages increase in Grades 4-6. In the sampled locations in Mozambique, the percentage of children whowere able to respond to this task was much lower. In Larde and Ribaue only around 40% of children in Grades 2-3 could identify 4 out of 5 two-digit numbers. These percentages increased in Grades 4-6, but in these two districts there were still around 20 to 23% children who could not recognise 4 two-digit numbers.

Graph 13. Percentage of children, by location and grade, who could recognise two-digit numbers.
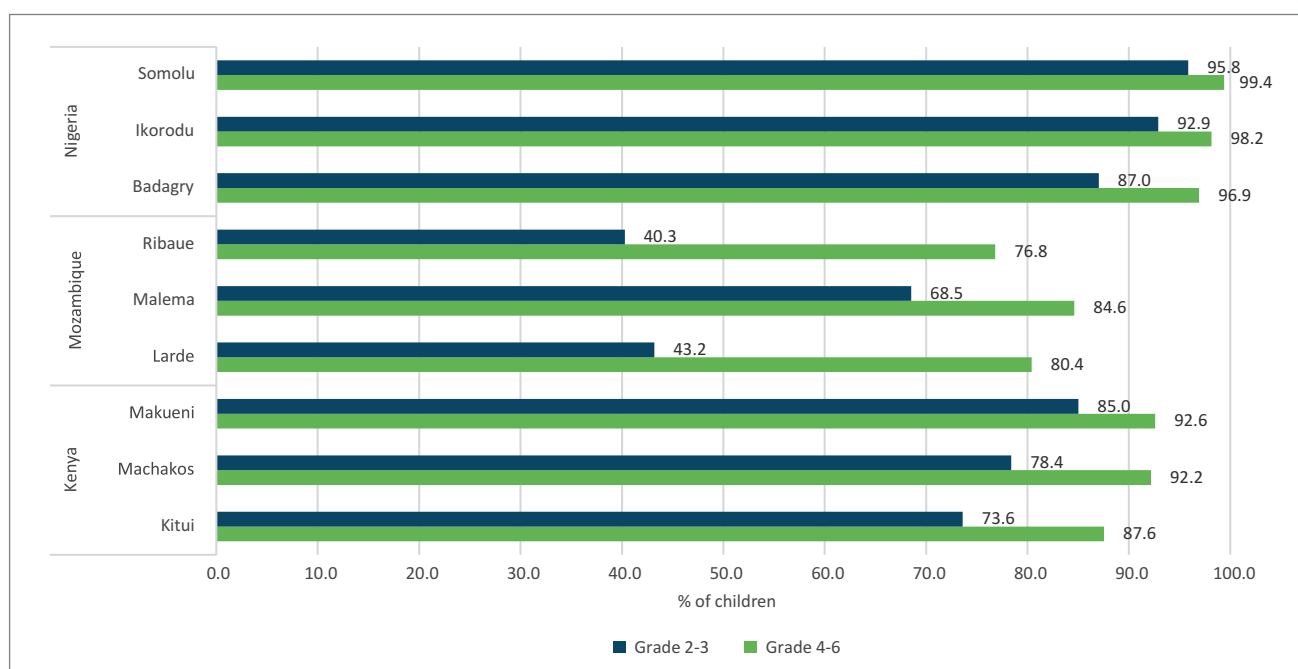
Children have more and more difficulty as more complicated items are presented to them. The percentage of children who cannot solve a subtraction of two two-digit numbers with borrowing is high across locations even in Grades 4-6. In the Kenyan locations between 66 and 71% of children in Grades 4-6 could solve this task. It is only in Grades 7-8 in these locations that 9 out of 10 children could do such subtraction. In the locations in Mozambique and Nigeria the situation is even more worrisome. In Badagry, Ikorodu and Somolu, only around 2 out of 3 children could solve the subtraction in Grades 7-8. In Mozambique, even in these advanced grades not even 1 out of 2 children was able to perform this basic operation.

Graph 14. Percentage of children who correctly solve a subtraction of two two-digit numbers with borrowing.
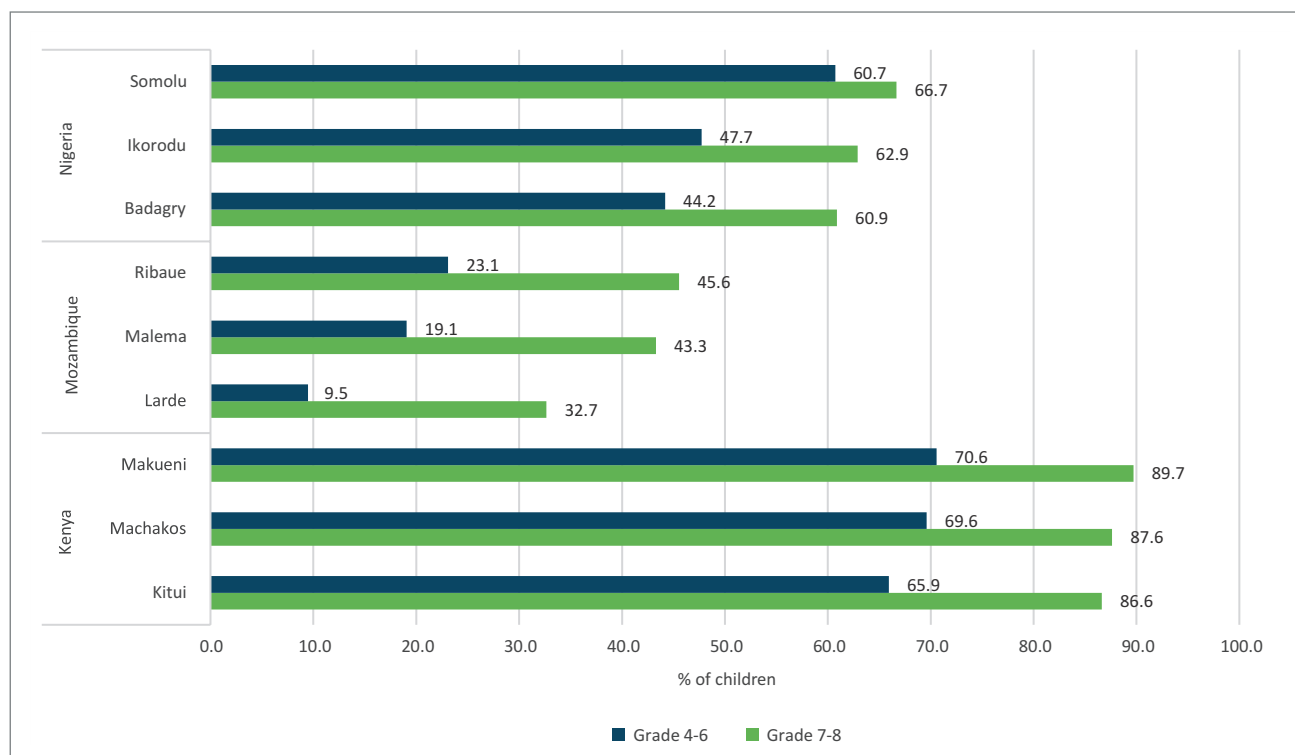
Operations are also framed as word problems in ICAN, where they are situated in plausible contexts that children can relate to. In all cases, children have more difficulties responding correctly to these tasks, even if the level of the subtraction is easier than in the previous item. Even in Grades 7-8 in the best performing location in the sample there were less than 9 out of 10 children who could answer this item correctly. In Grades 4-6, when all children should be able to solve this task, the percentage of children who can answer this item correctly is between 50 and 63% in the sampled locations in Kenya, between 34 and 51% in the sampled locations in Nigeria, and between 9 and 24% in the sampled locations in Mozambique.

Graph 15. Percentage of children by grade and location who can solve a word problem involving subtraction.
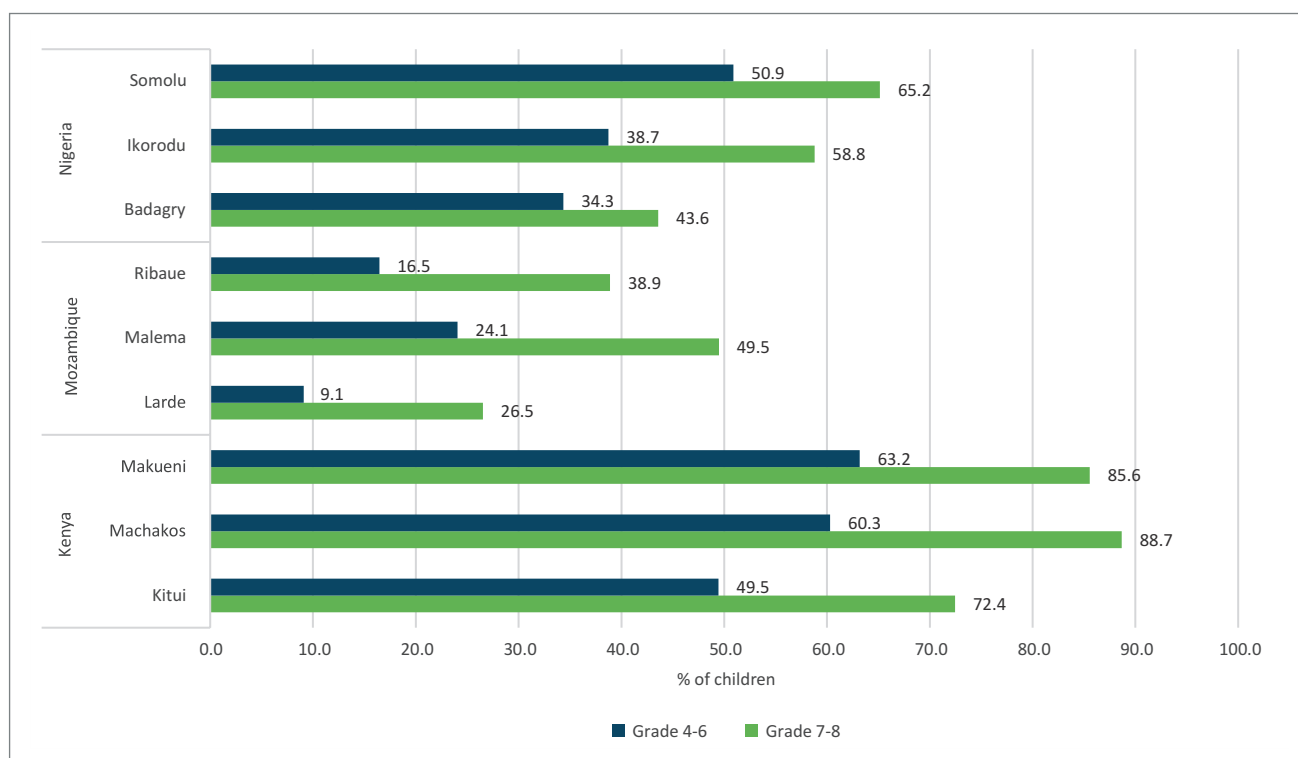
As explained above, ICAN helps create a benchmark for the Minimum Proficiency Level (MPL) that children should attain by the end of Grade 2. In the graph below it can be seen how uncommon it is in the sampled locations that children attain this objective by Grades 2-3. Even in Grades 4-6 there is a large percentage of children below this minimum proficiency threshold: 21-33% in the sampled locations in Kenya, 21-37% in the sampled locations in Nigeria, and 66-78% in the sampled locations in Mozambique. Only in 3 locations in the sample – Machakos, Makueni (Kenya), and Somolu (Nigeria) – more than 9 out of 10 children achieve the MPL of grade 2 by Grades 7-8.

Graph 16. Percentage of children, by grade and location, who achieve Minimum Proficiency Level for Grade 2.
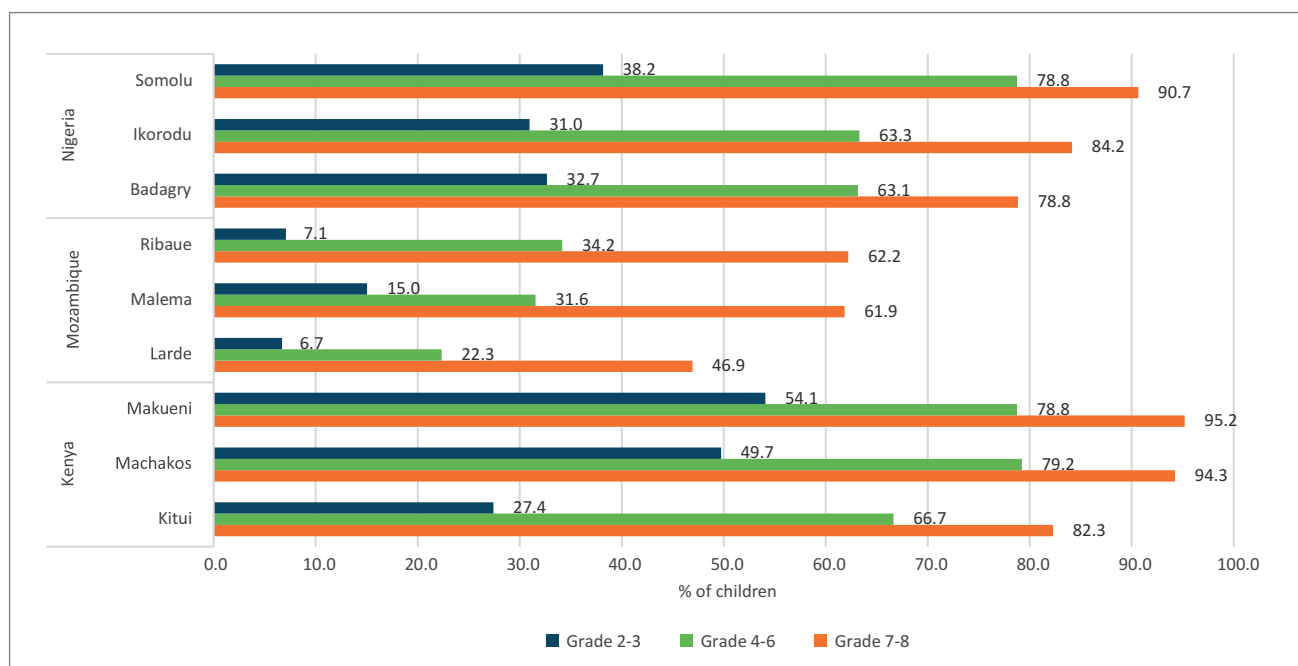
The MPL for Grade 2 can also be visualised in the learning trajectory, a graph that shows the growth in the percentage of children that reach this goal for each year of the schooling trajectory. In the sampled locations in Kenya and Nigeria, and discussed above, it is seen that it is only from Grade 7 that there are higher percentages of children achieving this goal which should have been achieved by the end of Grade 2. In other words, children are taking at least 6 years longer to get to the level they should be reaching in 2. In the locations in Mozambique, the growth trajectory is even slower and in grade 6 there are less than 50% of children who can achieve this goal. If this learning trend is projected, children in the sampled locations in Mozambique would only reach the MPL for grade 2 in grade 12.

As we saw for reading, even in the same countries there are differences in the progress that children make with each additional year of schooling. For example, in Nigeria, between grades 1 and 4 the growth rate in Somolu is of 15 percentage points per year, whereas in Ikorodu and Badagry the growth rate is 12.5 percentage points per year (17% less per year). Something similar can be observed in Kenya, with Makueni and Machakos on one side and Kitui on the other. We can also ask ourselves here how can math teachers adapt to their classroom when they have so many children in grades 5 or even 6 who have not acquired the foundational skills that they should have gotten in grade 2.

Graph 17. Percentage of children, by highest grade attended and location, who reach the Minimum Proficiency Level for Grade 2.
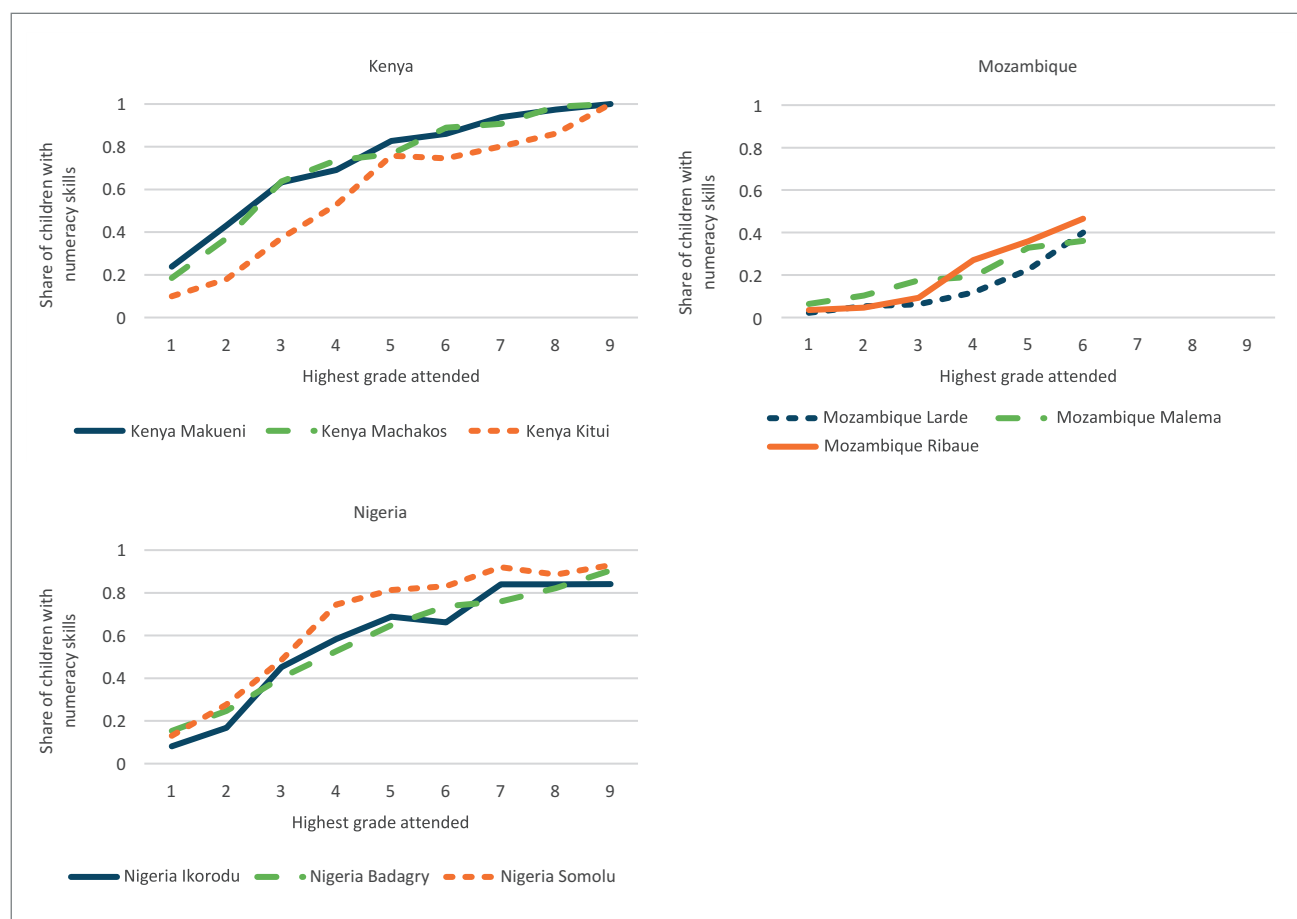
The MPLs are also useful to understand how these assessment outcomes might differ by subpopulation, providing useful insights about how learning is distributed. In the graph below differences by gender in Grades 4-6 can be seen. Across most of our sample it seems that girls are performing better than boys, however, it is interesting to note how these inequalities can present themselves differently across locations, even within the same country.

In all the locations in Nigeria and two out of three locations in Kenya, girls perform better than boys. These differences range from 5 to 7 percentage points. In Ribaue and Larde (Mozambique) there is a difference that favors boys, which is smaller in the former (4 percentage points), and very visible in the latter (17 percentage points), making this gender gap is the largest in this sample.

Graph 18. Percentage of children, in grades 4-6, by location and gender, who achieve the MPL for grade 2
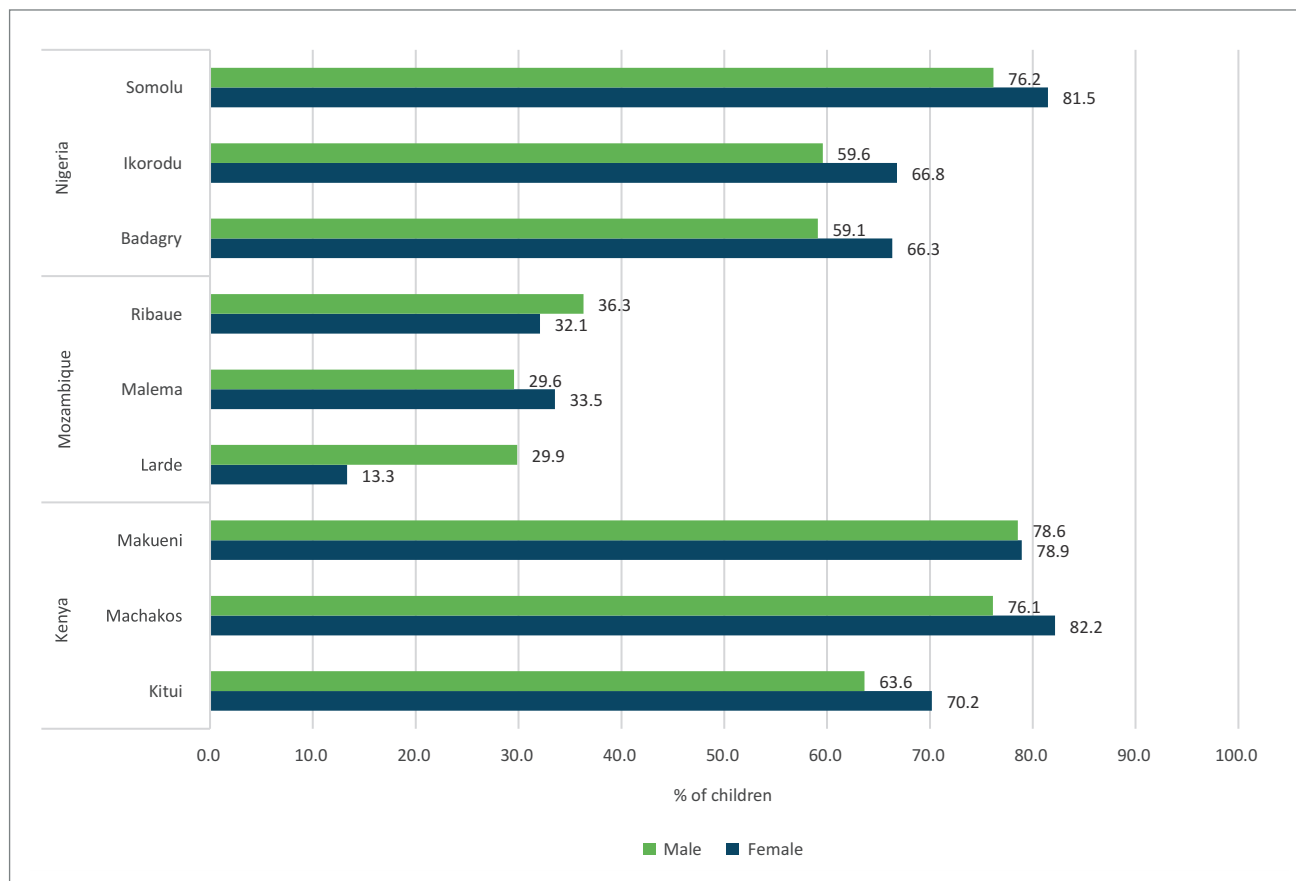

Socio-economic status is another aspect that can explain differences in achievement. As seen in the graph below, there are considerable differences between children from poorer and wealthier households[4]. The difference in the percentage of children that reach the MPL for Grade 2 in the wealthiest third of the sample in each country and the same percentage in the poorest third is between 6 and 23 percentage points in the sampled locations in Nigeria and Kenya. In the sampled locations in Mozambique the differences are smaller, probably due to a more homogenous population in the sampled districts.

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[4]Using our contextual questionnaire items, we created an index of socioeconomic status using Principal Components Analysis (PCA). The index incorporated questions about household characteristics, goods available in household, and education level of the members of the household. The index was then divided into terciles within each country to create the categories that are presented in this section.

Graph 19. Percentage of children in grades 4-6, by location and socioeconomic status, who achieve the MPL for grade 2.
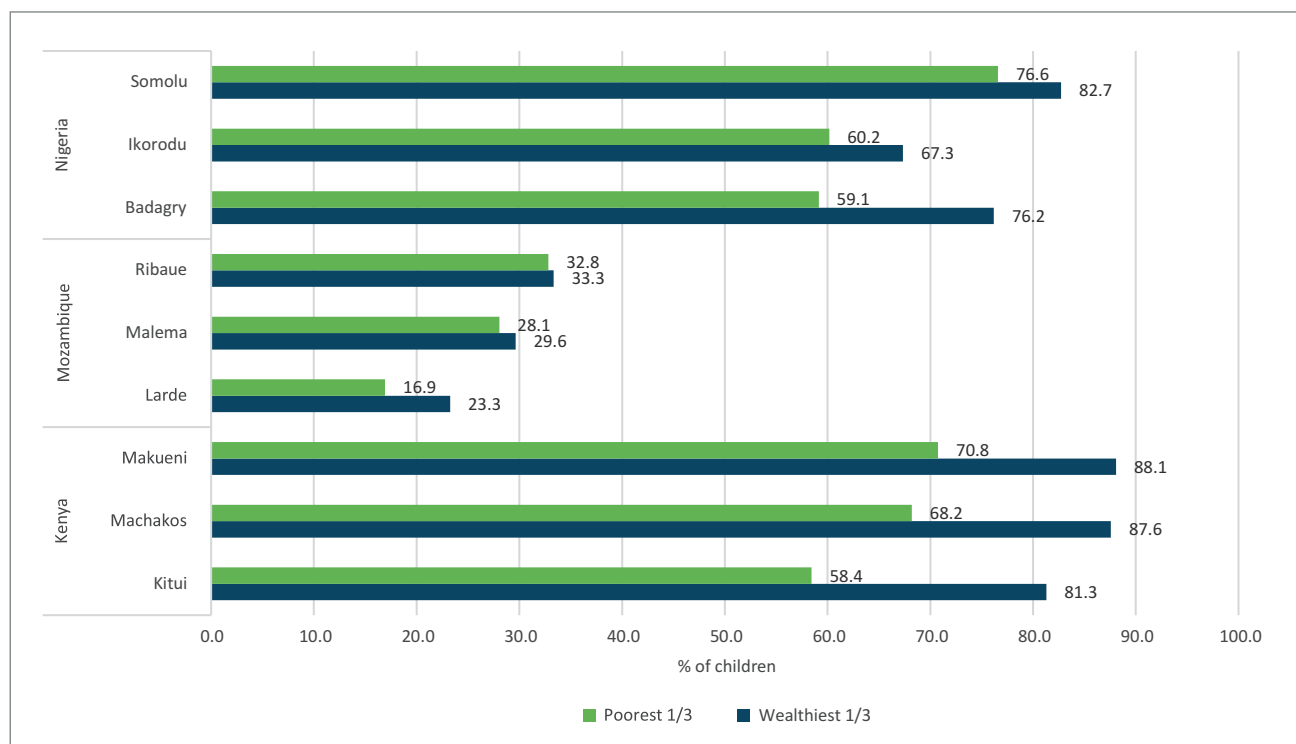
Enrolment in schools is yet another aspect that is associated with achievement of the MPL. Looking at the data coming from Mozambique, the only country where the sampled locations had a relevant percentage of children not enrolled in school, it is observed that in all the locations there is a big difference between enrolled and out-of-school children. These differences are between 6 and 14 percentage point depending on the district and age group.

Graph 20. Percentage of children in Mozambique, by age group, location and enrolment status, who achieve the MPL for Grade 2
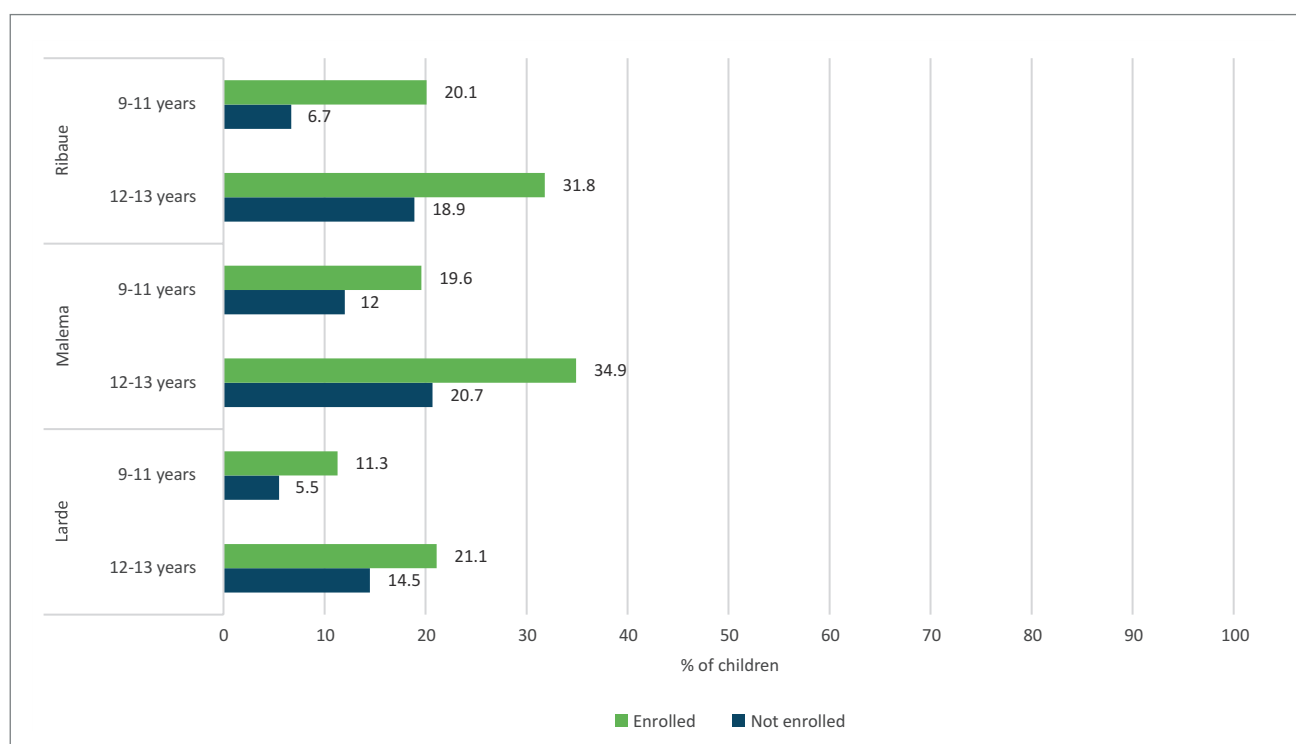
Comparison of results between 2019 and 2022

The first round of ICAN was conducted in 2019 in 3 of the 9 districts that were visited in 2022: Mwala (Kenya), Larde (Mozambique), and Ikorodu (Nigeria). In this section the results of the two rounds are presented. As the locations visited (districts and communities), the assessment tools used, and the administration protocols were the same, the results of both the rounds can be compared. This section offers a view of the pre-pandemic outcomes – the assessments were conducted in 2019, a few months before the beginning of school closures – and post-pandemic outcomes – in 2022, almost one year after schools had fully reopened in most countries. In this sense, the results are not able to capture an immediate effect of the school closures but capture the effect of schools reopening and the recovery policies implemented at the national and/or local levels.

Most of the evidence on the effect of school closures is coming from developed countries in the Global North. Some reviews that were done based on this evidence have found very clear indications of learning loss, equivalent in general to the number of days that schools were closed (Moscoviz and Evans 2022; Patrinos, Vegas, and Carter-Rau 2022). This evidence has prompted policy makers around the world to think of ways to recover the learning that was lost during the pandemic.

There has been less evidence from the Global South. A study (Lichand et al. 2021), conducted in a wealthy state in Brazil a middle-income country, found great losses for secondary school students. Similarly, a study conducted by Hevia et al. (2022) in the southern region of Mexico found a great increase in learning poverty. However, not all studies have found clear signs of learning loss. A study conducted in six countries in Africa (ACER 2022) only found

indications of learning loss in mathematics in one country, Kenya.

PAL Network member organisations have contributed significantly to this evidence. The aforementioned study by Hevia et al. (2022) is one example of this contribution. Uwezo Uganda conducted a new round of this CLA in 2021 and found that even if schools in Uganda were closed for around 2 years, the percentage of children in the highest level of reading had actually increased from 32.5% in 2018 to 39.5% in 2022. On the opposite side of the spectrum, they found that the percentage of children in the lowest level of reading had also increased (6.2 to 11.6%). In this sense, it seems that the distribution of learning had become more uneven during the pandemic (UWEZO Uganda 2021). ASER Pakistan was also conducted in 2021, and their results were also mixed. They found learning loss in reading of 3 and 4 percentage points in classes 3 and 5, respectively, in the percentage of children performing as expected in those grades. They also found clear evidence of learning loss in mathematics in Grade 5, where 6 percentage points fewer children were performing as expected. They did not see learning loss in mathematics in class 3 (ASER Pakistan 2022). ASER India found that learning outcomes in literacy decreased considerably between 2018 and 2022, and progress achieved since 2014 had been erased. In numeracy this trend was less pronounced, and there were in fact many states in which performance had actually improved (ASER India 2023).

Our data collection process provides evidence to add to the collective task of understanding post-pandemic learning outcomes in the Global South with data coming from 3 African countries. In terms of enrolment, as seen in the graph below, a substantive change can only be seen in Larde, the location from Mozambique. Here, enrolment fell from 70% to 53%. In the locations in Kenya and Nigeria, Mwala and Ikorodu, enrolment was universal before the pandemic, and this had not changed in 2022.

Graph 21. Percentage of children enrolled in schools by location.
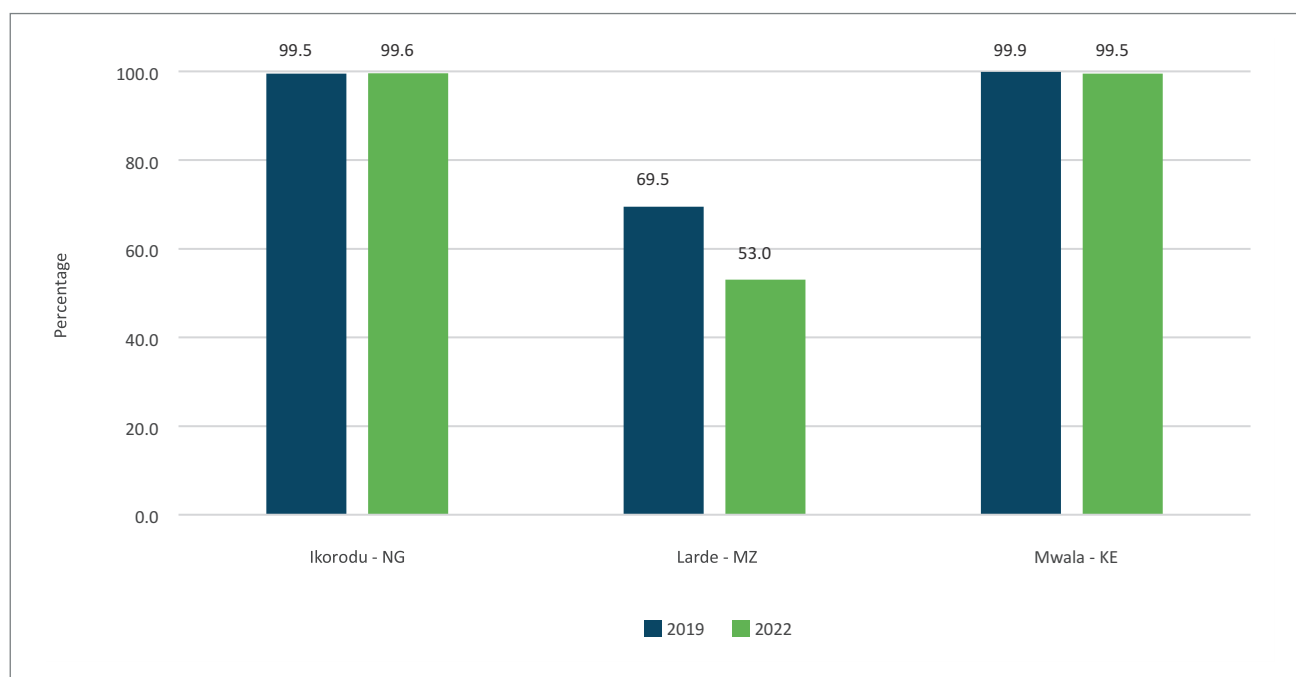
However, there are some changes in enrolment and in education practices that can be perceived. As the graph below shows, the percentage of children attending private schools in Ikorodu (Nigeria) has increased by 6 percentage points. In Larde (Mozambique) and Mwala (Kenya) this has not occurred. Though in Mwala we see a sharp increase of almost 20 percentage points in the percentage of children are getting tutored privately. Maybe not always through private schools, but the reliance on private actors to support schooling seems to have increased after the pandemic in Ikorodu and Mwala, maybe due to the perceived need to support children after school closures. In Larde there does not seem to be any change, probably due to the lack of actors offering these kinds of services.

Graph 22. Percentage of children by location, attending government and private schools and percentage of children getting tutored privately.
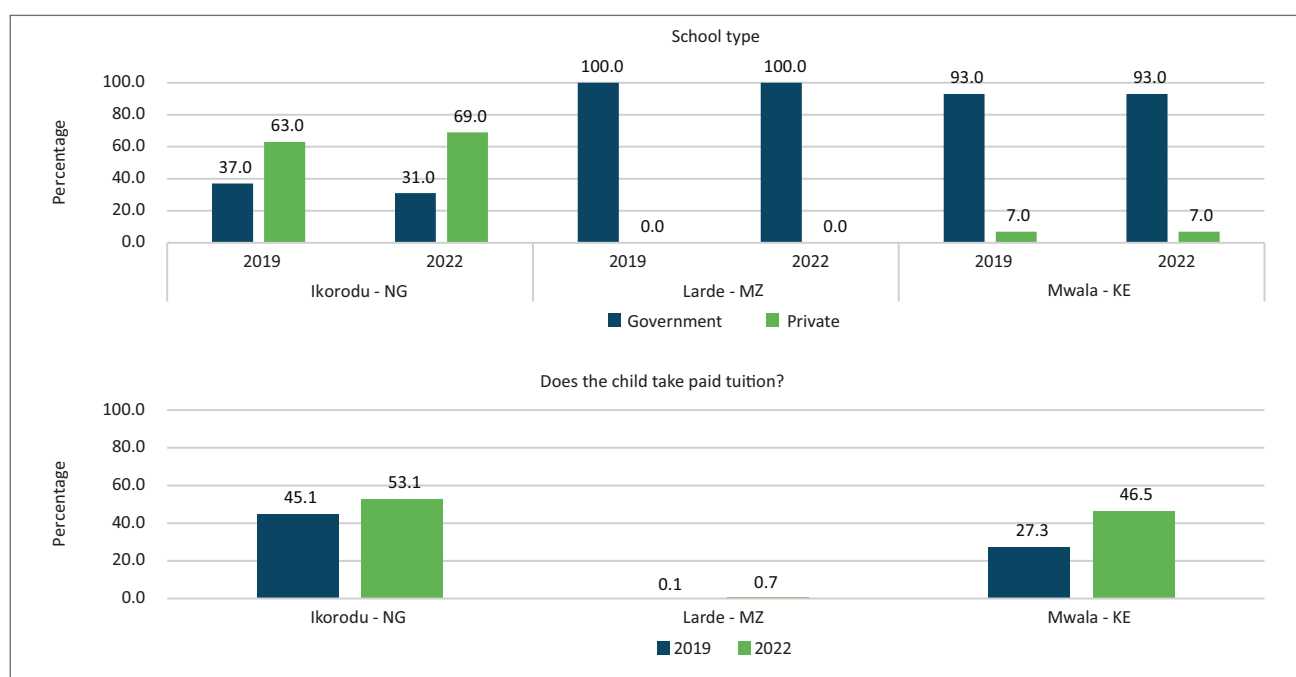
Regarding changes in learning, our results do not show uniform signs of learning loss. In fact, the percentage of children reaching the MPL for grade 2 has increased in Mwala (Kenya) and Ikorodu (Nigeria). In Mwala, the improvement is concentrated in grades 1 to 4, where there are around 10 percentage points more children in each grade achieving the MPL in 2022 compared to 2019. Ikorodu, an increase of similar magnitude can be observed from grade 4.

Our location in Larde (Mozambique) is the only one that shows clear evidence of learning loss, concentrated, from grades 3 to 5. In these grades, we see a decrease in the percentage of children achieving the MPL for grade 2 of between 6 and 10 percentage points. It is curious to note here that Larde had the lowest performance among the three districts before the pandemic, and even so is the only one showing clear signs of a decrease in performance.

Graph 23. Percentage of children achieving MPL for grade 2 by highest grade attended, location and year of assessment.
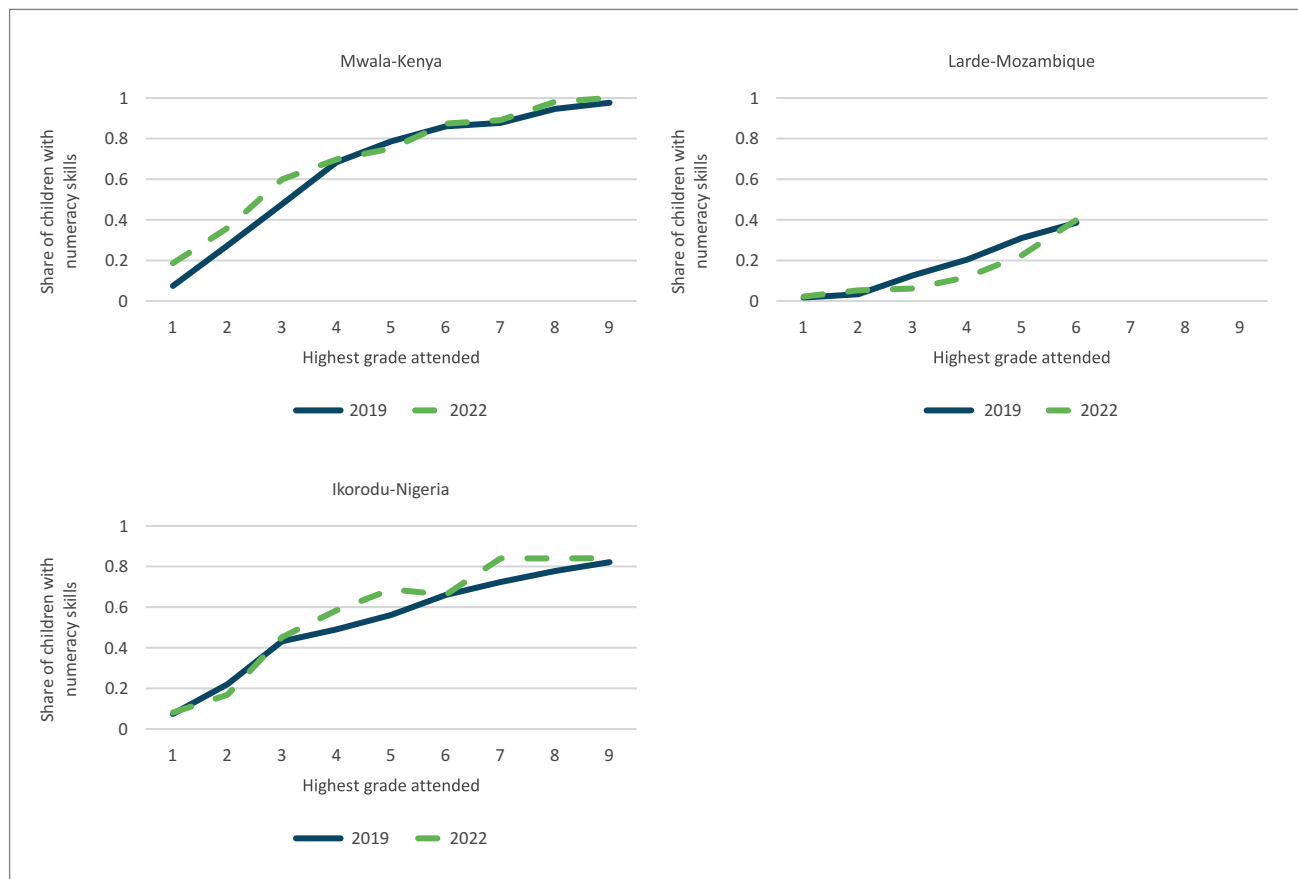
Learning losses in Mozambique have not affected all subpopulations in the same way. If the learning trajectory for both years (2019 and 2022) are disaggregated by gender, it is seen that almost all the learning loss id concentrated in boys, for which the percentage of children achieving the MPL for Grade 2 in Grade 4 fell around 20 percentage points. For girls, the difference between 2019 and 2022 is much smaller.

Graph 24. Percentage of children achieving MPL for grade 2 by highest grade attended, location and year of assessment.
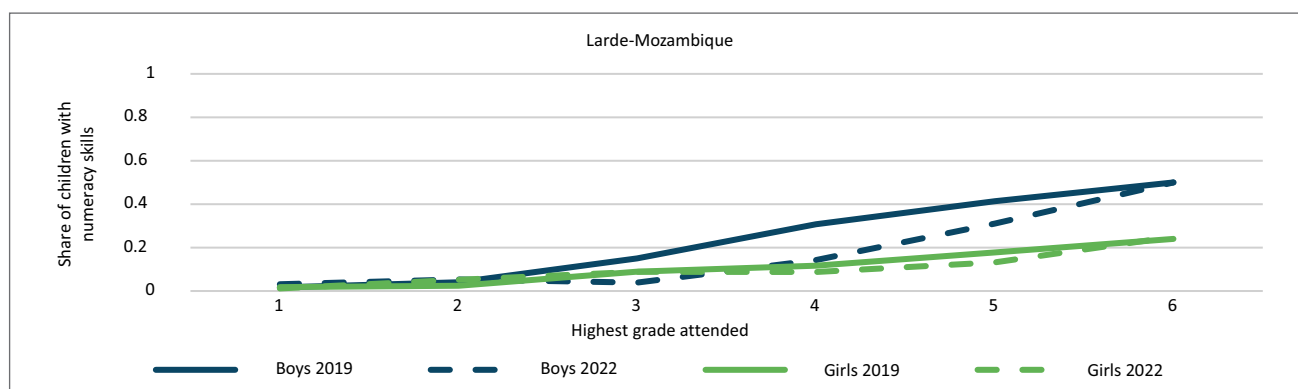

We can also check whether this trend is sustained for more complex skills. In the graph below, we show the difference between the achievement of the MPL for Grade 3 in 2019 and in 2022. For Kenya, we see a similar increase in performance, although the MPL for Grade 3 it is not concentrated in a specific grade, as was explained for the MPL for Grade 2.

In Nigeria, we see a different trend than for the MPL for Grade 2: here, it seems that for most grades, the percentage of children achieving minimum proficiency at a Grade 3 level has slightly decreased, between 3-5 percentage points depending on the grade. The only exceptions are Grades 3-5 (no change) and Grade 8, where achievement was higher in 2019.

We find a similar trend in Mozambique compared to the Grade 2 MPL. From Grade 3 onwards, we see a drop in achievement of the MPL of Grade 3 between 2019 and 2022 of 3 percentage points in Grade 3, which increases to 12 percentage points in Grade 6.

Comparing the achievement of MPL for Grade 2 and MPL for Grade 3, we can also note some differences across districts. In the Mwala (Kenya), we see a similar trend in both curves, even if, as expected, the MPL for Grade 3 is achieved later at similar percentages. In Ikorodu (Nigeria), on the contrary, the curve is much flatter for the MPL for Grade 3, suggesting that progress in these more complex (although still foundational) skills is more difficult to produce.

Graph 25. Percentage of children achieving MPL for Grade 3 by highest grade attended, location and year of assessment.
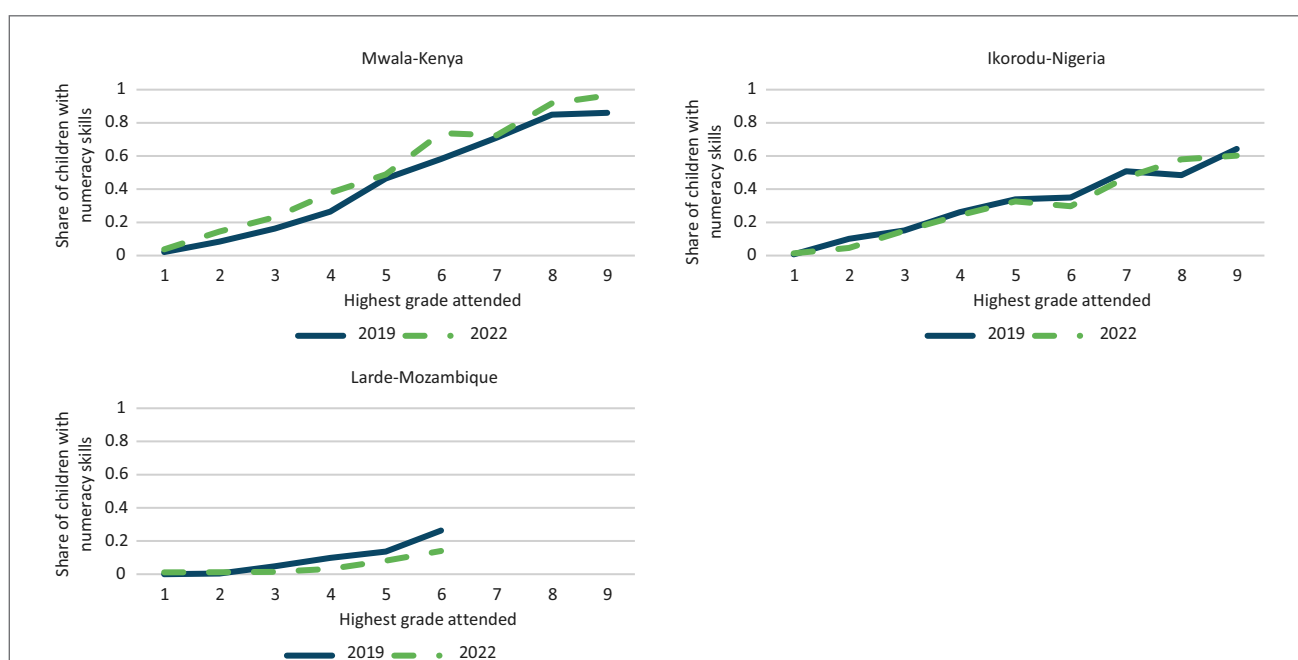
Conclusion

Citizen-Led Assessments are a model for civil society to voice the need for improvement in foundational literacy and numeracy. As part of the CLA movement, this project has successfully produced localised evidence on how far we are from achieving the minimum learning levels that are expected from children across 3 different countries in Sub-Saharan Africa. Children in the locations visited face significant struggles in their life, but they deserve as much as everyone in other parts of the continent and the world to acquire the skills that could enable them to pursue a better future. This report is strong evidence of how much we are failing as a society to give these children a better future.

In most of the surveyed locations, children are going to school. This is not so much the case of the locations in Mozambique, but it is definitely the case in the locations in Nigeria and Kenya. In all cases, children who are going to school do not achieve the minimum requirements set in national curricula or in the Global Proficiency Framework. It is not enough to get children into schools, something in schools needs to change in order to produce better and more equal learning outcomes for everyone.

It is also important to note that the situation is not homogeneous. Even if low learning (defined against specific benchmarks) exists in all the locations visited, there are differences across contexts. In Mozambique, in general learning outcomes are lower, but it was also found that for some tasks (data analysis and measurement) children in the sampled locations in Mozambique perform better than children in the other locations of the study. Even in the same country, in districts that are very close to each other and have similar characteristics, considerable differences in achievement was found. Understanding how these differences occur might be a way of figuring out how schools and families can provide better opportunities for children.

In a similar note, inequalities also present themselves differently across contexts. Clear gender differences in learning outcomes that favour girls were only found in the sampled locations in Nigeria. Similarly, within Mozambique the differences between wealthier and poorer children was not so evident in terms of learning outcomes.

After the COVID-19 pandemic there has been a resurge in the advocacy for education, and in particular for foundational learning outcomes. Evidence mostly coming from the Global North has showed that children's learning was greatly affected by school closures. In the Global South the available evidence is not so clear. PAL's contribution to this evidence shows that even if schools were closed for a significant amount of time in all the locations that were visited, only in the location in Mozambique clear signs of learning loss are visible. In the location in Nigeria there seems to be some increase in

performance if the Grade 2 minimum proficiency benchmark is considered, and some decrease if we the grade 3 benchmark is considered. In the Kenyan location, an increase in performance using both benchmarks is found.
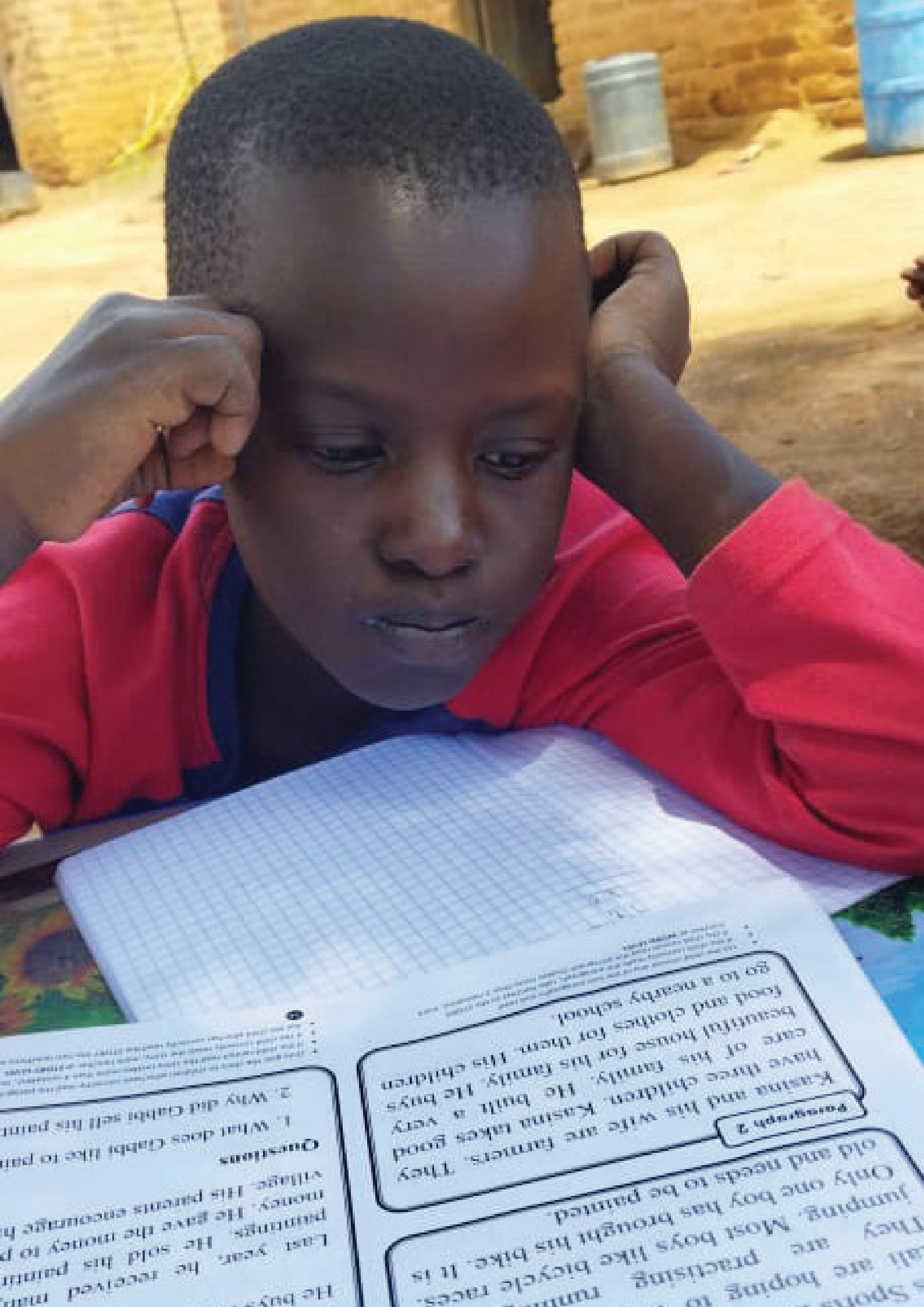
These results might be counterintuitive, as in general one would expect to see large drops in learning after the pandemic. However, as presented above, this study is not the only one that does not find a sizable learning loss, at least not in all the locations that were surveyed. The lack of learning loss that are found here might be due to a number of possible reasons, such as the effectiveness of recovery policies or the effort that families have put in finding ways for their children to receive support in their education trajectories. This is an argument for which showed some supporting evidence has been shown. It is important to acknowledge that there is enough evidence showing that it is not advisable to assume the effects of the pandemic were consistent across different contexts. There is a need to have a particularised understanding of how learning levels might have been affected in different locations, which should be addressed with more and better data.

Nevertheless, what these results show very clearly is that the problems of absence of foundational literacy and numeracy learning outcomes is not something that the pandemic generated. These problems were there before and are more related to a long history of inefficacy in how children were taught to acquire these skills rather than to the two years when the world had to adapt to the COVID-19 pandemic. This means that, while "recovery" is definitely needed in some contexts of the Global South, most of them require systemic improvement. Recovery policies are essential in developed countries where children were achieving significantly more than in developing countries but have also been clearly affected by the pandemic. However, in the case of the Global South, recovery would only take the countries to where they were before the pandemic, not to where they want to be.

Results coming from CLAs and other assessments that measure foundational learning in the Global South are no more and no less than a call to action. There are several practices and policies available to start changing how we are serving children, and we do not have the time to wait before we start working on a better future for them.

References

ACER. 2022. *COVID-19 in Sub-Saharan Africa: Monitoring Impacts on Learning Outcomes : Main Report.* Québec, Canada: UNESCO Institute of Statistics.

ASER India. 2023. *Annual Status of Education Report 2022.* New Delhi, India: ASER India.

ASER Pakistan. 2022. *Annual Status of Education Report 2021.* Lahore, Pakistan: Idara-e-Taleem-o-Aagahi.

Hevia, Felipe J., Samana Vergara-Lope, Anabel Velásquez-Durán, and David Calderón. 2022. "Estimation of the Fundamental Learning Loss and Learning Poverty Related to COVID-19 Pandemic in Mexico." *International Journal of Educational Development* 88: 102515.

Lichand, Guilherme, Carlos Alberto Dória, Onicio Leal Neto, and João Cossi. 2021. *Educational Impacts of Remote Learning in Secondary Education. .* Working paper.

Moscoviz, Laura, and David K Evans. 2022. *Learning Loss and Student Dropouts during the COVID-19 Pandemic: A Review of the Evidence Two Years after Schools Shut Down.* Center for Global Development: Center for Global Development. Working paper.

PAL. 2020a. *ICAN Policy Linking Report.* Nairobi, Kenya: People's Action for Learning (PAL) Network.

———. 2020b. *International Common Assessment of Learning Report.* Nairobi, Kenya: People's Action for Learning (PAL) Network. https://palnetwork.org/download/94/ican-full-report/9749/2020_pal-network_ican-full-report.pdf.

Patrinos, Harry Anthony, Emiliana Vegas, and Rohan Carter-Rau. 2022. *An Analysis of COVID-19 Student Learning Loss.* Washington, D.C.: The World Bank. http://elibrary.worldbank.org/doi/book/10.1596/1813-9450-10033 (November 27, 2022).

UWEZO Uganda. 2021. *Are Our Children Learning? Illuminating the COVID-19 Learning Losses and Gains in Uganda.* Kampala: Uwezo Uganda.

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