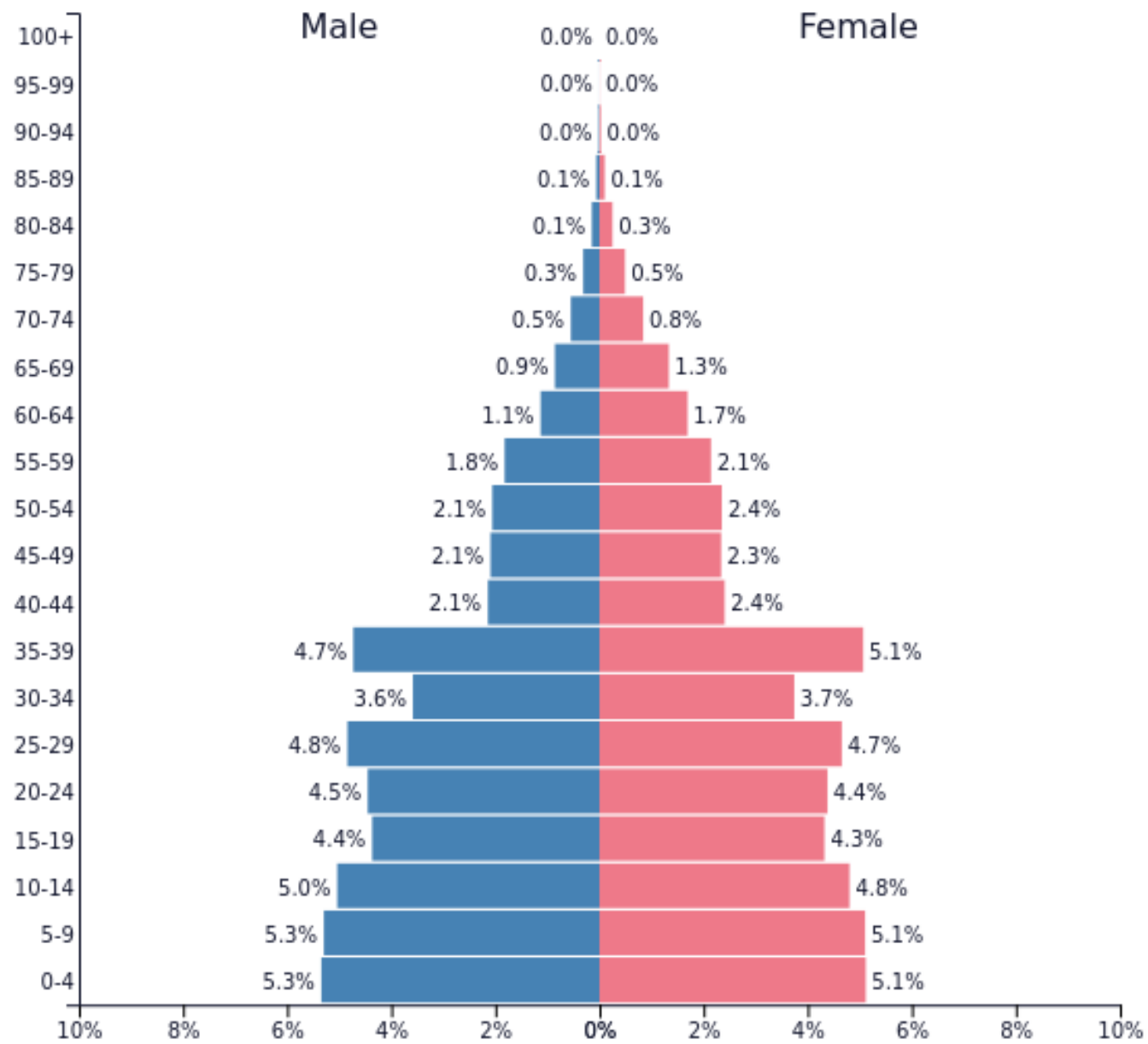




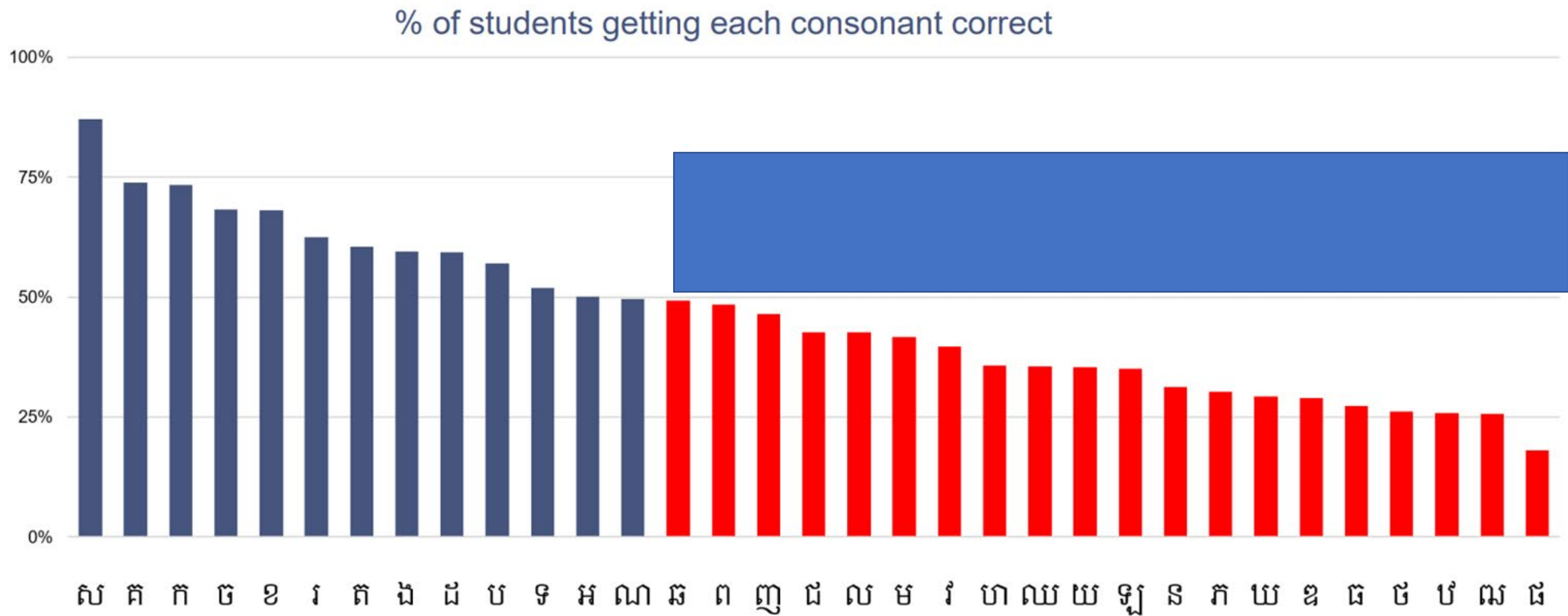
# **Using Data Sciences to Improve the Public Services** (Case Study in Education Sector on Early Grade Reading)

CHHORN Chhayyuth

Brainstorm

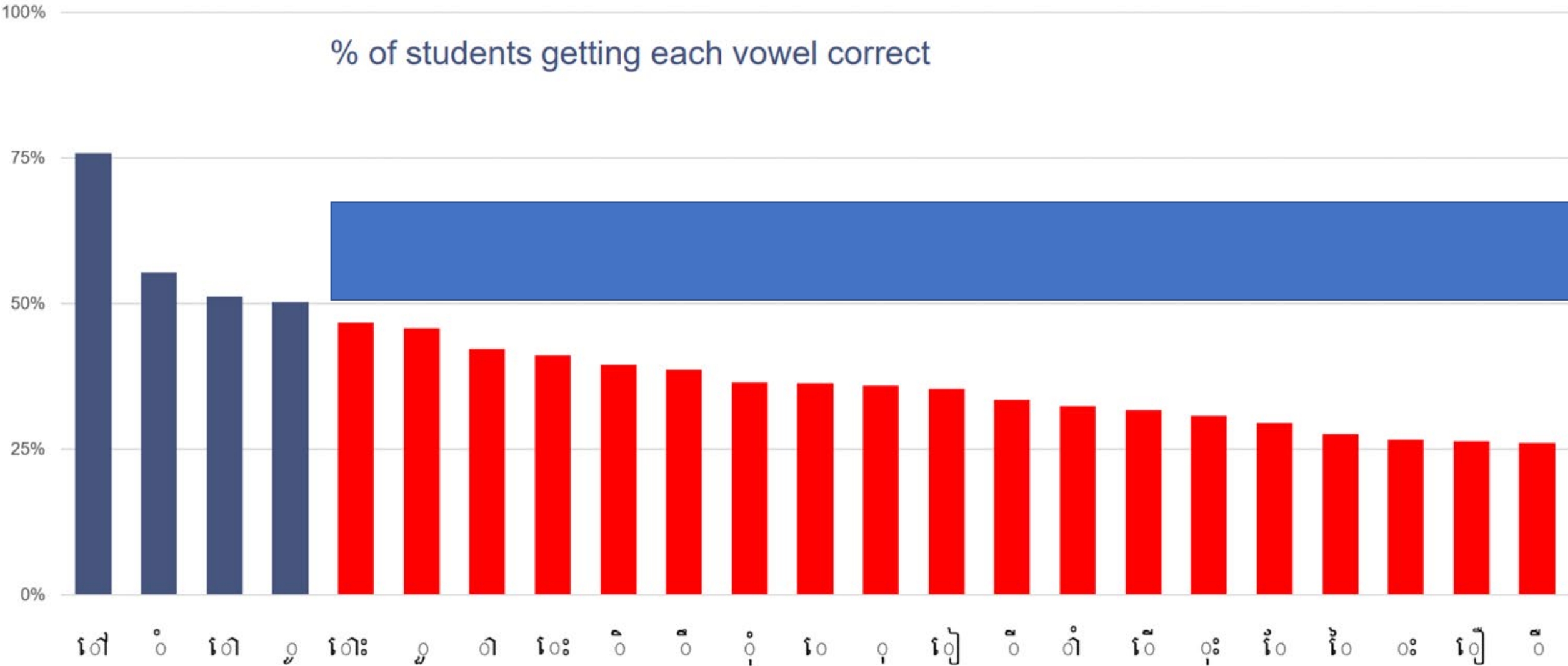


## Brainstorm



# 2018 Early Grade Reading Assessment

Brainstorm



# Introduction: *Komar Rien Komar Cheh* - The National Early Grade Learning Program of the MoEYS

- Since 2018 the MoEYS has been developing and piloting a **new program** to ensure **all students have a successful start to primary education**
- This program includes **Khmer** and **Mathematics** as these are both core subjects
- Khmer and Mathematics are also **key to accessing the rest of the curriculum**
- The **name of the program** is *Komar Rien Komar Cheh*
- The **goal is to reach every grade 1 and 2 child in Cambodia**



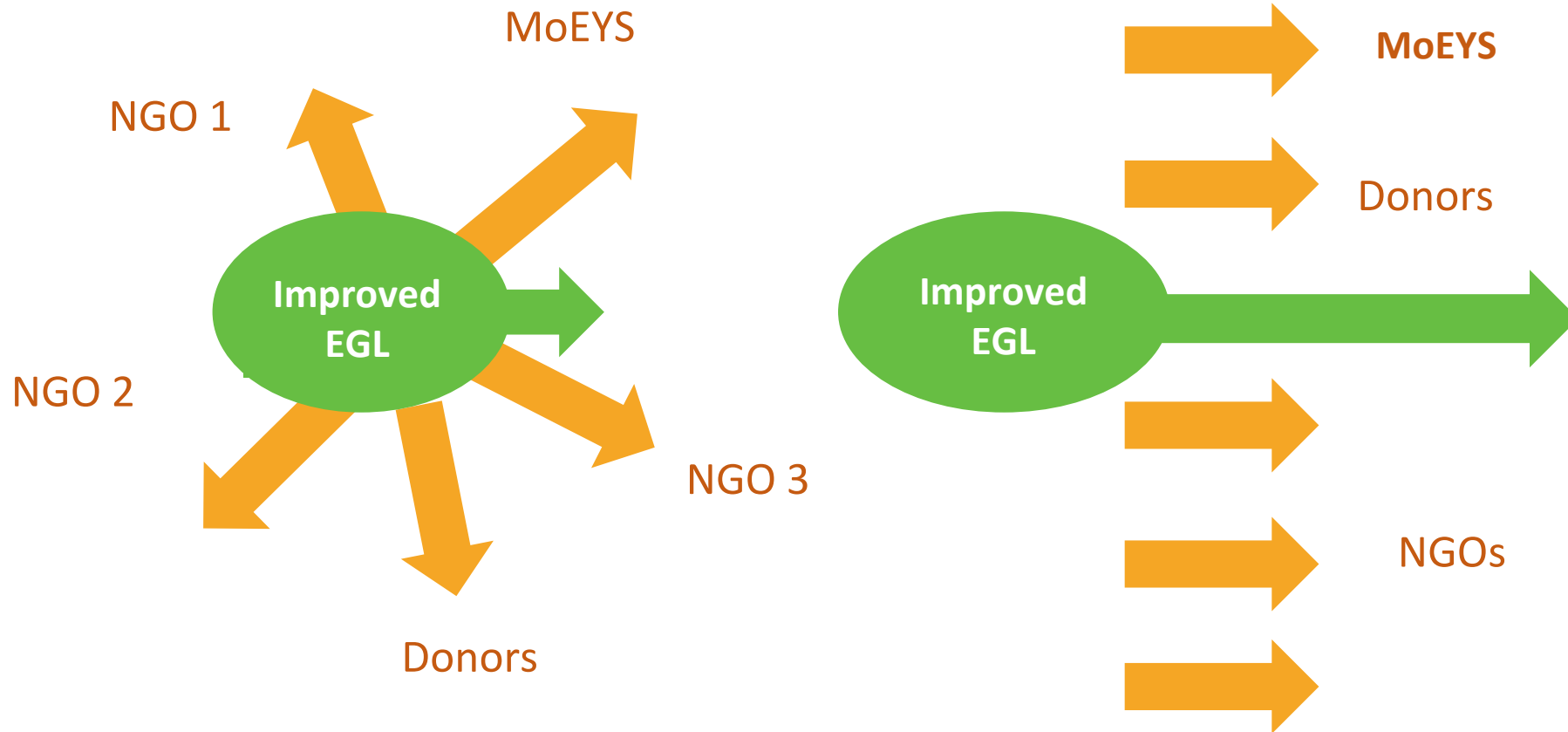
# A harmonized, MoEYS-led approach to early grade learning was needed

## Reasons for development of a harmonized, MoEYS-led approach:

- There have been many good **NGO interventions**, but at times the **different methods can be confusing** at the school level
- It is also **difficult to monitor** and ensure quality of many different projects
- In addition, some NGO approaches can be **hard to scale**
- Therefore the MoEYS saw the **need to develop a harmonized approach to** early grade learning that was **MoEYS-owned** and **MoEYS led**



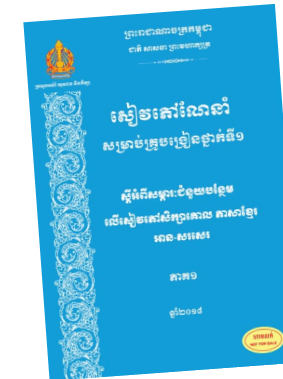
Together we can make more progress





The program was developed through partnerships with MoEYS playing a leading role

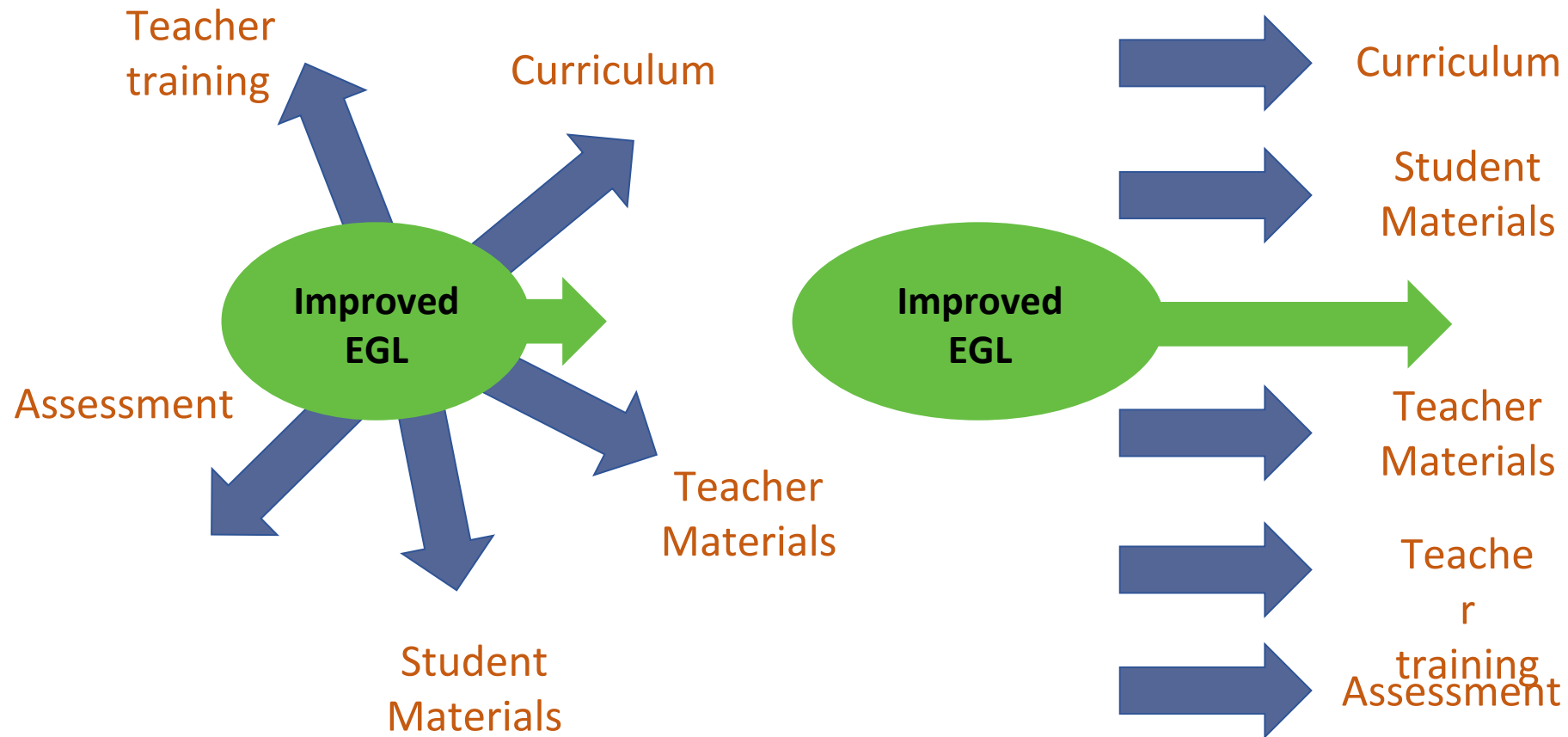
- The **MoEYS** has worked with the support of **various development partners** and **more than 15 NGOs** to develop Khmer and Mathematics materials and training
- This includes **Teachers Guides** for both **Khmer and Mathematics** and grades, student books and other learning materials
- Teachers receive **9 days of training** on each subject split throughout the school year
- Teachers receive **mentoring visits** to support them to change their methods



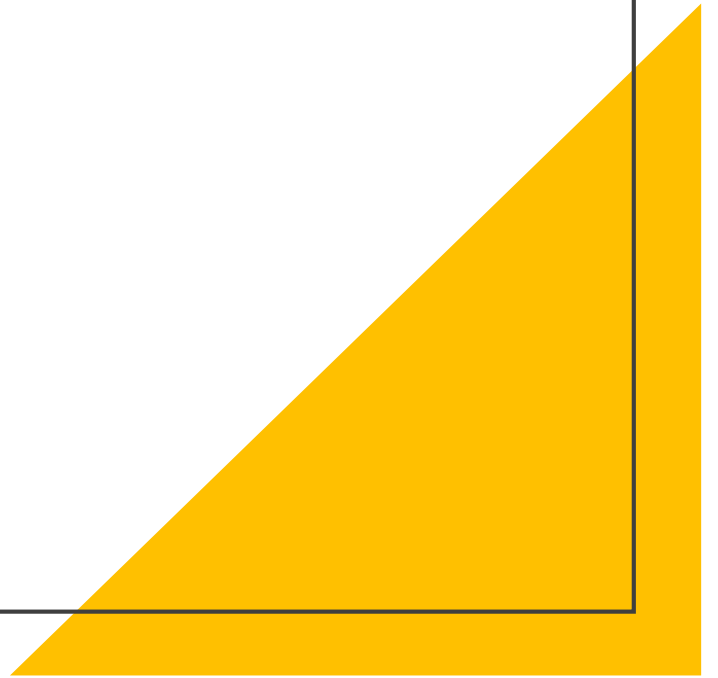
A small selection of the materials in the Komar Rien Komar Cheh program



The aim was also to harmonize and align all of the components of EGL



How we ensure the rigorous  
result and impact to student  
learning outcome?



# What Is EGRA?

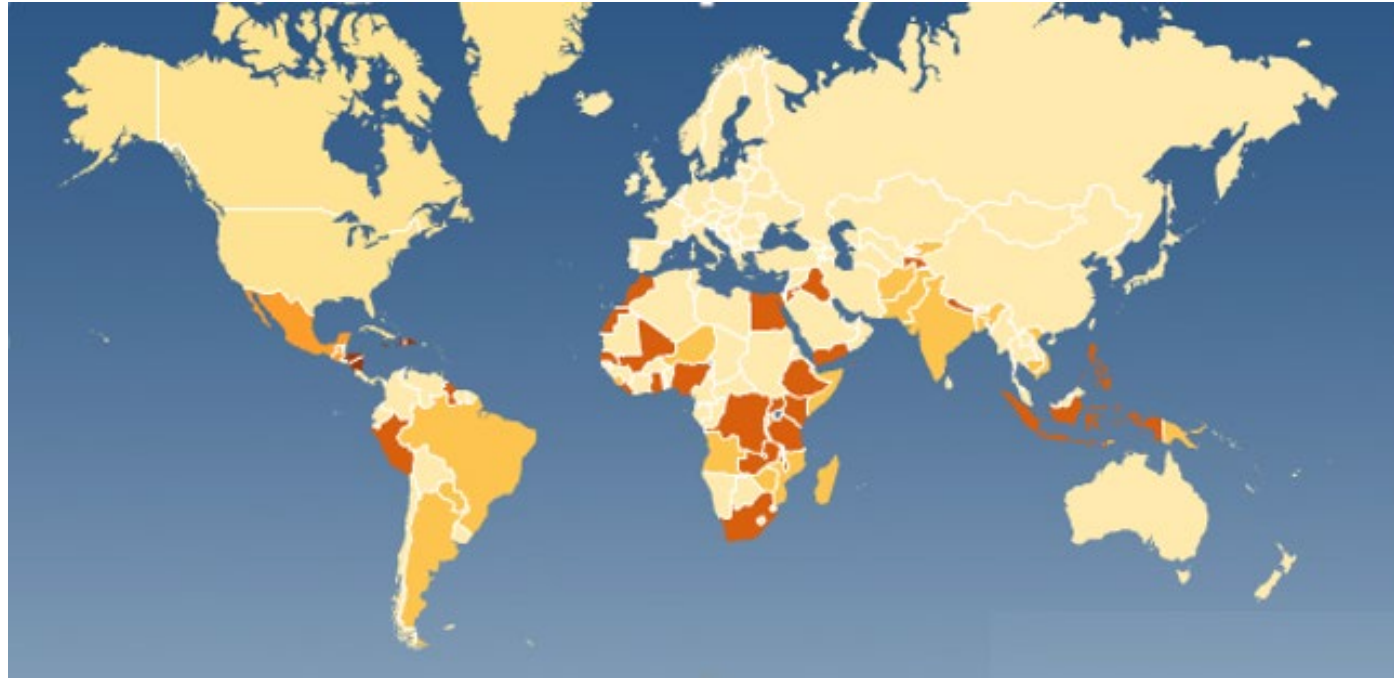
- EGRA stands for “Early Grade Reading Assessment.”
- Developed in 2006 to serve as a reliable and valid measure of skills that research has shown contributes to reading acquisition
- The assessment is used to measure children’s progress toward learning to read.
- EGRA is administered orally by an assessor, one-on-one with a child.
- Measures discreet skills through subtasks



# The EGRA is meant to be adapted for each context and language

- The EGRA is adaptable to languages and to the grade level of interest
- Adaptability = increases the validity
- Not simply translated from one language to the next
- Items incorporate age-appropriate words taken from the grade-level text within a country
- Word and letter frequencies are calculated to inform the development of the instruments
- Selected words have a similar orthographic structure, represent the most common features of the language and align with expectations for student reading in that grade

# Where in the World Has EGRA Been Used?



Used by  
**30+**  
organizations

Used in  
**70+**  
countries

Adapted for  
**120+**  
languages



# Why Assess Early?

- Children who learn to read within the first few grades of primary education have a greater chance of succeeding in and completing primary school.
- Evidence indicates that learning to read both *early* and at a sufficient *rate* are essential for learning to read well.
- Learning to read becomes more difficult as children grow older
- Children who do not learn to read in the first few grades are more likely to repeat and eventually drop out.

Source: Adolf et al., 2010; Daniel et al., 2006; Darney et al., 2013; Scanlon et al., 2008; Torgesen, 2002



# Khmer EGRA Tool Grade 1 &2

- Current version (RTI):

- Consonant letter naming fluency
- Vowel letter naming fluency
- Advance letter naming fluency
- Familiar word reading fluency
- Oral reading fluency
- Reading comprehension

ឧទាហរណ៍ :	ឆ្មា	ផ្សារ	ពូក	
១	២	៣	៤	៥
កែវ	កី	មុំ	កោ	ចុះ
ស្តាប់	មើរ	ខ្ញុំ	ភ្លឺ	យូរ
ឃ្លោក	ទើប	ឆា	ជឿ	ឈ្មោះ
ញ៉ាំ	ឌុប	បិត	ពូ	រាំ
ទា	លេង	រះ	ផឹក	ធ្មេញ
នំ	មៀន	តៅ	ហោះ	ថ្ម
សេះ	ណាស់	ឡេវ	ប៉ះ	ពោត
អាំង	សាលា	សៀវភៅ	អំណាច	ទំនេរ
តៅហ្វូ	កាំបិត	លំហាត់	រងារ	ញញឹម
ដំណើរ	ជំហាន	អង្គរ	បង្ខំ	ក្រសារ

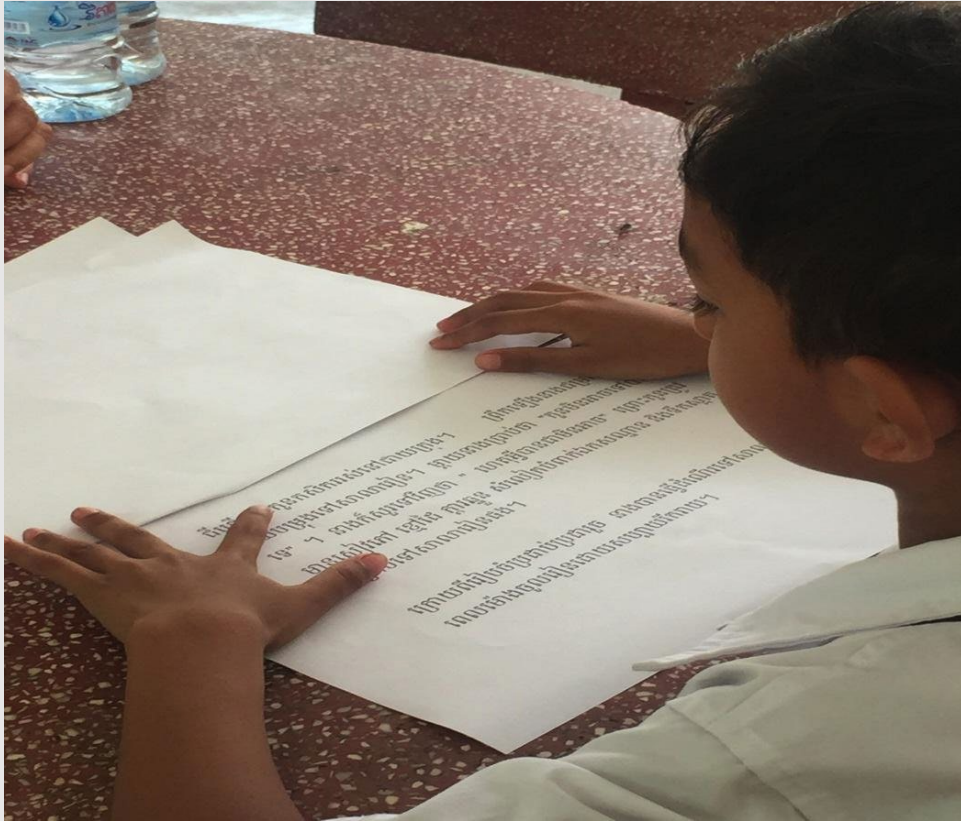


Subtasks	Early reading skill	Skill demonstrated by student's ability to:
<b>1. Letter name fluency</b>	Letter recognition	Provide the name of graphemes presented in random order
<b>2. Familiar word fluency</b>	Alphabetic principle/decoding skills	Use letter sound correspondence to read a list of familiar words
<b>3. Oral reading fluency</b>	Oral reading fluency	Read a narrative text with accuracy, little effort, and at a sufficient rate
<b>4. Reading Comprehension</b>	Reading comprehension	Respond to literal and inferential questions about the text read

## What does EGRA measure?

# Assessor Records Results on Tablet

- Assessor records responses on a tablet or paper



Child reads from  
paper, called “pupil  
stimuli”

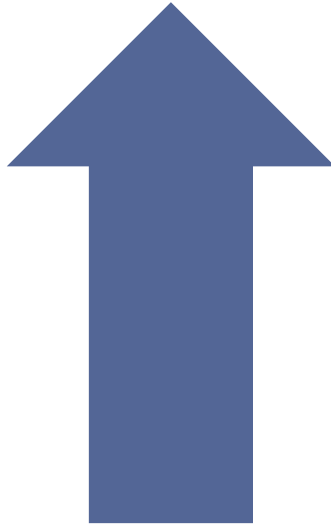
# Impact from the first year of the Khmer program

Some highlights:



**7** percentage point **increase in consonant** scores

(**Control** schools only increased 3 percentage points in both these tasks)



**16** percentage point **increase in vowel** scores

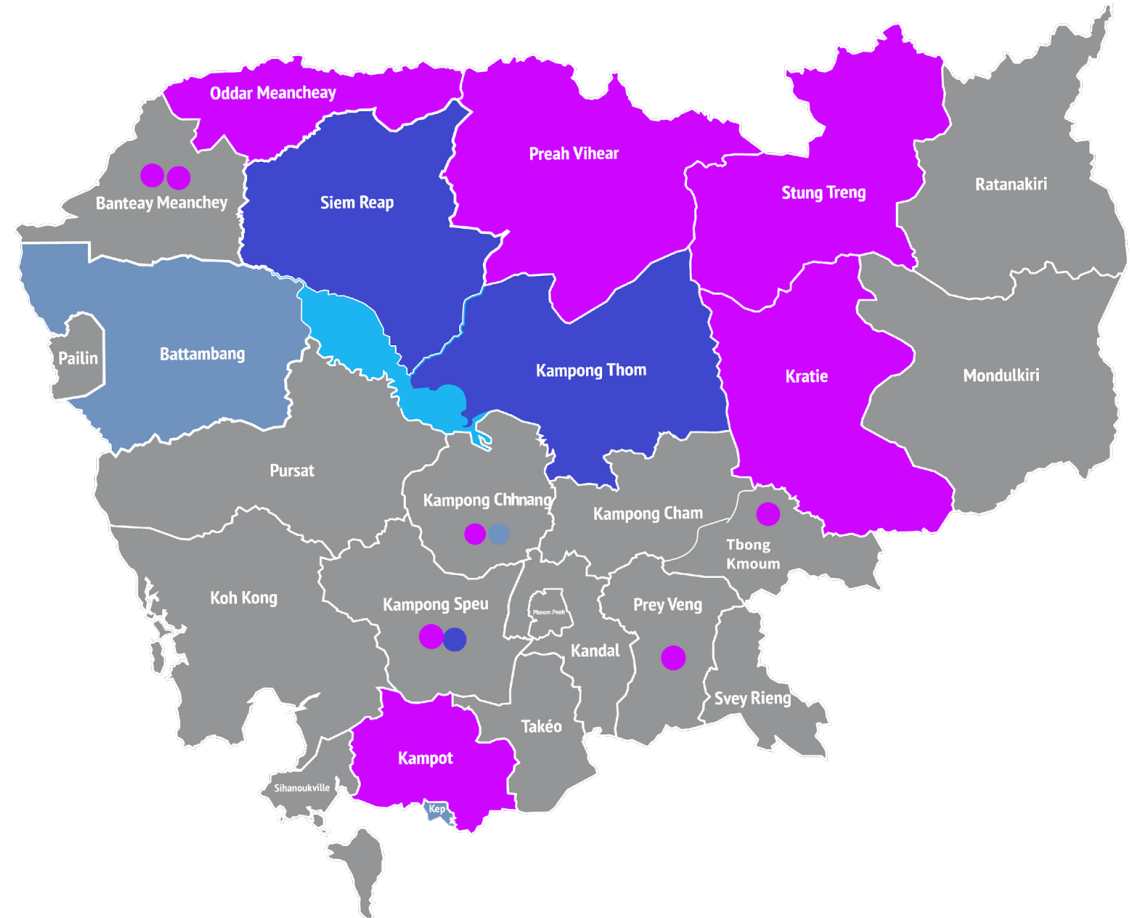
(There was no change in control schools)



**6% more children** were able to read at least one word

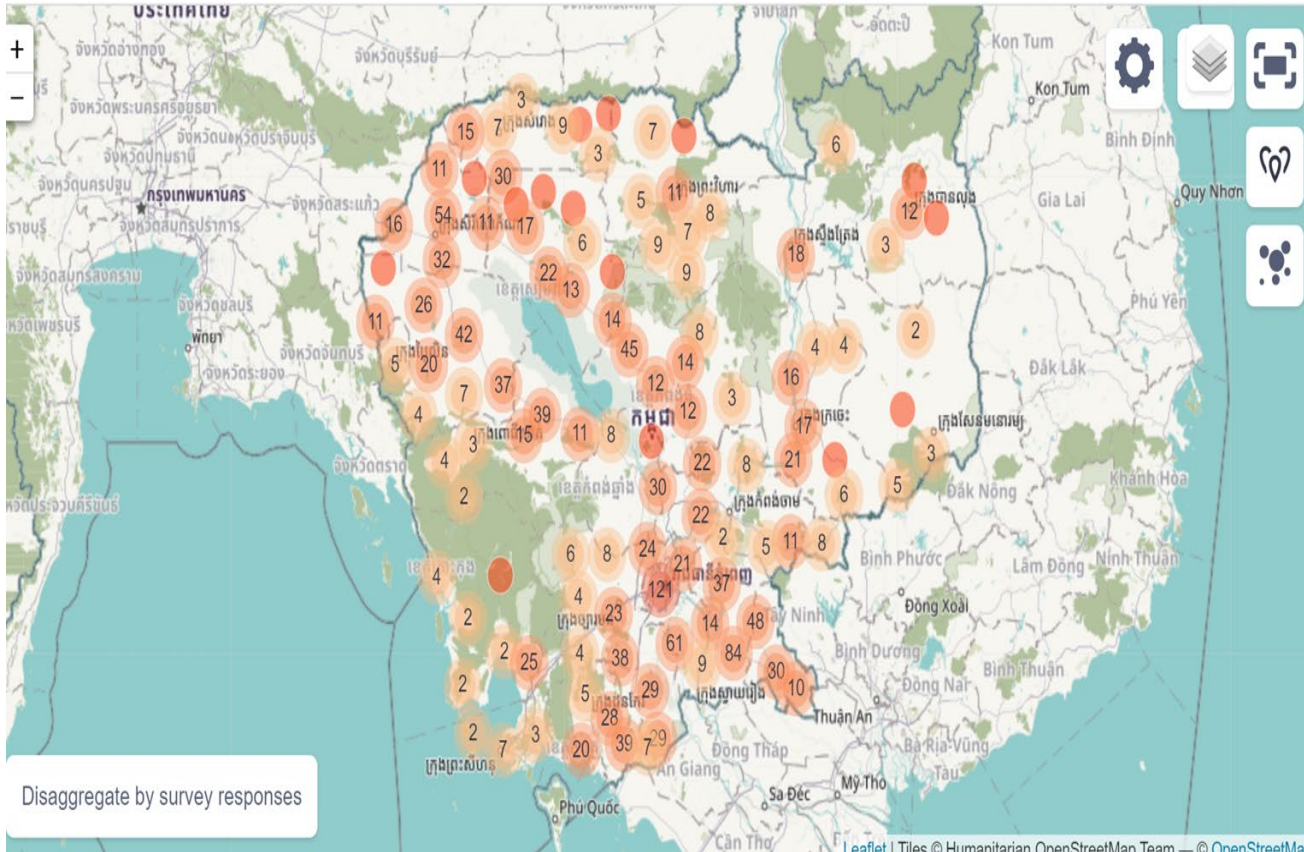
# Expansion of the Khmer component of the Komar Rien Komar Cheh program

- Commit to roll-out to all provinces by 2025 based on the EGL Strategy





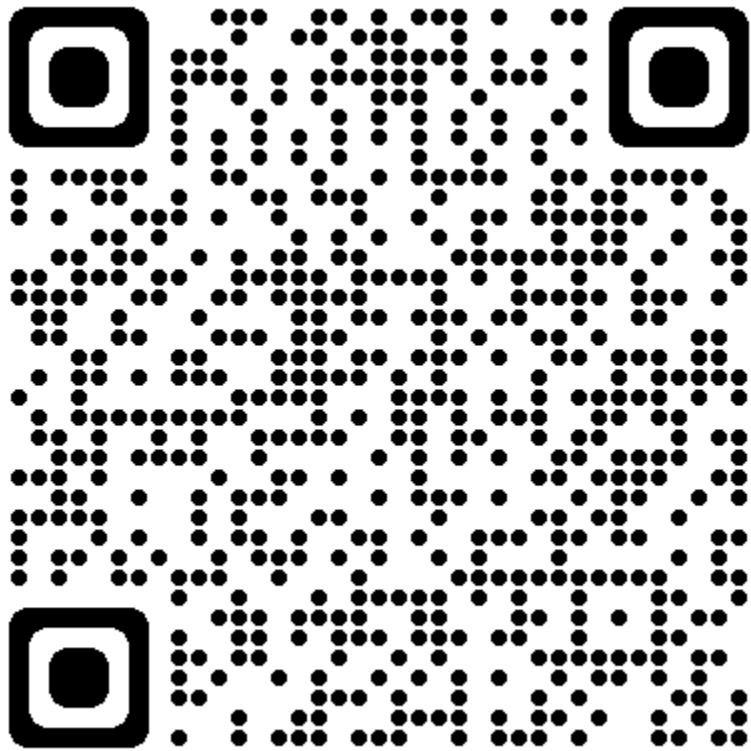
# KoBo for Monitoring and reporting



- Tracking the teachers' participation to training
- Teachers received mentoring program
- Materials Distribution to Schools

# Demo

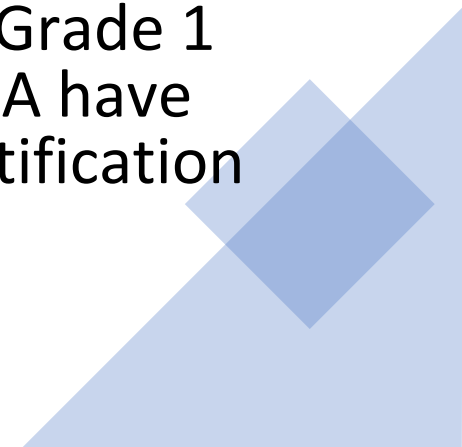
[Early Grade Reading Barometer](#)







## Exercise

1. How many percent of grade 1 student in Siem Reap who can't read a single letter based on 2018 data?
  2. In average, How many word that the grade 2 student can read in all region based on 2019 data?
  3. During COVID19, How many percent of boy student in Grade 1 can't read a single word in oral reading fluency subtask?
  4. How many percent that Grade 1 students in intervention A have improved on vowel Identification from 2018 to 2019?
- 



Q&A or Sharing