

EDUCATION DATA SYSTEMS AND DATA USE

Many countries face challenges in harnessing the full potential of education management information systems (EMIS) for practical decision-making.



LIMITED ACCESS TO DATA SYSTEMS AND OUTDATED TECHNOLOGIES

On average, **80% of countries have developed their own primary data management platform**, but the specific figures vary from 100% of countries in East and Central Asia to 63% of countries in sub-Saharan Africa.¹



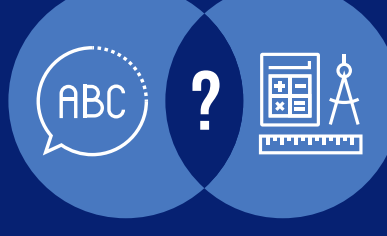
53% OF COUNTRIES STILL USE PAPER-BASED DATA COLLECTION PROCESSES.²



36% OF COUNTRIES USE A STAND-ALONE ELECTRONIC MODE OF DATA COLLECTION.³

LACK OF DATA ON LEARNING METRICS

Less than one third of GPE partner countries reported data for any specific learning metric, by level and year within the five most recent years up to 2021.⁴



ONLY 10 GPE PARTNER COUNTRIES HAD DATA ON READING AND MATHEMATICS PROFICIENCY AT THE END OF LOWER-SECONDARY EDUCATION.⁵

STUDENT-LEVEL DATA

100% of countries record school-level data in their national EMIS database, but **only 54% record student-level data.**⁶



ONLY 48% OF AFRICAN COUNTRIES COLLECT DATA ON THE DEVELOPMENT STATUS OF EARLY LEARNERS.⁷

"INVISIBLE" MARGINALIZED GROUPS

Gender equality variables and the needs of marginalized groups, including children who have disabilities, are still overlooked in data systems.

In Africa, data on early childhood learners, youth and adult learners and out-of-school children and youth is still significantly underreported.⁸

LOW LEVELS OF CAPACITY FOR DATA USE AND ANALYSIS

Staff involved in data collection often lack the training, skills and experience required to undertake effective data analysis.

The overall quality of statistical systems in GPE partner countries declined by 6.2 percentage points between 2015 and 2020.⁹



ONLY 37.6% OF GPE PARTNER COUNTRIES REPORTED ON THE 10 KEY INDICATORS OF SDG 4 IN 2023.¹⁰



ONLY 18.6% ASSESSED THE AVAILABILITY AND USE OF DATA AND EVIDENCE.¹¹

Data systems and data use innovations are needed to improve learning outcomes, equity and evidence-based decision-making.



From 2020 to 2024, GPE KIX supported five research projects to test, adapt and support strategies to scale data systems and data use in education.



Each project assessed data innovations to expand and strengthen knowledge of their characteristics and address knowledge gaps about how to scale them. The models were:

- The innovative positive deviance (PD) approach of Data Must Speak
- The new data analysis approach of MICS-EAGLE using the Multiple Indicator Cluster Survey (MICS) 6 household surveys
- The PAL Early Language & Literacy and Numeracy Assessment (ELANA)
- A knowledge management system to embed the Assessment of Life Skills and Values in East Africa (ALiVE) measures of 21st-century skills
- DHIS 2 for education



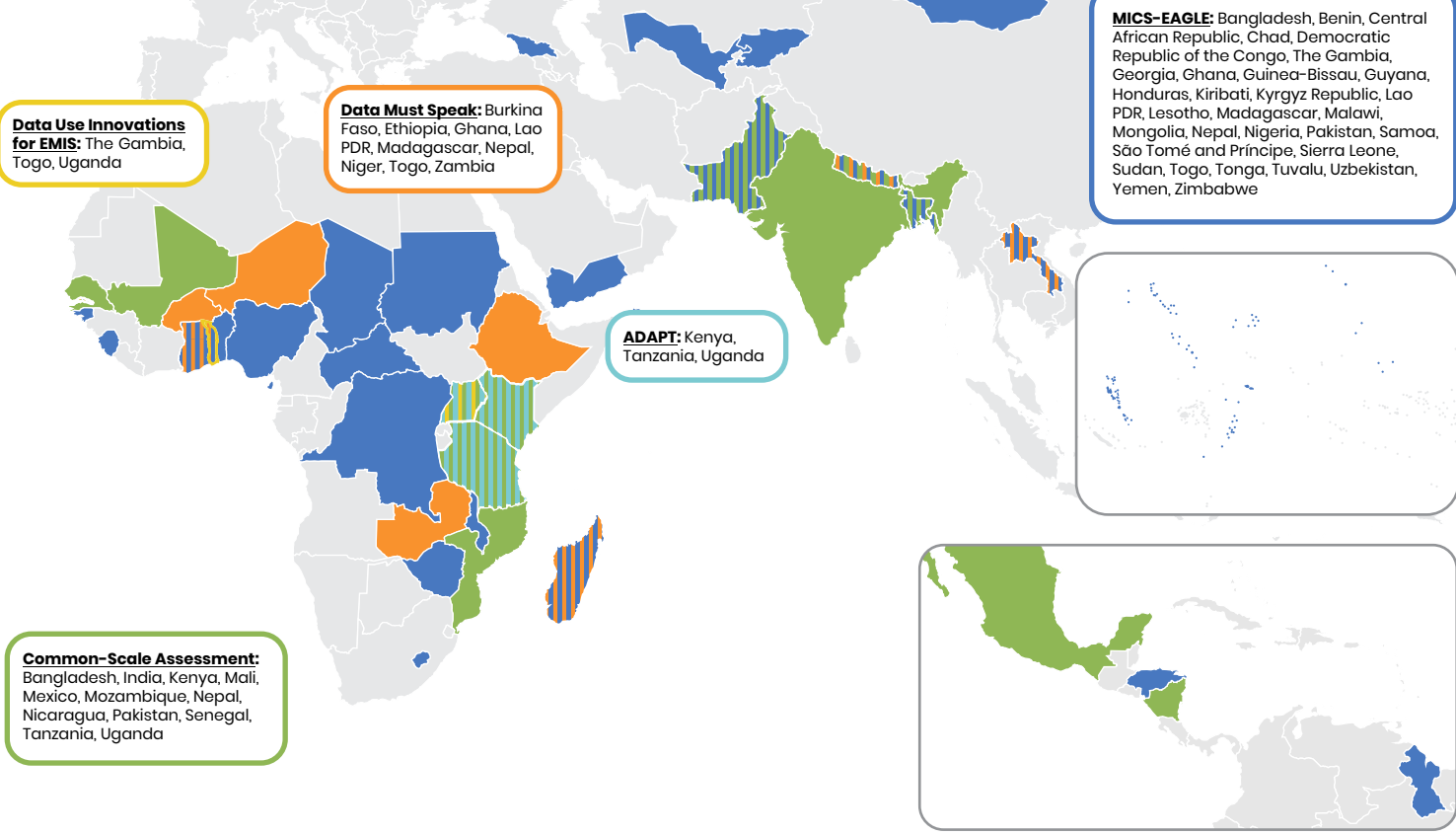
5+ Southern-based implementing organizations



5 data innovations studied



Countries in which GPE KIX research projects were implemented



Data Use Innovations for EMIS: The Gambia, Togo, Uganda

Data Must Speak: Burkina Faso, Ethiopia, Ghana, Lao PDR, Madagascar, Nepal, Niger, Togo, Zambia

ADAPT: Kenya, Tanzania, Uganda

Common-Scale Assessment: Bangladesh, India, Kenya, Mali, Mexico, Mozambique, Nepal, Nicaragua, Pakistan, Senegal, Tanzania, Uganda

MICS-EAGLE: Bangladesh, Benin, Central African Republic, Chad, Democratic Republic of the Congo, The Gambia, Georgia, Ghana, Guinea-Bissau, Guyana, Honduras, Kiribati, Kyrgyz Republic, Lao PDR, Lesotho, Madagascar, Malawi, Mongolia, Nepal, Nigeria, Pakistan, Samoa, São Tomé and Príncipe, Sierra Leone, Sudan, Togo, Tonga, Tuvalu, Uzbekistan, Yemen, Zimbabwe

GPE KIX projects supported positive outcomes that benefited national education systems and led to an effective use of data in the education policy and planning processes.

1

Increased access to customizable and scalable data systems

The DHIS2 for Education model takes a modular approach to system scaling, which allows countries to upscale as they develop their capacity, and shares its source code so that developers can customize it as required. The technical architecture of the model, a turnkey model, is open-source, which makes it affordable and exceptionally adaptable.

2

Enhanced data on marginalized groups and gender equality, equity and inclusion

MICS-EAGLE provided detailed granular data on households from various domains – including gender, disability, education, early marriage and child labour – that could be compared across 31 GPE partner countries.

The PAL ELANA innovation, developed through the Common-Scale Assessment project, is one of the first assessment tools to use uniform disability measures across multiple countries to generate data for skills assessments among learners with special needs.

3

Enhanced capacities to analyze, interpret and use data

MICS-EAGLE developed and disseminated educational fact sheets. It collaborated with IIEP-UNESCO on the development of an online course on data usage for policymaking for education officials across Africa.

The Data Use Innovations for EMIS project supported the creation of an EMIS master's program at the University of The Gambia and encouraged sustained training for ministry officials through collaborations with the University of Oslo.

4

Increased dataset integration and data use for evidence-based decision-making

When countries use new data tools effectively, they can identify high-performing schools, track student progress in real time and make evidence-based decisions to improve education quality.

The Data Must Speak research strengthened an innovative use of data: integrating and analyzing existing data to identify outlier schools and characteristics of effective schools. In Nepal, the research findings informed reviews of the national education plan and budget during joint sector review meetings.

The ADAPT project used data from learner assessments – particularly life skills assessments – to improve the design, delivery and assessment of curricula. In Tanzania, ADAPT has influenced vocational pathways and life skills education through partnerships with key educational institutions.

With the support of the Data Use Innovation project, The Gambia developed a comprehensive, sector-wide EMIS solution that tracks 350,000 learners and teachers. Uganda transformed a school-based health surveillance system into a district-level DHIS2 platform that supports real-time data analysis, which has improved service responsiveness.

These highlights are drawn from the GPE KIX report [Education Data Systems and Data Use: A Research Synthesis](#).

The Global Partnership for Education (GPE) Knowledge and Innovation Exchange (KIX) is a joint endeavour between GPE and the International Development Research Centre (IDRC) that aims to ensure partner countries have and use the evidence and innovation they need to accelerate access, learning outcomes and gender equality through equitable, inclusive and resilient education systems fit for the 21st century.

Five synthesis reports were commissioned by GPE KIX to consolidate evidence across research projects conducted between 2020 and 2024. Topics included: data systems and data use; early learning; gender equality, equity and inclusion; teacher professional development; and out-of-school children and youth.



Photo Credit: GPE/ Sebastian Rich

Sources:

- ^{1,2,3,6} UNESCO Institute for Statistics. (2020). Data innovation for producing SDG 4 indicators: A global analytical report [Information paper no. 65]. <https://unesdoc.unesco.org/ark:/48223/pf00000374784/PDF/374784eng.pdf.multi>
- ^{4,5} Global Partnership for Education. (2023). Results report 2022. <https://www.globalpartnership.org/content/results-report-2022>
- ^{7,8} Arnott, A. (2024). Priorities for missing data and SDG 4 for countries in Africa. In M. Delprato & D. Shephard (Eds.), *Achieving equitable education: Missing education data and the SDG 4 data regime* (chapter 6). NORRAG.
- ^{9,10,11} Global Partnership for Education. (2024). Results report 2023. <https://www.globalpartnership.org/content/results-report-2023>