



# 2024 CONFERENCE ON EDUCATION DATA AND STATISTICS

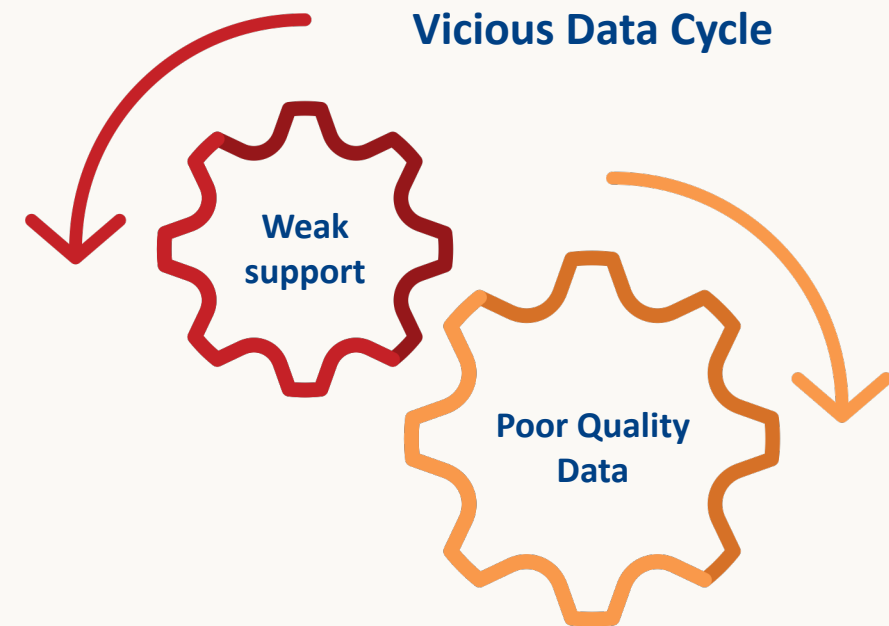
## Data for Education

A Guide for Policymakers to Leverage Education Data

November 2023

# Data is a key building block for the formulation and implementation of effective education policy

- ▶ However, **producing education data might be costly** in terms of human and financial resources
- ▶ Thus, policymakers **may not see the value** in allocating these resources towards data production
- ▶ Resulting in **insufficient support** for education data systems
- ▶ **Vicious data cycle** should be change to good quality data, strong support virtuous cycle
- ▶ **Sustainable Development Goals (SDGs)** are tracked and met by reporting on and monitoring **country-level data**

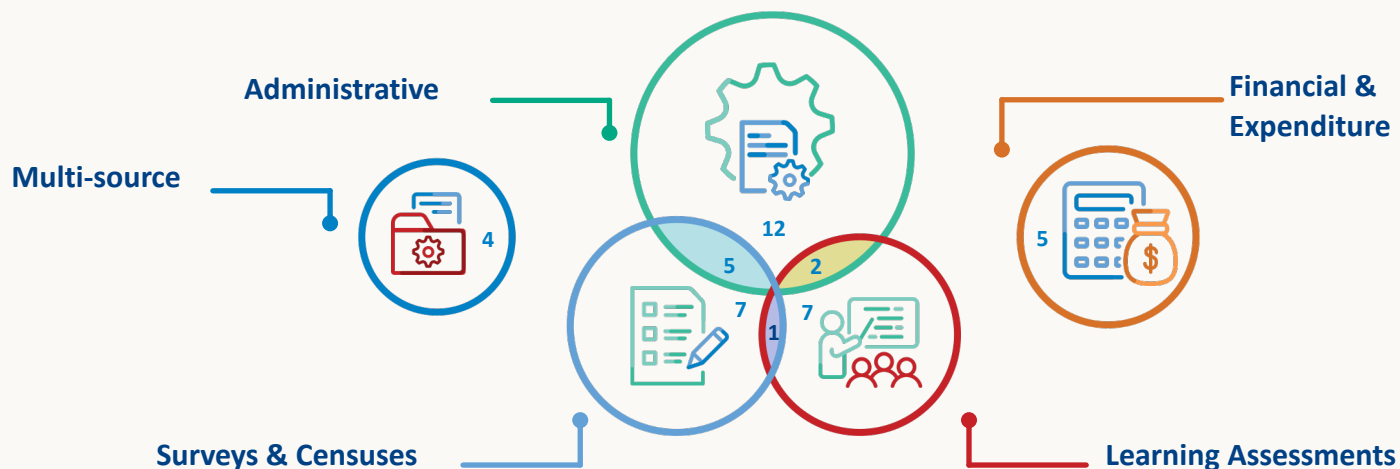


# Education practitioners must understand the importance of investing in data and take advantage of all the data ecosystem...

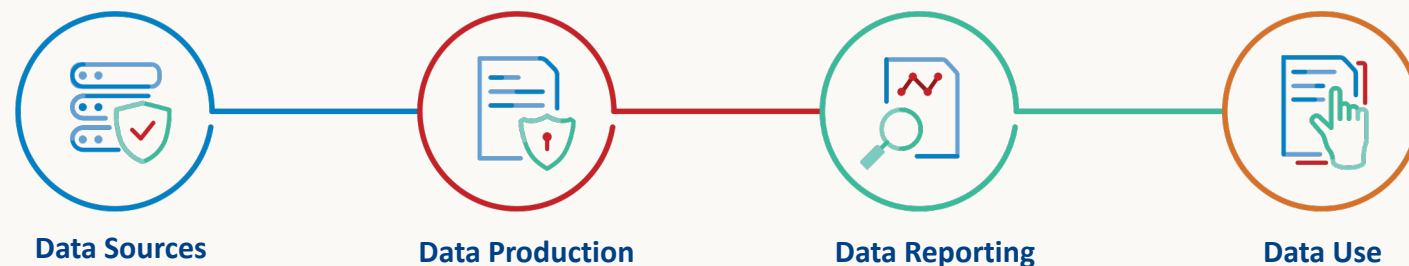
...in order to create a **cycle of increased investment in data collection**, better quality data production, and **better data-driven policies**

Large development targets like SDGs are tracked and met by reporting on and monitoring country-level data.

The agenda 2030 called for the use of multiple sources to monitor progress in the SDG targets. This calls for sound data strategies that breaks silos.



## Education Data Ecosystem



# There are 4 distinct sources of education data:

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**ADMINISTRATIVE RECORDS**



**LEARNING ASSESSMENTS**



**FINANCIAL & EXPENDITURE**



**SURVEYS & POPULATION  
CENSUSES**

# Administrative data includes information on schools, teachers and students



## ADMINISTRATIVE RECORDS

### Schools

- ▶ Infrastructure
- ▶ Location
- ▶ Schools materials
- ▶ Type (public/private/NGO)

### Teachers

- ▶ Number of teachers
- ▶ Gender
- ▶ Age
- ▶ Qualifications
- ▶ Teacher attendance
- ▶ Teaching grade level

### Students

- ▶ Number of students
- ▶ Gender
- ▶ Age
- ▶ Grade level
- ▶ Attendance

- ▶ Most of this information is available through an **Educational Management Information System (EMIS)** managed by **Ministries of Education**.
- ▶ Most countries use the **'school-census approach'** to collect information.

**Brazil's Censo Escolar Federal** (Federal School Census), is the largest in Latin America and the Caribbean, collecting **data on over 47 million students** (Montes, 2022).

# Administrative data plays a crucial role in addressing a wide range of policy questions and monitoring progress towards SDG4

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- ▶ What is the average student-teacher ratio by school level?
- ▶ How are schools distributed across the country?
- ▶ Are children able to complete school?
- ▶ What is the impact of migration on the education system?
- ▶ How to improve disability policies and what type needs more attention?



**Fiji's EMIS (FEMIS)** allows for **individual-level monitoring of students**

throughout their school years and

provides timely feedback to improve learning outcomes.

FEMIS collects data on a student's biodata, families, daily attendance, learning outcomes, subsidy programs and disciplinary action.

# Financial and expenditure data encompass details about the allocation and utilization of financial resources in education



## FINANCIAL & EXPENDITURE

### Resources



- ▶ Sources of funding (private/public)
- ▶ Total Expenditure
- ▶ Type of Expenditure (current/capital)

- ▶ It often comes from administrative records gathered by the Ministry of Finance, **Ministry of Education** or National Statistical Offices.
- ▶ Financial and expenditure data helps policymakers **understand how funds are being utilized** and whether they are effectively contributing to their National Education Agendas and SDG4 objectives.

# This information can help respond several policy questions regarding education expenditure and financing:

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- ▶ Who funds education?
- ▶ How are different education levels financed?
- ▶ What is the average financing and cost per student?
- ▶ How much is allocated to teacher salary
- ▶ How much is allocated to capital expenditure (i.e., school infrastructure?)



# Household surveys and population censuses collect data on population and household demographics and socioeconomic



## SURVEYS & POPULATION CENSUSES

- ▶ Literacy
- ▶ Educational attainment
- ▶ Expenditure and consumption patterns
- ▶ Household and individual level socioeconomic indicators
- ▶ Labor market indicators

- ▶ Most surveys and censuses are conducted by **National Statistic Offices**, with little coordination with other line Ministries.
- ▶ They are the **only source of data on those outside the formal education system**, and provide context for education planning, including the socioeconomic factors that may influence educational outcomes.

# Household survey data provides a comprehensive foundation for addressing crucial policy questions in the realm of education, including:

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- ▶ Do all kids have access to school?
- ▶ Do the kids \*stay\* in school? Why or why not?
- ▶ How are labor market outcomes related to educational attainment?
- ▶ What is the adult literacy rate?
- ▶ What factors contribute to the incidence of out-of-school children?



In **Nigeria**, approximately **10.5 million children are not in school.**

In the north, **more than half of Nigerian girls are out of school.**

Household surveys reveal that **economic barriers and socio-cultural factors discourage school attendance**, especially for girls (UNICEF, 2023).

# Learning assessments measure students' knowledge and skills



## LEARNING ASSESSMENTS

- ▶ National school-based assessments
- ▶ Test scores
- ▶ Student socioeconomic
- ▶ Characteristics
- ▶ Teacher / parent surveys
- ▶ International assessments

- ▶ National assessments are often conducted by the **Ministry of Education**
- ▶ Several **international organizations** conduct **regional and international assessments**.
- ▶ Learning assessments help monitor the quality of education.
- ▶ **Note:** Countries also administer **Public Examinations**, that are individual high stakes exams. All public exams are assessments but not all assessments are public exams.

# Some of the policy questions that can be addressed using data from learning assessments include:

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- ▶ Are children learning?
- ▶ Is there any difference in academic performance between boys and girls?
- ▶ Is there any difference in academic performance across socioeconomic groups?
- ▶ Are teachers qualified? Does teacher training affect learning outcomes?



The 2018 PISA scores in **Thailand** highlight **differences in performance by socioeconomic status and gender**.

On average, **15-year-old girls outperformed boys** in all subjects.

**Socioeconomic status** was a strong predictor of academic performance, explaining 12 percent of the differences in performance.

# The ability to provide value-added analysis by combining data sources and/or linking different databases using a common identifier is essential to generate high-quality data

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Data from administrative records, surveys and censuses as well as learning assessments can be combined to **further inform education policy design**:

Are learning outcomes related to overcrowded classrooms?

**Administrative data**  
+  
**Learning Assessments**

What policies can be used to keep children in school?

**Administrative data**  
+  
**Household survey data**  
+  
**Data from other Ministries**

How can we ensure the effective and efficient allocation of resources to schools and students with the greatest needs?

**Administrative data**  
+  
**Financial and expenditure data**  
+  
**Household survey data**

## Some examples include...

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In **Brazil**, since 2007, it is possible to **access federal government databases** to gather information on *Bolsa Família* (Family Allowance) and the *Benefício de Prestação Continuada* (Continued Benefit Provision).

Verification is also possible with the *Cadastro Geral de Pessoa Física* (CPF, General Registry of Individuals) to confirm personal data, as well as **cross-referencing between the *Educacenso* and *Censo Escolar*** (School Census)






In 2015, a project in **Bonsaaso, Ghana** used mobile phones to collect real-time data and provide monthly **feedback to schools** and district education offices.

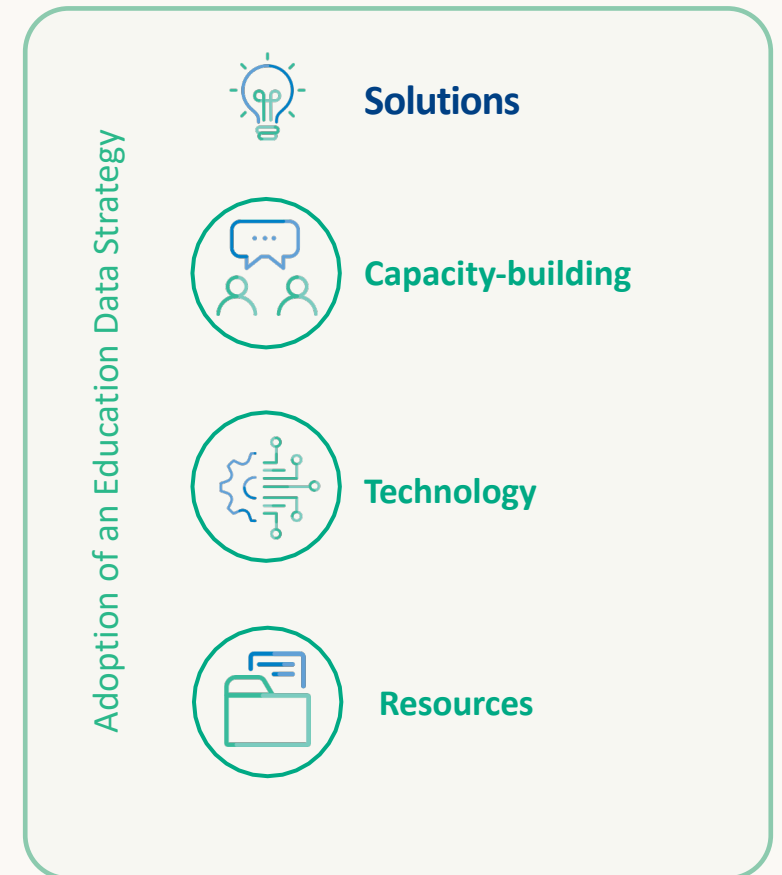
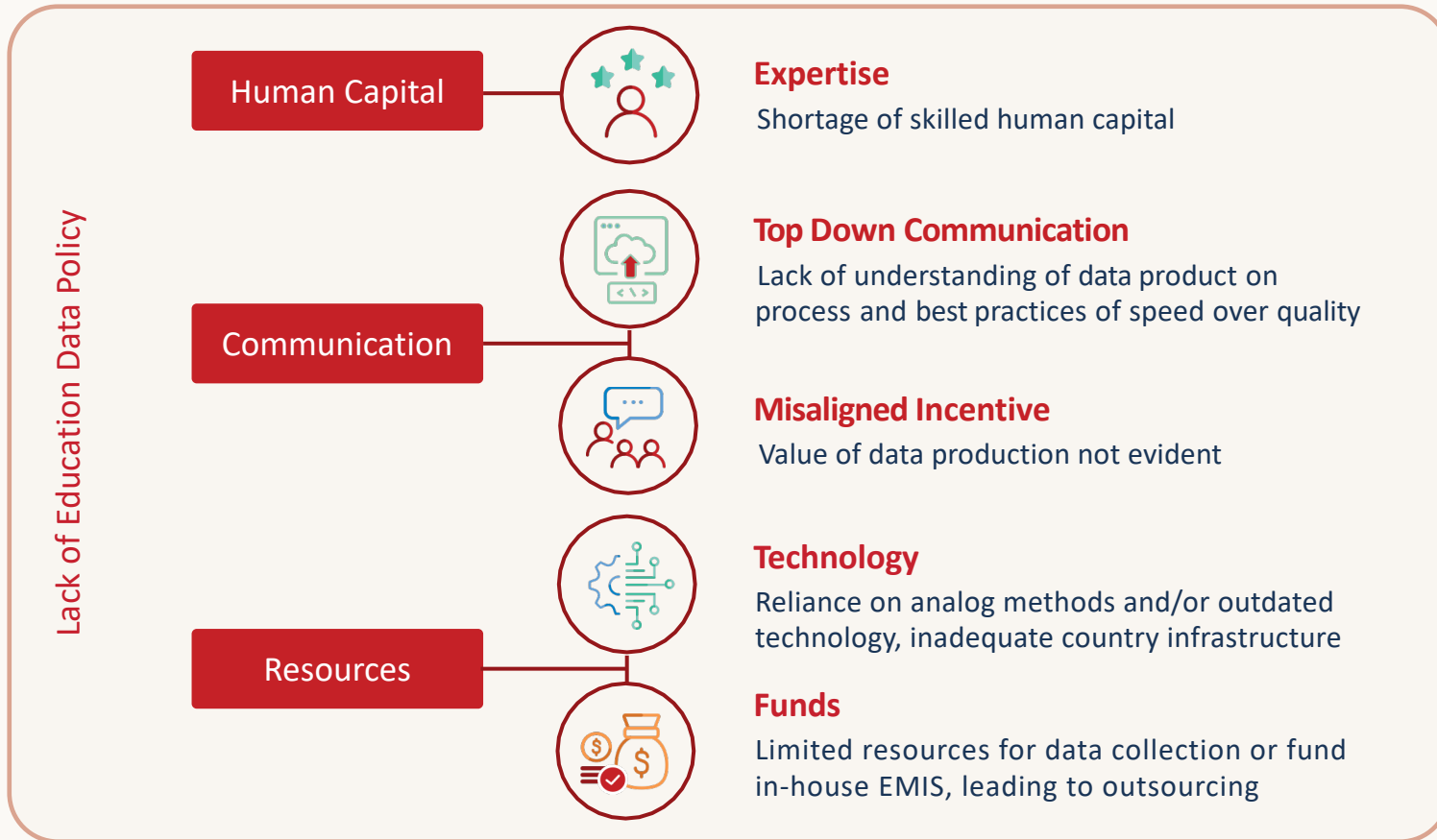
The data showed that schools without full-time teachers were also those where students lacked basic reading skills

As this information was **combined with geographic data** at the district-level, the analysis revealed these **schools were located in areas that lacked basic infrastructure**, suggesting teachers were reluctant to work there (Broadband Commission for Sustainable Development. 2020)

# Policymakers must strive to generate quality data that is relevant, comparable and accessible

IS THE DATA...		
RELEVANT	COMPARABLE	ACCESSIBLE
 <p>Does the data source include the required information?</p>	<p>...over time?</p>	<p>...to all users/open access?</p>
 <p>Is the data available for the groups of interest (i.e., school, student, teacher, private and/or public schools etc.)?</p>	<p>...across countries/provinces?</p>	<p>... in a user-friendly format?</p>
 <p>When was the data published (latest year available)?</p>		<p>...in a timely manner?</p>
<p>Is it interoperable with other data sources via a common identifier?</p>		

# Given the significance of the Education Data Ecosystem, special attention ought to be channeled to the potential challenges that prevent the production of quality data and its widespread use





# UIS collaborates with countries to facilitate data reporting via methodological guidance, standard-setting, and capacity-building

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Some resources and initiatives include:

The Global Proficiency Framework (GPF) standardizes the minimum proficiency levels (MPLs) for students in grades 1-9 in reading and math.

- ▶ [The International Standard Classification of Education \(ISCED\)](#) allows the comparison of education systems across countries and the production of cross-nationally comparable data.

- ▶ Conceptual, methodological and reporting frameworks for various SDG 4 indicators are listed in the [UIS Monitoring Framework site](#).
- ▶ [The Learning Data Toolkit: Measure What Matters](#) aims to facilitate cross-nationally comparable data reporting on learning outcomes and provide countries with internationally-aligned, but context-specific, options to report on indicator SG4.1.1.

# UIS collaborates with countries to facilitate data reporting via methodological guidance, standard-setting, and capacity-building

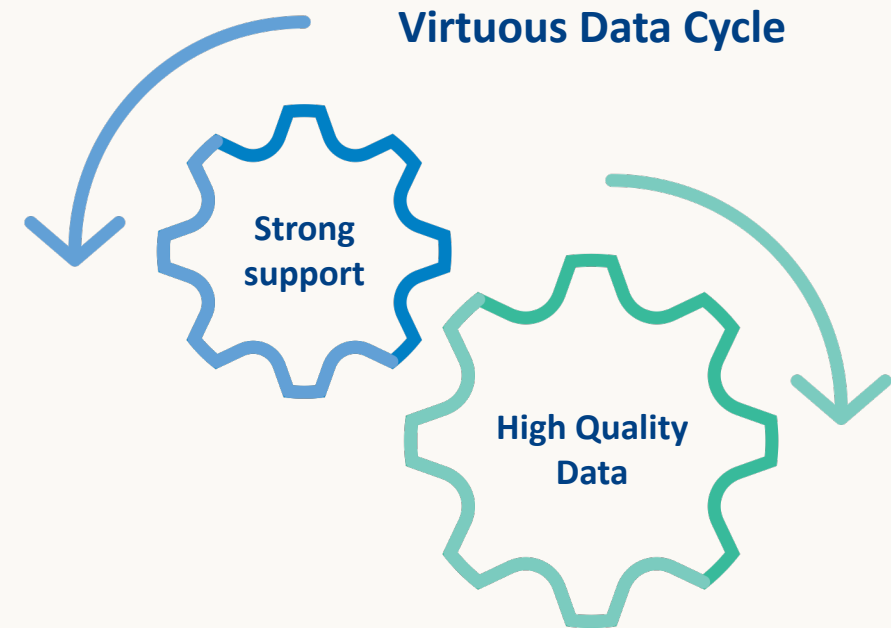
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- ▶ The [Global Alliance to Monitor Learning \(GAML\)](#) supports national strategies for learning assessments and creating globally comparable indicators and methodologies.
- ▶ Part of the work includes the [Global Coalition for Foundational Learning](#), the development of the [Policy Linking methodology](#) and the [Assessment for Minimum Proficiency Levels \(AMPL\)](#). Both tools are meant to facilitate monitoring of SDG 4.1.1 and produce reliable global benchmarks.
- ▶ **Rosetta Stone** is a methodological program for countries who seek to improve the global comparability of international large-scale assessments (ILSAs), offering strategies to feed ILSA results into SDG indicator 4.1.1.

# Fit-for-purpose Data Ecosystems

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- ▶ The sustainability of the education data ecosystem relies on a **country's commitment** and ability to **identify, produce, and analyze data themselves**.
- ▶ Extensive **utilization of data can trigger** a positive feedback loop, fostering **increased investment** and demand for data.
- ▶ Countries should strive to establish **sustainable 'fit-for-purpose' data ecosystems** that are rooted with national education policies and priorities.





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