



POLICY BRIEF

STRENGTHENING EDUCATION DATA SYSTEMS THROUGH
DECENTRALIZING AND ROUTINIZING EDUCATION DATA
MANAGEMENT AND USE

Commissioned by **Dr. Joyce Moriku Kaducu** on
23rd April, 2026, during the KIX-SEEDS End of Project
Convening at Golden Tulip Hotel, Kampala, Uganda.

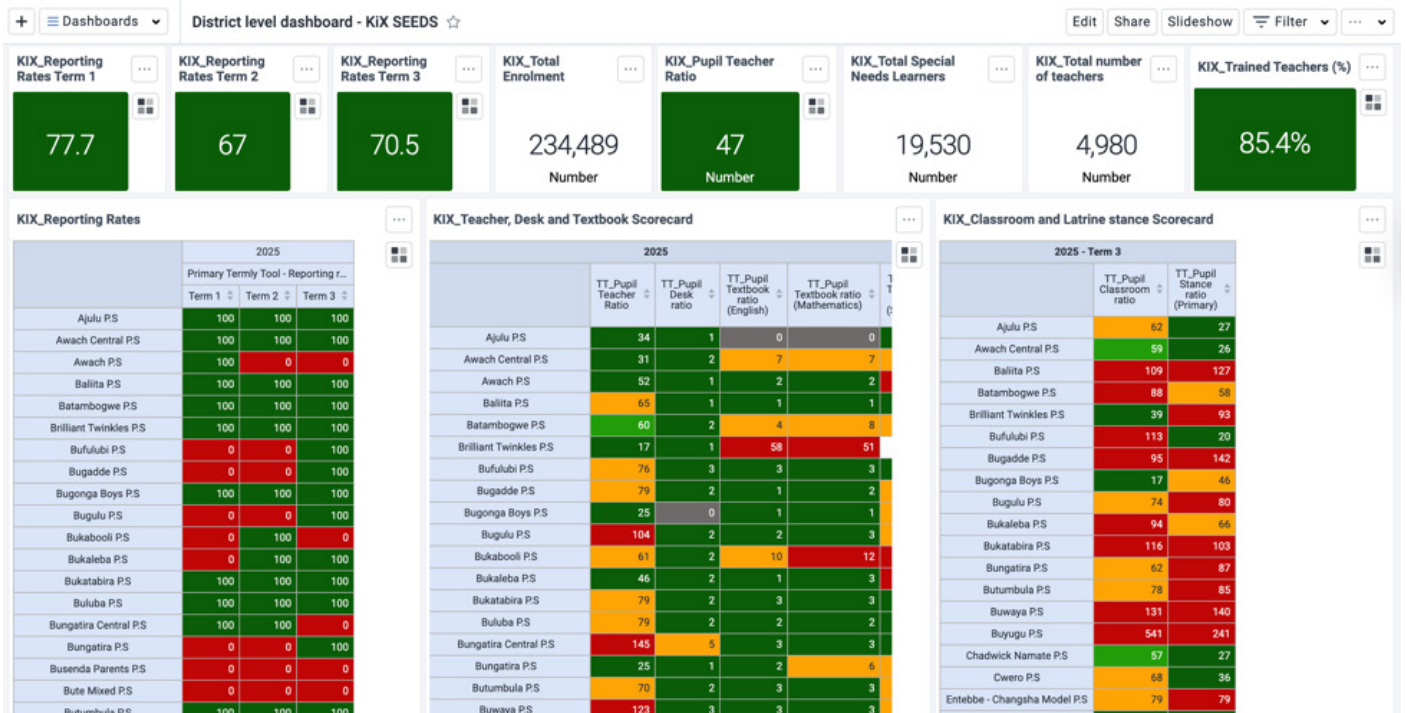
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Introduction

In line with Sustainable Development Goal (SDG) 4, data is critical for effective management of education systems and tracking progress toward education development goals. In Uganda, the Education Management Information System (EMIS) was adopted in 1993 to provide comprehensive, reliable, and timely data to inform evidence-based planning, monitoring, policy formulation, and decision-making across the sector¹. Despite significant investments in EMIS, gaps remain in the accuracy, completeness,

timeliness, and usability of education data, especially at the subnational level (district, school, and community levels). The EMIS Review Taskforce in 2017 found that the current EMIS suffered from poor data quality, delays in data collection and dissemination, and limited functionality and sustainability. These gaps motivate a need to develop tools that complement the national EMIS to provide timely, actionable insights to support planning, resource allocation, and accountability across all levels of the education system.

¹ MoES (2017), Ministry of Education and Sports EMIS Review Taskforce Report 2017: Concepts, Issues & Recommendations for Re-Engineering and Re-Development of Education Management Information System (EMIS)



Approach

The Termly School Report (TSR) was developed using the **DHIS2 for Education (DHIS2-Ed) platform** with support from ongoing participatory action research projects on strengthening education data systems in sub-Saharan Africa²³. DHIS2 is an open-source digital public good that extends the DHIS software platform, originally developed for the health sector, to the education sector for the collection, analysis, visualization, and use of education data. To date, DHIS2⁴ is used in over 100 LMICs to collect and visualize data across programs such as health, education, agriculture, and climate.

The TSR supports the collection of aggregated education data from multiple sources, including data on school profiles, enrollment, learner information, human resources, learners with special needs, sexual and reproductive health, infrastructure, school feeding, learner and teacher attendance, Water, Sanitation and Hygiene (WASH), and school governance. Through the ease of use, flexibility, and customizability of the DHIS2 for Education platform, the TSR provides easy access to comprehensive data for evidence-based decision-making at the national, district, and school levels.

The implementation of TSR was phased to enable co-creation and knowledge sharing in ten implementation sites (Gulu City, Gulu DLG, Mayuge DLG, Ntungamo DLG, Ntungamo MC, Entebbe MC, Kira MC, Nansana MC, Makindye Sabagabo MC, and Wakiso DLG), across four districts of Ntungamo, Gulu, Mayuge, and Wakiso. Following initial success, the Aga Khan Foundation supported scaling the TSR to three additional sites: Arua City, Arua DLG, and Yumbe DLG. Overall, since 2022, the TSR has supported termly data collection and use from 19,643 pre-primary and 16,766 primary schools in four districts in Uganda.

This policy brief highlights the transformative potential of the TSR in strengthening education data systems in Uganda, particularly at the district and school levels. It covers key findings from the implementation of the TSR and policy recommendations based on the findings. Evidence on the potential and success of implementing the TSR provides an opportunity to review and update policy and strategic frameworks to strengthen systems for managing education data in the sector.

² <https://education.dhis2.org/our-approach/research/>

³ <https://aphrc.org/publication/knowledge-innovation-exchange-strengthening-and-enhancing-education-data-systems-kix-seeds-factsheet/>

⁴ <https://dhis2.org/>

Key Findings

1. Routine termly data collection enhances decentralized decision-making

Educational data have been primarily collected annually through the Annual School Census, rendering them insufficient for routine decision-making. The processing and dissemination of data often takes several months, rendering it less useful for timely decision-making. Furthermore, gaps between census cycles, such as the period between the 2017 and the most recent 2025 censuses, have limited data availability⁵. As a result, district and school-level managers lacked timely data to respond to emerging issues, including attendance, staffing gaps, and resource needs.

The TSR has enabled more frequent data collection, providing timely information for district- and school-based evidence-based decision-making and proactive responses to challenges as they arise^{6,7}. At the district level, education managers shared their views of the TSR and its potential to empower them to take action on the go.

“Routine data collection through the termly tool has reduced tensions around teacher deployment. Previously, complaints about teacher transfers without replacement were common. Now, I use the data to calculate teacher-learner ratios—for example, allocating one teacher per 62 learners—and apply the formula consistently across schools. When concerns arise, we refer back to the current term’s data to justify decisions. This has improved transparency and trust among stakeholders, as decisions are now based on numbers. It has also enabled more timely, evidence-based decision-making, rather than waiting for annual data,” District Education Officer of Mayuge DLG.

⁵ MoES (2025), The Education Statistical Abstract 2025

⁶ <https://www.gpekix.org/blog/now-we-plan-confidence-enhancingFor,-decision-making-through-data-systems-uganda>

⁷ <https://education.dhis2.org/routine-data-collection-uganda/>

The above testimony of the District Education Officer shows that termly data collection provides routine, timely data to proactively address education sector challenges affecting her district and schools.

2. A Central data repository for education minimizes the fragmentation of datasets across levels

While the national EMIS collects and aggregates data on enrollment, teachers, and infrastructure, data on examination results, teacher effectiveness, and learner attendance (TELA) remain fragmented and stored in different systems, such as the Uganda National Examinations Board (UNEB) portal for examination results and the TELA system for teacher effectiveness and learner attendance data. On the other hand, there is limited information on school feeding, sexual and reproductive health, and WASH. These data gaps have led to ad hoc requests to districts and schools, increasing the reporting burden. These siloed data sources have limited interoperability and the ability to compare the effects of resources and processes on educational outcomes.

Using the DHIS2-Ed system, education stakeholders can access comprehensive data from a single central repository. The DHIS-Ed collates data from various datasets, including the Termly School Report (TSR), primary leaving examinations⁸, district partner mapping, School Health-Based Surveillance (SBS), the school feeding program, and population data. This provides a single point of reference, improving data coherence, reliability, and accessibility across all levels of the education system. The benefits of the DHIS2-Ed-enabled integration are exemplified by the testimony of the Makindye Sabaggabo IT Officer below.

Previously, local analysis was limited because the UNEB portal could not disaggregate results by division. We could see the municipality’s score, but not the specific performance of the three divisions. However, with the integration of the

⁸ <https://education.dhis2.org/red-line-vs-green-line-how-data-visualization-exposed-gap-in-mathematics/>

examination data into DHIS2, the Education Department was able to filter data by division. We can now compare academic outcomes and gender disparities across divisions instantly. This allows us to target resources where they are needed most, rather than applying a blanket solution. - IT Officer Makindye Sabaggabo

The screenshot below demonstrates the integration of examination results within the DHIS2-Ed platform.

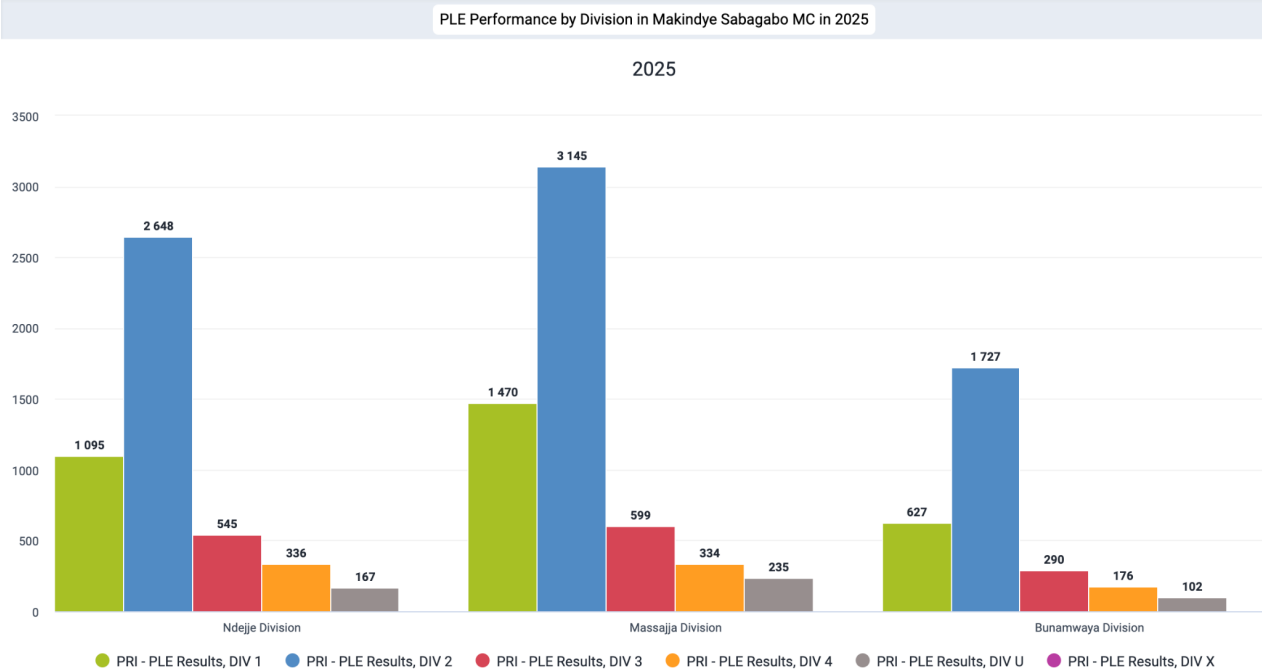


Figure 1: 2025 PLE Performance by Division in Makindye Sabagabo Municipality

This centralized data repository has also demonstrated the potential to enhance cross-sectoral synergies between the Ministry of Health (MoH) and other partners. For instance, the DHIS2-Ed system was linked to the MoH electronic Integrated Disease Surveillance Reporting (eIDSR) platform to ensure visibility and action on school-based surveillance indicators by both ministries.

3. Routine feedback mechanisms enhance data use at the school and community levels

Traditionally, data flowed upward from the schools -> districts -> ministry, with no feedback provided to schools and communities. This limited visibility reduces opportunities for

stakeholders such as School Management Committees (SMCs), parents, and other stakeholders to engage in school improvement processes. The TSR generates outputs, such as dashboards and School Report Cards (SRCs), that schools and communities can utilize. These outputs act as feedback mechanisms, promoting transparency, accountability, and meaningful data-driven community engagement in decision-making⁹. For example, the school report card below is a simple, non-technical, easy-to-interpret visualization that highlights school performance on key indicators such as school feeding, learner attendance, and teenage pregnancy in term 3 2025 for Gulu Public Primary School. The headteacher shared the following data use story on the headteachers' forum

⁹ Julie Kjørum-Røtne & Selma Elgsæther Haugland (2024) Data-Driven Community Engagement: An Action Case study of School Report Cards in Uganda.

In 2025, the school administration used the SRC to engage parents in supporting the school feeding program. Through this effort and continued parents' meetings, the school feeding program has expanded from 94 to 258 (out of 572) learners now receiving either hot meals at school or packed meals from home. The school has since observed improvements in learners' attendance, concentration, and discipline. This campaign is ongoing, with plans to scale meals to all learners in the 2026 academic year through stronger parental engagement and support - Headteacher, Gulu Public

Figure 2: Presentation of the School Report Card during a PTA meeting in Gulu Public Primary School

SCHOOL STATISTICS SUMMARY		INDICATOR STATISTICS			
Learner enrolment	605	Indicator (Standard)	School progress	School performance	District performance
SNE enrolment	38	Pupil teacher ratio (55 : 1)	Declining	Good	Good
Classrooms	18	Proportion of trained teachers (75% trained teachers)	Constant	Good	Good
English textbooks	385	Learners receiving at least one school meal per day	Improving	Low	Low
Returning child parents	0	Gender Parity Index for enrolment	Constant	Good	Good
Pregnant learners leaving school	1	Learner attendance rate	Improving	Low	Good
Learners that are chronically absent	74	Pupil to latrine stance ratio (40 : 1)	Improving	Good	Good
		Pupil to hand washing facility ratio (25 : 1)	Improving	Low	Low

COMPARISON TO NATIONAL STANDARDS		COMPARISON BETWEEN THIS AND LAST TERM	
Good	Average	N.D. No Data	Improving
Low		Constant	Declining



4. Strengthening capacity to manage and utilize education data at the subnational level requires a deliberate and sustained investment in people, systems, and an institutional culture.

While the Ministry of Education and Sports has invested in capacity building for education service providers at national and sub-national levels through the implementation of electronic tools, districts and school-level staff still have limited capacity to manage, analyze, and use data effectively. This limitation is due to both technical constraints and a lack of user-friendly tools to support data interpretation and use¹⁰.

Through periodic in-person trainings, webinars, and online and on-site support, district and school-level staff were equipped with practical skills in data collection, validation, analysis, interpretation, and use for planning and decision-making. In addition, the establishment of data use champions, who are motivated and ardent users of data, has promoted peer-to-peer learning and knowledge sharing across districts and schools. Beyond the technical training, the TSR simplifies data entry, visualization, and access through an intuitive end-user interface. By providing structured data and automated outputs, the TSR reduces the technical burden on users and strengthens their ability to interpret and use data for planning and management

¹⁰ Policy Brief (June 2025) Transforming Education Data Systems; Lessons from DHIS2 Implementation Across Five Countries



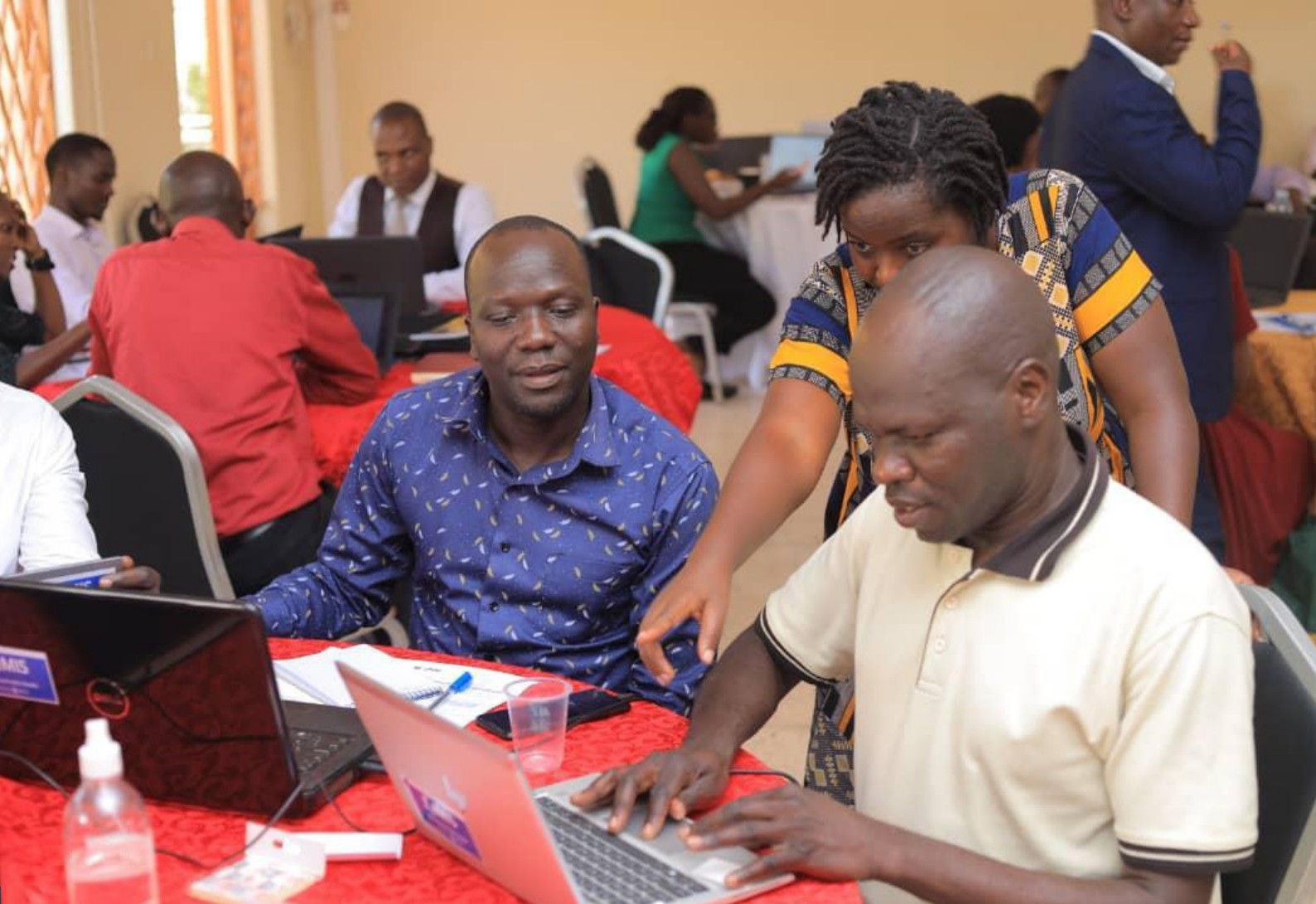


Figure 3: Capacity Building Activities

Overall, the TSR demonstrates strong potential to address longstanding gaps in routine education data systems. By enabling more timely and comprehensive data capture beyond basic enrollment figures, it supports better visibility on critical issues such as absenteeism, school feeding, sexual and reproductive health, and special needs. This, in turn, allows for more

equitable and informed planning and decision-making within the education sector. While challenges in adoption and consistent use remain, the tool represents a significant step toward strengthening EMIS by providing more reliable, timely, and actionable data for decision-making across all education levels.

Policy Recommendations

Based on the evidence observed from the implementation of the Termly School Report, we recommend the following:

1. Institutionalize Routine Termly Data Collection for Decision-Making

The Ministry of Education and Sports should institutionalize termly data collection at the basic and secondary education levels as a core component of the national EMIS, complementing the Annual School Census and individual-level data. While tools like the termly school report show strong potential, their impact depends on sustained adoption. The MoES should address challenges related to system use, data quality, and compliance to fully realize the benefits of education data systems. This also requires developing and integrating EMIS guidelines and standard operating procedures within the existing education policies.

2. Promote Data-Driven Planning and Resource Allocation

Education policies should formalize the use of routine data (e.g., teacher–learner ratios, attendance, and special-needs indicators) to guide planning, budgeting, and resource-allocation decisions. Using real-time data improves fairness, transparency, and efficiency in decision-making. It enables education managers to justify decisions with evidence, reducing stakeholder tensions and ensuring that resources are allocated based on actual needs rather than assumptions.

3. Establish and Maintain a Centralized Education Data Warehouse

The MoES should establish and maintain a centralized education data warehouse that integrates multiple education datasets and systems into a single platform. Integration of datasets such as examinations, attendance, school feeding, school health, special needs, and human resources management with the national EMIS enables comprehensive analysis, supports targeted interventions, and enhances cross-sectoral collaboration (e.g., health, gender and labor; water and environment)

4. Strengthen Feedback Mechanisms to Districts, Schools, and Communities

The MoES should institutionalize routine generation and dissemination of user-friendly data products, such as dashboards and School Report Cards, to districts, schools, and communities. Tools such as School Report Cards translate complex data into easy-to-understand formats, enabling parents, School Management Committees, and local stakeholders to actively participate in school improvement processes, enhancing transparency, accountability, and community engagement.

5. Invest in Capacity Building for Data Use at the Subnational Level

The MoES should implement a sustained capacity-building strategy focused on data literacy, analysis, and use among district and school-level staff. Effective data use requires more than access to systems; it depends on users' ability to interpret and apply data. Continuous training, mentorship, and the establishment of data-use champions can strengthen local capacity to adopt user-friendly digital tools such as the TSR, thereby reducing technical barriers and supporting the practical application of data in planning and management.

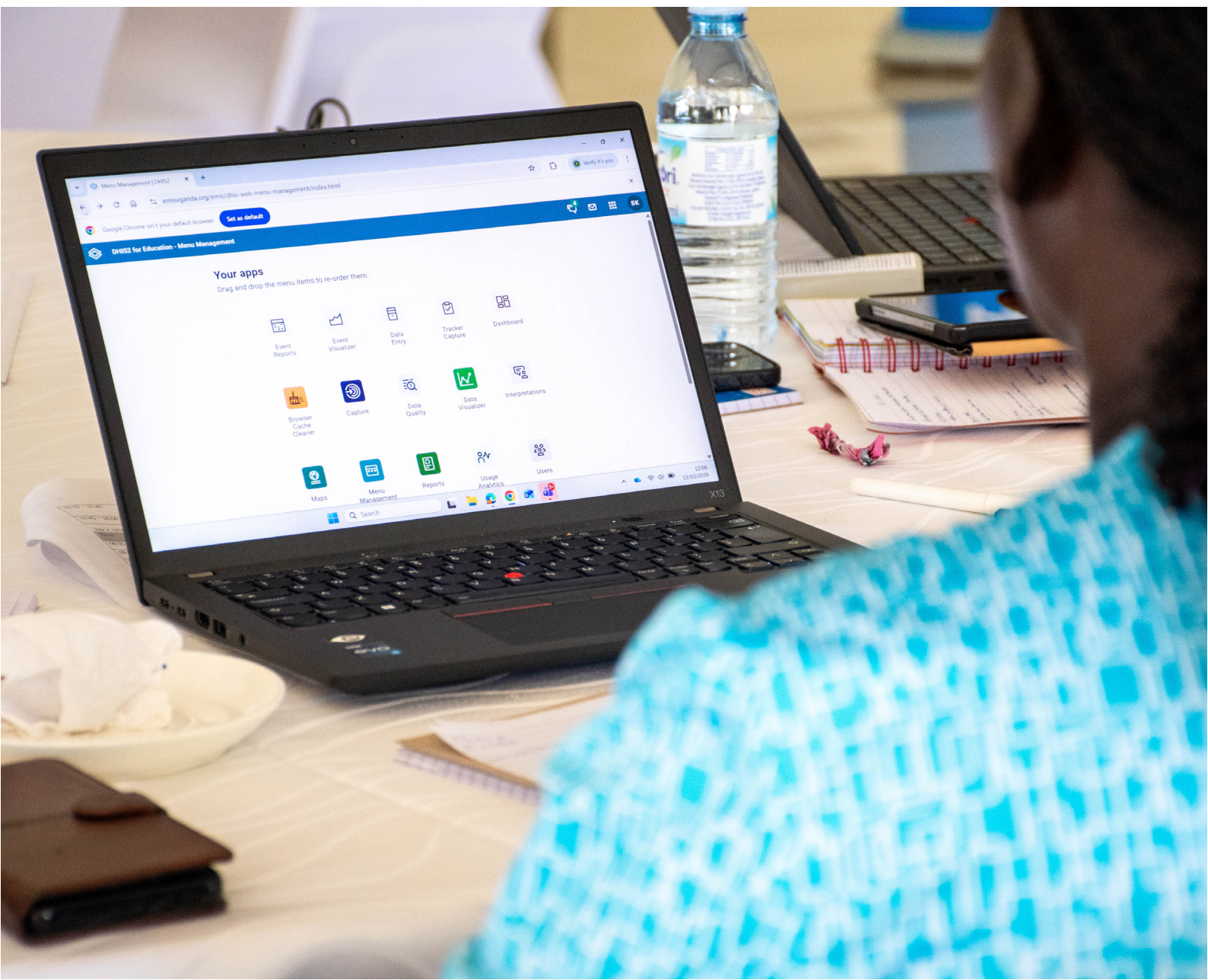
6. Human resources for data management at the subnational level

The MoES should consider recruiting additional data personnel responsible for data management and analysis at the district level to support the flow and use of data from schools to districts and up to the national level. Although several strides have been made in recruiting EMIS officers responsible for district clusters, the large number of schools still creates gaps in coverage. Additional resources are therefore needed to ensure that each local government or administrative unit has at least one EMIS officer.

These recommendations underscore the potential of decentralized education data management and use in improving education service delivery and learning outcomes.

References

1. MoES (2017), Ministry of Education and Sports EMIS Review Taskforce Report 2017: Concepts, Issues & Recommendations for Re-Engineering and Re-Development of Education Management Information System (EMIS)
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3. <https://aphrc.org/publication/knowledge-innovation-exchange-strengthening-and-enhancing-education-data-systems-kix-seeds-factsheet/>
4. <https://dhis2.org/>
5. MoES (2025), The Education Statistical Abstract 2025
6. <https://www.gpekix.org/blog/now-we-plan-confidence-enhancing-for-decision-making-through-data-systems-uganda>
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