

**unesco**International Institute  
for Capacity Building  
in Africa

# GPE-KIX Africa 19 Hub convenes a Community of Practice on Electronic Management Information Systems for Data Officers at Ministries of Education

[Webinar Meeting Report](#)[May 11, 18, and 25, 2021](#)[Microsoft teams](#)

## Context

### Introduction

The KIX Africa 19 Hub Secretariat convened a community of practice (CoP) to strengthen national education systems for innovative data usage and management. The first sessions of the CoP were held from May 11<sup>th</sup> to May 25<sup>th</sup> 2021 and were organized by the African Union (AU), in collaboration with UNESCO-IICBA. The CoP sessions included interactive capacity strengthening by technical experts and knowledge sharing among 30 Ministry of Education officers and other representatives from 15 countries to confront their challenges in gathering, managing, storing, and using education data (See Appendix 1 for list of participants). The countries represented were Eritrea, Ethiopia, The Gambia, Ghana, Kenya, Lesotho, Liberia, Malawi, Mozambique, Nigeria, Rwanda, Sierra Leone, Somalia (Somaliland and Puntland), South Sudan, Tanzania (mainland and Zanzibar), Uganda, Zambia, and Zimbabwe.

Mr. Mahama Ouedraogo, AU Director of Education, Science, Technology, and Innovation, commenced the community of practice by inviting H.E. Prof. Sarah Anyang Agbo, AU Commissioner of Human Resources, Science and Technology Division to share opening remarks. The Commissioner commented upon the thematic alignment between the CoP and the AU's Continental Education Strategy for Africa (CESA) 2016- 2025. The plan moves towards building coalitions of stakeholders to implement education transformation on the continent.

Dr. Yumiko Yokozeki, Director of UNESCO's International Institute for Capacity Building in Africa (IICBA), further welcomed participants by recognizing that the education management information systems (EMIS) CoP events were designed in response to KIX Africa 19 country partner feedback. A Ugandan Ministry of Education (MoE) official had previously expressed a "priority is to improve education data quality"<sup>1</sup> in a pre-session assessment on education data management systems (See Appendix 2 for EMIS priority areas). To conclude, Dr. Yokozeki shared her gratitude and appreciation of participants' willingness to accept the data challenge and to engage in fruitful discussions.

---

<sup>1</sup> [Education Data Management System \(EDMS\) survey responses from July 30, 2020](#)

---

## Main topics discussed

### Session 1: Developing national EMIS and learning assessment systems (LAS) (May 11<sup>th</sup>)

#### Topics and activities:

- Introduction to community of practice
- Learning assessment overview
- EMIS overview
- Best practices in education database management
- Evaluation of the first session

Technical experts initiated the session by sharing best practices for integrating learning assessment systems (LAS) in EMIS. Subsequently, participants discussed factors that limit and strengthen the inclusion of LAS datasets in their respective EMIS systems. For example, Leah Zinnah, the director of EMIS at the Ministry of Education in Liberia, requested for more information on safety measures for data collection and storage during discussions about the accessibility of an open source as a viable EMIS tool. According to a George Bester, an education systems specialist who co-facilitated the session, the transparency of open software exposes it to more scrutiny which can improve cybersecurity systems.

During plenary deliberations, attendees explored how to strengthen LAS role in decision making, discussing topics such as linkages between LAS and EMIS systems, methods of incorporating LAS into a single data management system of EMIS, and approaches to enhance the capacity of personnel and staff.

Following this, CoP co-organizer and AU Education Policy Officer Mr. Lukman Jaji engaged with participants to understand their capacity to use an online EMIS capacity assessment tool. Similarly, he gauged their willingness to use digital tools to submit and share data to the AU in the context of the global pandemic.

### Session 2: Applying national, regional, and international learning assessment data in school reforms (May 18<sup>th</sup>)

#### Topics and activities:

- Learning assessment trends and challenges
- Breakout rooms to discuss designing and implementing learning assessment objective
- Case study of International Comparable Assessment of Numeracy (ICAN)
- Evaluation of the second session

The second CoP session offered participants a chance to explore how national education systems could formulate a learning assessment objective which in turn could inform policymaking for school reform. Technical experts highlighted the ICAN as an effective tool of cross border assessment solutions. The consultants provided a framework to design an ICAN that could enable regional data comparisons of learning outcomes.

Following a brief evaluation exercise, participants collaboratively chose to prioritize the following policy areas for further CoP engagement: 1) developing a national EMIS strategy based on AU EMIS norms and standards; 2) building survey tools and questionnaires; and 3) improving data analysis and writing data-based evaluation reports.

### Session 3: Designing and implementing appropriate feedback mechanisms for schools following data analysis (May 25<sup>th</sup>)

#### Topics and activities:

- A case study of national assessment feedback to schools: South Africa
- Effective school feedback approaches

- 
- Case study of Uwezo approach
  - Open-source database integration platform and management
  - Evaluation of the third session

In the third CoP session, participants examined how results from national learning assessments were communicated to education stakeholders. Mr. Sam Otieno, the Program4Results monitoring, evaluation, research, and learning expert used a case study of South Africa to highlight how timely feedback, collaborative approaches and multi-layered analysis and ranking are significant to create EA feedback frameworks. In 2011, South Africa introduced annual national assessment (ANA) to improve learning outcomes that featured a two-tiered system for testing grade specific language and mathematics for grades 1-6 and 9. EMIS specialist Angela Arnott described the perceptions and constraints of teachers' use of assessment data. Amos Kaburu, a learning assessment specialist from the People's Action for Learning Network, described feed approaches for periodic sample-based assessments and full cohort assessment. The iterations of the feedback model illustrated the importance for schools/teachers to use data efficiently and for understanding school perceptions of the use of national data.

Engaging over [Jamboard, an online collaborative tool](#), Paul Njuguna, a senior economist at the Kenyan Examinations Council, remarked that, "the assessments are meant to inform the education sector players (teachers, parents, Ministry of Education, etc.) on performance, challenges and guide in policy formulation." Furthermore, Sulemana Yusif, a statistician and monitoring and evaluation officer from the Girls Education Unit in the Ministry of Education in Ghana, recommended employing "very local community information sharing systems" such as "miniature radio station, amplifiers, and speakers used to pass information" to ensure better management of data at school levels.

The first three CoP sessions closed with technical experts presenting various innovative database management resources that country representatives could access. EMIS tools such as [Tibco](#) could collectively strengthen ministry officers' capacities to address the challenge of data in their contexts. Summarizing the experience, Muranda Phaniel Masimba, an education inspector at the Ministry of Primary and Secondary Education in Zimbabwe, noted the sessions were, "quite informative and helpful" and that "the knowledge...will go a long way in assisting us as Ministry to improve our EMIS and LAS systems." Maryann Dreas-Shaikha, KIX Africa 19 Secretariat team leader, thanked attendees for their participation and reiterated KIX's commitment to use its knowledge and expertise to address common areas of concern with country partners.

## Evaluations of the virtual sessions

The evaluations were designed and implemented in coordination with technical partners from Program4Results and representatives from the African Union:

### CoP Evaluation

When surveyed on their receptiveness and interest in the community of practice, 94% of participants indicated they would intend to participate in a CoP platform (Appendix 3) with 71% indicating they highly like the idea of CoPs (See Appendix 4). On the content of the CoP, 100% of participants who responded indicated that the sessions either exceeded or matched their expectations (Appendix 5). 88% of respondents indicated that they found break out rooms highly effective with 13% finding them just effective (Appendix 6). 60% of respondents had participated in all three sessions with 40% participating in two sessions (Appendix 7). On a scale of 1-5 measuring how applicable the sessions were to attendee's work; the majority of participants rated the sessions applicable and highly applicable, or between 4-5 (Appendix 8).

Generally, participants identified the following as activities that that were useful during the CoP:

- Use of the Jamboard during group work
- The training on learning assessment development, implementation, and feedback
- Learning from other countries
- Information on open-source data management solutions
- The use of technology in polling/evaluations

Participants identified the following as activities to consider for subsequent CoP:

- 
- Need to include more education sector players in each of the participating countries.
  - More break-out sessions to create more time for discussion and sharing.
  - More exchange programs between countries to share best practices.
  - Focus on strengthening the countries on the utilization of data.
  - More use of Jamboard to enhance participation.
  - Review timing of the sessions as the current timing coincided with lunch time
  - More sessions on the different aspects of EMIS.

### Capacity to develop national EMIS action plans evaluation

- The KIX Data Challenge learning events can provide a sound foundation for the engagement of member states to become aware of the possible use of technology tools to support the necessary processes needed to ensure national EMIS systems are integrated. As expressed in the KIX EMIS Assessment Survey (May 2020), the lack of the right infrastructure/facilities to support an integrated EMIS was a top priority for all surveyed countries. During the KIX Data Challenge sessions, member states reported the following:
- 6 countries reported they have standalone database systems while one had a manual/Excel-based system; 3 countries did not respond with information.
- 6 countries had some form of database backups (offsite/cloud) while one country reported using a USB hard drive for backups while one country reported having no backup system at all. Views expressed by member states in terms of their technology development needs for the COP during the sessions were to build and secure cloud system for online/offline data collection and to agree on data entity relationships for the creation of a data warehouse

### Recommendations

The recommendations have been identified and proposed in coordination with technical partners from Program4Results and representatives from the African Union:

#### LAS development

In session two there was discussion on how to either improve or introduce LAS, either periodic or census-based surveys, as a key strategy to address the quality, efficiency, and accountability of the education system by the Ministries of Education. Participants were made aware that to be effective in this regard, it is critical to ensure national and regional policy articulation with SDG 4.1.1a (UNESCO's Institute of Statistics minimum proficiency strategy), to strengthen assessment agencies at the national level, to make decisions on funding levels and to define the utilization of the LAS data for transformation of school effectiveness.

#### National entry points for Member States on LAS

Some possible strategies raised during the sessions to fast-track a Ministry's engagement on improving or introducing a learning assessment system could consider the following:

- Adopt cross-border (cost-effective) implementation strategies to accelerate the policy/practice dilemma in resource-constrained environments.
- Create and promote cross country learning agenda to increase rigor and monitor cross-country learning problems (i.e., foundational literacy and numeracy, life skills and values)
- Consider using established cross border tests such as the International Comparable Assessment of Numeracy (ICAN - see Session 2) which has been designed to align to the UIS targets and monitoring 22 frameworks. LAS should respond to the inherent issue of data comparability, tell a regional and international story where questions go beyond national geographies.

#### The Role of EMIS supporting Learning Assessment System (LAS) data

Session participants' shared views on how EMIS could be strengthened to include LAS for more-informed decision making and improved education delivery. Several propositions emerged including the following:

- Inclusion of key indicators and components in EMIS to accommodate LAS data. A number of education sector plans are missing learning outcome targets which then affects the indicators reported upon by EMIS and monitored at the local levels.

- 
- Incorporating LAS into a single data management system of EMIS, ideally a data warehouse with dashboards indicating the learning outcomes by region, gender and level. The KIX Community of Practice offers an opportunity to support Ministries wanting to create an EMIS and LAS data warehouse.
  - Building support and political goodwill at the highest levels to take on the challenge of developing national LAS systems where they do not exist and to ensure its inclusion and utilization in EMIS.

### National entry points for Member States on EMIS

In terms of benchmarking member states' capacities and ensuring that they have a roadmap to follow in addressing challenges, it is highly recommended that member states evaluate themselves in terms of the African Union EMIS Norms and Standards Assessment Framework (endorsed by SADC, EAC and ECOWAS Ministers between 2009-2012). The following suggestions are proposed:

- Allow each Regional Economic Communities Education Desk to review and update their regional EMIS Norms and Standards Assessment Frameworks with EMIS experts from their member states in the light of the changed context of the past decade
- Pilot the revised regional EMIS assessment framework in at least one member state in each region and finalize the instrument for the region.
- Support the implementation of all 18 member states assessment of their EMIS standards against these international norms (borrowed from best practice internationally including EDQAF norms on data quality)
- Provide either peer support from other member states or external assistance where funds are available to assist member states in either evaluation of their capacities or complementing them with technical assistance.

By maintaining and sustaining a Data Challenge Community of Practice across time, KIX will be able to support member states working towards integrated learner focused national EMIS systems. However, considerable effort and coordination must be invested into the community of practice to ensure that there is genuine sharing and knowledge exchange on innovative and sustainable practices that address the challenges of transforming education systems to deliver quality learning for all.

## Appendix 1: Attendee information for all three CoP sessions

Country	Institution	Role	Gender	Session 1	Session 2	Session 3	Total
Burkina	Consultant	consultant	M	1	1		2
DRC	Africa-Union IPED	Director	M		1	1	2
DRC	Africa-Union IPED	Program Officer	M	1	1	1	3
Eritrea	UNICEF	Education Officer	M	1		1	2
Ethiopia	Ministry of Education	EMIS Director	M	1	1		2
Ethiopia	Ministry of Education	GPE Focal Point	M	1			1
Ethiopia	Unesco	Director	F	1			1
Ethiopia	Unesco	KIX Focal Point	F	1	1	1	3
Ethiopia	Unesco	KIX Team Leader	F	1	1	1	3
Ethiopia	Unesco	KIX MERL	F	1	1	1	3
Ethiopia	Unesco	Finance	F	1	1	1	3
Ghana	Ministry of Education	Development Partners Coordinator	M	1	1		2
Ghana	Ministry of Education	KIX Focal Point	F	1			1
Ghana	Ministry of Education	Statistician And M&E Programme Officer	F	1	1	1	3
Kenya	Ministry of Education	KIX Focal Point	M	1			1
Kenya	Ministry of Education	Senior Economist Exams Council	M	1	1	1	3
Kenya	Program4results	LAS Expert	M	1	1	1	3
Kenya	Program4results	P4R MERL	M	1			1
Lesotho	Ministry of Education	Chief Statistician	F		1	1	2
Lesotho	Ministry of Education	GPE and KIX Focal Point	M	1			1
Lesotho	Ministry of Education	Senior Data Administrator	F		1	1	2
Liberia	Ministry of Education	Director Of EMIS	F	1	1	1	3
Malawi	Ministry of Education	Education Division Manager	M		1	1	2
Malawi	Unesco	National Officer	M	1			1
Nigeria	Ministry of Education	EMIS Officer	M	1	1		2
Nigeria	Unesco	Head of Education	M	1			1
Sierra Leone	Ministry of Education	Director of Technology and Innovation	M	1	1		2
Sierra Leone	Ministry of Education	Director, Planning & Policy	F			1	1
Sierra Leone	Ministry of Education	GPE Focal Point	F	1			1
South Africa	Program4results	Database Expert	M		1	1	2
South Africa	Program4results	Team Leader	F		1	1	2
South Sudan	Ministry of Education	Data Administrator	M	1	1		2
South Sudan	Ministry of Education	Kix Focal Point	M		1	1	2

---

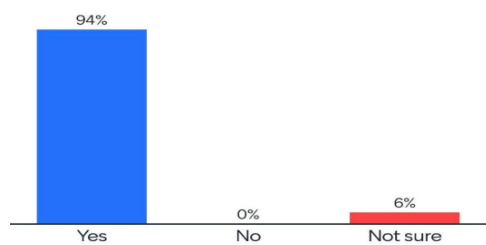
South Sudan	Ministry of Education	Senior Inspector	M		1		1
Tanzania	Ministry of Education	Senior ICT Data Officer	M		1	1	2
The Gambia	Ministry of Education	GPE Focal Point	F	1			1
The Gambia	Ministry of Education	Head Monitoring and Evaluation	M	1			1
The Gambia	Ministry of Education	Head of EMIS	M		1	1	2
Tunisia	Teach for All	Director	M		1		1
Uganda	Unesco	National Officer	M	1	1		2
Zambia	Ministry of Education	Assistant Director	M	1		1	2
Zambia	Ministry of Education	Senior Planner	M	1			1
Zimbabwe	Ministry of Education	Monitoring And Evaluation Officer	M		1	1	2
Zimbabwe	Ministry of Education	Planning And Statistics Officer	F		1	1	2
Zimbabwe	Ministry of Education	Research Officer	M	1		1	2
Total				31	29	24	84

## Appendix 2: KIX Africa 19 Member State EMIS priorities for capacity building (May 2020)

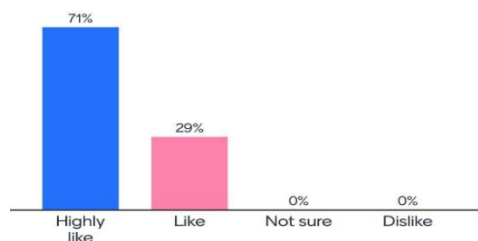
Description	% Member State Response to EMIS Needs
Training on Education Data Quality Assurance Framework(EDQAF)	100%
Training on educational planning and projection techniques	90%
Training on software applications for data analysis and filtering	90%
Training on research methods and report writing skills	70%
Training on education indicators	60%
Training on education data quality management system and data security	60%
Training on data security	60%
Training on monitoring and evaluation skills	50%

n=10 countries

## Appendix 3: Do you intend to log in and participate in CoP?



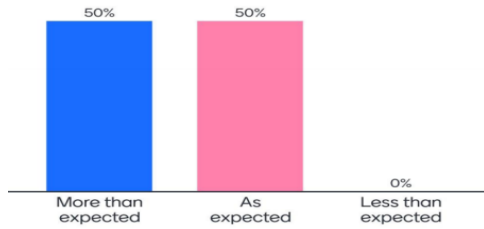
## Appendix 4: How much do you like the idea of a CoP?



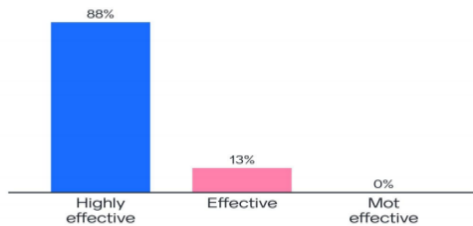


---

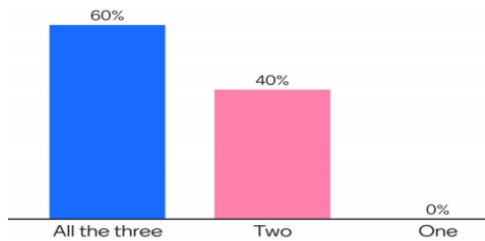
**Appendix 5: To what expectations did this seminar meet your expectations ?**



**Appendix 6: How effective did you find the break-out session?**



**Appendix 7: How many of these seminars did you attend?**



**Appendix 8: On a scale of 1-5\* how applicable are the seminars to your work**

\*1 = Least applicable, 5= Highly applicable

