UGANDA DHIS2 FOR EMIS: PILOT IN GULU AND MAYUGE DISTRICT

ASSESSMENT REPORT
March 2020

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EXECUTIVE SUMMARY

In March 2019, The Ministry of Education and Sports (MOES) basic education department, initiated a two district pilot of DHIS2 for Education Management Information system (EMIS) in collaboration with Save the Children, Health Information Systems Program (HISP) Uganda, University of Oslo with funding from the Norwegian Agency for Development Cooperation (NORAD). The DHIS2 open source software, used globally for management of health information, in low and middle income countries, and currently used in Uganda by the Ministry of Health (MoH) for reporting HMIS data from over 138 districts, was configured and deployed at Gulu District Local Government, Gulu Municipality and Mayuge District to support collection, capture, validation and analysis of key education data from primary and pre-primary schools.

The pilot phase started in January 2019 with different activities such as; stakeholder engagements, requirements gathering at district and school level, customisation/configuration of DHIS2 to capture EMIS data, end user trainings on data entry, data validation, analysis, presentation and use for MoES central level staff, district education teams, district planners, biostatisticians, and support supervisions. The pilot districts entered EMIS data, collected on the annual statistical forms for the three consecutive years 2016, 2017, 2018 into the DHIS2-EMIS. Other data points included; performance results from the Primary Leaving Examinations (PLE) and population data that were imported into the system and based on this, indicators were created and used for analysis. District dashboards created to present different education indicators like gross enrollment, teacher to pupil ratios, reporting rates, performance index, pass rates in visualised tools like chats, pivot tables, graphs and maps to support district leadership in planning and decision making.

This assessment of the DHIS2-EMIS pilot was conducted between 24th February 2020 and 10th March 2020 in all the three implementation sites and was conducted by the University of Oslo in partnership with Health Information Systems Program (HISP) Uganda, Ministry of Education and Sports (MoES) and Save the Children Uganda. The overall objective of the assessment was to assess the Ministry of Education and Sports and district capacity and readiness to utilise and maintain the DHIS2 for EMIS and document lessons learnt from the pilot to inform plans for scale up to other districts.

The assessment methodology included key informant interviews with MoES, the district education team, district leadership and school administrators. Focus group discussions with school administrators and members of the school management sument committee were conducted to understand the process of data management, reporting and data utilization at school level. Primary sources of EMIS data were also reviewed to validate data collected in the annual statistical forms and entered into DHIS-EMIS.

Findings from the assessment indicate that overall, the DHIS2-EMIS pilot has had a positive outcome with buy-in from the MoES central level and improved management and use of education data in the pilot districts. The MoES central level leadership, through overall guidance and stewardship, is committed to support the implementation of DHIS2-EMIS, which is in line with the Education Sector Strategic Plan FY 2017/2020 "To Strengthen the Education Management and Information System (EMIS) to collect and process more accurate and timely data for use by decision-makers."

Through training and support supervision conducted during the pilot, the districts are now empowered to collect, enter, validate, present and use data from DHIS2-EMIS to inform decision making. The synergy between the health and education department has eased implementation of DHIS2-EMIS through continuous support of the education team by the district biostatisticians and HMIS focal persons in use of DHIS2.

Data from DHIS2-EMIS has been used by the districts as a basis for decision making; in distribution of desks, allocation of teachers, building new latrine stances and classroom blocks. In addition, data from DHIS2-EMIS was used to guide planning and budgeting, allocation of resources for vaccination and other health programs in schools. Data availability at district level allows for informed decision making and removes bias during resource allocation. Resource allocation was previously influenced by politicians, however, it is now guided by data from the DHIS2-EMIS at the districts.

📷 Assessment team together with the Gulu district education team at Gulu Primary School.

Although there has been increased use of data in DHIS2-EMIS, several issues that affect the quality of data submitted were noted; limited capacity of some school administrators to fill in the EMIS forms, intentional submission of incorrect data by private schools in mythical fear of government taxes and other sanctions, socio-economic factors such as need for pupils to support their parents in cultivation and other income generating activities causing fluctuations in pupil enrollment. In order to improve the quality of data submitted, there is a great need of reorientation of head teachers on the filling of the EMIS form, sensitisation on best practices for improved data quality and vigorous inspection and validation of submitted data by the inspectors of schools.

General challenges in the primary education sector were noted and these include; low reporting rates in private schools given that reporting is neither tagged to direct incentives such as capitation grants or sanctions, lack of timely and reliable data for licencing and registration of private schools, reporting of underaged pupils in government schools to obtain higher capitation grants,

lack of uniform primary data tools in schools, failure to track dropouts due to lack of unique pupil identifiers, power outages that affect use of DHIS2-EMIS, allocation of resources by MoES using outdated data and limited MoES feedback to districts on EMIS data submitted.

The pilot in Gulu and Mayuge district has given valuable insight to further scaling in Uganda and other countries and recommends; overall stewardship and guidance by MoES, broader stakeholder engagement, sensitization and buy-in, resource mobilization through coordination and harmonization of partners/donors towards support of DHIS2-EMIS, development of an EMIS policy to streamline data collection and reporting in both government and private schools, capacity building for MoES and districts to maintain and use DHIS2-EMIS, intensified support supervision to improve reporting and data quality by school inspectors, explore existing linkages in the health and education sector, promote utilization of data for allocation of resources, informed decision making and provision of timely feedback.

INTRODUCTION

The Uganda education sector aims at achieving the SDG4; ensure inclusive, equitable quality education and promote lifelong learning opportunities for all. This has been faced with numerous challenges due to lack of timely and quality education data. Despite the presidential policy on introduction of free education for all in primary and secondary school that led to the establishment of universal primary Education (UPE) and Universal secondary education (USE) to ensure that all children have access to learning, the education sector is still faced with challenges of poor school infrastructure, high levels of under age enrollment, high school dropout rates, high refugee influx, high student/pupil to teacher ratio and classroom to pupil ratio, limited resources with high political interests in resource allocation at districts and lack of an EMIS policy on proper reporting and data management in the country.

In order to enhance the management capacity of the education sector in the areas of planning, budgeting, policy development and Monitoring and Evaluation, an Education Management Information System (EMIS) was conceived as part of the Uganda Ministry of Education and Sports Primary Education Reform Program (PERP) in 1993. EMIS was conceived as an ICT management tool that "integrates people, technology and practices in the process of collecting, capturing and processing data from different sources to generate information to aid informed decision making at all levels of the education and sports sector". EMIS is expected to maintain management data on Key Performance Indicators of the sector including data in institutions, teachers, pupils, infrastructure (school module), finances and audit (finance module) and school inspection. It was also conceptualized to be sector wide and decentralized to district level.

The MoES adopted a computer-based automated solution using the ED-ASSIST software as an EMIS but this was heavily biased towards the education statistics module and lacked an interface with the Uganda National Examination Board (UNEB) in charge of examination results from primary leaving examinations, Uganda certificate of education and Uganda advanced certificate of Education. In addition, the personnel module was never operationalized and the system was limited in its single-year design, unable to provide multi-year reporting and longitudinal analysis and was only accessed for use via the intranet. This led to the design of a new EMIS solution, in 2008, as an integrated solution to enable all stakeholders at MoES to access management information via the Local Area Network (LAN) and link data between MoES and districts. Currently, at MoES the Agile EMIS is accessed by the ministry headquarters through LAN and its access is limited (i.e. to only departments connected to the Ministry's Local Area Network), remaining inaccessible

to districts and all affiliate organizations under MoES. At district level, a Decentralized Education Management Information System (DEMIS) was designed and installed in selected districts and municipalities but lacked linkage to the national system with limited funding for maintenance and support. This left the MoES planning unit with the option of a centralised EMIS where data is collected using the annual statistical form from schools and entered into EMIS at MoES headquarters.

The Annual Schools Census (ASC) is a comprehensive collection of basic (i.e. enrolment, learner characteristics, teacher details, infrastructure, etc.) educational data for all levels of the education system (i.e. Pre- Primary, Primary, Secondary, Post Primary, BTVET, and Tertiary) a copy is left at the school, another at the district and the final copy taken to the national MoES headquarters where data is entered and analysed using SQL and excel, annual statistical abstracts on data from the census are published on the MoES website and a few copies distributed to schools .

This centralized management of data creates challenges of; work overload due to entry of large volumes of data, limited capacity to conduct data verification/validation from the source, failure to follow up non reporting schools, delay in dissemination of reports and further limits ownership and utilization of data at district and school level. Whereas, the MoES uses statistics from the annual school census for resource planning and allocation, the annual school census was last conducted in 2017. Lack of up to date data for planning has led to insufficiency in resources allocated to districts and schools.

It is against this background that HISP Uganda team with support from Save the children Uganda and University of Oslo are piloting the use of DHIS2 aproven innovation in management of health data as an education management information system in Uganda.

OVERVIEW OF THE DHIS2 EMIS PILOT

In January 2019, the Ministry of Education and Sports Basic Education Department with support from the Norwegian Agency for Development Cooperation(NORAD) through the University of Oslo, Health information systems program Uganda and Save the Children Uganda, started piloting the use of DHIS2 for Education management Information system (EMIS) in the two districts of Gulu and Mayuge. The pilot aimed at building capacity of; MoES central level staff to sustainably manage, maintain and use the DHIS2-EMIS, the district leadership and education team to collect, enter, validate, analyze and use EMIS data to monitor key education indicators, guide decision making, prioritization and allocation of resources. Results from the pilot would also help to evaluate the potential scale up and use of the system at national level and across all districts.

Following a requirements gathering process, the annual school census forms for both primary and pre-primary were customized into DHIS2. The districts were set up with hardware including laptops, desktops, uninterrupted power supply (UPS) and internet routers to support online data entry and analysis.

In June 2019, district entry meetings were held in Gulu and Mayuge to obtain buy-in from the districts. In July 2019, capacity building was done for both central level MoES and district education teams including district education officers, inspectors of schools, district planners, data entry volunteers, biostatisticians and education officers. The five-day training aimed at equipping MoES and district staff on system navigation, data entry, validation and analysis using inbuilt DHIS2 tools like pivot tables, charts and maps.

Following the capacity building training, the pilot districts collected 2018 annual statistical data for both primary and pre-primary schools. In addition, data from the previously conducted 2016 and 2017 annual school census was entered into the DHIS2 - EMIS. In October 2019, an end user training on data analysis, presentation and use was conducted to support use of data for analysis, presentation and adaptation of the best practices on utilisation of data for planning. District level dashboards were created to show key performance indicators such as gross enrollments, reporting rates, teacher to pupil ratio, pupil to classroom ratio, pupil to toilet stance ratio. Primary leaving examination results from the Uganda national examination board (UNEB) were imported into the system and used to calculate the performance index and pass rate. Districts were further supported through quarterly support supervision by HISP Uganda, Save the Children and MoES central level staff. In November 2019, an exchange learning visit that included teams from the Ministry of Education Gambia, MoES Uganda, University of Oslo, Save the Children

Norway, Save the Children Uganda and HISP Uganda was conducted in Uganda to share experiences and lessons learnt in implementation of DHIS2-EMIS in Uganda and the Gambia.

In February an assessment visit to the pilot districts was planned with the aim of documenting achievements, challenges, recommendations, and lessons learnt, from the implementation of DHIS2 for Education in Uganda. Results from the pilot would also inform the scale-up and use of DHIS2 for EMIS to other districts in Uganda, countries in the region and beyond. The assessment was conducted from February 24th-28th in Gulu and March 8th -10th in Mayuge district.

ASSESSMENT OBJECTIVES
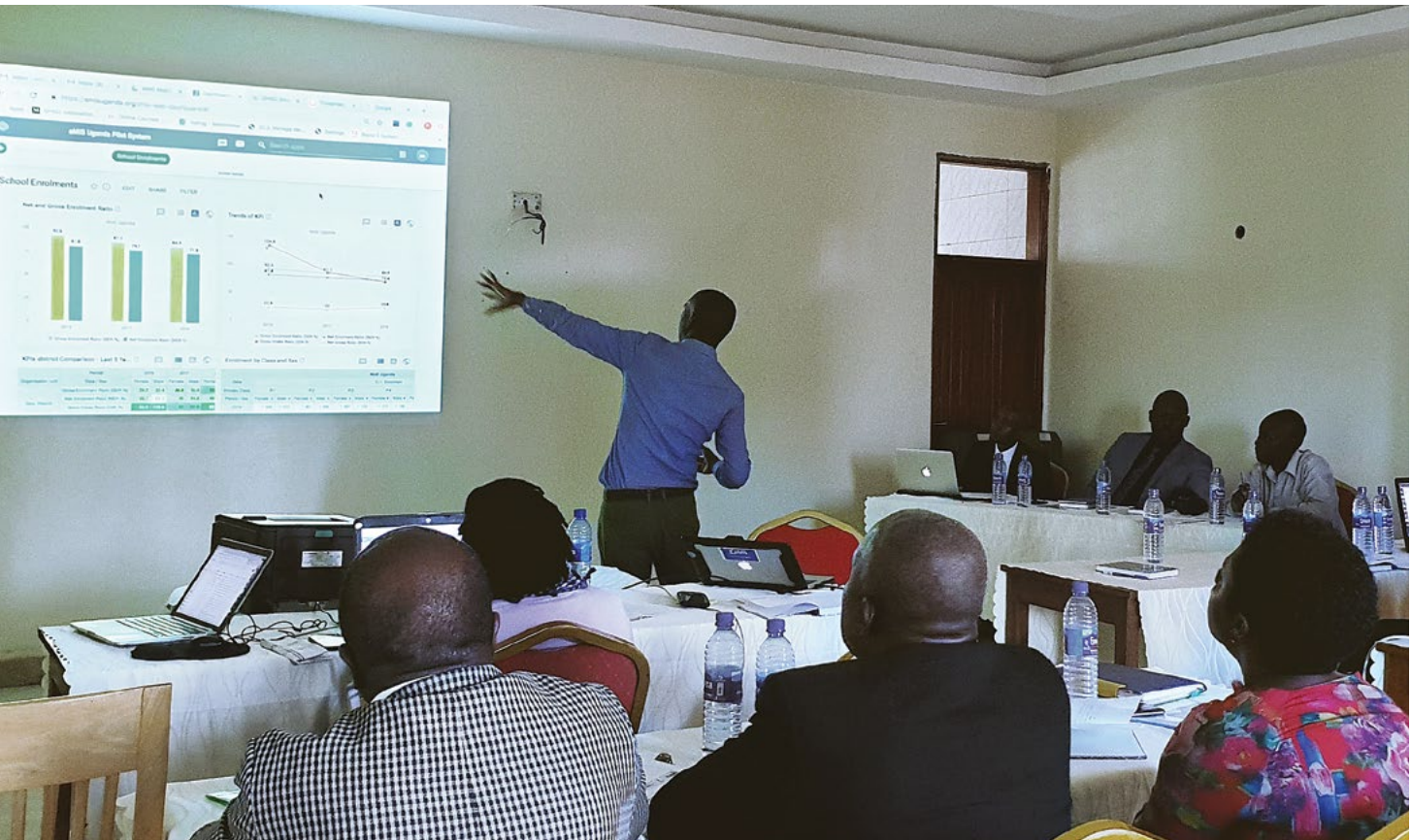
The overall objective of this activity was to assess the Ministry of Education and Sports and district capacity to utilise and maintain the DHIS2 for EMIS. The specific objectives were to:

❶ To assess the capacity of the national level MoES to maintain and provide DHIS2-EMIS technical support to the district

❷ To assess the capacity of the district to use the DHIS2-EMIS for data capture, validation, analysis and presentation.

❸ To assess the district utilisation of DHIS2-EMIS data for evidence-based planning and management.

❹ To assess the quality of data collected and entered into the DHIS2-EMIS.

❺ To document the DHIS2-EMIS project achievements, lessons learnt and challenges.

❻ To identify recommendations for scale up of DHIS2-EMIS in other districts.

❼ To document the costs of implementing DHIS2 for EMIS at the district level.

ASSESSMENT METHODOLOGY

📷 Commissioner Basic Education Department, MoES shares with the Assessment Team the importance of timely and reliable data in the education sector.

The methodology employed included key informant interviews, focus group discussions and document review.

Interviews

The assessment team consisted of officials from the MoES, HISP Uganda, University of Oslo and Save the Children Uganda. This team was led by the MoES education officer who introduced the rest of the team members to the district leadership and education team and who also briefed respondents on the purpose and objectives of the assessment.. Interview guides were designed to guide the assessment team during the one on one interviews with key informants from national, district and school level. For ease of transcribing, all the interviews conducted were recorded using a voice recorder. In addition to the main interviews, the assessment team sought informed consent from the Gulu district planner, the district and municipal education officers, and municipality data clerk to

conduct short video interviews which will be shared with the large global DHIS2 community and other EMIS stakeholders.

At the national level, the team interviewed the Commissioner, Assistant Commissioner, Senior Education Officer, Education Officer from the basic education department and a Statistician from the education planning and policy analysis department. At the district level, the team interviewed the district education officers, district planners, inspector of schools and data entry volunteers while at school level, head teachers from seven (7) schools with both pre-primary and primary section were selected and interviewed, these included government reporting, private reporting and private non-reporting schools; Emmanuel primary school, Gulu demonstration primary school, Adonai primary school in Gulu local government; Mother Luden primary school, Gulu primary school in Gulu Municipality; Jaguzi island primary school and Bwondha primary school in Mayuge district.

📷 Focus group discussion with head teachers from both private and government schools at Mayuge district.

Focus group discussions

In Gulu district, a focus group discussion was conducted at the Gulu district headquarters with 20 participants while in Mayuge district 19 participants took part. These focus group discussions consisted of school head teachers/administrators, members of the school management committees, representatives of private schools and inspectors of schools.

In Gulu, the participants were divided into four groups of five where each team was tasked to discuss questions/topics on; type of data collect at school level, the process of data collection clearly identifying the data sources and tools , data use practices at school level, types of reports generated from the data collected, frequency of reporting and feedback received from the MoES and district. The teams later presented their group discussion to the rest of the teams and the presentations were open to questions and answers for clarification and feedback .

In Mayuge, the FGD was conducted in the open space of the district compound and the group was led by the assessment team to discuss and present their views and recommendations on the key guiding questions/topics.

Document Review

The team reviewed reports and meeting minutes prepared and submitted by the district and school administrators to various stakeholders such as school management committees and technical planning committees. This was done to understand the extent of data use at district and school level. Data quality checks were also carried out to verify whether the data from the primary sources such as; school registers; admission books, inventory books tallied with what was recorded in the annual statistical forms and the DHIS2-EMIS. Using observation methods, the team assessed functionality of the existing hardware at the districts, reviewed dashboards in the system as well as summaries displayed on notice boards.

The assessment team members took individual notes and the team had debrief sessions at the end of each day to discuss key findings and identify areas that needed improvement.

The above methodology was adopted in the two districts to support the team in comparing the implementation strategy and the capacity on data management and use so far built in the two districts.

FINDINGS

Capacity of the national level MoES to maintain and provide DHIS2-EMIS technical support to the district

To assess the capacity of the national level MoES to maintain and provide DHIS2-EMIS technical support the team interviewed MoES central level staff that have been involved in the implementation of the DHIS2-EMIS pilot. The officials interviewed included the commissioner basic education, assistant commissioner, senior education officer, education officer and statistician at MoES.

It was noted that the MoES has not carried out an annual school census since 2017 which has created a huge data gap given that the ministry relies on data from the annual school census for planning and resource allocation to districts and schools. At the time of the pilot assessment, MoES through Uganda Bureau of Statistics was planning a national annual school census to collect data for 2020 while MoES department of planning and policy analysis with funding from the World Bank and DFID, is in the process of building a robust and reliable EMIS system to replace the current EMIS at MoES.

The ongoing development of a robust EMIS initially prevented implementation of the DHIS2-EMIS pilot as it was viewed as another donor initiative that was not aligned to the MoES EMIS development plan. However, following approval from the MoES M&E technical working group, and driven by the need to obtain timely and reliable data, the basic education department supported piloting the use of DHIS2 as an EMIS in districts of Gulu and Mayuge. This was further supported by the fact that DHIS2 was already a proven innovation used by the Ministry of Health Uganda for reporting and management of all health information in the country. The initial failure to get full buy-in from the MoES planning unit limited the full involvement of the national team in the DHIS2-EMIS pilot. In February 2020, a formal administrative recommendation to work with the departments of Basic Education, ICT and Planning and Policy analysis in implementation of the DHIS2 - EMIS pilot and KIX research project was granted by the MoES Permanent Secretary. This demonstrates increased central level buy-in and commitment to support implementation of DHIS2-EMIS in Uganda.

Despite the delayed full buy-in by the MoES top leadership, the staff from the departments of basic education, ICT, planning and policy analysis were involved in the end user training, data use and presentation workshop as well as support supervision to the districts. However, these staff, especially the team from the ICT department, were not directly engaged in the customization of DHIS2 for EMIS and hence lack the capacity to further customize or update the DHIS2-EMIS based on new requirements and changes in the annual statistical forms. The MoES team will therefore require additional training and support to build their capacity to support the DHIS2-EMIS. Nevertheless, the statistics team and education officer can support entry, validation and analysis of EMIS data using DHIS2.

Although there was no open access to the dashboard at the national level, it was noted that the MoES team was able to access the system and view data from the districts using their user accounts and log -in details from their personal laptops with internet connection.

Currently the Education sector strategic plan is driven by ICT and thus a system that can provide timely and reliable information is of high priority both by the Ministry and the donor community. The support from donors in the education sector is largely tagged to availability of reliable data, and where there is lack of, several baseline assessments which require more resources are conducted, the existence of DHIS-EMIS at the district level can readily provide this information to inform donor support.

The ministry also noted that DHIS2-EMIS was a bottom up and decentralised approach, being managed at a lower level where decisions are being taken, which makes accountability and follow up by the districts much easier compared to the previous centralized system where MoES would have challenges with follow up and validation of data from schools. In addition, with the decentralized DHIS2-EMIS, data collection and entry is less costly and more efficient for utilisation of limited resources. The non existence of a functional electronic EMIS at the district level prior to the DHIS2-EMIS pilot forms a basis that the, lessons learnt from the DHIS2-EMIS implementation in Gulu and Mayuge will inform the development of the robust and reliable EMIS at MoES with linkage to the district.

📷 The data entry volunteer at Gulu municipality sharing the district dashboard with Dr. Anne Thorseng, from the University of Oslo, a member of the assessment team.

The MoES leadership showed ownership and commitment to support the ongoing pilot, provide overall guidance and stewardship in implementation of DHIS2-EMIS in two additional districts under the KIX project and hoped that the DHIS2-EMIS is scaled up to other districts. The MoES basic education department will also ensure that; other departments such as Planning and ICT are more actively involved in implementation of the DHIS2-EMIS, review the available resources for the financial 2020/2021 and create a budget line to support some DHIS2-EMIS activities such as sensitization of district leadership, school management committees on the importance of DHIS2-EMIS.

Capacity of the district to use the DHIS2-EMIS for data capture, validation, analysis and presentation.

The districts have the capacity to collect, enter, analyse and present the data. At Gulu municipality the data entry volunteer was able to demonstrate on the spot how to create dashboards and presented the analysis on performance of schools in Gulu municipality using the data entered in the system. The district teams are utilising the online support by HISP Uganda and the system user manuals that were distributed after the data use workshops to further develop their capacity

in utilising the system. In Mayuge district, the district education staff, district inspector of schools, district education officer, secretary to the district education officer and inspectors of schools have the skills to enter and validate the data and periodically seek support in data analysis and presentation from the district biostatistician in the health department. It was also noted during the assessment visit that Mayuge district had been able to collect data for 2019 and data entry into the DHIS2-EMIS had already been initiated.

Like in the health sector, some of the district leadership recommended a statistician to support districts in the management of education data, however, since reporting is not as frequent as it is in health sector, existing human resource at the district can be utilised to manage the district EMIS with continuous support and training by the HISP Uganda team and MoES. It is important to note that each of the districts are currently utilising the inspectors of schools to act as dedicated staff for EMIS data management. In Gulu district the district inspector of schools together with the inspector of schools are in charge of the data collection, entry and analysis. At Gulu municipality the municipal education officer and the data entry volunteer are in charge while at Mayuge district the district inspector of schools together with the district education officer, secretary to the DEO, are incharge of data collection, entry, validation, analysis and presentation.

The Gulu Education Officer explaining how data from DHIS2-EMIS was used to guide transfer of teachers in Gulu district.

" *...because the political leadership looks at their constituency, but for us we look at service delivery versus performance indicators. With DHIS2, we are no longer arguing, we just bring the data and the politicians will say, okay! Let's put the school here, the borehole there and the toilet stances there."*

Gulu District Planner

The presence of data from the system has been a game changer and a real shift from analog to a digital era. It was emphasized that data from DHIS2-EMIS is being used to justify allocation of resources away from use of political influence and bias of the district politicians thus minimizing conflicts between the technical and political leadership in the district.

In order to have more reliable and actionable data, districts highlighted the need to collect or update some vital statistics such as school enrollment on a term basis. This was due to the fact that enrollments were inconsistent due to various factors such as transfer of pupils to private schools or districts, planting seasons, and actual drop outs.

The three implementation sites all exhibited the capacity to collect, enter, validate and present the data in the DHIS2-EMIS following the end user training, data use and presentation workshop and continuous online

and on site support by the HISP Uganda, MoES and Save the children team. The districts recommended that the system be further scaled up to also capture data on secondary and tertiary school within the pilot schools and also to other districts to improve management of education data in the country.

District utilisation of DHIS2-EMIS data for evidence-based planning and management.

The culture and practice of data use at district level was evident and highlighted the importance of using data for planning and decision making. In Mayuge district, data on school enrollment is used for allocation of capitation grants to the government schools, calculated based on per capita expenditure on each learner. There was also evidence of a letter from the district education officer to the Chief Administrative Officer (CAO) on the reallocation of teachers based on pupil enrollments and number of teachers reported in the system.

Data from the DHIS2-EMIS was also utilised by the district health departments in the allocation of health workers and distribution of vaccines during the polio, measles, Rubella campaign. This linkage between the health and education department did not stop on the campaign but was also used to target
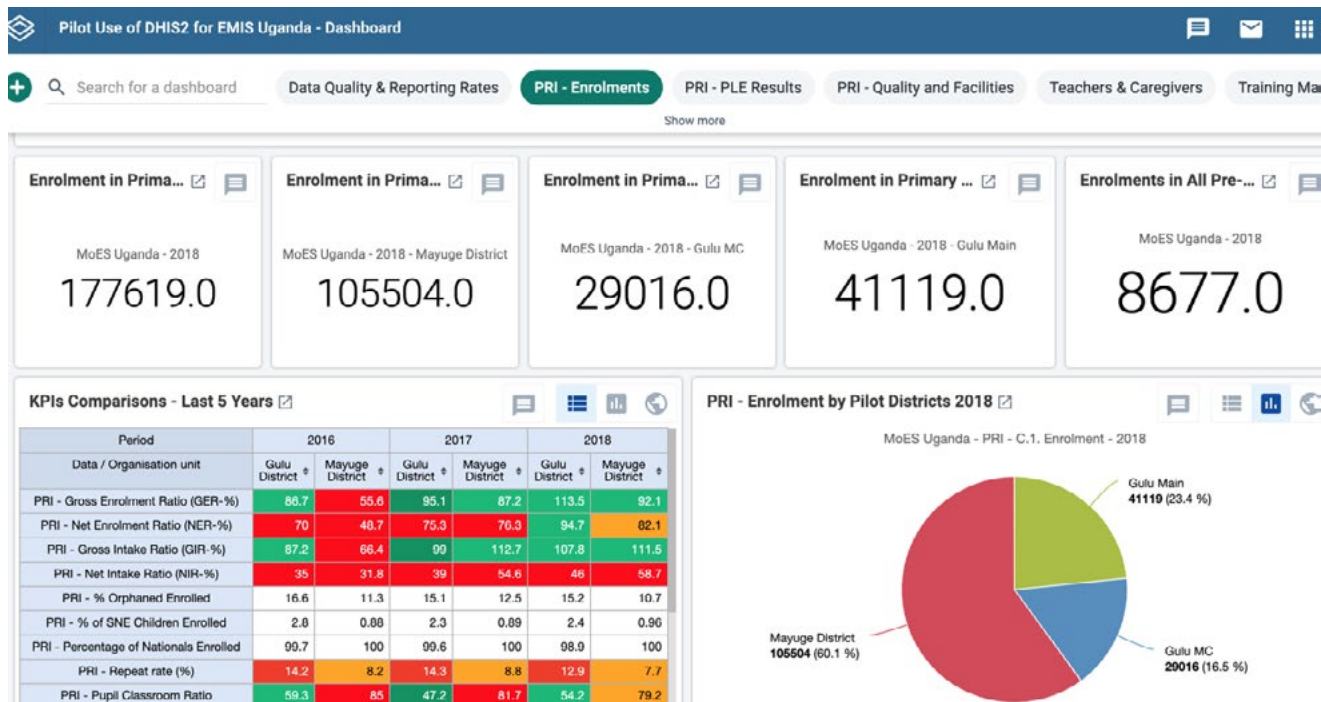
Screen showing the different dashboards in the DHIS2-EMIS.

interventions like the HPV vaccination in teenage girls at schools, distribution of deworming tablets and designing interventions for special needs learners. In Gulu, DHIS2-EMIS data had been used in allocation of invigilators during the primary leaving examinations and management of human resources like allocation of new teachers. The data had also been used to identify schools with high enrollment but lacked sufficient infrastructure and construction of a new classroom block had started at Awach primary school under the USAID NUDIL project.

The district planners and District education officers indicated that preparation of district budgets was much easier compared to the previous years since data to inform budgets and resource allocation was more readily available at a click of button. "The education team no longer moves around with pieces of paper to share data. I can just log in and view the data from the system," said the Gulu district planner.

The importation of primary leaving examination (PLE) results into the system has also encouraged the districts to utilise data for reporting on PLE performance of the different schools.

Although data submitted into the DHIS2-EMIS is collected annually and is largely aggregate, there is still a need to increase the frequency of reporting to obtain updated data and track individual records such as teacher-pupil absenteeism and teacher time on task.

Generally, the data from the DHIS2-EMIS has been useful and to a large extent utilised by the districts as observed by the assessment team. The system has been appreciated by the districts and positive use cases were reported from all the districts.

Quality of data collected and entered into the DHIS2-EMIS

The annual statistical school census form, that was customized in the DHIS2-EMIS collects aggregate data on; pupil enrollment, new entrants, repeaters, school infrastructure, teachers, textbooks, finances and co curricular activities. During the assessment, it was noted that some head teachers had challenges filling the form; there was incomplete data especially on teacher details, infrastructure and sanitation information. In some cases, the headteachers could not explain which source document was used to arrive at these enrollment numbers. One teacher indicated that they compared the daily class register, with the admission book and also carried out physical headcount to determine enrollment. However, this figure would also fluctuate in case some pupils were absent or had not been recorded in the admission book. This indicated lack of a standard operating procedure (SOP) in compiling data reported in the annual statistical school census forms.

In private schools, there was deliberate refusal to declare the right information; there was under reporting on enrollment to avert payment of government income tax, under declaring the number of teachers to avoid payment of staff national social security funds (NSSF), misinformation on number of classrooms, existence of temporary structures and general standard of the school to prevent revocation of the licence which is based on meeting the minimum basic education standards. In government schools, the headteachers inflated the enrollment numbers so as to obtain higher allocation of the capitation grants.

During the focus group discussions it was noted that some schools that lacked a school feeding program had variations in enrollment numbers as a result of intermittent attendance of some pupils. In addition, some pupils do not turn up for school during the planting season while others are involved in fishing activities. Failure to provide food for the school feeding program, agricultural seasons where some students are participating in sugar cane growing and fishing activities around the lake this was common in Mayuge district schools near the landing sites, discrepancies on enrollment number capture method where some head teachers claimed to take the average of the highest and lowest attendance numbers per class as the enrollment number while others claimed to take the highest attendance number based on the class register and others used the on spot physical count and admission books. The lack of uniformity on which data source tools to use for recording enrollment can affect the quality of data in the system.

This called for the need to re-orient head teachers on the filling of the EMIS form, sensitisatisation on quality data best practices and vigorous inspection and validation of submitted data by the inspectors of schools.

In the five (5) selected schools data quality checks were done by comparing enrollment numbers recorded in the daily class registers, annual statistical form and numbers entered in the DHIS2-EMIS for 2017, 2018 and 2019. In ⅗ schools, the numbers recorded on the statistical form were consistent with the numbers recorded in the primary source document. However, the totals recorded on the form were not tallying with totals in the DHIS2-EMIS. This also indicated errors in addition while computing enrollment totals in the hard copy of annual statistical form at the school level.

General challenges in the Uganda primary school sector

During the assessment different challenges were noted both with in the DHIS2-EMIS implementation and the general education sector

- **Double reporting:** Pre-primary schools in Uganda are still treated as a private entity and not eligible for government grants under the universal primary education. The enrollment age group for pre-primary is between the ages of 3 and 6 however these under aged learners end up in primary one with their siblings and are being registered as part of enrollments since the capitation grant allocation is based on the number of pupils in the school. In government schools with both pre-primary and primary sections, the enrollment number for pre-primary is reported under both pre-primary and primary leading to double counting of these pupils.

- **Difficulty in identifying the dropout rates:** due to lack of student unique identifiers. It is difficult to determine the actual dropout rates since some students transfer to other schools or districts while the under age enrollments usually repeat primary one until they are of age.

- **Difficult to obtain quality and timely data at the national level:** It is difficult to acquire a full master list of all the schools in the country not only primary schools but also the pre-primary schools due the rampant creation of new schools by the private proprietors without meeting the minimum required standards. This makes it difficult for the Ministry to capture the right enrollment numbers and plan for all the learners in schools. The districts also provide varying numbers to MoES based on what data request will be used for.

- **Challenges of Licencing and registration of private schools:** The national level lacks timely and reliable data from private schools to facilitate registration and licencing of these schools. Most private schools don't want to submit information to the central level because they don't meet the minimum basic requirements and as such are operating without registration nor licences. Some private schools are owned by government teachers, politicians and district officials; creating a challenge for school inspectors to enforce standards in private schools owned by government officials. It is difficult for people supposed to enforce these guidelines in

📷 Pupils in a classroom at a primary school in Mayuge district. Inadequate allocation of resources negatively impacts on learners' outcomes.

private schools to self regulate and ensure they uphold the required standards. In addition, MoES currently doesn't impose sanctions for non-compliant schools since there isn't yet a policy and guidelines for regulating the private schools. MoES is currently reviewing the early childhood care and education policy which will include sanctions for non-compliant private schools.

- **Unreliable power and poor internet connectivity:** The districts and schools are faced with unreliable power and poor internet connectivity. In Gulu district power blackouts are a major challenge which leaves the districts to depend on generators that are costly to maintain and their use restricted due to noise interference of activities in the neighborhood. Poor internet connectivity in Mayuge district has hindered timely data entry and use of DHIS2-EMIS.

- **Failure of private schools to report:** It was noted that most of the private schools refuse or fear to report on EMIS with belief that reporting will cause the government to levy heavy taxes. The annual statistical form requires the school to report on the financial income and expenditure, infrastructure, and teachers details including their level of qualification with some private schools having unqualified staff. Private schools are thus usually reluctant to report on this information and in most cases under report or provide incomplete data to avoid payment of taxes and other government sanctions imposed on schools that don't meet the minimum basic education requirements.

- **Limited resources for scale up:** Whereas this project is a very good example of value addition, and the MoES has the desire to scale up DHIS2-EMIS to all districts, it lacks sufficient funds for a national roll out of DHIS2-EMIS.

- **Use of outdated information for resource allocation to districts and schools:** Even with growing population, the MoES has continuously used data from the national school census conducted in 2017 to allocate resources to districts and schools. Resources allocated are not in line with the current needs in the districts. This has led to insufficient allocation of textbooks, desks, classrooms, teachers and negatively impacting learners' outcomes. Whereas the national average of the pupil to teacher ratio is 1:53, a survey conducted 2 years ago indicated a teacher gap of 22,000 teachers to meet the growing population in schools. In the pilot districts, the districts are using data from DHIS2-EMIS to reallocate the capitation grants to schools. This shows the need for systems in place to ensure proper allocation of resources based on the standard pupil to teacher ratio (54:1), pupil to desk ratio (3:1)and the classroom to pupil ratio (1:54)

- **Failure of MoES to provide timely feedback on EMIS forms submitted to the central level:** Limited or lack of timely feedback on data submitted to the central level results in reluctance of schools reporting or providing any information to the MoES.

LEARNING FOR SCALING

During the implementation of DHIS2-EMIS in the two pilot districts; several strategies undertaken for implementation of this project made the pilot a success. The pilot approach provided an opportunity to learn and improve in the next phase of implementation. With more effective management and use of data in the pilot districts compared to their counterparts in the non pilot districts, several learnings for scale include;

- **Stakeholder engagement for support and buy in:** Stakeholder engagements should not only be at the national level but also at the district and school level. The pilot districts have involved most of the key education stakeholders including; chief administrative officers, resident district commissioners, inspectors of schools, district planners, politicians and headteachers in the process of DHIS2-EMIS implementation hence creating awareness and buy-in of the DHIS2-EMIS. This further creates data linkages and utilisation between different departments.

- **Ministry ownership of the project:** The MoES basic education department took lead in implementation of all activities for DHIS2-EMIS in the pilot districts. MoES was responsible for all official communications to the districts on the DHIS2-EMIS, took part in district entry meetings, training and support supervisions. MoES stewardship role in implementation of DHIS2-EMIS increased ownership of the system by the districts.

- **Training of a multidisciplinary team to support DHIS2-EMIS:** The end user training targeted the district education officers, district planners, inspectors of schools, biostatisticians and data volunteers. This promoted learning and support on the various EMIS activities within the districts. In Mayuge district, the district education officer and district inspector of schools were also taking part in data entry which reduced the data entry burden at the district. In Gulu district, the district planner could retrieve data for planning and budgeting from the system without support from the education team. This in the end ensures sustainability of the system.

- **Wireless internet used beyond the education department:** The wireless internet set up at the district to facilitate access and use of the DHIS2-EMIS was not only used by the education department but also by other departments within the district. This facilitated their routine activities, eased work and submission of reports. In Gulu municipality, the internet was used by the town clerk office to access the Integrated Financial and Management Information System (IFMIS) for planning, accountability and submission of financial reports and requests to the Ministry of Finance.

- **Utilisation of existing capacity on use of DHIS2 in the health sector:** The inclusion of the district biostatisticians in the end user training created a good relationship between the two departments and encouraged the health team, with more experience in using DHIS2, to continuously support the education team in data analysis and presentation.

- **Adopt a structured implementation strategy:** The implementation strategy which involved initial district orientation, equipment installation, end user training, site support supervisions, continuous feedback and online support worked well in the pilot districts.

- **Utilisation of the existing tools:** The DHIS2-EMIS implementation in Uganda did not create new data collection tools but rather utilised the existing EMIS forms by MoES and customized them into DHIS2. This made the initiative more aligned to ministry objectives rather than just a one off donor initiative. The project looks at enhancing and streamlining the MoES rather than working parallel to it which made the district implementation easier.

- **Partnerships:** collaborations with other partners that have experience in the field is important. The partnership with Save the children Uganda who have been implementing projects in the education sector in Uganda since 1959, helped the project to acquire buy in and engage stakeholders at the top management level of MoES.

📷 Focus Group discussion on data needs and use practices with head teachers from Gulu District.

- **Promote a data use culture at all levels:** There is a need for sensitization of all stakeholders in the EMIS process including the headteachers, MoES headquarter team, Politicians about the importance of data use. The culture and practice of data use should not only be encouraged at national and district level but also at school level to improve learning outcomes.

- **Improve Quality of data collected:** Inspectors of schools, cluster associates should be utilised to ensure data validation , cleaning and follow up on incomplete forms. This is to ensure that there is quality data for planning . Partial reporting should also be avoided and all schools encouraged to report whether public or private .

- **Empower districts to manage EMIS data:** Data collection activities can be managed by the districts with minimal support from the central level to avoid large expenditure on per diems. This can be done through capacity building of the district education teams and proper budgeting for EMIS activities at district level. The bottom up approach has worked well during the pilot and has created district ownership of the system. This did not only reduce costs for implementation of EMIS activities but also improved the quality of the data collected through district data validation. The district inspectors are conversant with data submitted from schools and can easily identify

and follow up errors in submitted data which would not be the case at central level.

What could improve?

In the bid to improve EMIS and ensure scalability and sustainability of the DHIS2-EMIS ,the assessment team from its engagements with the central level MoES, district education teams and school administrators identified areas that needed to be improved .

- **Involvement of all key education stakeholders at all levels:** At central level, it is important to involve all key stakeholders supporting the education sector including the different departments in the MoES. This will ensure all stakeholder efforts are directed towards implementation of the DHIS2-EMIS and minimize wastage of resources with implementation of piecemeal solutions in different districts. The planning and ICT departments need to be more engaged and empowered to support system implementation, training and maintenance. At the district level, it is important to engage all the stakeholders including the political leaders, cluster coordinators, sub-county chiefs, chairman L5 and headteachers. The politicians are pivotal in the successful implementation of the system and need to be informed of the importance of the system in improving education management and thus advocate for additional resource allocation for implementation of DHIS2-EMIS.

Uganda DHIS2 for EMIS: Pilot in Gulu and Mayuge District

- **There is a need for open communication and engagement of all key stakeholders** in implementation of the DHIS2-EMIS as their influence is key for the project implementation. Communication and dissemination of EMIS reports should be done in an easy to understand format and displayed in areas like notice boards, reception that are accessible for all. Additionally, the displayed reports/dashboards in the form of charts, graphs and pivots should be easy to understand.

- **Intensive monitoring and supervision** of the schools by the Inspectors of Schools to ensure data submitted by the headteachers is accurate and timely. The districts can hold annual or termly data review workshops where EMIS data issues and challenges are discussed and information disseminated.

- **Capacity building:** HISP Uganda team should continue to build and further strengthen the capacity of the MoES central level team to manage DHIS2 -EMIS with basic skills to; customise, validate, import, export, analyse and present data within the DHIS2-EMIS system and offer technical support to the districts for sustainability.

- **There is a need for an EMIS policy to guide schools**, districts and central level MoES on data collection processes and utilisation of EMIS data for planning and decision making. Currently, districts and MoES have no clear guidelines, procedures and sanctions on EMIS reporting, data management and utilisation. Ideally, the existence of an EMIS policy would guide the ministry and other stakeholders like school administrators, teachers, inspectors of schools and education officers on the best practices.

- **Collection of timely data:** The districts need to collect EMIS data in a timely manner to avoid relying on outdated data for planning. Data collection activities should be done early enough in the first term after enrollment is stabilised or more frequently like on a termly basis.

- **Pilot electronic data submission at school level:** To reduce the data entry burden at district level and transport costs incurred in submission of EMIS forms by head teachers from hard to reach areas, there is need for online submission of the EMIS forms by the schools using web or android.

- **Allocation of a budget for EMIS activities at the district level:** The districts should properly plan and allocate resources for EMIS activities beyond donor support. To ensure sustainability, districts could utilize existing human resources such as inspectors of schools for data collection and entry and allocate funds for communication, transport, internet, dissemination of EMIS reports and maintenance of hardware.

- **Tag renewal of licences to reporting for private schools:** The DEO should continuously sensitize headteachers and proprietors of private schools on the importance of reporting and data use and attach renewal of licences to reporting so that all schools that don't comply to submission of EMIS reports, have their licences revoked or not renewed.

- **Register and provide all learners with unique identifiers:** The government should continue with the initiative to register all learners and provide unique identifiers to all learners. This will ease tracking and follow up on performance, transition and drop out of individual learners.

- **Map out the best internet provider for each district and plan for service continuity:** Districts have different internet receptions based on the service providers and as such there is a need to ascertain which internet service provider is best suited for each district and not have only one service provider for all districts.

Recommendations for Uganda scale up

- **District orientation with stakeholder engagement** is key for the project implementation. Prior to project implementation district leaders, education teams, politicians and school administrators need to understand the project, its goals and strategy for implementation for district ownership of the project. Education teams should be oriented alongside most of the district politicians; the Chairman LC IV, district councillors and sub county chiefs.

- **The school administrators for both private and government schools** need to be sensitised on data collection, storage and data use best practices to ensure quality data is collected and used right from school level.

📷 Focus group discussion on the data management process with school administrators in Mayuge District.

- **Development of an EMIS policy with clear guidelines**, procedures, roles and responsibilities to guide the districts and MoES in enforcing EMIS reporting and data management in both government and private schools.

- **Dissemination of information in easy to understand reports** is key for all stakeholders. Districts need to provide feedback to the schools and political leaders on the data collected. Individual school level reports could be distributed by inspectors during school inspections, display of reports in form of charts and graphs on district notice boards, and presentation of data during district meetings.

- **Provision of computers at sub county level:** To support data entry and utilisation at lower levels, districts recommended at least one computer at each sub county in the district to support entry and management of education data.

- **Capacity building for the inspectors of schools and district education officers should be emphasized** to ensure quality data collection and utilisation. The inspectors of schools and district education officers should be able to analyse and use data from the system.

- **Training and dissemination of DHIS2-EMIS data and reports to more stakeholders including:** the centre coordinating tutors who provide support to cluster schools in districts, sub-county chiefs who are the immediate supervisors of primary schools on behalf of the CAOs, district councillors in charge of education who can always lobby for additional resources and guide on allocation of resources.

- **Consistency in collection of EMIS data:** reporting structures and timelines should clearly be communicated by the MoES and district education offices to the schools. The data collection process should not be a one-off activity but a continuous process with clear timelines and specified periods.

- **Uniformity in the data capture tools** and proper storage and filling of hard copies such as registers, admission books, staff list and teacher files.

- **Regional review meetings with stakeholders:** districts should organise data review and data use workshops to ensure that the system has quality data and it is being utilised for decision making.

- **There is a need to harmonize all donors' and partners' efforts** and interests towards the scale up of DHIS2-EMIS.

- **The system should be further scaled up** to also capture data on secondary and tertiary schools within the pilot districts to ensure holistic capture of all education data in the districts

- **Continuous advocacy** for additional resources to support scale up

COST OF IMPLEMENTING DHIS2 FOR EMIS AT THE DISTRICT LEVEL

The implementation of DHIS2-EMIS at district level may be more cost effective compared to the centralised system however there is need for proper budgeting. The district/MoES need to plan and print EMIS forms for data collection at school level, transport and communication costs for distribution and follow up on schools to return the EMIS forms and infrastructure set up (desktops, laptops and internet) to support data entry and analysis. Maintenance costs should not be ignored by the districts if the system is to be sustainable, the monthly internet subscription and wear and tear costs for hardware. Continuous capacity building on the data entry, analysis, presentation and use should be factored in incase of transfer and recruitment of new staff at the national and district level.

Based on the pilot implementation, a district implementation cost plan/budget has been developed for country wide scale up. *Ref: appendix 1*.

Assessment Photos

https://drive.google.com/drive/u/1/folders/1_1nRAFWZeUFSsNvJ0fBUEuCKvJNCqnzT

APPENDICES

Appendix 1: National Budget for Scale of DHIS2-EMIS to 176 Administrative Units

Year 1 Start Up Costs	
Item Description	Amount [$]
1. District level Set-up Costs	704,560
2. Central level Training of Trainers - MoES Staff to support rollout and implementation	24,830
3. Thirteen Regional District Orientation and End User Training (District Education teams together with District leadership)	573,915
4. School administrators orientation conducted at district level	490,880
5. National Level to District Support Supervision, Data Quality Assessment & Feedback Session	31,366
6. District to School level Support Supervision Data Quality Assessment & Feedback Session	31,680
Total USD	**1,857,231**
Annual Recurrent Costs	
1. District Costs: Data collection tools, equipment maintenance and replacements	408,880
2. Refresher End User Data Use Trainings	141,450
3. National Level to District Support Supervision, Data Quality Assessment & Feedback Sessions	31,366
4. District to School level Support Supervision Data Quality Assessment & Feedback Session	31,680
Total USD	**613,376**
Total Cost Year 1 & 2	**2,470,607**

Appendix 2: Assessment Team

No	Name	Organization
1.	Dr. Anne Asmyr Thorseng	University of Oslo
2.	Abdul Malik Muwanga	MoES - Basic Education department
3.	Rogers Mpangi	MoES- Statistics department
4.	Agrace Abesigamukama	HISP Uganda
5.	Monica Amuha	HISP Uganda
6.	Shivan Asimire	HISP Uganda
7.	David Ogwang	Save the Children

Appendix 3: List of Persons Interviewed

No	Name	Title	Organization
1.	Dr Cleophus Mugenyi	Commissioner Basic Education department MoES	MoES
2.	Dr Tonny Lusambu	Assistant Commissioner Basic Education	MoES
3.	Mrs Safina Mutumba	Senior education officer pre-primary education	MoES
4.	AbdulMalik Muwanga	Education officer pre-primary education	MoES
5.	Mpagi Rogers	statistician Department of planning and policy analysis	MoES
6.	Akena caesar	District education officer	Gulu DLG
7.	Omal David	District Planner	Gulu DLG
8.	Margaret Adimola	Inspector of schools	Gulu DLG
9.	Janan Lakony	Municipal education officer	Gulu municipality
10.	Dennis Miles Odong	Data Entry Volunteer	Gulu municipality
11.	Luwa John Charles	Municipality planner	Gulu municipality
12.	Baligeya Ronald	District planner	Mayuge district
13.	Nadiope William	District Education officer	Mayuge district
14.	Nabirye Jariah Allen	District inspector of schools	Mayuge district
15.	Paul	Principal Assistant Secretary	Mayuge district
16.	Wanjara Gracious	Headmaster	Bwodha primary school - Mayuge District
17.	Wabwire Nathan	Headteacher	Jaguzi Primary School - Mayuge District
18.	Isaac Otuta	Headmaster	Emmanuel Primary school – Gulu District
19.	Auma Helen	Headteacher	Gulu Demonstration Primary School – Gulu District
20.	Franceska Aryemo	Deputy - Headteacher	Adonia Community Primary School – Gulu District
21.	Wako Samuel	Headteacher	Mother Ludia Primary and Nursery School –Gulu Municipality
22.	Dolly Oryem	Headteacher	Gulu Primary School - Gulu Municipality

Appendix 4: List of Persons in Focus Group Discussions

Gulu district and Municipality focus group

No	Name	Title	Organization
1.	Oyat Alfred	chairperson school management committee	St michael primary school
2.	Rev Thomas Odoki	Headteacher	NPS
3.	Atube A,Nyeko	Headteacher	Lukodi primary school
4.	Okot jenaro	Headteacher	Bungatira primary school
5.	Ocaya David	Chairperson school management committee	Labourline primary school
6.	Franceska Aryemo	Deputy head teacher	Adonai primary school
7.	Okot Denis	Headteacher	Cwero primary school
8.	Otuta Isaac	Headteacher	Emmanuel primary school
9.	Abala Robert Okellp	Headteacher	Panykworo primary school

10.	Kidega Walter Odongpiny	Headteacher	Laroo primary schools
11.	Anena Josephine	Headteacher	Labourline primary school
12.	Okee Joyce Otim	Headteacher	Awach primary school
13.	Akello Joyce Patricia	Deputy Headteacher	St michael primary school
14.	Aryemo Everline	IT assistant	Office of the chief administrative officer.
15.	Odong Miles Denis	Head teacher	Gulu Municipality
16.	Adimola Margaret	Inspector of schools	Gulu district
17.	Auma Helen Chariot	Headteacher	Gulu PTC demonstration primary school
18.	Adolorach Lucy Florence	Headteacher	Gulu Baptist primary school
19.	Proscovia Aber	Assistant municipal inspector of school	Gulu municipality

Mayuge District Focus Group Discussion participants

No	Name	Title	Organization
1.	Isabirye D Kaiwa	Headteacher	Wante Primary School
2.	Nabwire Nathan	Headteacher	Jaguzi Island Primary School
3.	Nanyuta Sauya	Headtecher	Makembo Primary School
4.	Kirabira Agnes	Headteacher	Busera Primary School
5.	Basalirwa Moses	Headteacher	Baitambogwe Primary School
6.	Wegulo George	Headteacher	Mpungwe Primary School
7.	Wanjala Gracious	Headteacher	Bwondha Primary School
8.	Namulondo Juliet Olivia	Headteacher	Kaluuba Primary School
9.	Mugomola Sam	Headteacher	Isenda Primary School
10.	Nahindolwa Florence	Headteacher	Ikulwe Primary School
11.	Modo Nantamu Living	Data Entrant	Mayuge DLG
12.	Nabirye Allen Jariah	DIS	Mayuge DLG
13.	Mudusu Franklin	Headteacher	Nabeta Primary School
14.	Kayeyera Bashir	Headteacher	Uganda National Teachers' Union chairperson Mayuge District
15.	Aliwayoki Cissy	Headteacher	Balita Primary School
16.	Kiirya W Nathan	Headteacher	Bufulubi Primary School
17.	Bageya Living	Headteacher/Chairperson MDPPSA	Mayuge Primary School
18.	Kaluya David	Headteacher	Mtumito Primary School
19.	Muwubani Fred	Headteacher	Namadudu Primary School

Appendix 5:
Key Informant Interview Guide

❶ To assess the capacity of the national level to maintain and provide DHIS2-EMIS technical support to the district

    a) How have you been involved in the DHIS2 for EMIS pilot? if yes please specify the activities and the roles played

    b) Were you trained on the use of DHIS2-EMIS? if yes please specify the training and knowledge acquired from the trainings

    c) Did you conduct or facilitate any of the DHIS2-for EMIS training? If yes which one and what was your roles

    d) Have you participated in any of the district and school support supervision activities following up on DHIS2 for EMIS activities?

    e) Have you provided any technical support to the district users on DHIS2 for EMIS?

    f) Have you used any of the data from DHIS2 for EMIS? if yes how have you used this data

    g) Do you think MoES has enough human resources to support districts in implementation of DHIS2 for EMIS?

    h) What challenges have you experienced in implementation of the DHIS2-EMIS

    i) What recommendations do you have to address these challenges and also for DHIS2-EMIS

❷ To assess the capacity of the district to use the DHIS2-EMIS for data capture, validation, analysis and presentation.

    a) How have you been involved in the DHIS2 for EMIS pilot? if yes please specify the activities and the roles played

    b) Were you trained on the use of DHIS2-EMIS? if yes please specify the training and knowledge acquired from the trainings

    c) Have you been involved in any of these processes; data collection, data capture, validation, analysis and presentation? If yes, what has been your experience?

    d) Who requests to see the data/results of the analysis?

    e) What challenges have you experienced while using the DHIS2-EMIS

    f) What recommendations do you have to address these challenges and also for DHIS2-EMIS (What would have made your job easier?)

❸ To assess the district utilisation of DHIS2-EMIS data for evidence-based planning and management.

    a) How relevant is the EMIS data to your job? What type of EMIS data do you use? (How do you use it? Who do you communicate the results to?)

    b) Have you used data from DHIS2-EMIS? If yes, how have you used this data? (have you bought more desks, redistributed teachers)

    c) What evidence for DHIS2-EMIS data use exists in the district? (Probe for reports, presentations, budgets)

    d) What challenges have you experienced while using data from the DHIS2-EMIS

    e) What recommendations do you have to address these challenges and also for DHIS2-EMIS

    f) How has the district health team supported DHIS2-EMIS, what have you learnt from the health team?

❹ To assess the quality of data collected and entered into DHIS2-EMIS - School

    a) For selected schools compare data entered into DHIS-EMIS with source documents at the school for 2018 (Enrollments by class)

    b) What challenges do you face while recording and compiling data for EMIS reporting

    c) What are the key recommendations to address the challenges above?

❺ To document the DHIS2-EMIS project achievements, lessons learnt and challenges - National and District

    a) In your own opinion what have been the major achievements of this pilot

    b) In your opinion, what has worked well and what didn't work well during implementation of this pilot

    c) How useful has the equipment (laptops, desktops, internet) provided by the pilot been; to the district Education department and others?

❻ To identify recommendations for scale up of DHIS2-EMIS in other districts.

    a) Would you recommend DHIS2-EMIS to be scaled up within (secondary and tertiary) and across districts?

    b) In your opinion what are the key requirements for a district to implement DHIS2-EMIS

    c) if you were to do this all over again, what would you have changed

    d) what are your recommendations to improving data collection, data entry, data cleaning/validation, data analysis and feedback

❼ To document the costs of implementing DHIS2 for EMIS at the district level.

    a) What must be included in the costing of DHIS2-EMIS for district implementation? (district planner)

    b) Of the above costs, what are some of the costs that would be easily included in the district planning budget

Focus Group Discussion Guide

❶ Knowledge in DHIS2-EMIS or other systems used in management of EMIS data?

❷ How do they use the EMIS data - data use practices at school level - examples of where data has been used

❸ What processes are involved in preparing and compiling data to fill the EMIS statistical form

❹ What challenges are faced while compiling data for the EMIS statistical form

❺ What other reporting requirements beside the EMIS statistical form are you involved in? What tools are used to support these reporting requirements?

❻ What are the challenges with the current EMIS (data collection, reporting, feedback) mechanisms?

❼ What recommendations do you have for addressing these challenges

Appendix 6: Program

Time	Activity	Details
Monday: 24th February 2020		
08:30 – 10:30	pre-planning meeting with HISP U EMIS team	A brief meeting with HISP U team and the representative from Oslo to plan for the assessment review the interview guides and FGD guide)
10:30 – 11:00	Break tea	
11:30 – 16:00	Travel to Gulu	Team sets off for Gulu
Tuesday: 25th February 2020		
08:30 – 12:30	Visit to Gulu DLG Education offices	interviews with DEO, CAO, district Planner, Inspector of schools in charge of data(45 minute interview with each)
12:30 – 13:30	Lunch	
13:30 – 16:00	Visit to schools	Visit two schools in the district and review the data sources like attendance and enrollment registers in both private and government schools pre-primary and primary
16:00 – 17:00	Debrief	
Wednesday: February 26, 2020		
09:00 – 11:30	Visit to Gulu Municipality .	Brief meeting/interviews with Municipal Education Officer, Education Officer & data manager (45 minute interview with each)
11:30 – 14:00	Visit to schools	Visit two schools in the Municipality and review the data sources like attendance and enrollment registers in both private and government schools pre-primary and primary
14:00 – 15:00	Lunch	
15:00 – 16:00	Interviews with the MoES staff in the field	One on one interview with the Education officer and statistician in the field.
16:00 – 17:00	Debrief	
Thursday ,February 27,2020		
09:00 – 11:30	Focus group discussion	A focus group discussion with the school administrator representatives from the Gulu LG and Gulu Municipality.
11:30 – 12:00	Break	
12:00	Set off for kampala	Team leaves for kampala
Friday ,February 28,2020		
09:00 – 11:30	Interview with MoES National Level	one on one interview with Assistant Commissioner Basic Education, current commissioner, senior Education officer Pre Primary and senior statistician
11:30 – 12:00	Break /travel back to office	
12:00	Brief on report writing	Review and compiling findings from the field for report writing.
Monday :9th March 2020		
09:00 – 11: 30	Visit to Mayuge district	Courtesy visit to the CAO (15min) Interviews with the District Education officer (45min) District inspector of schools(45min) district planner (45min)
11:30 – 13:00	Visit to school	Visit a school in the town council that reported with both primary and pre -primary and carry out a data quality check
13:00 – 14 :00	Lunch	
14:00 – 16:00	Visit to schools	Visit two non-reporting government and private school in the district
16:00 – 17:00	Debrief	
Monday :9th March 2020		
09:00 – 11:30	Focus group discussion	A focus group discussion with the school administrator representatives (government and private schools)from Mayuge district
11:30 – 12:00	Break /travel back to office	
12:00	Set off for kampala	Team leaves for kampala

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for education