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DATA QUALITY ASSESSMENT OF THE MINISTRY OF EDUCATION'S

EDUCATION MANAGEMENT INFORMATION SYSTEM

July 2016

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Activity Signature Page

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ACRONYMS

COP	Chief of Party
COR	Contracting Officer's Representative
DCOP	Deputy Chief of Party
DED	District Education Department
DQA	Data Quality Assessment
EMIS	Education Management Information System
FGD	Focus Group Discussion
GED	General Education Directorate
GIRoA	Government of the Islamic Republic of Afghanistan
GIS	Geographic Information System
GPE	Global Partnership for Education
GPS	Geographic Positioning System
IT	Information Technology
M&E	Monitoring and Evaluation
MoE	Ministry of Education
NGO	Non-Governmental Organization
PED	Provincial Education Directorate
SDLR	Social Development & Legal Rights – Afghanistan
SMS	School Management Shura
SOW	Statement of Work
USAID	United States Agency for International Development

I. EXECUTIVE SUMMARY

The Ministry of Education's Education Management Information System (EMIS) was designed to provide a computerized network system to gather school data in order to support decision-making in the ministry. The system is the only one of its kind in Afghanistan, heavily funded in the past by the Danish International Development Agency and other donors. The United States Agency for International Development (USAID) and other development partners have expressed concerns regarding the quality and validity of MoE data, principally collected through EMIS. Because of these concerns, development partners sought a thorough and robust independent verification of current EMIS data and USAID initiated this assessment of EMIS data in order to provide recommendations to address performance gaps in the system.

The progress made in the past five years with EMIS is substantial, especially given that, less than a generation ago; the entire school system in Afghanistan had to be re-built after years of conflict. However, there are serious weaknesses within the system that prevent EMIS from providing quality and accurate data to decision makers. EMIS was developed with substantial support by development partners to provide data to the MoE to inform policy decisions. If the EMIS data is inaccurate then the MoE will not have accurate information with which to make critical decisions related to student enrollment, teacher recruitment, classroom construction, and textbook distribution, all key resource inputs to having an effective education system. This assessment identified that key weaknesses within EMIS include: lack of consistent monitoring at the school level; lack of capacity and training on forms and procedures, particularly at the District and school level; lack of financing and *tashkeel* staff with an over-reliance on Donor-funded technical assistance; lack of feedback loops with schools and Districts; and lack of coordination of data collection within the MoE, creating redundant data collection and inefficiencies.

This data quality assessment (DQA) of EMIS focuses on five questions, as outlined below.

1. Are there discrepancies in the data between what is found in the field and what is being reported by the EMIS and, if so, where is the area(s) of greatest variance? Are there a significant number of "ghost" schools, teachers, and students?
2. How is the data being collected, processed, and reported?
3. How adequate is the record-keeping and communication channels between schools, District Education Departments (DEDs), Provincial Education Directorates (PEDs), and the MoE?
4. What are the challenges and weaknesses in the EMIS system that needs to be addressed?
5. What areas of data collection, processing, and dissemination need support and further improvement?

1. STUDY DESIGN, METHODOLOGY AND LIMITATIONS

The study design was based on a mixed-methods approach for data collection and analysis. The DQA Team gathered and reviewed EMIS data, documents, and literature, conducted interviews and focus groups with relevant education sector stakeholders, and observed schools from the sample frame.

The original survey design included a sample of 761 schools, drawn in the following way:

1. The EMIS dataset was stratified by province and 591 schools were randomly selected as a nationally representative sample sufficient to estimate the average difference between EMIS-reported teachers and students and those recorded at schools.
2. A random sample of 236 schools from a list of the 566 USAID-constructed schools, sufficient to make estimates¹.
3. Additional randomly selected schools to ensure at least 10 schools per province.

The EMIS sample was designed to be proportional to the population of schools in the provinces. The list of 761 schools was later consolidated to a list of 737 schools due to the halting of the survey in Faryab following a serious security incident and the removal of duplicates and inactive schools. Of the 737 remaining schools, 88 were not visited at all (11.9%), and a further 81 schools were replaced with nearby schools (11.0%), primarily due to security. Of the 649 that were successfully assessed, 21 (3.2%) were determined to be permanently closed. The survey data presented here is derived from the 628 schools where the questionnaire was administered.

Survey data was collected from December, 2015 – February, 2016. Monitors travelled to sampled schools to interview headmasters and record data from various school documents for the year 1394. This report compares these data to the Ministry's 1394 EMIS data. The verification tool was based on the existing EMIS tool so that the survey data would be as comparable to EMIS data as possible. The survey data, however, reflects records as of the close of the school year for the majority of schools which are on a winter holiday schedule whereas EMIS data was collected and reported many months earlier. This lag is responsible for some natural discrepancies between EMIS and survey counts.

Due to the importance of ensuring data quality for this effort, the DQA team implemented a cross-verification procedure that checked the data from the enumerator team, as well as confirming with the security risk managers to ensure that reported insecure no-go areas were indeed insecure.

In parallel with the data verification exercise, the DQA Team analyzed EMIS's systems and processes for gathering and reporting data. All five regions of Afghanistan were visited by the

¹ For this report, the USAID schools that are recorded in EMIS are used as part of the analysis and no distinction is made between USAID-constructed schools and non USAID-constructed schools.

Team, and in-depth interviews and focus groups discussions with key MoE stakeholders at the Central, Provincial, District, school, and community levels were conducted. This qualitative data gathering and analysis enabled the description of how the process works at each level: school, district, provincial, and national.

The DQA was beset by serious security incidents and a number of limitations that affected the quality of quantitative data management and the timeline. Key limitations affecting the verification include: 1) The loss of the Survey Manager during data collection, which affected data management and quality control, the result of which is a smaller than planned final sample size; 2) Substantial issues with insecurity throughout the country and security threats to field monitors, including the kidnapping of a monitoring team which halted the survey in one province, and resulted in the substitution of 81 schools with nearby schools and 88 schools that were neither visited nor substituted; 3) Enumerators did not always adhere to the assessment protocols, leading to data which was rejected, particularly in four provinces, reducing the total number of schools covered; 4) According to the analysis plan, the nationally representative schools were to be analyzed separately to generate national level estimates. However, lapses in tracking replacements for each sample made the final distinction between the national sample and USAID sample impossible; and 5) The survey occurred during winter vacation, which meant that schools were not in session, head counts could not be done, and officials were often not available for interview.

The DQA replacement/non-response rate was fairly high, yet similar to other national surveys in Afghanistan, where replacement due to security concerns is increasingly common. As a result of the general security situation and the above limitations, the data presented here cannot be confidently described as nationally representative. The data are, however, useful for understanding the EMIS data and identifying data quality challenges.

2. QUANTITATIVE FINDINGS

The EMIS DQA found that good progress has been made toward the MoE goal of a computerized system for gathering, recording, and analyzing school data to support decision making. With support from the MoE's Planning Department and donor partners, the EMIS has developed internal capacity to manage a nationwide system. Yet, as with so many systems in Afghanistan, there remains a sizeable performance gap between actual and needed capacity in order to ensure accurate and reliable data.

The survey analysis found that, overall, EMIS data tended to be higher than survey data. On an individual school level, data from EMIS and the survey usually matched roughly, although almost never exactly. The lag between submission of EMIS data and the conduct of the survey is likely to blame for these small discrepancies. However, the DQA Team also found larger differences in many schools.

The DQA found a statistically significant difference between EMIS student data and data recorded in the survey, with EMIS counts on average 37.1 students higher than survey findings (95% CI: 11.9 – 62.3). Male student data were similarly found to be statistically significantly higher according to EMIS, whereas female student data was found to be slightly under-reported in EMIS compared to survey data, although the result was not statistically significant. In terms of student enrollment there was an overall 8% difference between EMIS and data from the survey. However, EMIS appears to provide more accurate data on female enrollment versus male enrollment with EMIS over-reporting 12% for males and 1% for females compared to the survey data.

The difference between EMIS data and the survey data for teachers was not statistically significant, with very little overall difference found between what was reported by EMIS and the survey team. Total teacher counts were higher according to EMIS, by an average of 0.39 teachers, (a non-statistically significant difference). A statistically significant difference was found for female teachers only, who were found in greater numbers by the survey as compared to EMIS (on average, the survey found 0.85 female teachers more than EMIS). Overall, almost 80% of teacher data comparisons were found to be within 2 teachers and approximately two-thirds of male teacher counts were within 2 teachers.

The verification team examined differences between urban and rural schools and schools that varied in security, as captured by self-reported security status. There were no significant differences in data between urban and rural and secure and insecure schools. This finding must be interpreted alongside the fact that the survey team could not visit and verify 88 schools due to security and another 81 sampled schools had to be replaced. Of the 649 schools visited, 21 or approximately 3%, were permanently closed.

Due to the timing of the survey, this DQA was unable to answer the important question of how well the number of teachers and students recorded by EMIS correlates with the number of actual teachers and students in classrooms. It is recommended that future verification exercises occur during periods when teachers and students are in schools.

3. QUALITATIVE FINDINGS

Although EMIS has made significant achievements in terms of creating a nationwide electronic system to gather and report education data to stakeholders, its original design has yet to be fully realized for a number of reasons. There are a number of challenges and weaknesses in the system that must be addressed with a combination of increased resources, capacity building, and re-organization of the function of M&E throughout the MoE, both centrally, and in the Provinces, Districts, and schools, if the system is to deliver on its original mandate.

EMIS data is collected from the schools using a standard paper EMIS form. A designated school staff member, or the headmaster, fills out the paper forms once per year and sends them to the

DED, which then checks the forms for accuracy, and sends them on to the PED, where the forms are further checked and entered into the computerized EMIS system, which is centrally located in the MoE in Kabul.

The method of collecting the school data is one source of error. Due to a lack of capacity and resources, EMIS personnel do not personally collect the forms and they are often unable to verify the data reported. Therefore, data collection processes are not uniform. There is no real training for school administrators or staff at the school level completing the forms, which creates opportunities for inaccurate reporting. Since schools do not verify data after it has moved through the DED and PED level before being submitted to Kabul, there is no way for schools to correct data that have been inaccurately transcribed or inputted.

Record-keeping and communication channels between the schools, DEDs, PEDs, and the MoE vary considerably from province to province. Overall, the further from the central MoE in Kabul, the weaker the record-keeping and communication channels, with the weakest link between the schools and the DEDs and then between the DEDs and the PEDs. While the MoE's M&E personnel say they visit each school three times a year, 23% of schools surveyed reported not having had a visit from either local or national EMIS teams in the past year. Respondents identified that there are not sufficient funds allocated at the PED and DED level to employ sufficient staff or visit schools and verify data, requiring a reliance on self-reported data by principals and teachers at the school level. Primarily at the DED level but to some extent at the PED level as well, computer equipment, file cabinets, and electricity are lacking which makes data collection, storage, and verification difficult. The assessment team repeatedly was told that capacity and training was inadequate particularly for *tashkeel* staff primarily responsible for EMIS now that Donor-funded technical assistance has been discontinued.

Another central problem is the multiplicity of monitoring and reporting systems in the MoE itself, with the General Education Directorate, and even some provinces (e.g., Kandahar) which implement parallel data collection systems to support decision-making needs. Respondents repeatedly identified that they felt like EMIS data was unreliable and not easy to access for decision-making purposes. This results in multiple data calls by the MoE to schools that are not reconciled, or shared with other parts of the MoE. Thus, resources are deployed to collect redundant or duplicative data, resulting in inefficiencies and a heavy management burden for headmasters and others tasked with filling out multiple forms for various departments of the MoE.

The type of data EMIS collects currently is generally appropriate. The fact that all students are manually entered into enrollment books, however, is another limitation that might be addressed in the future. Currently, EMIS only gathers numbers of students disaggregated by gender; no additional information, such as student name, father's name, or age is recorded. Without electronic student records that can be more easily updated, EMIS misses fluctuations in enrollment, such as internal migration because of conflict or girls exiting school around sixth grade.

4. RECOMMENDATIONS

The EMIS needs significant and wide ranging strengthening, while substantial progress has been made since its inception, the following set of recommendations is based on the DQA findings and international best practices in building and sustaining education management information systems, To ensure EMIS's role as a provider of accurate and quality education data, the DQA Team recommends that the MoE and development partners, consider the following:

1. Support third-party monitoring of all data from the school level up to the ministerial level in Kabul and the creation of an independent M&E unit. A third-party monitoring system, implemented by an external organization, would fill a vital and needed function. In addition, within the MoE, there is a need for an independent M&E unit reporting directly to the Minister, which could greatly improve the quality of the data being input into the system and begin to allow the MoE to take ownership for this function.
2. Support streamlining data gathering and reporting in the MoE. With at least four separate departments gathering similar data from schools, there is a need to form a committee to investigate and solve this fundamental issue before any additional support is given to EMIS.
3. Support the creation of a Chief Information Officer position at the MoE. An experienced CIO would be able to lead information and knowledge management initiatives, while providing capacity building to senior and mid-level MoE staff in Kabul and the provinces.
4. Support the MoE/EMIS to strengthen the bridge to the district level (DEDs). Targeted funding to build the technical, M&E, and project management skills at the district level, while also providing needed transportation budget to enable school monitoring visits, will substantially improve data quality.
5. Support the MoE/EMIS to build the bridge to the school level. The data loop should be closed at the school level by enabling schools to first review their data once entered into the system, and granting access to it once entered. This will incentivize schools to provide accurate and timely data.
6. Support pilot testing of modern technologies to monitor schools, particularly in insecure and geographically remote areas. Common smart phones might allow remote "monitors" to spot check numbers of teachers in a school or the timely completion of key records.
7. Support EMIS staff capacity building at every level. Providing technical, project management, and soft skills training will strengthen the system while inculcating a culture of M&E in the education sector in Afghanistan.
8. Provide incentivized support for additional computer equipment, mobile phones, Internet access, and electricity (generators/fuel) at the District level. This logistical support, tied to improved EMIS reporting, has the potential to markedly improve the quality of the EMIS data.

9. Pilot test an online extension of the EMIS that tracks updated student and teacher counts. The current paper based system creates a time consuming and laborious process for the schools, Districts, and Provinces. Moving from a paper based to computer based system would reduce the data management burden on schools, districts, and provinces. While the MoE is many years from being able to fully implement or support such a system, it is not too early to prepare for eventually introducing a mobile or online system would allow schools, Districts, and Provinces to verify data and facilitate decision-making at all levels.
10. Expand the MoE/EMIS's gender development and action plans to the EMIS staff. Few women are present in the EMIS personnel system, although many young women graduate each year with degrees in computer science and information technology. A concerted effort must be made by the Ministry to recruit women into the ranks of the EMIS at every job description and level, including in the districts where they are needed to monitor girls' schools.
11. Address the lack of registers in schools. Some schools reported not having or not having received an enrollment and/or attendance register. Each school must receive and must be required to keep updated these key registers if data is to be accurately managed at the school level.

5. CONCLUSIONS

EMIS has made significant progress since its inception and its design generally meets the basic needs of MoE. Yet, as with many systems in Afghanistan, the realization of the initial project design has yet to be fulfilled, primarily due to a lack of oversight and monitoring. There is a clearly delineated data cycle for EMIS. However, that cycle is weak and broken in places throughout the provinces, with insufficient monitoring conducted in the field by EMIS officers. Without human and computer resources, EMIS cannot function properly, and its data is subject to error and misreporting. Without oversight by a third party, decision-makers inside and outside the MoE cannot rely on data that has not been adequately verified,

With a new administration in place that is already taking steps to strengthen data use within the MoE, the time for taking action on improving EMIS is now. USAID, together with the donor community at large in Afghanistan, is in a position to coordinate with the MoE to strengthen the EMIS centrally and down to the school level, to considerably improve data quality and reporting.

II. INTRODUCTION

1. PROJECT BACKGROUND

The USAID/Afghanistan Office of Education and other development organizations have expressed concerns regarding the quality and validity of data reported by Afghanistan's Ministry of Education (MoE), principally collected through the Education Management Information System (EMIS). Because of these concerns, development partners believe there is a need for a thorough and robust independent verification of current EMIS data.

Development partners, in particular the World Bank and the Danish International Development Agency (DANIDA), have helped build the MoE's capacity to manage data since 2006. While EMIS has steadily improved, it still relies on source data collected at the school and district levels, where training and procedures remain inadequate and officials may have incentives to inflate data. Efforts are ongoing, and USAID is working with other donors and the MoE to implement assessments and activities to systemically improve the ministry's capacity to report reliable data.

In 2015, the MoE began to directly address USAID's and other donors' concerns about data reliability. First, the MoE's Academic Supervision Department conducted a data quality assessment (DQA) to verify a sample of EMIS data including 6,000 schools in all 34 provinces. Second, the Global Partnership for Education contracted a local Afghan consultancy to conduct an independent DQA of a sample of 1,617 schools in 24 provinces. Third, in an August 2015 meeting with donors, the MoE described plans to conduct a national verification assessment of EMIS data, a process that would be institutionalized and conducted on an annual basis. Finally, the MoE developed a five-year strategic plan for EMIS that includes integrating it with other MoE databases and increasing the functionality of the system at provincial and district levels.

2. PURPOSE OF THE DATA QUALITY ASSESSMENT

The USAID/Afghanistan Mission tasked the SUPPORT II project with conducting a DQA of the MoE's EMIS. The DQA was designed to:

1. Describe the overall data quality of EMIS at the national level
2. Describe the overall data quality associated with USAID-constructed schools (including functionality)
3. Provide feedback on province-level data quality
4. Describe how EMIS data is gathered and reported from schools to the central level
5. Provide recommendations for improving the data collection process to promote greater data quality

3. DQA QUESTIONS

The five evaluation questions are as follows:

1. Are there discrepancies in the data between what is found in the field and what is being reported by the EMIS and, if so, where is the area(s) of greatest variance? Are there a significant number of “ghost” schools, teachers, and students?
2. How is the data being collected, processed, and reported?
3. How adequate is the record-keeping and communication channels between schools, District Education Departments (DEDs), the Provincial Education Directorates (PEDs), and the MoE?
4. What are the challenges and weaknesses in the EMIS system that needs to be addressed?
5. What areas of data collection, processing, and dissemination need support and further improvement?

The answers to these questions are documented in the Findings section below.

4. METHODOLOGY

The DQA Team used a mixed-methods approach for collecting and analyzing data. From the EMIS team itself and USAID, the Team gathered and reviewed relevant data and literature. The team also held interviews and focus groups with the relevant education sector stakeholders, visited schools for observations, and conducted a survey of 628 schools, as explained below.

Table 1: Methods Used for Collecting Data

#	Method	Data	Sources
1	Document Review	Reports on EMIS, EMIS database	Reports to USAID, USAID documents, Project records (to the extent available) Government publications – whether on line or from the relevant ministries.
2	In-depth interviews with key informants/ stakeholders	Notes and transcripts	Key informants/ stakeholders
3	Data Review	EMIS database and previous reports	MoE EMIS database (Quantitative)
4	Observation (field visits)	Observations of systems and processes, and EMIS records	MoE and school field sites, EMIS data entry forms and records (paper and electronic)
5	Survey	Survey data	SDLR monitors, who visited schools

a. Survey Timing

Survey data was collected from December, 2015 – February, 2016 and was designed to compare education data related to the Afghan year 1394 (mid-March 2015 - mid-March 2016). At the time of data collection most schools were on winter vacation following the end of the 1394 school year. However, some schools in the warmest parts of the country begin in September following a summer holiday. Of surveyed schools, 82% were on a winter holiday schedule and 18% were on a summer holiday schedule.

The verification work was phased, dependent on a district’s status as a “warm-weather” or “cold-weather” school. Within the cold-weather group, the DQA team prioritized schools in extremely remote and/or snowy areas. Work began in that most difficult sub-section first. Once those teams began and there was a period of one-to-two weeks of intense supervision, verification began in other cold-weather schools. Following a similar supervision period of one-to-two weeks, verification began in the second group of warm-weather schools.

b. DQA Verification Tool

The verification tool used for the DQA is based on the existing EMIS tool so that data is comparable, and so that already-tested translations and wording are used. The key indicators for the verification exercise were:

- Existence and educational usage of schools

- Number of qualified teachers employed, as recorded by the school, disaggregated by gender
- Number of students enrolled, as recorded at the school, disaggregated by gender
- GPS coordinates for each school location

Originally it was planned to compare head counts of teachers and students as well, but as data collection took place during the school holidays in most schools, very few head counts were possible. Other key EMIS questions were retained in the verification tool, but these were limited to allow the verification team to focus on the above key indicators. The discrepancies between the EMIS-reported numbers of teachers and students and the numbers recorded in schools are reported. GPS coordinates and geo-tagged photos were taken at most, but not all, school locations using mobile survey technology.

The data collection tool is included in Annex 2.

c. Sampling

The DQA sample included the following groups of schools, surveyed with the same tool:

1. A nationally-representative sample of 591 schools, stratified by province to ensure a sample proportional to the number of schools in each province.² This sample is sufficient to generate a margin of error of +/- 4% or less. Sampling of these schools was done using the 1393 EMIS dataset since, at the time; the 1394 dataset was not yet available.
2. A random sample of 326 USAID-constructed schools (from a list of 566), sufficient to make a similar estimate.³
3. At least twelve schools per province were randomly selected from the EMIS dataset, in order to yield at least ten schools per province.

When monitors were unable to visit a school because of security conditions or winter weather, they were instructed to ask the Survey Manager for a replacement school in the nearby area. In some cases, no nearby school could be reached, and the school was not replaced.

The table below shows the planned sample size for each province, the number of schools for which questionnaires were successfully filled, and the number of schools that were reported by monitors as permanently closed, despite being listed on EMIS records. Overall, 88% of the planned sample was surveyed.

Of the 628 schools with survey data, 81 could not be matched to a corresponding school in EMIS. In the majority of these cases, the unmatched schools came from the USAID list. Many of the USAID-constructed schools were kindergartens, training centers, or other schools that were not necessarily listed in EMIS. Another problem found was that the names of USAID-constructed schools, written in English script, may not have been the same as the name recognized by EMIS. In fact, some USAID-constructed schools could not be found because the name listed was unknown to the communities. For example, monitors tried to identify “Mansoor Abad Primary School” in Kandahar province but found that while there were many primary schools in the area, none were known by that name.

Of the 547 schools with matching EMIS and survey data, not all had complete survey information. Staff information was available for 519 matching schools (95%) whereas student information was available for 491 schools (90%). In some cases missing information can be attributed to the school not having the appropriate register. In other cases, the missing information can be attributed to incomplete forms or incorrect coding of the unique id.

² For example, the sample included more schools in Herat and less in a less populated province like Nuristan, based on number of schools in the province.

³ Fewer are needed in this sample given that it is a small, finite population.

Table 2: Planned and Actual Sample Size, by Province

	Planned Sample Size	Schools with Data	Schools Reported as Closed	% of Sample Surveyed	Explanation for low or high coverage
Badakhshan	25	22	-	88%	
Badghis	20	11	-	55%	Much of the Badghis data was not accepted due to quality issues and lack of GPS coordinates.
Baghlan	23	23	2	100%	
Balkh	35	31	1	91%	
Bamiyan	19	14	-	84%	
Daikundi	12	11	-	92%	
Farah	22	16	-	73%	
Faryab	31	13	-	42%	Data collection was halted after a serious security incident.
Ghazni	26	21	-	81%	
Ghor	26	6	-	23%	Most Ghor data was not accepted due to quality issues and lack of GPS coordinates.
Helmand	18	16	-	89%	
Herat	56	49	2	91%	
Jawzjan	19	14	-	74%	
Kabul	63	61	1	98%	
Kandahar	25	17	4	84%	
Kapisa	12	7	-	58%	Several Kapisa schools were not accepted due to quality issues.
Khost	24	24	-	100%	
Kunar	19	19	-	100%	
Kunduz	27	29	-	107%	Uncoordinated replacement led to two schools more than required.
Laghman	15	14	-	93%	
Logar	12	13	-	108%	Uncoordinated replacement led to one school more than required.
Nangarhar	36	35	-	97%	
Nimroz	12	12	-	100%	
Nuristan	12	10	-	83%	
Paktia	17	13	4	100%	
Paktika	15	12	1	87%	
Panjsher	12	12	-	100%	
Parwan	23	24	-	104%	
Samangan	17	15	-	88%	
Saripul	12	11	-	92%	
Takhar	29	21	6	93%	
Uruzgan-	12	12	-	100%	
Wardak	17	18	-	106%	Uncoordinated replacement led to one school more than required.
Zabul	12	2	-	17%	Much of the Zabul data was not accepted due to quality issues and lack of GPS coordinates.
TOTAL	755	628	21	88%	

d. Cross-Verification of Survey Data

Data collection was done by a local survey firm called Social Development & Legal Rights - Afghanistan (SDLR). To ensure data quality for this effort, the DQA Team implemented a cross-verification procedure. The following actions were taken by the EMIS DQA Team in order to assure data quality from the field, particularly in rural and geographically remote areas, as well as insecure districts (where possible for local national staff to travel).

1. *Phone interviews.* The names and contact numbers of principals and other key informants, such as village elders, were collected and randomly called to verify the data collected.
2. *Geo-tagging and photos.* We asked the enumerators to take pictures of all key documents, such as teaching report books and attendance sheets, using GPS-equipped cameras. We also asked enumerators to take photos of themselves in front of schools to verify their visit.
3. *School site visits.* We randomly selected a small sample of schools after the enumerator teams had visited the sites and gathered data. The EMIS DQA Team data was then compared with the data gathered and reported by the enumerators to determine whether or not any discrepancies exist.
4. *Community member meetings.* We organized meetings with community (male and female) members to make sure the schools actually exist and the education process is normally going on. Part of this inquiry included asking community members whether or not the schools are active, the designation given to schools in the EMIS database. The Data Verification Tool includes questions for school management *shura* (SMS) members.

The DQA Team traveled to schools in all five regions (including Kabul) to cross-check data gathered by the enumerator teams. In each region, the Team visited at least two schools in order to spot-check the data collection process. The cross-checking was combined with the exploration of the holistic EMIS system in order to maximize time and efficiencies in the field.

Despite the quality control procedures, data from some schools was rejected in the data cleaning phase, due to internal inconsistencies or incomplete fields. Data quality problems were particularly prevalent in Kapisa, Ghor and Zabul provinces, and resulted in much lower numbers of surveyed schools than planned in those provinces.

e. Analysis

Quantitative survey data was matched with EMIS data by unique school ID and merged into a single data file using STATA 14.0. Differences between matched data and the relevant confidence intervals were also calculated with the STATA statistical program.

Content analysis of qualitative data was supported by AtlasTi 7, a qualitative analysis software tool. This method is a procedure for categorizing verbal or behavioral data, for the purposes of

classification, summarization, and tabulation. The qualitative analysis consisted of coding narrative documents (e.g., field reports and notes) and photographs, and then analyzing the data using qualitative methods that included the use of concept maps to indicate relationships between the data.

f. Limitations

The DQA was beset by serious security incidents and a number of limitations that affected the quality of quantitative data management and the timeline. Limitations to note include:

- The loss of the Survey Manager during data collection greatly affected data management. The result was that some detailed information about replacements and closed schools was lost and some survey data which could not be properly matched together had to be omitted, resulting in a smaller than planned final sample;
- Serious security threats to field monitors in the provinces of Faryab, Nuristan and Paktika, including the kidnapping of a monitoring team which halted the survey in one province;
- The timing of the survey coincided with winter vacation and led to difficulty accessing many schools, inability to do head counts, and difficulty confirming whether schools were fully operational;
- Errors in tracking replacement schools against the original sample list meant that the USAID-constructed and nationally representative samples couldn't be differentiated in order to provide separate estimates;
- Substantial issues with insecurity throughout the country meant that 81 schools had to be substituted with nearby schools and 88 schools were neither visited nor substituted;
- Lack of cooperation in the field by provincial education directorates;
- Enumerators did not adhere to the assessment protocols and data from the majority of schools in four provinces could not be included in the assessment; and

The rate at which originally sampled schools couldn't be surveyed was fairly high (23%), yet similar to that recorded by other national surveys in Afghanistan, where security concerns have only grown in the past years. As a result of the general security situation and the above limitations, the data presented here cannot be described as nationally representative for statistical purposes. The data are, however, useful for exploring the EMIS data and identifying data quality challenges.

III. FINDINGS

The EMIS DQA Team’s findings are organized according to the five questions specified in the Scope of Work (SOW).

1. DISCREPANCIES BETWEEN EMIS DATA AND SURVEY DATA

The DQA Team found that, overall, EMIS data tended to be higher than survey data. On an individual school level, data from EMIS and the survey usually matched roughly, although almost never exactly. The lag between submission of EMIS data and the conduct of the survey is likely to blame for these small discrepancies. However, the DQA Team also found larger differences in many schools.

The DQA found a statistically significant difference between EMIS student data and counts as recorded in the survey data from schools records, with EMIS counts on average 37.1 students higher than survey findings. Male student data were similarly found to be statistically significantly higher according to EMIS, however, there was no statistically significant difference between EMIS and the survey data for female students. Total teacher counts were also higher according to EMIS, by an average of 0.39 teachers, although the difference wasn’t statistically significant. A statistically significant difference was found for female teachers only, who were found in greater numbers by the survey as compared to EMIS (on average, the survey found 0.85 female teachers more than EMIS). Due to the timing of the survey, this DQA was unable to answer the important question of how well the number of teachers and students recorded by EMIS correlates with the number of actual teachers and students in classrooms.

The following section discusses the count comparisons for teachers and students in more detail.

a. Teacher Counts

The task of collecting teacher data in schools was made more challenging by the fact that in 17% of schools, documents were not available. Monitors collected teacher data in 497 schools, approximately 86% of which was verified by documents.

After data collection finished, the DQA team learned that EMIS teacher figures include certain types of admin staff called “*aamer* and *mudeer tadressi*” because, according to the MoE, they have teaching hours. While the DQA form asked for the number of administrative personnel according to the *tashkeel*, they were not recorded in these categories. In January, following data collection, the EMIS Data Analyst provided a file of *aamer* and *mudeer tadressi* staff. At this point the data could not be integrated to the working dataset, but it was observed that, according to EMIS, an average active school has 0.54 such staff (0.48 male and 0.06 female). Counts were adjusted based on these averages.

For each school with matching EMIS and survey data, the DQA team calculated the difference between total teacher counts and counts for male and female teachers. The mean difference is 0.93 (95% CI: 0.31 – 1.55), meaning that on average EMIS shows that a school has 0.93 more teachers than the survey data found. Accounting for the administrative personnel which were not captured by the survey, the average difference is reduced to 0.39 (95% CI: -0.24 – 1.01). With the adjustment the 95% confidence interval crosses zero. The data do not reject the hypothesis that there is no difference between Ministry and survey counts. In other words, the difference found between EMIS teacher counts and survey teacher counts is not statistically significant.

The histogram below shows the distribution of count differences, slightly skewed to the left, and there are more differences above zero than below zero. The following table shows that while almost two-thirds of the count comparisons are within two teachers, one quarter of the comparisons show that EMIS has three or more teachers as compared to the survey.

Figure 1: Histogram of Teacher Count Differences

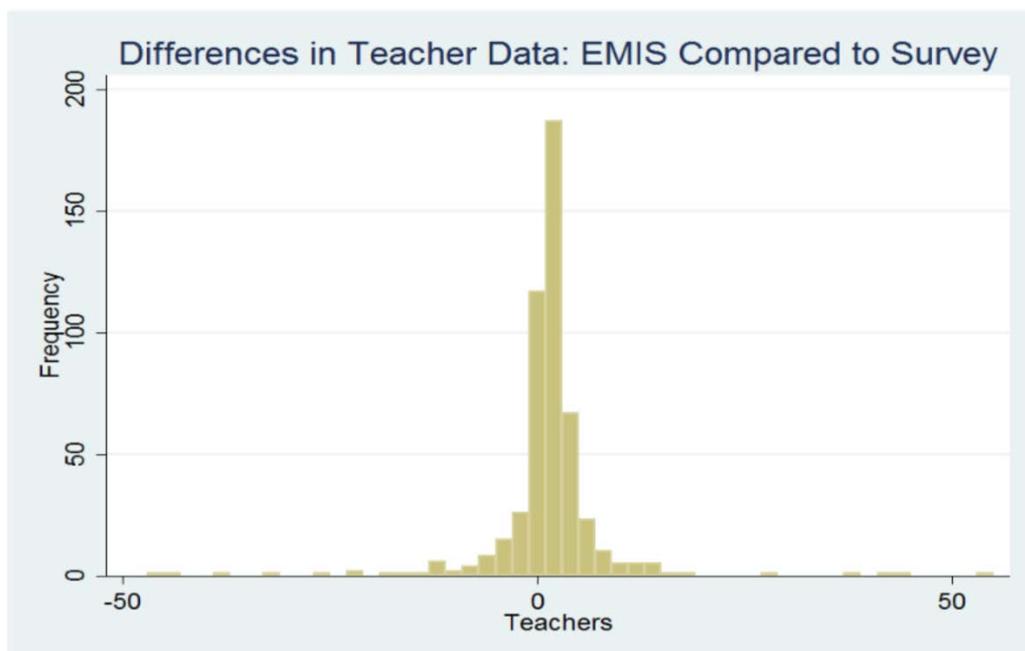


Table 3: Total Teacher Data Comparison: EMIS to School Record Checks

	Discrepancy Found	#	% (n=497)
Survey shows more teachers	Survey found 7+ more teachers more than EMIS	24	4.9%
	Survey found 3 – 6 more teachers more than EMIS	30	6.0%
Data are similar	Little discrepancy; counts are within 2 teachers	321	64.6%
EMIS shows more teachers	EMIS shows 3 – 6 more teachers than the survey	90	18.1%
	EMIS shows 7+ more teachers than the survey	32	6.4%

Female Teachers

The mean difference between EMIS female teacher counts and survey teacher counts is -0.78 (95% CI: -1.48 - -0.07), meaning that on average the survey found 0.78 more female teachers per school than recorded by EMIS. The median difference was zero. The MoE reports very few female administrative staff in the category of *aameer* and *mudeer tadressi*: on average, 0.07 per school. Adjusting for these staff, the difference in counts is -0.85 (95% CI: -1.6 - -0.13). Thus, the data suggests a statistical difference, though slight, between the data, with survey counts higher than ministry records. Almost 80% of teacher data comparisons were found to be within 2 teachers.

Table 4: Female Teacher Data Comparison: EMIS to School Record Checks

	Discrepancy Found	#	% (n=339)
Survey shows more teachers	Survey found 7+ more female teachers more than EMIS	22	6.5%
	Survey found 3 – 6 more female teachers more than EMIS	20	5.9%
Data are similar	Little discrepancy; counts are within 2 teachers	268	79.0%
EMIS shows more teachers	EMIS shows 3 – 6 more female teachers than the survey	19	5.6%
	EMIS shows 7+ more female teachers than the survey	10	3.0%

Male Teachers

The mean difference between EMIS and the survey male teacher count is 1.00 (95% CI: 0.44 – 1.56), indicating that on average EMIS reports were one male teacher greater than that found by the survey. However, when adjusting for the male administrative personnel not counted in the survey – on average 0.48, according to EMIS records - the average difference in counts is 0.52 (95% CI: -0.4 – 1.1). This difference is not statistically significant. Approximately two-thirds of male teacher count comparisons were found to be within two teachers.

Table 5: Male Teacher Data Comparisons: EMIS to School Record Checks

	Discrepancy Found	#	% (n=486)
Survey shows more teachers	Survey found 7+ more male teachers than EMIS	18	3.7%
	Survey found 3 – 6 more male teachers than EMIS	28	5.8%
Data are similar	Little discrepancy; counts are within 2 teachers	322	66.3%
EMIS shows more teachers	EMIS shows 3 – 6 more male teachers than the survey	92	18.9%
	EMIS shows 7+ more male teachers than the survey	26	5.4%

Differences in Teacher Counts by Key Factors

The DQA team explored differences in counts by factors including school-reported security, whether the school was urban or rural, whether the school had had a visit by EMIS staff in the past year, and whether the school was a boys’ or girls’ school. No differences were found to be statistically significant, though this may be a result of the small numbers that fit into certain categories. When count differences were analyzed by school-reported security, we found that EMIS counts were higher than survey counts in “secure” schools (on average 0.6 more teachers reported by EMIS; 95% CI: -0.2 - 1.4). Smaller differences were found in teacher data in “insecure” schools (on average 0.2 more teachers reported by the survey; 95% CI: -1.16 – 0.7). The difference by security is not statistically significant.

There was no difference in counts by urban/rural status (EMIS was found to be 0.4 teachers higher in rural schools versus 0.3 teachers higher in urban schools). Count differences were found to be somewhat higher in schools that had been visited by EMIS (0.5 teachers as compared to -0.2), but the difference was not statistically significant. No significant differences were found between girls’ and boys’ schools (EMIS was found to be 0.8 teachers higher in boys schools; 95% CI: -0.22 –

1.9, and 0.03 higher in girls' schools; 95% CI: -1.0 – 1.0). Mixed gender schools were omitted for the purposes of exploring possible association.

Differences in Teacher Counts by Province

Table 6 and Map 1 show differences in teacher data by province. Because the numbers of schools in each province are small, the differences must be interpreted with caution. None are large enough to provide a robust estimate. Positive mean differences signify higher EMIS counts (corresponding with red shading in Map 1); negative differences signify higher survey counts (corresponding with green shading in Map 1). Differences of two teachers or more are highlighted. All mean differences are adjusted to account for the average number of administrative personnel in a school, which was not captured in the survey.

Map 1: Teacher Data Comparison, By Province

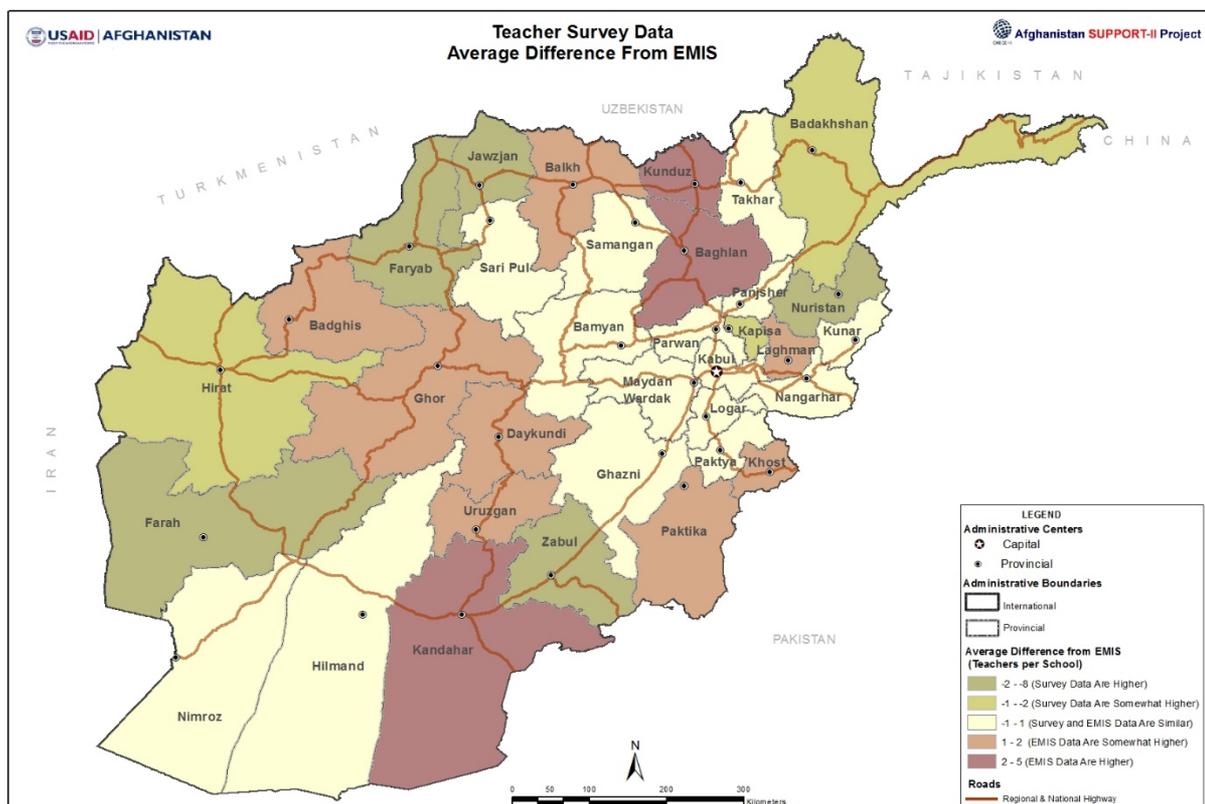


Table 6: Teacher Data Comparison, By Province*

Province	TOTAL		MALE		FEMALE	
	N	Mean Difference	N	Mean Difference	N	Mean Difference
Badakhshan	20	-1.14	20	-1.48	20	0.33
Badghis	7	1.16	6	4.52	1	-2.07
Baghlan	18	4.36	18	3.62	16	0.93
Balkh	25	1.96	24	1.92	16	0.13
Bamiyan	14	0.86	14	2.32	10	-2.37
Daikundi	11	1.96	10	1.02	10	0.93
Farah	15	-5.64	13	-1.78	8	-8.37
Faryab	11	-4.24	11	-2.68	10	-1.77
Ghazni	19	-0.44	18	0.22	11	-2.77
Ghor	4	1.76	4	1.82	0	_***
Helmand	10	0.96	10	1.32	4	-0.87
Herat	40	-1.44	31	0.12	33	-3.17
Jawzjan	12	-3.14	12	-1.78	10	-1.57
Kabul	34	0.66	31	-1.38	26	-0.27
Kandahar	12	4.16	12	4.32	1	-1.07
Kapisa	7	-1.64	7	-1.38	2	-2.57
Khost	23	1.76	23	1.82	8	-0.07
Kunar	19	0.26	19	0.32	11	-0.97
Kunduz	25	4.76	25	3.82	22	1.03
Laghman	13	1.06	13	1.02	13	0.03
Logar	10	-0.14	9	-0.08	5	-0.07
Nangarhar	23	0.66	23	0.62	17	0.03
Nimroz	12	-0.64	10	-0.38	9	-0.37
Nuristan	9	-7.74	9	-6.48	2	-5.57
Paktia	12	0.46	12	0.52	11	-0.07
Paktika	8	1.76	8	2.52	8	-0.87
Panjsher	12	-0.24	12	-1.38	10	1.43
Parwan	22	0.06	22	0.12	7	-0.17
Samangan	14	0.56	12	1.62	10	-0.97
Saripul	10	0.56	3	-0.18	4	0.43
Takhar	18	-0.84	18	0.32	9	-2.27
Uruzgan-	12	1.26	10	1.42	1	-0.07
Wardak	16	-0.24	15	0.72	13	-1.17
Zabul	2	-7.54	2	-3.48	1	-8.07
TOTAL	519	0.39	486	0.52	339	-0.87

*Adjusted to account for administrative personnel included in EMIS data but not captured in survey checks.

**No female teachers in sampled schools.

b. Total Student Counts

DQA monitors collected numbers of students as recorded in enrollment and attendance registers. The fact that most schools were visited during the winter holiday meant that in 80 schools monitors did not have access to the headmaster and had to interview another school official. Of 617 schools for which the data collector filled a student form, 70 schools did not have an official registration book (11.4%) and reporting using unofficial lists or figures. This number is most likely higher than it would be when school is in session and officials are more likely to be available.

The student count comparisons displayed below are made between EMIS and survey data. In approximately three-quarters of these schools (73.4%), comparisons are made with enrollment data as taken from official MoE enrollment registers (*kitab asas*). In cases where enrollment register figures weren't available, comparisons were made with attendance registers. Results differed depending on the method used. When enrollment data was available, the average difference in counts was 40.3 students. When attendance data had to be used the average difference in counts was 28.3 students. This suggests that attendance is closer to EMIS figures than enrollment was, and might result in a slight underestimate of the difference between enrollment and attendance.

For the purposes of calculating average count differences, outlying differences of more than 2,000 students were removed (five cases), as were count differences by sex which appeared to be caused by entering data into the wrong sex category (nine cases). This resulted in 489 schools with EMIS and survey total student counts and 484 schools with EMIS and survey student counts for male and female students.

Total Counts

The average difference between EMIS student data and survey school data was 37.1 (95% CI: 11.9 – 62.3), a statistically significant difference which suggests that EMIS records show more students as compared to school records.

The histogram below shows that the distribution of student count differences is similar to that of the teacher count differences, with more differences falling in the positive range than the negative range. The following table shows that while 38% of student counts were within 19 students, 39.1% of counts showed that EMIS had 20 or more students as compared to survey data. More than a quarter of comparisons showed that EMIS had 50 or more students as compared to survey data.

Figure 2: Histogram of Student Count Differences, EMIS Compared to Survey Data

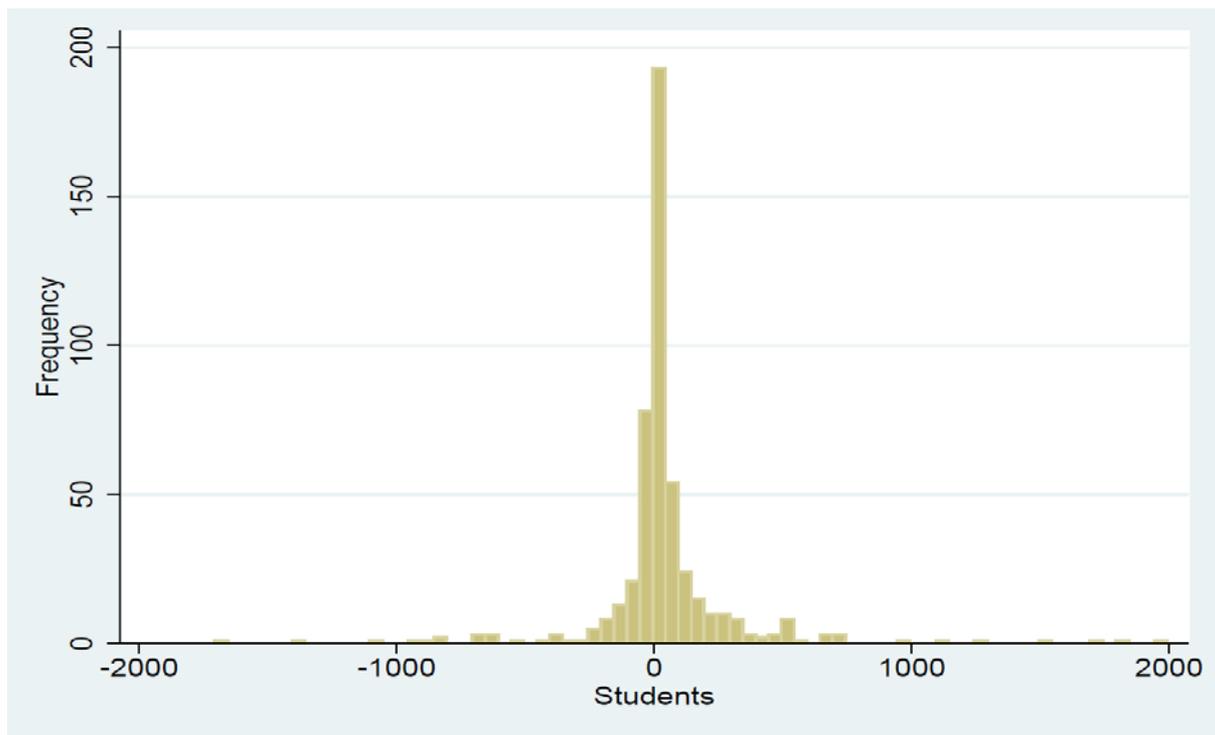


Table 7: Total Student Data Comparisons: EMIS to School Records Check

	Discrepancy Found	#	% (n=489)
Survey shows more students	Survey found 50+ more students than EMIS	74	15.1%
	Survey found 20 - 49 more students than EMIS	39	7.9%
Data are similar	Little discrepancy, within 19 students	186	37.9%
EMIS shows more students	EMIS shows 20 – 49 more students than the survey	53	10.8%
	EMIS shows 50+ more students than the survey	139	28.3%

Female Student Counts

For female students, the average difference between EMIS and survey data was 16.8 students (95% CI: -2.0 – 35.6), indicating that on average EMIS showed 16.8 more female students per school than did the survey. The difference for female student counts was not statistically significant.

Table 8: Female Student Data Comparisons: EMIS to School Records Check

	Discrepancy Found	#	% (n=484)
Survey shows more female students	Survey found 50+ more female students than EMIS	39	8.1%
	Survey found 20 - 49 more female students than EMIS	28	5.8%
Data are similar	Little discrepancy, within 19 female students	305	63.0%
EMIS shows more female students	EMIS shows 20 – 49 more female students than the survey	41	8.5%
	EMIS shows 50+ more female students than the survey	71	14.7%

Male Student Counts

For male students, the average difference between EMIS and survey data was 28.3 students (95% CI: 10.5 – 46.1), indicating that on average EMIS showed 28.3 more male students per school than did the survey. This difference was found to be statistically significant, suggesting there is likely a difference between EMIS counts and those found in school records.

Table 9: Male Student Data Comparisons: EMIS to School Records Check

	Discrepancy Found	#	% (n=484)
Survey shows more male students	Survey found 50+ more male students than EMIS	50	10.4%
	Survey found 20 - 49 more male students than EMIS	29	6.0%
Data are similar	Little discrepancy, within 19 male students	254	52.7%
EMIS shows more male students	EMIS shows 20 – 49 more male students than the survey	44	9.1%
	EMIS shows 50+ more male students than the survey	105	21.8%

Percentage differences

The absolute difference provides one way to review the student count data, although differences in smaller schools can be masked by results of larger schools. Percentage difference offers another

perspective. Since the survey found fewer students than EMIS records, we used the formula below to calculate the overall percentage decrease. For the 494 schools with both EMIS and survey student counts, overall we found that survey counts were 8% lower than EMIS counts. For the 494 schools with both EMIS and survey counts for students by sex, we found that survey counts of female students were 1% lower than EMIS counts while survey counts of male students were 12% lower than EMIS counts.

*For percentage decrease (where survey data is lower than EMIS) = $(X_{EMIS} - X_{survey}) / X_{EMIS} * 100$*

The following table shows mean and percent differences in student data by province, along with mean differences by sex. Where EMIS data was higher than survey data, the above formula was used to calculate the percentage decrease. Where survey data was higher, the following formula was used.

*For percentage increase (where survey data is higher than EMIS) = $(X_{survey} - X_{EMIS}) / X_{EMIS} * 100$*

For mean differences, please note that a positive mean difference signifies a higher EMIS count while a negative difference signifies a higher survey count. Mean differences of 50 students or more are highlighted, as are percentage differences of 15% or more.

Differences in Student Counts by Key Factors

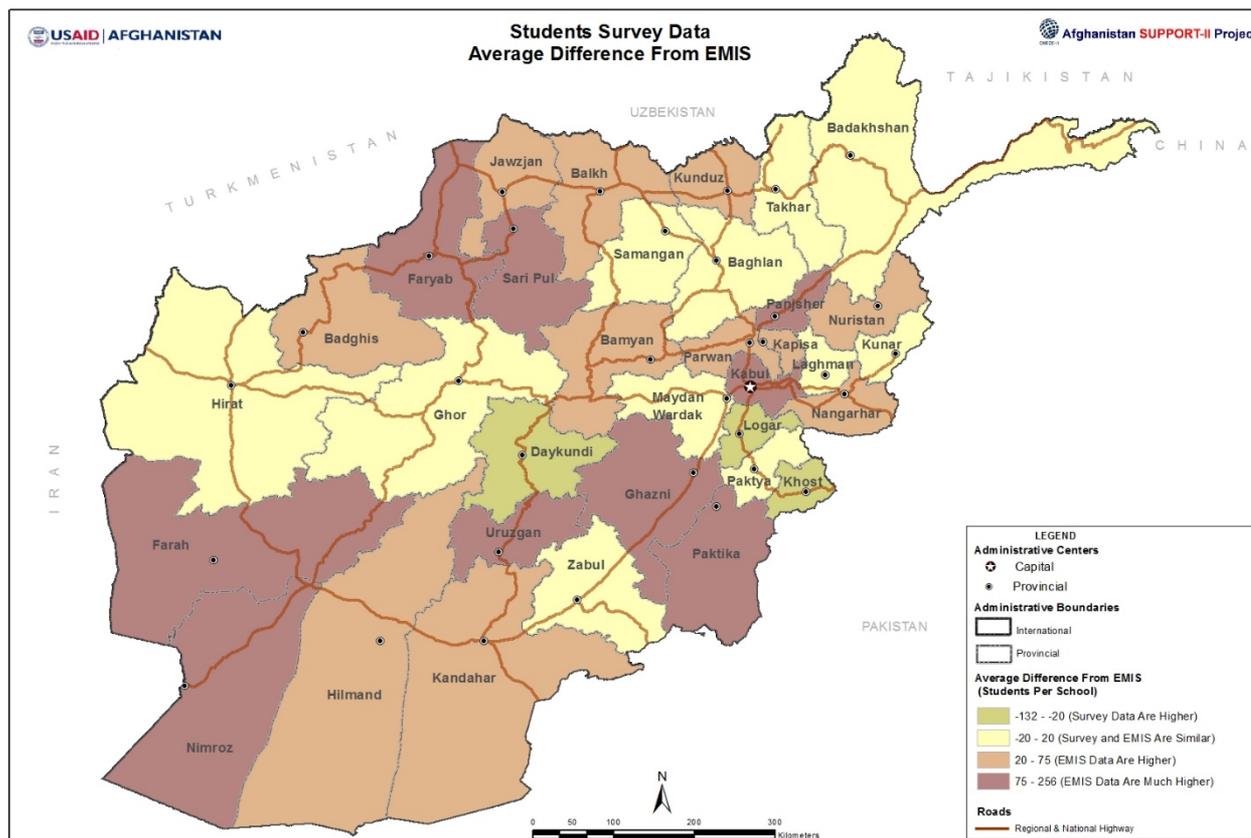
As for the teacher count data, the DQA team explored differences in student counts by factors including school-reported security, whether the school was urban or rural, whether the school had had a visit by EMIS staff in the past year, and whether the school was a boys' or girls' school. No difference was found by school-reported security category (34.3 for insecure schools and 38.2 for secure schools). Differences were slightly greater for urban schools as compared to rural (59.5 for urban schools and 27.3 for rural schools); for schools which had been visited by EMIS as compared to those that had not been visited (42.3 for visited schools and 21.1 for non-visited schools); and for girls schools as compared to boys' schools (54.9 for girls' schools and 19.8 for boys' schools), however these differences were not statistically different.

Table 10: Mean and Percentage Differences between Student Count Data, by Province and Sex

Province	TOTAL			MALE		FEMALE	
	N	Mean Difference	Survey % Difference From EMIS	N	Mean Difference	N	Mean Difference
Badakhshan	21	-18.9	2.8% higher	21	-31.1	21	12.2
Badghis	6	72.2	18.2% lower	5	78.6	5	8
Baghlan	18	10.7	1.2% lower	18	11.4	18	-0.7
Balkh	26	24.5	1.8% lower	25	53	25	-28
Bamiyan	12	28.1	7.2% lower	11	23.6	11	-3.3
Daikundi	11	-23.7	4.7% higher	11	0.1	11	-23.8
Farah	15	77.1	15.1% lower	15	-26.3	15	103.4
Faryab	11	200.7	18.4% lower	11	88.5	11	112.3
Ghazni	16	132.9	22.2% lower	16	114.6	16	18.3
Ghor	4	2.5	0.1% lower	4	0.25	4	2.3
Helmand	10	42.6	4.0% lower	10	27.2	10	15.4
Herat	38	12.8	1.2% lower	37	25.6	37	4.2
Jawzjan	13	74.3	7.1% lower	13	51.8	13	22.5
Kabul	32	107.3	14.9% lower	31	132.8	32	-0.4
Kandahar	11	25.3	8.0% lower	11	16.1	11	9.2
Kapisa	6	40.5	9.2% lower	6	39.3	6	1.2
Khost	21	-110.3	9.7% higher	21	-142.5	21	32.2
Kunar	18	5.5	1.2% lower	18	-0.7	18	6.3
Kunduz	24	43.3	17.3% lower	24	28	25	12.9
Laghman	13	11.6	1.8% lower	13	12.3	13	-0.7
Logar	8	-132.1	23.7% higher	8	2.3	8	-134.4
Nangarhar	24	20.9	2.4% lower	24	21.7	24	-0.8
Nimroz	9	256.2	24.9% lower	9	126.1	9	130.1
Nuristan	5	53.8	23.4% lower	5	32.4	5	21.4
Paktia	8	-14.6	3.8% higher	8	74.6	8	-89.3
Paktika	8	97.9	19.9% lower	7	25.4	7	86.4
Panjsher	12	79	15.1% lower	12	5.6	12	73.4
Parwan	22	60.9	12.2% lower	21	13.8	21	50.9
Samangan	15	-14.9	2.2% higher	14	-16.3	14	5.4
Saripul	10	100.5	15.6% lower	10	65.2	10	35.3
Takhar	17	-13.1	1.6% higher	16	-42.6	16	32.2
Uruzgan	10	98.8	42.5% lower	10	35	10	63.8
Wardak	16	16.4	4.5% lower	16	-5.6	16	22
Zabul*	1	(same)	(same)	(same)	(same)	-	-
Total	489	37.1	8.10%	481	28.3	484	16.8

*In Zabul, data from the one school matched exactly.

Map 2: Student Data Comparison, By Province



c. General Notes on Count Comparisons

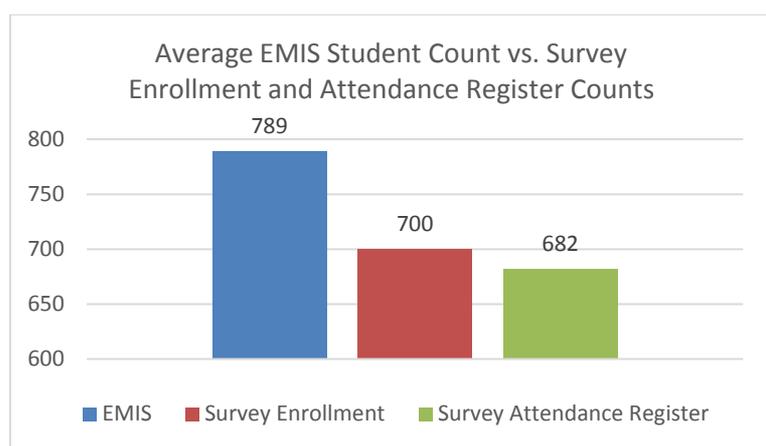
In future DQAs when teacher head counts are done, it is important to define “teacher” carefully. During this DQA, in 14% of schools monitors did not find official documents and thus had to rely on unofficial lists or the report of school officials. Where documents were available, we found a smaller difference between EMIS and survey data, with EMIS having 0.2 teachers more on average. Where documents were not available (71 schools), we found a larger difference, with EMIS having 1.5 teachers more on average. The difference was not statistically significant, however. When head counts of teachers are planned, it will be important to be sure monitors are counting the same categories of teachers that EMIS reports.

In the process of analysis, it was noted that in some schools teacher and students counts by sex appear to be recorded in the wrong category (male versus female, or vice versa), either by EMIS staff or survey staff. This issue will be noted for careful checking in the future. If caught during field work, the correction can easily be made if it is an issue with survey data, rather than a mistake in EMIS.

d. Comparison of Enrollment to Attendance Data

The DQA verification form was designed to collect data from both the enrollment and attendance registers, so as to compare both to EMIS. The DQA team was not provided with EMIS attendance data, so no comparison to attendance registers could be made. However, we note that for the 283 schools that had both enrollment and attendance data from the survey, the average survey enrollment count was 700 while the average survey attendance register count was 2.6% lower, with 682 students. This difference provides an idea of how closely the two registers track, on average.

Figure 3: Average EMIS Student Count Vs. Enrollment and Attendance Records Checks



e. Permanently Closed Schools

One of the key objectives of the DQA was to identify “ghost schools,” defined as schools that are listed in EMIS as active but in fact have permanently closed. According to survey protocol, monitors were to categorize a school as permanently closed only if they visited and collected GPS coordinates, and verified with PEDs, DEDs, and local community *shuras* to ensure no errors in reporting were made due to wrongly spelled names or mis-representation of location. After the loss of the Survey Manager during data collection, the tracking of these criteria was not carefully recorded. Nevertheless, as monitors have clearly listed 21 schools as permanently closed, we have used that figure and 641 schools as a denominator to estimate that at least 3.2% of schools fell into this category. This is likely an underestimate. In some cases a monitoring team was unable to gain cooperation from local officials in order to visit a school. Since school was not in session, it was not possible to verify operation of the school simply by visiting unaccompanied. It is possible that some of these schools with officials who refused monitor visits may not have been operational. In addition, some monitors submitted vague explanations of why they could not visit a school, such as “school is closed,” without confirming whether the schools was permanently closed or whether community members verified the closing. In addition, it was not always clear whether a school

should be considered permanently closed and non-functioning, particularly since the survey was conducted during the winter holidays. These schools were not categorized as permanently closed schools, since they were not confirmed according to protocol. When in doubt, the school was considered active.

While our conservative estimate suggests that 3.3% of schools the DQA Team visited are not functioning, this percentage is likely even lower than the percentage across the country since it doesn't capture the prevalence of closed or non-functioning schools in less secure areas where they are more likely to exist.

2. HOW IS THE DATA BEING COLLECTED, PROCESSED, AND REPORTED?

The EMIS data, including the number of teachers, students, equipment, and infrastructure, is registered and maintained in computerized systems in each PED. Registration and attendance books are normally distributed at the beginning of the year to schools. Data is collected from the schools using a standard paper EMIS form. A designated school staff member, or the headmaster, fills out the paper forms once per year and sends them to the DED, which then checks the forms for accuracy, and sends them on to the provincial education department PED, where the forms are further checked and entered into the digital EMIS system. The hard copies are kept in files at the Provincial level.

All statistical data is collected in the first quarter of the year and, after being entered into EMIS, is maintained on an annual basis. No data collection is conducted in the field by EMIS, though EMIS personnel try to monitor the schools at least once per year as budget, time, and security permits. Schools rarely, if ever, see the data they submit to EMIS before or after it is submitted by the PED to the central MoE. Thus, fundamentally, the EMIS system is fraught with numerous opportunities that can easily lead to errors in data entry as forms are shipped from schools, districts and eventually manually transcribed at the Provincial level.

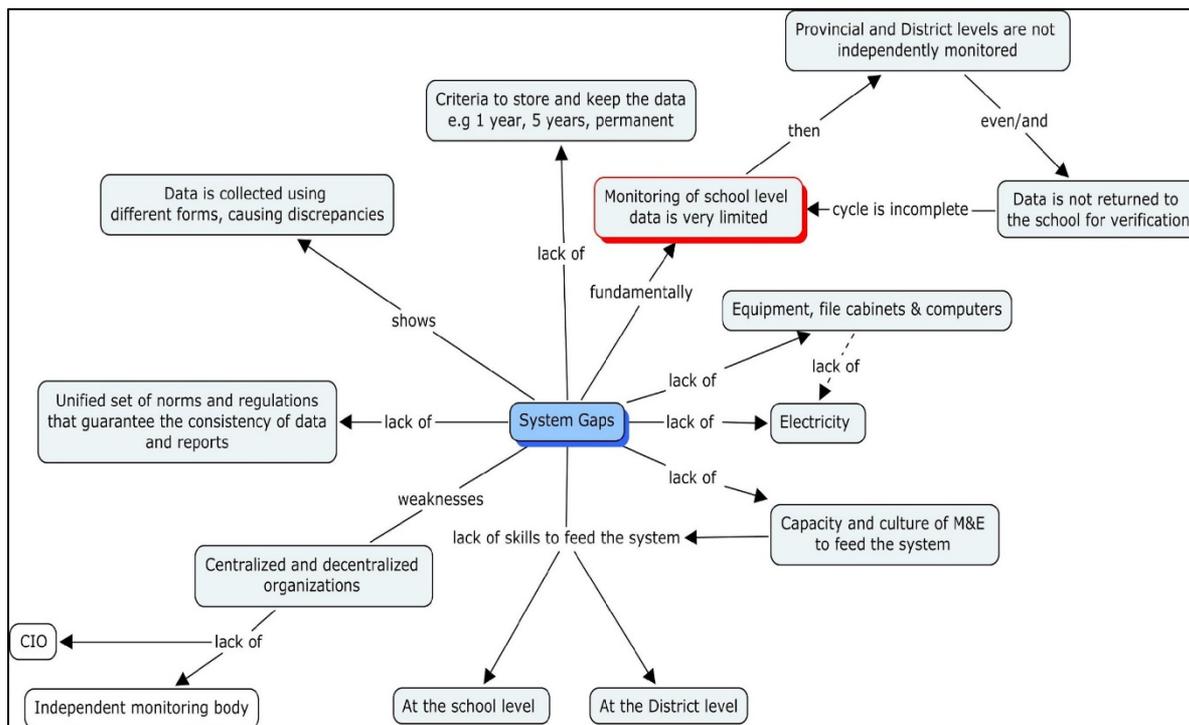
3. WHAT ARE THE CHALLENGES AND WEAKNESSES IN THE EMIS SYSTEM THAT NEED TO BE ADDRESSED?

The EMIS DQA Team conducted in-depth interviews and held focus group discussions with stakeholders involved in data gathering from the field (e.g., from schools). In addition to EMIS officials, these included EQUIP officers, PED and DED officials, General Education Directorate (GED) M&E officers, school headmasters, and teachers. The findings on EMIS data collection, processes, and reporting were analyzed across regions south, west, north, east, and center, which includes Kabul. Challenges and issues identified in interviews and focus groups were similar across regions and provinces.

All five regions showed similar issues and challenges at every level of EMIS. At the school level, there is a lack of capacity to complete the multiple forms and reports required by various departments in the MoE. EMIS officials are not able to visit the schools to monitor the data as frequently as required due to resource constraints such as insufficient personnel and a lack of a transportation budget, not to mention security considerations. The DED offices throughout the country lack needed equipment, such as computers, and EMIS officers often have low capacity and need training in basic data collection and reporting. A synthesis of the qualitative data across all regions revealed that provinces and districts are facing the same issues with regard to the EMIS system: lack of capacity and a culture of M&E, a need for transportation budget to visit schools, over-reliance on often untrained school administrators to enter data correctly into the EMIS forms, and a lack of equipment at the district level. According to many interviewees, a lack of coordination between departments means repetitive and conflicting data is being gathered from the field with comparatively few resources. Multiple requests for the same information are often made in a single year, and staff typically must answer each request with a new effort to gather information, often without the ability to refer to the earlier submission.

Interviewee responses were loaded into the AtlasTi 7 program to identify perceived issues in the current EMIS. Figure 4 visually presents the concept map of system gaps and the relationships between each.

Figure 4: Concept Map of EMIS System Gaps



Data Collection Culture

There is a culture of data collection expressed by interviewees and focus group participants alike, mostly revolving around EMIS data. In Mazar-e-Sharif, the EMIS officer said that it is good practice to share and compare data. In Samangan, focus group participants said they understood the need for tracking students. However, while there may be an expressed understanding of the need for data collection in the schools, capacity in how to effectively gather data and its use in decision making and planning is much more limited. International standards around data gathering and use in education system planning require stringent controls on the data, which are lacking in the EMIS. Key areas missing from the current EMIS data chain include a lack of monitoring, lack of trained data entry personnel, weak verification systems, and overall limited capacity at all levels of the system. For example, EMIS officers interviewed in both the regions and Kabul/MoE were unsure about how they could use the data to aid decision-makers in the MoE in informing planning decisions, and were not able to translate the data into visual tools such as data visualization techniques that can be used to illustrate gaps in the education system, etc.

Data Sources and Collection

Data collection practices and processes are not uniform within or across the provinces. Currently there are no standard operating procedures on how schools should compile and fill in the EMIS forms or on who submits the information. Headmasters in Helmand province usually record data using *kitab-e-Assas* (school enrollment books) and attendance records. This is not necessarily a uniform practice; other provinces may use of other records to report EMIS data. There are no

standardized procedures on who is responsible at the school level for filling out EMIS forms and the type of staff (e.g., headmasters, administrative personnel, teachers) who are currently reporting data at the school level also varies across provinces. Some schools have teachers who are specifically assigned to collect and maintain all school records even though headmasters usually report the EMIS data. In Samangan, teachers in outlying or insecure areas complete the EMIS forms and in Helmand the team was documented that the community *shura* also collects data on students. Regardless of who is collecting the data, the Mazar-e-Sharif EMIS team highlighted the need for additional staff and training to complete the EMIS forms indicating the individual completing the forms needs proper training in how to fill them out.

Who Checks the Data?

Based on international best practices, data verification is an essential component to ensure data validity and reliability. It is important to check and verify data at the source to ensure accuracy; however, in the current EMIS data collection process, verification of data in schools is not done as frequently as it should be.

Across Provinces visited, the verification team was informed that there is insufficient monitoring of the EMIS data from the school level up to the PED level. Although, EMIS officers reported that they should visit schools three times a year, most schools will only receive at most one visit per year from the MoE. According to the survey results, 77% of school officials reported having been visited by either local or national EMIS officers in the last year. Nineteen percent (19%) reported having had a visit from MoE EMIS officials, while 77% reported having had a visit from local EMIS officers. Among the 428 schools that self-reported their security situation as “secure”, 81% received a visit, while 67% of the “somewhat secure” and 76% of the “very insecure” schools reported having received a visit. Urban schools were more likely to receive a visit (90%) than rural schools (71%).

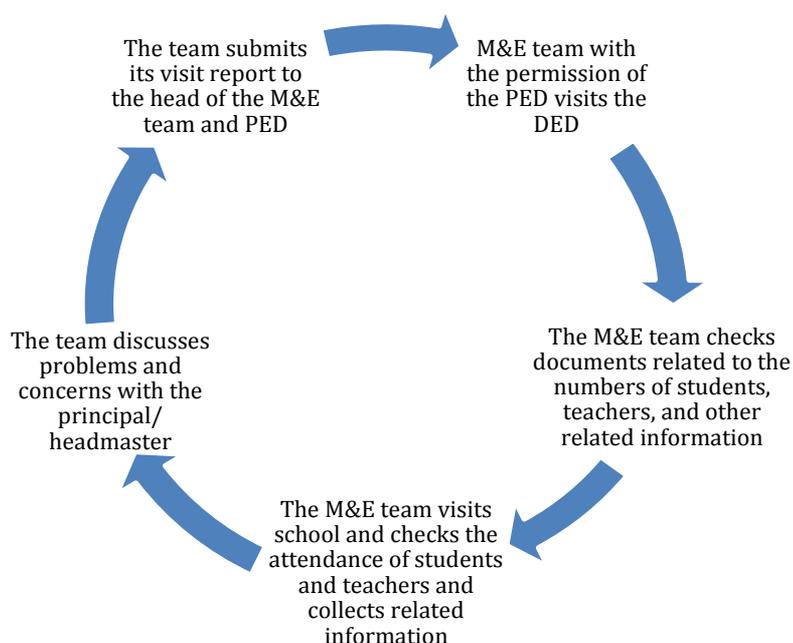
One key finding of the qualitative study in the provinces is the notable variance in school monitoring, not only EMIS monitoring. School monitoring occurs at different rates in the provinces and is hampered by a number of challenges, including insecurity, insufficient monitors, and the absence of a budget for field visits. Interviews suggest that the ability to monitor appears to be worse in provinces with the greatest insecurity, such as Helmand, Ghor, Kunduz, and others. In Ghor, for example, provincial staff reported that 95 of the 815 reported schools have not been monitored because of insecurity. In Helmand province, another highly insecure area, EMIS officers monitor ten schools per month and end up monitoring only about ten percent of schools per year. In Samangan, of the 30 schools in one district, 10-15 schools cannot be monitored due to remoteness and insecurity. In Balkh, four people are tasked with monitoring over 500 schools but staff point to budget constraints as one main reason for limited visits.

More stable provinces, such as Balkh, appear to have stronger monitoring systems in place. In Mazar-e-Sharif, the GED’s M&E officers and the EMIS group collaborate, such that the M&E

officers gather the EMIS forms while they are out gathering their own data, or conducting school visits. In the south, in Kandahar, the EMIS officers do not enjoy such a strong relationship with the local M&E officers, and rely solely on the school personnel to return the forms to the DED once per year. In Samangan and Helmand provinces, the team was informed that EMIS officers have close contact with the community *shuras* and rely on meetings between *shura* members and the headmaster to verify data.

The evaluation team has developed a provincial level monitoring and evaluation cycle in Figure 5 based on how PED respondents described the efforts to manage monitoring and evaluation in provinces such as Nangarhar.

Figure 5: The Monitoring and Evaluation Cycle at the Provincial Level



The variation within and between Provinces on data verification is impacted by staff shortages across the EMIS, including in Kabul itself. The primary reason identified for staff shortages is due to the lack of *tashkeel* for the EMIS and most recently the withdrawal of funding by development partners in the summer of 2015 such as the Danes, who had previously provided significant support to the EMIS through their on-budget program. Once the DANIDA program closed last year, more than 90 positions were no longer funded, including in Kabul. The reliance on Donor-funded technical assistance had a significant negative impact on EMIS as the system lost a number of key personnel. That funding has not been replaced by any donor although some positions have been taken over by EQUIP. This raises questions about what will happen to the EMIS after EQUIP funding ends in late 2016. Currently, there are not enough positions in the provinces to monitor

the data, and even at the peak of donor funding there were not sufficient staff in the field to effectively monitor and verify data at the school level.

As one example in the field, the shortage of staffing is evident in Mazar-e-Sharif -e Sharif, staff attempted to find alternative ways of addressing the staff shortage by recruiting technical and vocational education students to do data entry but then had to discontinue the program as they were finding too many mistakes in the data entry process. In Mazar-e-Sharif, the EMIS officer said that there is no cross-checking in his schools for lack of a budget for field visits. To offset this limitation and because there are concerns of data accuracy, the team there convenes interviewees and focus group meetings to discuss and focus on data verification.

Too Many Systems

In every Province visited, the verification team was informed of multiple data management and reporting systems. The schools face multiple requests for information, often from competing organizations within the Ministry itself. In fact, there are several data collection systems competing for similar information and data in the education sector:

- EMIS
- The GED's M&E
- Education Quality Improvement Project (EQUIP)
- Homegrown provincial systems such as Kandahar's School Management Information System (SMIS)

The Helmand PED complained that there are 3-4 systems of data collection activities currently in place at schools in the Province. Various reasons for the multiple and competing data systems were provided to the verification team: some see this as an advantage because different systems reinforce each other. Other identified that the need for multiple systems was a reflection that EMIS was not helpful in providing needed data for decision-making. The Helmand PED said that EMIS is one of these systems but it is not helpful and that he preferred the SMIS that reports on student absences. These other systems, such as GED database and the SMIS, are deemed more reliable and accurate than the EMIS because their data is verified and they produce additional, relevant data, such as student absences. Another data call that PED's, DED's and schools receive is a survey on needed textbooks as the data on the need for textbooks in schools is not felt to be accurately captured in the current EMIS.

Record Keeping and Communication Channels

A record-keeping and communication channel between schools, the DED, the PED, and the MoE varies considerably from province to province. Overall, the further from the MoE center in Kabul the weaker the record-keeping and communication channels become. The weakest link identified is between the schools and the DEDs and then between the DEDs and the PEDs. Visits to DED offices identified a dearth of basic office and computer equipment, including computers, printers, servers, filing cabinets, and internet access, along with limited access to electricity. File cabinets

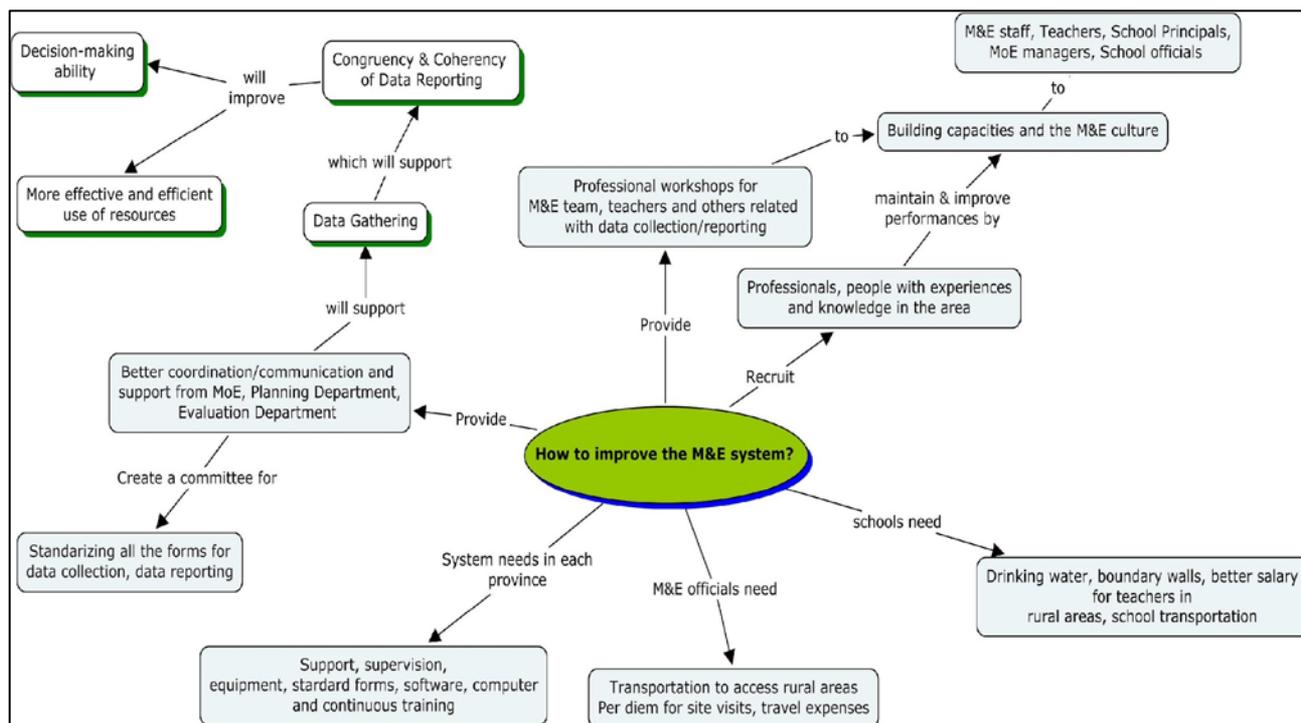
particularly at the DED and PED levels were not available to properly store paper records from the schools. The use of an all paper data management system from the school to the District and Province levels requires significant storage space, and clear organizational and filing structures. As all information is in a paper format, there is no simple or quick process for DED or PED officers to find information from a specific school other than sorting through piles of paper forms. This prevents accessing information for District or Provincial officers needing information and limits the ability of the MoE to verify data accuracy.

Paper forms submitted to the DED and subsequently the PED reflects a one way flow of information from schools to the center. There are no information loops back to the Districts and schools to verify data once it is input into the electronic system. According to school officials interviewed, schools rarely, if ever, see their data again to verify it. One example of errors introduced into the EMIS data as a result of the current record keeping and communication one way flow of information is transcription errors. Transcription errors such as a girls schools' enrollment being recorded as all male enrollment identified in the quantitative analysis could have been identified had a feedback loop or verification system been in place before submission. Since schools and DEDs do not review or verify data once it has been input into the electronic system there is no opportunities for schools to correct information.

4. WHAT AREAS OF DATA COLLECTION, PROCESSING, AND DISSEMINATION NEED SUPPORT AND FURTHER IMPROVEMENT?

Interviewees' responses were entered into the AtlasTi 7 program to identify recommendations that were identified to improve the EMIS system. Figure 6 visually presents the concept map of recommendations to improve the functioning of EMIS.

Figure 6: Concept Map of Suggestions for Improving the EMIS System



As noted in the previous section, capacity, equipment and personnel resources, and streamlining of the overall M&E cycle in the MoE needs further enhancement and strengthening to address the system weakness’ identified by the assessment team, as reported by respondents to qualitative interviews and focus group discussions.

Standardized Operating Procedures and Capacity Building

There is a need for standardized operating procedures throughout the system. This not only applies to filling out the EMIS forms but ensuring that data collection processes are consistent across schools, Districts, and Provinces. Currently, each school, District, and Province have developed their own measures to completing the EMIS data collection process. Variation in data collection introduces potential for error in the data as the data may not be uniformly reported.

Overall, there is a need for building capacity at all levels, primarily in the field at the district level. Staff and school-level training is needed in every aspect of the EMIS system cycle, from form filling to managing the data cycle to report writing. Basic understanding of what a management information system is and what an M&E process does is also lacking, even at the PED level, and thus needs significant strengthening through trainings and educational opportunities which may require upgrading educational experience to Bachelor’s and Master’s level degrees.

Staffing

Additional *tashkeel* is needed for the field offices, particularly at the DED level to ensure there are enough EMIS personnel to gather, process, and verify the data at the school level. Lack of EMIS staff, even in Kabul where talented personnel are readily available, is a significant problem. The heavy reliance on Donor-funded technical assistance positions have left the EMIS system vulnerable to significant shocks when funding ends.⁴ Additional funding is needed to fill the personnel gap until the MoE is able to add the *tashkeel* necessary to fully resource the EMIS positions.

Data Integration

EMIS teacher data is not integrated into MoE's Human Resources Department database, nor any TMIS (Teacher MIS) functional at this time. Without verified, accurate teacher data, proper planning and distribution of teachers in the school system is severely hampered. For this reason, among many others (e.g., security, geographical remoteness), a shortage of professional staff is evident when it comes to teaching, administrative staff, and computer specialists, among other professionals needed to run schools. In Helmand province, the PED said that 161 teachers were requested but only 95 were approved. In addition, the Balkh PED has a staff of four, only one of whom is trained. There is a large number of *ajeer* teachers in Mazar-e-Sharif. Some schools have only *ajeer* teachers, and even the headmaster is *ajeer*. *Ajeer* teachers are contract teachers and administrators, and as such are considered "temporary", even though they may have more than 20 years' experience. International standards regarding education management information systems include accurate teacher data in order to inform practical and policy decisions concerning teacher placement in schools.

Shortages of Schools and Equipment

EMIS not only records number of students and teachers; it also records textbooks and equipment. Moreover, respondents reported that even when they filled out the EMIS forms and included needed furnishings, maintenance and construction, it appeared completely random as to whether or not their request would be fulfilled by the Ministry. There was no evidence that the information was used to fill needs; in the case of textbooks, an alternative system is in place for determining needs and it is not clear what the EMIS textbook data is used for, if anything.

Electronic Reporting

Interviewees and focus group participants shared a number of recommendations for system improvement, mostly suggesting an online system that tracks student and teacher counts. According to the Balkh PED, such a system is preferred to combat corruption and capture changes in student enrollment. This is a critical benefit because funding and decisions about resource

⁴ In September 2015, funding for 91 staff positions was ended; these positions have yet to be transferred to the *Tashkeel*, leaving significant gaps in data entry, even in the Kabul PED, where only one data entry clerk for EMIS remains. He is unpaid, working on a promise of obtaining a full time position from the PED.

allocation should be based on student enrollment, so an influx of students or any random change in enrollment needs to be immediately recorded and communicated. Otherwise, districts are left with inadequate funds, teachers, textbooks, and resources to accommodate new students.

5. IS THE CURRENT DATA CATEGORIZATION EFFECTIVE IN TERMS OF UTILIZATION FOR POLICY MAKING AND FUNDING DECISIONS?

The current data categorization is able to provide basic information and data for MoE policy-making and funding decisions. It captures student enrollment and attendance figures, is disaggregated by gender, and gathers teacher numbers and qualifications. Student data is captured at the class level, including multi-shift school data in the larger urban areas. Assuming that the data is accurate, the current data in the system would provide the basis for policy-making and funding decisions. However, there is not a clear link between the data and decisions around textbook distribution, teacher recruitment, classroom construction, or repairs. The majority of schools responded that they have asked for repairs, furnishings, equipment, libraries and laboratories – some for years now – and have not received one item or obtained one repair. Respondents believed that there is budget for operations and maintenance, yet the data is not used to allocate resources according to priority need. For example, while EMIS includes a module on textbooks, MoE issues separate forms for textbook requests. There is no evidence that the textbook data collected by EMIS is ever used for decision-making.

Student Records

A key element missing from EMIS is electronic student records. Currently, all student records are manually entered into the *ketab-e-Assas* enrollment books (these books are the official school record for all students enrolled in the school, and are kept in perpetuity at the school), and transfers done via the post. The student records remain in the school the student attended; no centralized, digital records exist, though the Acting Human Resources Director for the MoE said an initiative is planned to begin entering them in a MIS for students, similar to what is currently being done for teachers under a World Bank-funded project.

EMIS and Internal Migration

Temporary or permanent internal migration is an issue that has affected many interviewees and focus group participants and their work. The Mazar-e-Sharif EMIS officer stated: “The procedure for recording students who leave the system temporarily or permanently is random. The system is flawed. These realities of internal displacement and students entering and exiting the system do not fit into EMIS forms.” The recent Kunduz-to-Balkh migration of approximately 2,000 students due to fighting cannot be captured by EMIS, noted the Balkh PED. Similarly, respondents from the Helmand PED said the EMIS data collection missed the influx of refugees. Other shifts in enrollment missed by EMIS include girls who often exit the system after the 6th grade in Mazar-e-Sharif. These are missed by the three-year rule, which keeps students on the roll for three years after they exit the system, a policy that results in inflated enrollment figures, explained the Mazar-

e-Sharif EMIS officer. Another example of student shifts missed by EMIS occurred when the World Food Program began providing humanitarian assistance to Mazar-e-Sharif schools, which attracted students from other regions, a shift missed by EMIS. Over 95% of interviewees and focus group participants preferred an online system to track fluctuations in enrollment. Such a system could help guide financial support to districts with significant increases in student enrollment.

As noted the current system provides no feedback loops to schools and districts. The one way flow of information from schools to Kabul prevents many schools and districts from understanding how EMIS data is used or why it is seen as important for the MoE. Providing feedback loops would enable schools to verify data and reduce errors in the reported data. Furthermore, sending back information from the center to Provinces, Districts, and schools on how the data is being used to inform decision-making would increase buy-in by the various levels to ensuring that quality data is provided to the MoE. As such school officials will be more motivated to accurately complete the forms, and submit them on time if they see that data is being used for improvements and decision making related to teacher recruitment, textbook distribution, and maintenance.

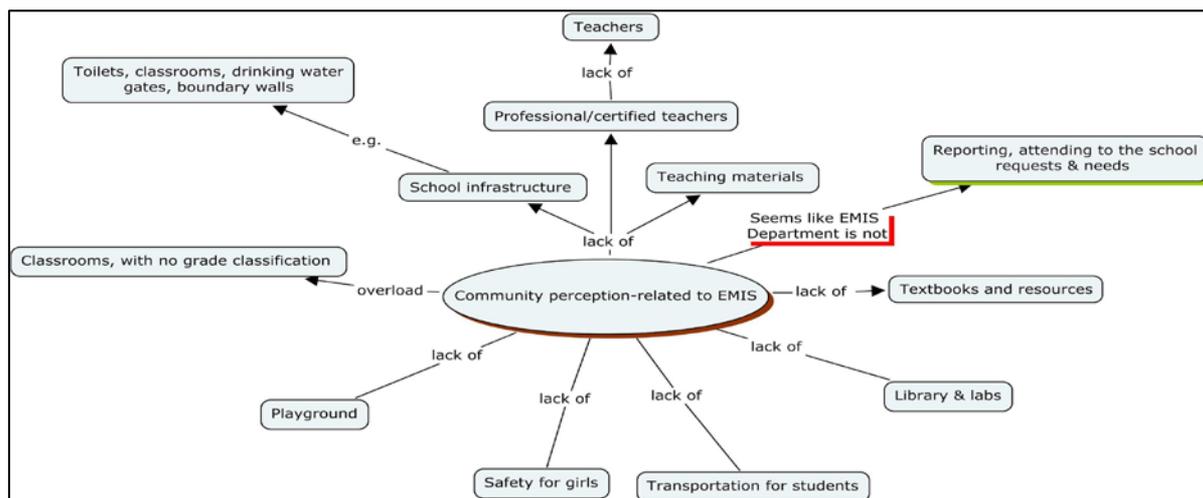
Community Support

Schools are a vibrant part of the community, and in the provinces visited, the community *shura* members were active in local schools. While community involvement is often positive, it can also include negative influences from warlords, Taliban, and corrupt parliament members that disrupts school progress.

Communities can be mobilized to support EMIS if they see that MoE analyzes and uses the data for improvement of schools. Similarly, school officials will be more motivated to complete the forms, and complete them accurately. The data collection cycle must ultimately be connected back to the school.

Interviewee responses were loaded into the AtlasTi 7 program to identify community perceptions of the EMIS system and how it should relate to the school. Figure 7 visually presents the concept map of recommendations to improve the functioning of EMIS. The visual presentation of Figure 7 depicts the aspects of the school system the communities interviewed feel are important for their children to receive a quality education. Communities reported a lack of teachers, materials, infrastructure, and safety for girls and transportation for students as negatively impacting their schools. This perception ties back to EMIS in that the data schools provide are a reflection of the schools' needs. The EMIS form gathers much of this data; thus, communities expect to see changes in the resources being provided to their schools, but this is often not the case according to those interviewed by the assessment team.

Figure 7: Community Perceptions Related to the EMIS



IV. RECOMMENDATIONS

Based on the preceding findings, the EMIS DQA Team has eleven main recommendations that USAID, the MoE and Development Partners can implement to address identified weaknesses and improve the accuracy and reliability of data in the EMIS system:

1. Support third-party monitoring of all data from the school level up to the ministerial level in Kabul and the creation of an independent M&E Unit

Limited and lack of monitoring in the field by EMIS and no third-party monitoring is a key weakness of EMIS. Without oversight by a third party, decision-makers inside and outside the MoE cannot rely on data. A third-party monitoring system, implemented by an external organization, would fill a vital and needed function. In addition, within the MoE, there is a need for an independent M&E unit yet reporting directly to the Minister, which could greatly improve the quality of the data being input into the system and begin to allow the MoE to take ownership for this function.

2. Support streamlining data gathering and reporting in the MoE

The most critical and immediate task at hand is to determine which entities are gathering what data. With at least four separate departments gathering similar data from schools, schools themselves are overburdened with filling out forms and conflicting data is reported to the PED and central levels. This creates inefficiency in the MoE and creates a waste of resources as multiple resources must be expended to obtain the same information from schools. It is recommended that a committee be formed to investigate and consolidate all data gathering at the Ministry, with a Chief Information Officer appointed to oversee all of the information in the MoE, reporting

directly to the Minister. This consolidation of the multiple data systems needs to be addressed before any additional support is given to EMIS. Multiple forms at the school level from several monitoring entities within the MoE have created a situation of overlapping and conflicting data being reported back to the DEDs, PEDs, and Kabul/MoE. Data gathering should be consolidated under one umbrella organization, EMIS, with other entities such as EQUIP becoming users of that data. The latter two should not be generating the same data, which overburden the schools with reporting. The MoE should advocate consolidating the MoE M&E systems, to include the EMIS, under one Directorate of Monitoring and Evaluation.

3. Support the creation of a Chief Information Officer position at the MoE

The MoE is one of the largest, most heavily funded ministries in Afghanistan, yet it lacks a Chief Information Officer (CIO), which would be a key position in ministries in developed nations. An experienced CIO would be able to lead information and knowledge management initiatives, while providing capacity building to senior- and mid-level MoE staff in Kabul and the provinces. The CIO would also be able to coordinate with the Director of Planning and interface with donor partners and implementers, playing a key role in ensuring EMIS functions at every point in the data gathering and reporting cycle. Reporting directly to the Minister, the CIO would serve as a champion for quality data management and dissemination, aiding the Minister in his fight against corruption in the Ministry.

4. Support the MoE/EMIS to strengthen the bridge to the district level (DEDS)

The existing EMIS structure weakens the further it reaches into the provinces, with the district level (DEDS) the weakest link in the information cycle at the MoE. Targeting funding toward capacity building in technical, M&E, and project management skills at the district level, while also providing a needed transportation budget to enable school monitoring visits, will substantially improve data quality. This capacity building should occur as additional physical resources such as computers and filing cabinets to improve record keeping and data organization at these levels.

5. Support the MoE/EMIS to build the bridge to the school level

The existing EMIS structure also weakens the further it reaches into the community and school level, with substantial areas of the country not monitored at all by the system. Supporting the EMIS structure to enable school officials to first review their data once entered into the system, will incentivize them to provide accurate and timely data.

6. Support the implementation of modern technologies to monitor schools, particularly in insecure and geographically-remote areas

Common smart phones might allow remote “monitors” to spot check numbers of teachers in a school or the completion of key documents. Support the development of simple mobile phone technology that might enable better monitoring, alongside the staff needed to oversee it.

7. Strongly support EMIS staff in capacity building at every level

EMIS staff capacity is lacking at every level, but primarily in the districts and to a lesser extent, in the PEDs. Providing technical (e.g., computer, basic M&E principles and practices), project management (to include report writing) and soft skills (e.g., leadership, communications) will strengthen the system while inculcating a culture of M&E in the education sector in Afghanistan.

To address the challenge of women being unable to travel to attend classes and trainings, the MoE and partners should examine how online and mobile courseware could be extended via distance learning opportunities for not only female staff but individuals located in rural and remote areas of Afghanistan. The MoE should examine how legislation in Afghanistan that disallows distance education degrees and certificates could be addressed or reformed to enable women and rural and remote personnel to fully participate in training and capacity building activities. Distance education has the potential to significantly raise the education and skill levels of many Afghans, not only women and girls, yet very little has been achieved in the sub-sector despite the prevalence of successful models in other developing and conflict-affected nations.

8. Provide incentivized support for additional computer equipment, mobile phones, Internet access, and electricity (generators and fuel) at the district level

The severe lack of office and computer equipment at the district level has meant that all EMIS data from the school and district level is still in paper form and must be manually entered at the provincial level. Providing support for needed computer equipment, mobile (smartphones) technology, Internet access, and, where needed, electricity (generators and fuel), tied to improved EMIS outcomes has the potential to markedly improve the quality of the EMIS data. By providing core office equipment including cabinets would allow district offices to better manage and store EMIS data, making it available at the district level to inform decision-making and respond to data calls without going back to the school level multiple times a year.

9. Pilot test an online extension of the EMIS system that provides prompt and accurate student and teacher counts for schools, the donor community, implementers and others

The current paper based system creates a time consuming and laborious process for the school, district, and provinces to report data to the MoE. There are multiple points in the data chain where errors can occur reducing the validity of the data. Moving from a paper based to computer based system will take many years and a significant dedication of resources, but will also reduce the data management burden on schools, districts, and provinces. An online system would allow schools,

Districts, and Provinces to verify data that has been submitted and would have linked prompts and instructions to assist school level personnel that are inputting the data. Supporting an online EMIS portal that is easily accessible would facilitate decision-making at all levels and across sectors, while providing much needed impetus for transparency in reporting. Creating a mobile application would further improve data accessibility, especially for the provinces.

10. Expand the MoE/EMIS's gender development and action plans to the EMIS staff

The EMIS has not adequately integrated a gender dimension into the design and implementation of the EMIS except in terms of disaggregating data collected on female and male students and teachers. The DQA found that gender, specifically the inclusion of women in the ranks of the EMIS organization itself and as monitors, is lacking throughout the system. Approximately 5% of EMIS officers and staff are female. Without adequate female EMIS staff, monitors often cannot reach girls' schools, particularly in conservative areas.

Few women are present in the EMIS personnel system, although many young women graduate each year with degrees in computer science, information technology, and similar fields. A concerted effort must be made by the Ministry to recruit women into the ranks of the EMIS at every job description and level, including in the districts where they are needed to monitor girls' schools. The NESP has identified greater female recruitment within the MoE, and EMIS is one area that the MoE could improve its hiring to be more inclusive toward women to enter technical and leadership positions in EMIS.

11. Address the lack of registers in schools

Some schools reported not having or not having received an enrollment register. Each school must receive and must be required to keep updated, these key registers if data is to be accurately managed at the school level.

Recommendations Specific to Future Verifications

1. During the analysis, the team learned that EMIS teacher figures included certain types of admin staff called “*aamer* and *mudeer tadressi*” because, according to the MoE, they have teaching hours. Prior to the next EMIS verification, the team must get clear definitions from the MoE. In addition, since it was found that training is a major gap, the next survey might test school officials who fill out EMIS to see whether they know what type of teachers are supposed to be included in the EMIS counts.
2. While the team was unable to report on head counts due to the timing of the survey, it was noted that comparing head counts was impossible given that the dataset shared by EMIS

did not contain shift-specific enrollment or attendance data. Future verification exercises must obtain complete data from the EMIS.

3. Future verification tools should record who actually completes the EMIS form in each school (headmaster, teacher, etc.) and whether they have received training in order to learn whether accuracy improves depending on these variables.
4. This DQA was marked by rather extraordinary security challenges which compromised basic data management. In the next round, data management will be vastly improved by ensuring that unique ids are consistently used across all data forms and that managers consistently enforce the protocols in the field. Tracking of all substitutions must also be done on a close basis to be able to characterize those areas with the greatest number.
5. For future verification exercises, it is important to have the school name and id as recorded in the MoE system. Monitors were unable to find some USAID-constructed schools by the names recorded.

V. CONCLUSIONS

EMIS has made significant progress since its inception and is by design able to meet the basic decision-making needs of the MoE. Yet, as with many systems in Afghanistan, the realization of the initial project design has yet to be fulfilled. With a clear commitment by the President and the Minister, there is clear political will to strengthen the current MoE EMIS. EMIS was developed with substantial support by development partners to provide data to the MoE to inform policy decisions. As noted in this assessment that current weaknesses in EMIS data inhibits the MoE's ability to provide accurate information to decision makers to make critical decisions related to student enrollment, teacher recruitment, classroom construction, and textbook distribution, all key resource inputs to having an effective education system.

Overall even though the sampling did not allow this assessment to be nationally representative sample valuable insights into the system can be made. On an individual school level, data from EMIS and the survey usually matched roughly but not exactly. In terms of student enrollment there was an overall 8% difference between EMIS and the verification survey. Although the data was collected after the end of the school year and there was a time lag between the EMIS reported data and the survey data, some natural variation is expected. However, EMIS appears to provide more accurate data on female enrollment versus male enrollment with EMIS over-reporting 12% for males and 1% for females compared to the survey data. The female difference was not statistically significant compared to the Male data which was statistically significant.

The variation between the EMIS data and the survey data for teachers was not statistically significant and found very little overall difference between what was reported by EMIS and the

verification team. However, female teachers were found to be under-reported in EMIS and the survey found a statistically significant difference that on average .85 more female teachers per school were identified in the verification survey than reported by EMIS. Overall, Almost 80% of teacher data comparisons were found to be within 2 teachers and approximately 2/3 of male teacher counts were within 2 teachers.

The verification team examined differences between urban and rural schools and schools located within secure, moderately secure, and insecure areas. There were no differences in variation and reported differences in the survey data and EMIS found between urban and rural and secure and insecure areas. The sample could not visit and verify 88 schools due to security and another 81 schools had to be replaced. Of the 649 schools visited, 21 or approximately 3% of schools surveyed were permanently closed.

This assessment identified that key weaknesses within EMIS include: lack of equipment training, resources, and capacity, particularly at the District and school level; lack of financing and *tashkeel* staff with an over-reliance on Donor-funded technical assistance; lack of feedback loops and verification of data by schools and Districts; and lack of coordination of M&E related resources and data collection within the MoE creating redundant data collection and creates inefficiencies. The continued use of a paper based data collection system has left the system vulnerable to errors and inaccuracies in the data reporting with no systems for verification or feedback mechanisms to schools and districts. Although, the current EMIS data is providing needed information on the number of teachers, schools, and students, this data has high levels of inaccuracy that reduce the validity and reliability of the reported data.

Although this assessment has identified areas of weakness within the EMIS there are mitigating measures that the MoE, USAID and other Development partners can take to strengthen EMIS centrally and down to the school level to considerably improve data quality and reporting.

President Ghani and the Minister of Education have made repeated calls to improve accountability in the MoE. The MoE's Planning Department managers, including the M&E Department's lead managers, are aware of low capacity both in the MoE/Kabul and in the regions, and welcome additional donor support for capacity building at every level, as well as needed equipment for EMIS to properly function down to the district level.

ANNEX I - STATEMENT OF WORK

The Afghanistan Education Information Management Systems DQA

Background:

USAID and other development partners have expressed concerns regarding the quality and validity of Ministry of Education (MoE) data, principally collected through the EMIS system. Because of these concerns development partners believe there is a need for a thorough and robust independent verification of current Education Management Information System (EMIS) data.

USAID and development partners (DPs) have helped build government capacity to manage data since 2006. While EMIS has steadily improved, it still relies on source data collected at the district and school levels where training and procedures remain inadequate and officials may have incentives to inflate data. Efforts are ongoing and USAID is working with other DPs and the MoE to implement assessments and activities to systemically improve MoE capacity to report reliable data.

The MoE has outlined several planned interventions to address USAID and other donors' concerns about data reliability. First, the MoE Academic Supervision Department has begun a data quality assessment to verify a sample of EMIS data and a preliminary report is expected to be available by late September. The MoE has sampled from six thousand schools in 34 provinces in this assessment. Second, the Global Partnership of Education (GPE) contracted a local Afghan consultancy to conduct an independent data quality assessment of a sample from 1,617 schools in 24 provinces and the final report is anticipated by the end of September 2015. Third, in the August 2015 meeting with donors, the MoE described plans to conduct a national verification assessment of EMIS data over the next six months, a process that would be institutionalized and conducted on an annual basis. Finally, the MoE developed a five year strategic plan for EMIS that includes integrating other MoE databases and increasing the functionality of the system at provincial and district levels.

Purpose of Activity:

USAID/Afghanistan plans to conduct a Data Quality Assessment of the Ministry of Education's Education Management Information System (EMIS). The DQA will be designed to:

1. Describe the overall data quality of EMIS at the national level
2. Describe the overall data quality associated with USAID-constructed schools (including functionality)
3. Provide feedback on provincial level data quality
4. Describe how EMIS data is gathered and reported from schools to the central level and
5. Provide recommendations for improving the data collection process to promote greater data quality.

Description of Activity:

To achieve the three stated objectives, Checchi will sample the following groups of schools with the same tool:

4. A nationally representative sample of 400 schools, stratified by province to ensure a sample proportionate to school population.⁵ The 400 schools will be sufficient to estimate the average difference between the number of registered and actual students and teachers with a 95% confidence interval.
5. A representative survey of the 566 USAID-constructed schools, sufficient to make a similar estimate.⁶
6. If the total number of schools sampled in a province through the above methods is less than 10, we will randomly select more for a total of at least 10 schools per province. This number will provide provincial level feedback on performance and allow USAID to identify provinces which have the greatest data quality issues.

The total sample will be approximately 750. The larger sample, while not purely representative, can be used to perform some comparisons for learning purposes.

The verification tool will be based on the existing EMIS tool so that DQA data will be comparable with EMIS and so that tested translations and wording will be used. The key indicators for the verification exercise are:

- Existence and educational usage of schools
- Number of teachers actually found at the school (both qualified and non-qualified as defined by the MoE EMIS) disaggregated by gender
- Number of teachers employed, as recorded by the school (both qualified and non-qualified as defined by the MoE EMIS) disaggregated by gender
- Number of students actually found at the school, disaggregated by gender
- Number of students enrolled, as recorded at the school, disaggregated by gender
- GPS coordinates for each school location (whether matching EMIS records within a certain distance)

Other key EMIS questions may be retained in the verification tool, but these will be limited to allow the verification team to focus on the above key indicators. The DQA team will report the discrepancies between the EMIS-reported numbers of teachers and students and the actual numbers in attendance, as well as discrepancies between the EMIS figures and school-based records. GPS coordinates and photos will be taken at each school location. Discrepancies between GPS coordinates taken by the team and recorded by EMIS will also be reported.

⁵ For example, the sample would include 30 schools in Herat, 9 in Wardak and 7 in Paktya, based on population.

⁶ The number will be finalized in the work plan but is approximately 250; fewer are needed in this sample given that it is a small, finite population.

In parallel with the data verification exercise, the EMIS DQA team will analyze the EMIS systems and processes for gathering and reporting data. This analysis will describe how the process works at each level: school, district, province and national. The team will conduct a desk study of existing reports and literature, and gather additional data through a series of interviews at the Central level, as well as visits to provinces and districts. The exact locations to be visited will be identified in the work plan. Based on findings from the field and literature, the team will identify weaknesses and vulnerabilities and provide comprehensive, actionable recommendations for improving the process.

Limitations:

It is important to note that in the current security environment the verification team will need to replace many selected schools and even districts due to security concerns. In those cases, replacement schools will be visited, based on a randomly selected list. Replacements will be closely tracked and reported so that the effect of replacement can be taken into account when interpreting the results.

Deliverables:

1. A work plan which includes the draft verification tool, the final sampling plan, key questions and steps in the systems analysis of EMIS.
2. A draft report which provides:
 - a. The findings from the systems analysis
 - b. The findings from the verification exercise, among the various samples
 - c. Conclusions and recommendations
3. A final report approved by USAID and uploaded to the Development Experience Clearinghouse (DEC). The final dataset will also be uploaded, according to current guidelines. Checchi will also present the findings to USAID before the final draft of the report is accepted.

Timeline and Team:

The DQA team will be led by an expat Team Leader, who will be an expert in education M&E systems, preferably with familiarity of the Afghanistan Ministry of Education system. A second expat Consultant with similar qualifications will be sought in order to increase the number of provinces visited and assist with the analysis of the EMIS system and processes. The expat consultants will be assisted by Afghan consultants who are familiar with the Ministry of Education systems.

The verification exercise will be managed by Kamran Sartor, SUPPORT II M&E Specialist, with extensive experience managing monitoring and verification teams across Afghanistan. He will be assisted by four regional managers who will provide supervision and quality control of the verification conducted in the north, south, east and west. The verification itself will be conducted by a team recruited and hired through Checchi and/or O-SDLR, SUPPORT II's survey subcontractor. The verification exercise may involve up to 150 different monitors, since accessing some areas will require monitors from a specific district or area within a province.

The verification work will be phased, dependent on a district's status as a "warm-weather" or "cold-weather" school. Within cold-weather schools, Checchi will prioritize those in extremely remote and/or snowy areas. Work will begin in that most difficult sub-section first. Once those teams have begun and there is a period of one-two weeks of intense supervision, verification will begin in other cold-weather schools. Following a similar supervision period of one-two weeks, verification will begin in the final group of warm-weather schools.

The DQA should begin on or about October 15, 2015. A six day work week is authorized for this assignment. An illustrative example of the level of effort (LOE in days) is provided below:

	Oct. Prep	Travel	Field work	Remote analysis/ reporting	TOTAL
Expat Team Leader (K. Barrett)	8	4	40	10	62
Second Expat Consultant	4	4	40	10	58
Afghan Consultants (2)			80	10	90
Afghan Regional Verification Managers (4)			240 (60 each)		240

Position	Prep	Travel	In-Country	Remote Analysis & Reporting	TOTAL
K. Barrett, Expat Team Leader	12	4	45	15	76
Second Expat STTA	6	4	45	15	70
Afghan STTA-1			43	5	48
Afghan STTA-2			43	5	48
Afghan Regional Verification Managers (4)			140		140
SUPPORT-II CCN					
Totals	18	8	316	40	382

ANNEX II - DATA VERIFICATION TOOL - EMIS DQA

Data Verification Tool - EMIS DQA

School Survey I:

1	Date:						
Information about School:							
2	School Serial Number [same as EMIS number]	#					
3	School name:						
4	Province:						
5	District:						
6	School location:	Urban	Rural				
7a	Is the headmaster available for an interview?	Yes	No				
7b	Headmaster or Principal name						
7c	Contact No (# or write none if none available)	# or none					
8a	If Headmaster not available, then other contact person for interview?	Yes	No	Don't know			
8b	Name of other person available for interview?						
8c	Position of secondary person available for interview?						
8d	Contact phone number of other person available for interview? (If none, put none)	# or none					
9	Was the school active for the 2015 school year (1394) this school year?	Yes	No				
10a	School stage (choose 1 type and relevant sub-type)	<i>General Education</i>	Lycee	Secondary		Primary	
10b		<i>Islamic Education</i>	Madrassa	Darul-ulum	Darul Hifaz		
10c		<i>Technical Vocational</i>	Lycee	Institute			
10d		<i>Literacy</i>					
10e		<i>Night School</i>					
11	Is the school open today?	YES	No				
12	What day and month did classes start for this school year, 1394?	Day	Month				

13	What day and month does your school close for break this academic year?	Day	Month			
14	Is there an official registration book with enrollment data for 1394 available at the school? (Enumerator should physically observe this.)	Yes	No	Don't know		
15	If there is not a registration book for enrollment available, why not?	Never provided to the School	Lost/ Misplaced	Other:_____		
16	Is there attendance logs available that are used to track the daily attendance of all students for 1394? (Enumerator should physically observe these)	Yes	No	Don't know		
17	If there is no attendance book(s) to track attendance, why not?	Never provided to school	lost/ misplaced	Other:_____		
18	Is there a <i>Tashkeel</i> Document to verify the official number of teachers, admin, and support staff employed by the school for 1394? (Enumerator should ask to observe this document)	Yes	No	Don't Know		
19	If there is not a <i>Tashkeel</i> document to verify the official number of staff, why not?	Never provided to school	Lost/ misplaced	Other:_____		
20	Is there an attendance book to verify teacher and staff attendance at school? (Enumerators should verify this book is present)	Yes	No	Don't Know		
21	How many shifts of students does your school have? (1-4)	#				
22	Have there been any problems with teachers or school staff receiving their salaries?	Yes, problem with salaries	No, no problem with salaries			
23	If yes, what kind of salary problems is your school experiencing? (check all that apply)	Not all teachers receive their salary	Teacher salary is less than it is supposed to be	Salary is late	Someone is stealing the salary	Other:_____
24	On average, how often do teachers receive their salaries?	Once a month	once every 1-3 Months	Once every 3-6 months	Once every 6-12 months	

25	If salary is late, how many months late on average?	1-2	3-4	5-6	more than 6	
26	Construction type	Governmental Building		Rental		Tents
		under active construction		Open space	uncompleted construction/abandoned	
27	Number of classrooms	#				
28	Number of rooms for administration	#				
29	Laboratory	Yes		No		
30	Computer lab	Yes		No		
31	Principal] Do you know if the MoE National EMIS team visited your school in 1394 to conduct a survey related to student attendance, enrollment, and facilities?	Yes	No			Don't know
32	If yes when?	month	year			
33	[Principal] Do you know if the Provincial M&E team visited your school in 1394 to conduct monitoring of the school?	Yes		No	Don't know	
34	If yes, when?	Month		Year		
35	How was the general security in your school's area for the past year?	Very Insecure	Somewhat Insecure	Secure		
36	How many days in the past year, 1394, has your school been closed because of Security? (0-300)	#				
37	Has your school been closed for reasons other than security? (National/religious Holidays excluded)	Yes	No	Don't Know		
38	If yes, what other reasons was the school closed? (provide short written answer)					
39	Questions/Comments? (any additional questions or comments can go here)					

40	Enumerator Name who completed form	Name
41	Contact Number of Enumerator:	Phone #

Survey 2: School Staff Survey Information			
School Serial Number [same as EMIS number]			
Staff <i>Tashkeel</i> Information			
No	Teacher's <i>Tashkeel</i>	Male	Female
1	Number of teachers according to official hiring <i>Tashkeel</i> ?		
2	Number of Administrative personnel according to <i>Tashkeel</i> (Eg. Headmaster, Manager, Finance, Office Assistant, Administrative Assistant)?		
3	Number of Ajeer according to <i>Tashkeel</i> (eg. support staff such as cook, cleaner, chawkidar)?		
Number of Employees Present Today			
No	Available	Male	Female
1	Number of Teachers present today at school?		
2	Number of Administrative personnel present today at school?		
3	Number of Ajeer present today at school?		
Number of Employees on the Payroll			
No	Payroll?	Male	Female
1	Number of Teachers who received salaries this year? (check payroll sheet)		
2	Number of Administrative personnel who received salaries this year? (check payroll sheet)		
3	Number of Ajeer who received salaries this year? (check payroll sheet)		
	Relocated?	Male	Female
1	Number of teachers who left the school and relocated to new areas to teach this school year, 1394?		
2	Are any of your teachers new transfers from another school that are not on your payroll for 1394?		

Survey 3: Student School Statistics				
School Serial Number [same as EMIS number]				
1.Enrollment Verification is based upon: (Choose 1 option)	Official MoE Enrollment Book (ketab-e-Asaas)	Unofficial Written Enrollment Record	Self-Report of school staff	Other: _____
2. Attendance Book Registration Verification (Choose 1 Option)	Official Attendance books available for all classes (fill Section II Below)		Official Attendance Book not available (leave this section II below blank)	
2a. If Available, what is last date attendance is recorded in Attendance Book? (Month Year or N/A)	Month		Year	
3. Head Count Verification (Choose 1 option)	Students are present today to conduct head count (Complete section IIIA)		Students are not present today to conduct head count (Complete Section IIB)	
4. Does the school have multiple shifts?	Yes	No	Don't Know	
4a. If there are more than 1 shift, which shift is the enumerator conducting the head count for? (1st, 2nd, 3rd, 4th)	#			

	Section 1 Enrollment Ketab-e-Asaas		Section II. Student Registration in Attendance Books (Ketab-e-Azaree)		IIIA. Head Count on Day of Visit		IIIB. Most Recent Attendance Record	
Class	Number of Enrolled students according to Enrollment book (Enumerators should go through the enrollment books and calculate the number of students who are enrolled for 1394. If unavailable, select other verification method above and then write in numbers)		Number of Students whose names are listed in the Attendance Registration Books. (The number of students whom have their name in attendance registration books. Enumerators should visit classrooms and count the number of names in all the available attendance books. If there are no attendance books, leave this section blank)		Number of Students Physically Present on the day of visit: (Enumerators should go from classroom to classroom and do headcounts of students by grade. If students are not present today, record 0 and complete section 3b)		ONLY COMPLETE THIS SECTION IF NO STUDENTS ARE AVAILABLE FOR HEADCOUNT to fill Section IIIA. Number of Students according to last recorded day of attendance: (Enumerators should look at attendance books available in classrooms and record number of students marked as present for attendance on last available record date available. If these books are not available, leave this section blank.)	
	Male	Female	Male	Female	Male	Female	Male	Female
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								

****If school has multiple shifts of students, utilize this sheet to help with calculations

Multiple Shift Data Calculation Form

Data collection form at the school level

Class	Number of Sections (Shoba)			Number of registered students in attendance sheet		Number of students in first shift		Number of students in second shift		Number of students in third shift		Number of students in fourth shift	
	Male	Female	Mix	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													

Survey 4

Questionnaire for the School Management Shura or Community Member				
	School Serial Number [same as EMIS number]			
1	Name of interviewee			
2	Contact Number:			
3	Is the SMS established for this school?	Yes	No	Don't Know
4	Is the SMS active for this school?	Yes	No	Don't Know
5	Overall number of SMS members	Male	Female	Don't Know
6	Was the school active this year, 1394?	Yes	No	Don't Know
7	If school was closed in 1394, why was it closed? (provide brief 1-2 sentence answer)			
8	According to your estimate, how many students were attending the school this year, 1394?	Male: ____#____	Female:____#____	Don't Know
9	According to your estimate, how many teachers work for the school?	Male:____#____	Female:____#____	Don't Know
10	How was the general security in your school's area for the past year?	Very Insecure	Somewhat Insecure	Secure
11	How many days in the past year, 1394, has your school been closed because of Security? (0-300)	#		
12	Any Additional questions/comments?			

ANNEX III - DQA VERIFICATION TOOL

1. REGIONAL DATA SYNTHESIS: STORIES FROM THE FIELD

Sources:

- Samangan Province; Focus Group; January 3, 2016
- Helmand Province; Interviews with PED, DED, and Focus Groups; December 28, 2015
- Balkh Province; Interview with Balkh PED, January 3, 2016
- Balkh Province; Mazar-e-Sharif; EQUIP officer, plan director and M&E officer

Training:

- Need training in basic statistics and data collection skills (Helmand PED)
- Need training of M&E department to complete EMIS forms. (Mazar-e-Sharif EMIS)
- There is a lack of quality teachers in rural areas so education suffers (Mazar-e-Sharif M&E)
- Long term trainings can be converted to online training so female staff can participate (Mazar-e-Sharif EMIS)
- There is not enough staff and only one person is trained (Mazar-e-Sharif EMIS)
- Nation Institute of Education Planning has a 2-year program that may be funded by USAID (Mazar-e-Sharif EMIS)

Human Resources:

- Lack of professional staff (Samangan FGD)
- Need professionals to run computers (Samangan FGD)
- 161 Teachers were requested but only 95 were approved in Gamseh. Same situation across the south. (Helmand PED)
- There are a high number of *ajeer*⁷ teachers in Mazar-e-Sharif -e Sharif. Some schools are entirely staffed with *ajeer* teachers; including the headmaster.(Mazar-e-Sharif EQUIP)
- Professional teachers are not wanted because *ajeer* teachers will lose their jobs and they don't want schools to close because they will lose their salaries.
- There are only 4 people in the Balkh PED, all on *Tashkeel*. (Mazar-e-Sharif EMIS)
- Teachers receiving benefits without teaching must be rooted out (Mazar-e-Sharif M&E)

Logistics:

- Lack of computers (Samangan FGD)
- Lack of space for equipment (Samangan FGD)
- Power is not always available (Samangan FGD)
- Data is printed in Kabul and goes to PED for approval (Helmand DED)

⁷ *Ajeer* teachers do not have a requirement for minimum educational attainment and only some are high school graduates teaching with minimal training, if any. They work in a consulting capacity.

- Students sit on the ground/bare floor because there are not enough carpets. Only 60 were approved for 39 schools and 14 tents. (Helmand PED)
- Schools are not enough, some students study at home, in or in front of the mosque (Helmand PED)
- Class sections vary from 80-130 students per class (Helmand PED)
- There is a rule for establishing schools to be 5 KM for girls and 8 KM for boys. (Mazar-e-Sharif EQUIP)
- Too many schools: Because of warlords' influence, schools are built close to each other (Mazar-e-Sharif EQUIP)
- No transportation budget (Samangan FGD) (Helmand PED) (Mazar-e-Sharif EMIS) (Mazar-e-Sharif M&E)
- No per diem for school visits (Samangan FGD) (Helmand PED) (Mazar-e-Sharif M&E)
- There is a lack of textbooks (Mazar-e-Sharif M&E)
- There are not enough classrooms (Mazar-e-Sharif M&E)
- There are no computers or EMIS officers in the district (Mazar-e-Sharif EMIS)
- Need professionals to run computers (Samangan FGD)

School Monitoring:

- The EMIS officer monitors 10 schools/month and 10% per year (Helmand PED)
- In some cases, teachers submit EMIS reports in outlying schools (Samangan FGD)
- Of the 30 schools in the district, 10-15 cannot be visited (Samangan FGD)
- EMIS officers check school data to ensure quality (Mazar-e-Sharif EMIS officer)
- No crosschecking is done for lack of budget for field visits (Mazar-e-Sharif EMIS officer)
- It costs 8,000 Afs monthly to monitor schools.
- Kunduz to Balkh migration of 2,000 students due to fighting. This is why there have been coordination meetings lately. (Mazar-e-Sharif EMIS)
- Such influxes are not captured by EMIS because it requires one annual collection. Since funding is based on student counts, there will be no budget to cover such an influx until the following year.
- The M&E staff visit schools once a week and are aware of who exited or entered the system, (but how are these students reflected in the EMIS is unknown.) (Mazar-e-Sharif EMIS)
- These realities of internal displacement and students entering and exiting the system do not fit into EMIS forms (Mazar-e-Sharif EMIS)
- Taliban and local police negatively impact the monitoring process (Mazar-e-Sharif M&E)
- Monitors do not visit insecure areas (Mazar-e-Sharif M&E)
- No crosschecking is done for lack of budget for field visits (Mazar-e-Sharif EMIS officer)

Funding:

- Requested funding from donors, e.g. UNICEF (Helmand DED)
- The World Bank funds EQUIP (Helmand DED)
- Two million books were donated by USAID (Balkh PED)

School Budget Allocations:

- No transportation budget (Samangan FGD) (Helmand PED) (Mazar-e-Sharif EMIS)
- No per diem for school visits (Samangan FGD) (Helmand PED)
- Inactive or closed schools do not receive any funding (Helmand PED)

Data Collection Process/procedures:

- Using mobile is favorable (Samangan FGD)
- Realize need for tracking students (Samangan FGD)
- Willing to serve as pilot for study (Samangan FGD)
- Headmaster completes EMIS using Ketab-e-Assas and attendance records (Helmand DED)
- Headmaster also records textbook data (Helmand DED)
- SMS informs on student absence (Helmand DED)
- Community Shura meets with headmasters to help verify data (Helmand DED)
- There are 3-4 systems of data collection. Some see this as an advantage because different systems reinforce each other. (Helmand DED)
- EMIS is one of the systems but it is not helpful (Helmand DED)
- EMIS provides operational plan activities; for example, how many public awareness campaigns have been conducted. (Helmand DED)
- School Management Information System (SMIS) is a subset of the EMIS (Helmand PED)
- EMIS data collection missed the influx of refugees because collection is once a year (Helmand PED)
- Community Shura collects data on students (Helmand DED)
- Due to the situation, there is an influx of students. These shifts are not captured in the EMIS. (Balkh PED)
- An online system to account for students and teachers is preferred to combat corruption and capture shifts in student enrollment. (Balkh PED)
- An online system reduces administrative paperwork and provides more time for education (Balkh PED)
- An online system can remedy many of the shortcomings of the EMIS system (Mazar-e-Sharif EMIS)
- There are 25 schools in Alburstan and each school takes one day (Mazar-e-Sharif EMIS)
- EMIS designates 4 people when there are over 500 schools in Balkh (Mazar-e-Sharif EMIS)
- We sometimes get help from TVET students but there were too many mistakes (Mazar-e-Sharif EMIS)

- The procedure for recording students who leave the system temporarily or permanently is random. The system is flawed. (Mazar-e-Sharif EMIS)
- The three-year rule means students could remain on the books for three years even after they have left the system. This inflates enrollment figures reported for each province. (Mazar-e-Sharif EMIS)
- Girls usually exit the system after 6th grade but remain on the rolls for three years (Mazar-e-Sharif EMIS)
- No one checks the data and the 3-year rule means data will vary without corruption (Mazar-e-Sharif EMIS)
- Headmasters are trained on EMIS form (Helmand PED)
- Hold monthly coordination meeting between plan EMIS and the M&E department (Mazar-e-Sharif EMIS)
- It is good practice to share and compare data (Mazar-e-Sharif EMIS)

School/Student Data:

- Samangan has 300 schools in the EMIS (Samangan FGD)
- Helmand has 385 schools, but have no information on 5 of these schools (Helmand DED)
- 5000 male students attend a night shift with no age limit (Helmand DED)
- There are 138 inactive schools in Helmand currently (Helmand PED)
- Inactive or closed schools are not captured by EMIS (Helmand PED)
- Teachers are mostly female (90%) and most students are female. (Balkh PED)
- High illiteracy rate in Helmand (Helmand DED)
- Balkh province has less than 500,000 students (Mazar-e-Sharif , EQUIP)
- Teacher tracking is not being implemented properly (Balkh PED)
- In Balkh, there are 543 schools and 523,073 students, 11,215 teachers and 157 monitors. (Mazar-e-Sharif M&E)
- Education is successful due to good monitoring. (Mazar-e-Sharif EMIS)

Community:

- They work in close contact with community Shura to verify any school information (Samangan FGD)
- Community Shura collects data on students (Helmand DED)
- Community Shura meets with headmasters monthly to help verify data (Helmand DED)
- Community Shura has monthly meetings in Helmand. (Helmand PED)
- Community Shura has good coordination with donors. (Helmand PED)
- Economic law and agriculture teachers not always familiar with teaching methodologies. Schools are complaining about teaching. (Balkh PED)
- When educate a girl, you educate a family (Balkh PED)
- WFP is providing humanitarian assistance to some schools which attracts students from distant regions.

- Balkh schools and universities are considered among the top in the country (Mazar-e-Sharif M&E)
- Ghost schools must be rooted out. (Mazar-e-Sharif M&E)
- A community may need 5 high schools but 20 are built. The districts benefit from these schools. (Mazar-e-Sharif M&E)
- When 3,000 students are reported and only 2,000 exist, the schools receive 3,000 books and the rest are sold to the bazaar. (Mazar-e-Sharif M&E)
- Warlords and parliament were behind building of schools (Mazar-e-Sharif M&E)

2. QUALITATIVE DATA (DETAILED FINDINGS)

Detailed regional findings obtained during site visits by the EMIS DQA team to the field in support of the qualitative/system aspect of the DQA can be found below. It should be noted that in-depth interviews and FGDs encompassed all stakeholders involved in education sector (school) data gathering in field to include, in addition to EMIS: EQUIP Officers, PLAN Directors, PEDs, DEDs, GED M&E Officers, School Headmasters, Teachers, and others. Findings were the same across all five regions: a lack of capacity, transportation, equipment, and personnel, particularly in the remote and insecure areas, significantly hinders data collection and verification. This data was gathered separately from the survey; thus, all narrative data reported below is self-report.

Southern Region – Kandahar (Kandahar City), Helmand, and Zabul

The southern part of the country seems to accomplish its monitoring functions by adapting its needs and lack of resources to circumstances. Based on data collected, the South seems to lack monitoring staff that has the needed competencies. The majority of interviewees reported that their M&E staff and professionals need to build more capacity in M&E, as well as need regular workshops to maintain their updated skills.

The following quotation from a manager in Kandahar illustrates some of the problems the region is facing:

We are lacking 140 persons in our *Tashkeel*. We don't have transportation, the Education Manager is performing the monitoring tasks using his own money, we need our 28 buildings to be repaired, there are also lacking textbooks for grades 4 to 6.

Also needed are resources and educational materials that will enhance the functionality of school roles and responsibilities. Other challenges are related to transportation, not only public transportation for students, but also for the monitoring staff who need to visit schools in rural areas.

The average number of site visits by GED M&E Officers is reported to be two to three per school year, depending on security issues that emerge at different seasons. However, informants reported using different strategies to deal with security barriers in reaching schools in unsafe areas. Data collection, storage, and organization into the EMIS server/database do not seem to be a problem. Informants agreed the system is performing well, but they need to hire more professionals and to build the capacity of the people that feed the system.

Another problem raised by respondents is the lack of support from and coordination with the MoE. Respondents said that if they were provided with adequate technology, equipment, computers, and personnel, their M&E systems would improve greatly.

Western Region - Herat, Ghor, Farah, and Badghis

Herat interviewees reported that, based on the *Tashkeel*, the number of M&E staff in the province is 257. However, they reported that the positions are not all filled, and when they have filled all of the positions, they will be able to perform better.

On average, in insecure areas, respondents reported that the monitoring task has been performed three times for each school every year⁸, though this visit schedule has not been independently verified. However, the interviewees reported that, based on the current economic situation, Afghanistan does not have a sufficient budget to perform regular M&E of the schools, especially those schools located in remote areas.

In addition to budgetary constraints, there are a sizeable number of schools that have not been monitored due to security reasons, i.e., eight schools at Ghoryan district, 74 schools at Shindand, seven schools in Krukh, five in Pashton Zarghoon, and six in Uba. Additionally, the number of M&E staff in comparison to the number of schools and students is not sufficient.

The EMIS data, including the number of teachers, students, equipment, and infrastructure, is registered and maintained in computerized systems in each PED. Registration and attendance books are normally distributed at the beginning of the year. All statistical data is collected in the first quarter of the year and, after being entered into EMIS, is maintained on an annual basis. After collecting forms from the schools, they are verified and analyzed at the district level and then entered in the EMIS system, with the hard copies kept in appropriate files.

The school survey was performed by the appropriate departments in 1394. However, it seems there is a lack of communication and coordination among M&E staff and different educational departments, which slows the decision-making process as well as negatively impacts data consistency. In this regard, one of the MoE officials suggested:

Create coordination opportunity between M&E experts, the Planning Department, District Officials, the Education Department, and M&E staff in urban and rural level and all other 15 M&E departments in Districts and also provide transportation facilities.

Other challenges school districts are facing is a lack of professionals with credentials to perform their job efficiently. One of the interviewees pointed to this performance gap, saying:

If we want to promote education quality, we need an efficient, active, and professional M&E staff, which will be feasible when we have all facilities and access to transportation facilities, equipment and technology to do it.

⁸ For the GED M&E – this is not the EMIS monitoring.

EMIS M&E System

When asked for suggestions on improving the EMIS system, one interviewee responded:

Through creating and sustaining coordination and cooperation between the Planning Department, M&E Department and Education Department's District Education Departments and providing facilities and transportations for monitors, we can strengthen the data collection process.

Interviewees reported that they have three main priorities: the first is to build capacity of their existing personnel, especially the capacity of the Planning Department professional staff; the second is to provide computers and other equipment to the M&E Departments; and the third is to provide transportation facilities for staff to go to schools and districts.

It was noted that there are many problems in the education department, such as a lack of qualified teachers fewer staff that called for by the *Tashkeel*, but if the MoE increased the number of posts in the required schools, the education process will improve and this will facilitate the M&E process.

The main reason for not monitoring the schools, according to respondents, is the security situation. For example, in Ghor province there are 815 schools, out of which 720 schools have been monitored, and the rest due to security situation have not been visited. Other problems faced in this province is that lack of resources and untimely arrival of textbooks, e.g. three months later the attendance book is distributed to students, and textbooks for grades 7 to 12 have not been provided to Ghor.

Other suggestions from this province include supporting and equipping the DEDs for monitoring and evaluation, and that the Monitoring Department should be an independent entity.

Badghis

Badghis is experiencing the same type of problems faced by the region overall. For example, schools located in insecure areas have not been visited, and they lack resources, such as equipment and file cabinets to fully register students and store data. EMIS personnel reported using computers to organize data and to do some basic calculations to report school information.

Respondents suggested providing training to headmasters in filling out the forms, and that the monitoring staff should have an active role in collecting statistical information. Informants suggested that, even though some districts have 14 members and one team leader (director) and in other districts seven members and one team leader, they are not enough to monitor all the schools in their districts. However, they are trying to visit all schools and keep them continuously monitored.

Other suggestions to improve EMIS are similar to other provinces, as Badghis interviewees said that what they need to improve the system is good coordination among the different departments, e.g. EMIS should be installed at the center of districts and planning staff should be added to the *Tashkeel* of districts.

Some of the schools have not been visited due to a lack of security and transportation facilities. These schools are located in Purchaman, Bakwah, Gulistan, Khaksapid, Balablook, and Pushtroad districts.

Some of the common problems of this province are: insufficient budget and a lack of stationary, enrollment books, and textbooks for the library.

Some suggestions respondents put forward to improve the EMIS system are: locate EMIS at the education department, hire professionals, and add them to the *Tashkeel*.

Ghor

Ghor respondents, as with other provinces, consider that the north of the province, Galmeen of Margab district, is not secure, and due to that they are not able to conduct monitoring site visits to about 70 schools located in the mentioned region. One EMIS respondent elaborated,

“Indeed from last two or three years we are not able to visit, but we received data/information about schools located in the area from the Education Quality Improvement Program (EQUIP) social worker.”

Due to the following reasons, some of the schools could not be visited: insecurity, geographical remoteness – some schools are 200 km away from the provincial center, mountainous terrain, a lack of transportation facilities for the employees, a lack of budget for the visits, and late payment of per diem for the M&E staff.

In order to improve the monitoring and evaluation system, respondents suggested:

- conducting training for the monitoring team on new technology, e.g., mobile;
- providing timely financial support and transportation service for the team;
- providing computer, Internet, and office facilities;
- establishing the EMIS system at the district level; and
- Creating a GPS point for each and every school and entering it into the EMIS.

Northern Region - Balkh, Samangan, and Baghlan

Samangan

Samangan has a total of 64 monitoring and evaluation staff, which conducts an average of three site visits to each school per year. They use paper forms and computers to collect, organize, and

store school data for the EMIS. Professional staff for the EMIS at the central and district level established the EMIS system at the district level to support the districts.

Some of the main problems this province face in terms of supporting the EMIS include lack of training for the EMIS staff, a lack of transportation services, and challenges in recruiting professional people for collecting data in the province.

Respondents reported that textbooks, attendance, and registration books are distributed at the beginning of the year to each school. Some of the problems faced at the school level include a lack of: textbooks for students, training for teachers, budget for recruiting professional teachers for the school, and a library.

Respondents asked to receive more support from the MoE and a budget for accommodation and transportation to conduct site visits. Respondents also requested transportation for the monitoring team, a budget delivered on time, boundary walls for the school, buildings for schools, and drinking water for the school. Other interviewees, such as the school principal and school managers, requested more monitoring visits, at least three per school/per year.

Balkh

The number of monitoring and evaluation staff in Balkh is 157⁹. According to their job requirements, these staff should monitor each school at least three times a year. However, the M&E team is not able to visit some schools because there are security problems in some areas, in addition to the lack of budget for site visits, a lack of transportation, and difficult access to schools due to roads problems. In general, respondents reported that schools in Balkh are lacking a safe environment, professional teachers, teaching materials, and transportation.

The information that M&E staff collect per school are related to the classrooms, teachers, students, resources, and facilities such as tables and chairs. Schools organize and store data in soft and hard copy; then, data is stored in a computer and later in the EMIS database/server.

Some suggestions informants made include: increase EMIS staff, increase their salaries, and provide transportation for them; establish a planning and reporting institute in Balkh province; provide training for the principal of the school and DEDs; provide an online system for the EMIS planning officer for the district; provide more computers and Internet access for the DEDs; and provide training for the M&E staff.

Baghlan

The number of monitoring and evaluation staff in the province is 157, and the average number of site visits to each school is three per year. Some suggestions Baghlan interviewees made include:

⁹ This does not include EMIS staff; the number only reflects the number of GED monitors in the province.

increasing the EMIS staff and provide training for them and provide support and computers and other facilities for the EMIS team to facilitate their job duties.

The data is stored in EMIS. However, the problems facing the province are related to security issues, a lack of budget, and a lack of appropriate transportation to visit schools that are far away.

Some of the interviewees said they need M&E people with the competence to conduct site visits, and they need to keep their skills updated with workshops and training. As found throughout Afghanistan, some of the M&E people are hired through close friendships or family relations:

“Monitoring and Evaluation staff hired through personal relations is not professional people for this problem. The Ministry of Education should find a proper solution.”

Eastern Region - Nuristan, Kunar, Laghman, and Nangarhar

There are eight districts in Nuristan province, with eight monitoring members each. The respondents reported conducting site visits around four times a year per school. They consider the current number of monitoring members adequate at the provincial level. There are areas that are insecure for monitoring, but there are members at the district level who can conduct the visits. During the year 1394, 90-95% of areas that are considered secure were monitored.

School data is stored in soft and hard copy, and is maintained in the EMIS server permanently. At the provincial level, monitors register the number of schools at the district level, along with the numbers of students, graduates, and teachers disaggregated by gender, and the number of school buildings.

Respondents believe the monitoring and evaluation team should be supported at the provincial level, and be supported from MoE centrally as well. Suggestions made included “to hire expert and educated people and to provide adequate source and budget and security.” They hope that sufficient budget and facilities will be provided to EMIS and the monitoring team.

Kunar

Kunar has 135 staff in the PED, including the M&E staff. They have eight M&E officers in each district including managers. They also consider that the existing number of M&E staff is enough to perform their functions. On average, they report monitoring each school four times a year. The schools have been visited where the location was safe, but for these areas with poor security conditions, the Local Council leaders have provided the opportunity for monitors to visit schools.

As found in other provinces, capacity needs to be built for the M&E Staff:

“As the M&E staff are newly recruited and have not enough experience regarding the job, therefore, we need some seminars to be held for them to increase their knowledge about it.”

In addition, the M&E staff, along with the EMIS officers, are hampered by lack of computers and transportation.

Laghman

Laghman has a total of 111 M&E staff at the provincial level, and a total of 97 members at the district level. They report that based on the number of schools they have to visit that this level of staffing is not enough to monitor all the schools in the province. It should be noted that these are GED M&E officers, not EMIS.

M&E staff reported conducting site visits only one to two times a year. They said that in order to support data gathering in the field they need new technology, and that this would help EMIS staff to gather and enter accurate data information. With many districts in Laghman now with access to electricity, the inclusion of technology in the data gathering cycle is possible.

Respondents reported lack of MoE support and budget as the main problems they are facing. They affirmed that MoE does not appear to have enough budget for its operations, especially budget for school infrastructure. For example, the budget was never approved for many schools planned to be constructed in 1393 and 1394. Until now MoE has not provided any support to strengthen the monitoring process, however the M&E staff are provided with enough facilities.

Respondents had three main suggestions to improve the EMIS system:

1. Standardize forms;
2. Hold workshops on the EMIS and M&E for the M&E staff and school officials; and
3. Purchase or rent vehicles for M&E staff in DED Office, and also motorcycles for M&E staff in Districts to facilitate visits to schools.

Nangarhar

The Nangarhar PED reported 347 M&E Officers in the province, and similar problems to all other provinces to include: transportation problems in visiting schools; lack of computer equipment; lack of professional staff; lack of incentives and consequences to increase professionalism; and great need for workshops and training to support the overall EMIS system. Respondents also offered that the leadership of the central directorate is “causing more problems than solutions.”

Central Region – Bamyan, Paktika, and Daikundi

Bamyan

Bamyan has seven M&E Officers and one Director, who are in charge of monitoring 2500 students per district. They suggest that in order to improve the M&E system in their province what is needed is better coordination between their evaluation team, the Directorate of Planning/MoE and the Evaluation Directorates themselves. Moreover, the evaluation team should be equipped with the appropriate technology to support the EMIS system. As found in all other provinces, staff needs to be trained and supported, including in how to use statistics, and logistical support must be provided for them to reach the schools.

Paktika

Informants reported that security issues seriously affect the evaluation of the majority of their schools. They also offered the suggestion to improve the EMIS system overall by integrating EMIS and GED M&E Officers. Need for training and logistical support was also noted in terms of supporting the data gathering for the EMIS.

Daikundi

Daikundi has eight team leaders and 54 M&E Officers at the provincial level. Respondents suggested that if they were to have better coordination amongst the various MoE monitoring departments they would have a more effective M&E system. As in all other provinces, they are lacking resources, especially budget and technology, to support their functions in the EMIS.

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