



Islamic Republic of Afghanistan
Ministry of Education
EMIS Directorate
Statistic and information analysis unit



USAID/CAPACITY BUILDING ACTIVITY (CBA)

EMIS DATA COLLECTION PROCESS GUIDELINE ALIGNED WITH THE ENHANCED EMIS SYSTEM

Guideline

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ACRONYMS

ASC	Annual School Census
CBA	Capacity Building Activity
DED	District Education Department
ECCE	Early Childhood Care and Education
EMIS	Education Management Information Systems
FGD	Focus Group Discussions
MDG	Millennium Development Goals
PED	Provincial Education Department
SDG	Sustainable Development Goals
SMS	School Management System
GIRoA	Government of the Islamic Republic of Afghanistan
HR	Human Resources
MEC	Monitoring and Evaluation Committee
MoE	Ministry of Education
USAID	United States Agency for International Development

1. BACKGROUND

In order for Afghanistan's Ministry of Education (MoE) to properly plan and make real time decisions about the effectiveness of its programs, systems, and people it needs comprehensive, reliable, up-to-date, and timely data about its programs systems and people. To be truly effective, the MoE should be collecting and assessing education data in everything it does and at every level: from district level primary schools to higher education level.

Across the world the Annual School Census (ASC) is a primary tool used by ministries of education for collecting information about their respective education systems. Typically, the census is conducted once a year to provide a detailed snapshot of the status, quality and effectiveness of educational institutions, students, teachers, and facilities.

In Afghanistan, the MoE follows has been utilizing an ASC, which is administered through a questionnaire. Currently the data collected through the ASC questionnaire is stored within the central EMIS system with the intent of being utilized by relevant information systems to provide management reporting and online access for users.

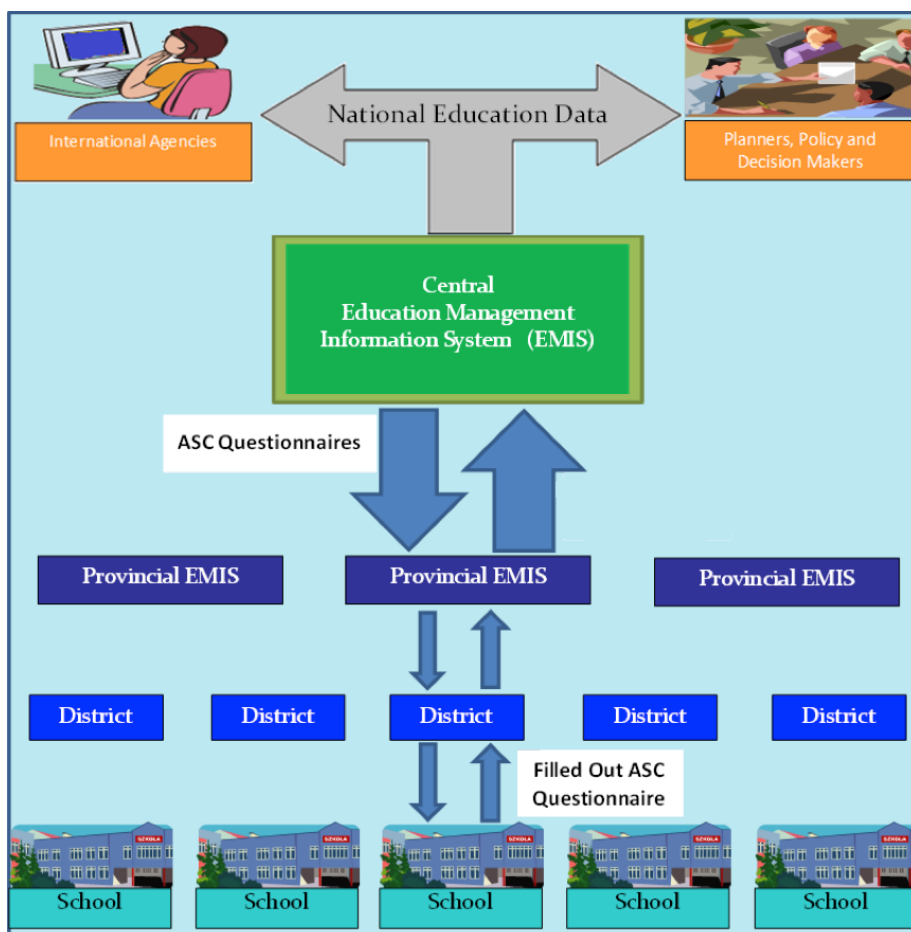
In Afghanistan, the statistics unit of the strategic monitoring and evaluation directorate (formerly known as the EMIS directorate) is the primary entity in charge of managing the ASC process, and they work under the overall supervision of the MoE's general directorate of planning and evaluation. Other key stakeholders and primary users of the ASC data are the Provincial Education Directorates (PEDs), the District Education Directorates (DEDs), and schools. The data collection process is initiated at the national level in collaboration with PEDs, DEDs, and schools, after which the process then concludes at the national level. Figure 1 on page 6 presents a high-level illustration of the current ASC process in Afghanistan.

In line with several recent assessments developed specifically for MoE's EMIS directorate that have emphasized the need for formalization of ASC data collection, verification and entry processes in Afghanistan, the Capacity Building Activity (CBA) project has developed the following guidelines for improving the current data collection process in MoE. The contents of these guidelines were developed in close consultation with all relevant entities and stakeholders within the MoE.

In addition to this, CBA has upgraded MoE's EMIS system in accordance with the revised ASC questionnaire and data verification questionnaire. CBA has incorporated the tablet-based data collection tools into the EMIS system so that the academic supervision staff can collect and verify ASC questionnaire and verification data directly in the school.

The upgraded EMIS system has advanced reporting, dashboard and analytical capabilities that enables MoE to generate advanced analytical reports from national to district level; clean data automatically, and generate national and international education indicators on national, provincial and district level.

Figure 1: National Data Collection Process



2. Data Collection Detailed Process

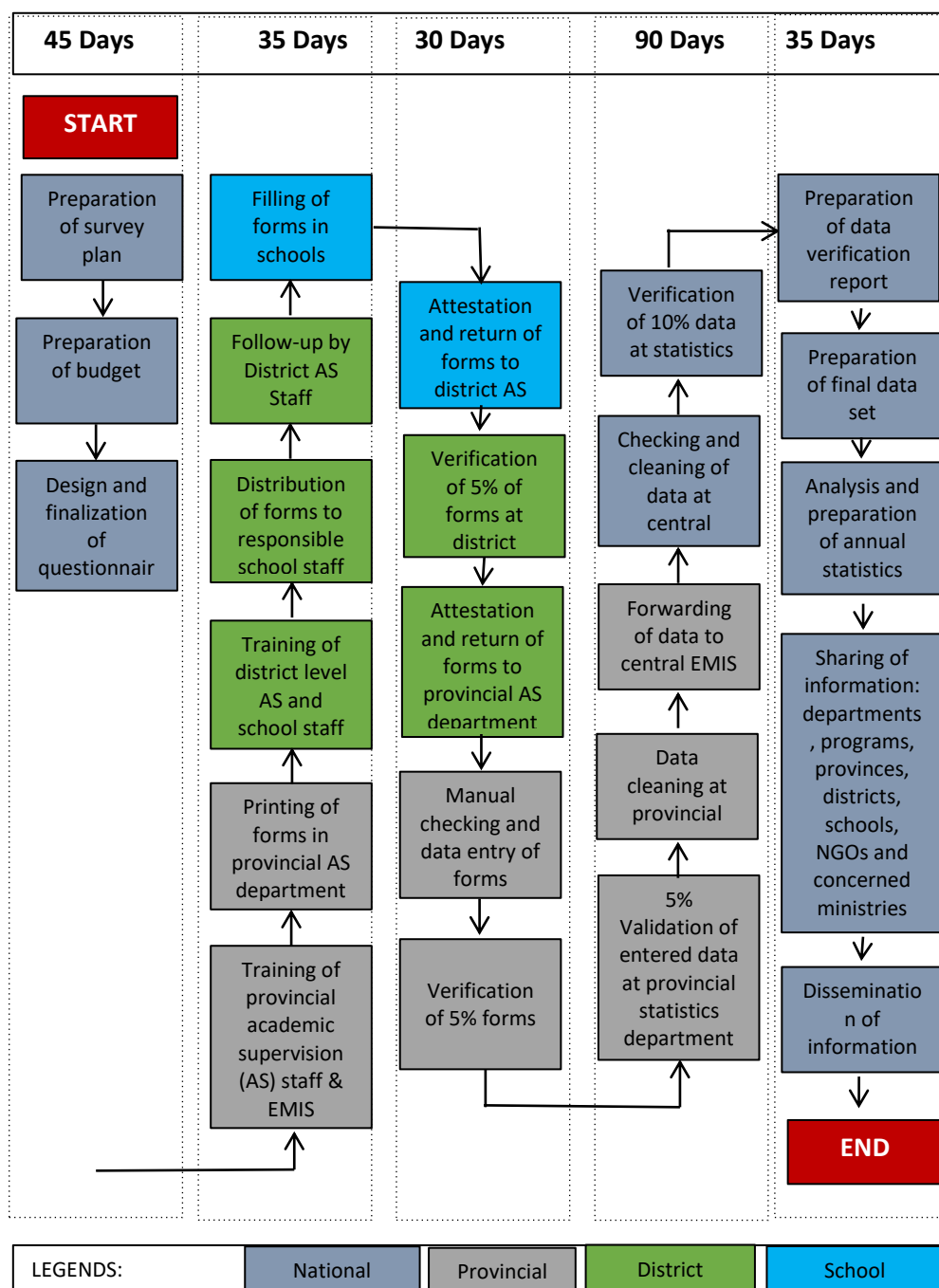
The EMIS assessment highlighted the gaps in the existing data collection process for ASC. A number of measures were recommended in the assessment report to cater the issues being faced in the process; one of these recommendations was to develop formal, clearly defined data collection, verification and entry guidelines. The TWG met for seven FGD sessions to work on and finalize the guidelines.

The TWG set about improving the existing process by first developing a process map of the way ASC has been conducted previously. Next, missing processing steps were added to ASC process in the light of assessment study recommendations. Then each process step was analysed and defined / improved from the viewpoint of describing the work to be performed during the execution of that particular step; the organization unit responsible for carrying out the work; the work products, if any, generated during the process step; and time frame required for completion of that particular step.

The improved process map was drawn, and a brief description of each activity / processing step was added to complete the documentation of data collection, verification and entry guidelines. The improved process caters to the issues highlighted during EMIS assessment study; and data collection through this process is expected to lead to timely, high quality and reliable education data.

The following illustration (Figure 2) depicts the process of data collection, verification and entry:

Figure 2: Overall Data Collection Process



3. STEPS

Each of the steps as showed in the above diagram is described as below:

1. Preparation of Survey Plan

A detailed plan is prepared which consists of key actions, timelines and responsibilities at national, provincial, and district levels.

2. Preparation of Budget

Budget estimates are developed for conducting the ASC. The estimates include all cost including printing of questionnaires, distribution of questionnaire, training of staff, development of training materials, conducting workshops, transportation, Traveling Allowance (TA)/Daily Allowance (DA), data entry, data verification, data validation etc. The finance department has to approve the budget.

3. Design and Finalization of Questionnaire

The questionnaire will be reviewed after each 5 years to incorporate any changes in requirements. A committee comprised of MoE leadership will review and design the questionnaire. The questionnaire will be finalized through pilot testing conducted in selected locations. The MoE leadership will approve the final questionnaire.

Guidelines for filling out the questionnaire will be developed (in Dari and Pashto) to ensure inclusion of a representative sample of respondents.

4. Training of Central staff

The relevant MoE staff will be trained in the new questionnaire and EMIS system including tablet-based application for ASC data collection and verification as master trainers.

5. Training of Provincial Academic Supervision (AS) and EMIS Staff

Before distribution of questionnaire, the staff involved in the census will be given one day of theoretical and two-to-three days of practical training. Also, the staff involved in verification activity will be trained in data verification. Where there is possibility of collecting ASC questionnaire and verification data through the tablet-based data collection and verification application, the staff involved in the census will also be provided training on collecting data through tablets.

6. Printing of forms in provincial Academic Supervision (AS) department

The provincial AS department will be responsible for printing of ASC questionnaires and distribution to the districts.

7. Training of District level AS and school staff

Before distribution of questionnaire, the district staff involved in the census will be given one day of theoretical and two-to-three days of practical training. Also, the staff involved in verification activities will be trained in data verification. Where

there is possibility of collecting ASC questionnaire and verification data through the tablet-based data collection and verification application, the staff involved in the census will also be provided training on collecting data through tablets.

A separate 1-2 days training will be organized for school staff that will fill out the ASC questionnaire.

8. Distribution of forms to responsible school staff

The ASC questionnaires will be distributed to schools by district AS staff for reporting of school data.

9. Follow-up by District AS staff

The follow-up with schools regarding filling-in and return of ASC questionnaire will be the responsibility of district AS staff. In case of delays in return, the AS staff will visit the school to ensure early completion of the task.

10. Filling of Forms in Schools

The staff has already been trained to fill out the forms and will be responsible for filling out the ASC questionnaire as per school data. Where there is possibility of using the tablet-based data collection and verification application, the district AS staff will collect the ASC questionnaire through the tablet. When the data collection is completed through tablet, the district AS staff will provide the tablet to provincial AS staff so they can synchronize the data in the provincial EMIS server.

11. Attestation and return of forms to District AS department

The school head teacher will attest the form, keep one copy of the form for school records, and return the filled-out form to the district.

12. Verification of 5% of forms at district level:

A random sample representative of 5% of schools' forms in the district will be selected. A team of verification staff will physically visit the school to verify the actual data against reported data. The variation, if present, will be noted and data anomalies removed by correcting the questionnaires. The verification staff should be different from the staff involved in the original data collection. A data verification report will be prepared and shared with the province.

13. Checking and attestation of forms by district AS, sending the forms to provincial AS

The district education director will attest the forms, maintain one copy of the form for district records, and send the original questionnaire to the provincial AS department.

14. Manual checking and data entry of forms by the provincial staff

The questionnaires will be checked manually by the AS department, scanned, and entered into the computerized system installed in each PED, it is also planned that where possible the data would be entered from schools or from districts into the system. If the questionnaire is collected through the tablet-based data

collection and verification application, the AS department will check the data through the computerized system.

15. Validation of 5% forms entered into the system

A random sample of 5% of the forms will be selected for validation. The manual forms will be compared with corresponding computer records and variations noted, removed, and reported.

16. Verification of 5% data by provincial statistics department

A random sample of 5% schools will be selected for the province. A team of verification staff from the province will physically visit the school to verify the actual data against reported data. Variation, if present, will be noted and data anomalies removed by correcting the questionnaires. The verification staff should be different from the staff involved in the original data collection. The provincial data verification report will be prepared and shared with the MoE statistics unit along with reports received from the districts.

17. Data cleaning at provincial level

Once the data entry process is completed, the provincial EMIS staff will run the data cleaning reports on the EMIS system to clean data by identifying missing data, wrong data types, and comparing the current data with previous years' data sets. The problems will be identified and necessary corrections would be made.

18. Transferring the data to MoE statistics unit

The data files along with scanned copies of original questionnaire will be forwarded/transferred to the central unit of statistics. Once, the connectivity between central and provincial servers is established and be reliable, the data would be automatically transferred on online manner.

19. Checking and cleaning of data at central level (MoE statistics unit)

The statistics unit staff will run the data cleaning reports in the central EMIS system to clean data by identifying missing data, wrong data types, and comparing the current data with previous years' data. The problems will be identified, referring to the scanned copy of forms, or contacting with provincial and school staff and making necessary corrections made.

20. Verification of 10% forms at statistics unit

Once the data cleaning process is completed, for data verification, the statistics unit selects a sample of schools to re-verify the data. The data will be verified directly by the statistics unit staff jointly with provincial/district staff. The sample size includes 5% at national level, 3% from the sample size verified by PED and 2% from the sample size verified by DED.

21. Preparation of data verification report

A data verification report will be prepared by compiling the verification reports from district, provincial, and national levels. This report will be presented to MoE leadership for taking necessary actions.

22. Preparation of final statistical dataset

The statistics unit will prepare the final dataset for the current year statistics. The dataset will include all the information collected through the ASC as well as population statistics obtained from the concerned government agency.

23. Analysis and preparation of annual education statistics book

The final data will be used for analysis, calculation of indicators, and summary reporting, brochures, statistical bulletins, GIS booklet and a detailed statistical yearbook will be prepared as per the approved format and submitted to MoE leadership.

24. Sharing of information with stakeholders

The statistical yearbook, summary reports, and indicators, brochures, statistical bulletins and GIS booklet etc. will be shared with concerned MoE departments, programs, provinces, districts, schools, donors, NGOs, and other relevant ministries.

25. Dissemination of information

The required data will be prepared for online and off-line data dissemination mechanisms including the MoE and EMIS websites, education GIS atlas etc.

4. CONCLUSION

The data collection process is the key to collecting timely and reliable education data, which is subsequently used for analysis, reporting and decision support. The quality of data has significant dependence upon a formally defined and efficiently managed data collection process.

A formal and well-defined data collection process has been developed by CBA which emphasizes on increased role of school, district and provincial level staff; data verification and validation activities are strongly knit into the data collection process; and capacity building of national, provincial, district, and school staff is built into the data collection process. Detailed guidelines have been developed for conducting the data collection, entry, verification, analysis and reporting. A schedule for conducting all activities of annual school census has been included. The ASC data collection conducted in the light of these guidelines is expected to lead to timely and reliable education data.

The EMIS system has been upgraded based on the developed guidelines. The upgraded EMIS has been deeply integrated in the EMIS data collection, entry, verification, analysis and reporting. The upgraded EMIS enables MoE to collect and verify the ASC questionnaire using the web-based EMIS system as well as the tablet-based data collection and verification application. The EMIS in addition also enables the MoE to automatically clean the data using the data cleaning reports developed in the EMIS, generate national and international indicators based on the collected data, produce various analytical and descriptive reports.

5. SCHEDULE OF DATA COLLECTION PROCESS

The TWG has prepared a schedule for timely implementation of the data collection, verification and entry process. This schedule will be further elaborated during preparation of action plans at national, provincial, and district levels. A brief representation of this schedule is outlined below:

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Activity	Means of Verification	Year 2021								
		Mar-Apr	Apr-May	May-Jun	Jun-Jul	Jul-Aug	Aug-Sep	Sep-Oct	Oct-Nov	Nov-Dec
		Haml	Sawr	Jauza	Sartan	Asad	Sunbla	Mizan	Aqrab	Qaus
Preparation of Survey Plan	Plan document	3 d								
Preparation of Budget	Budget document	3 d								
Design and finalization of questionnaire	One set of finalized questionnaires	12 d								
Software customizing	Working software as per new specifications	4 d	3 d							
Software testing	Test report		10 d							
Training of MoE central Level staff	Training report		3 d							
Printing of forms in provincial AS department	One set of printed forms			2 d						

Activity	Means of Verification	Year 2021								
		Mar-Apr	Apr-May	May-Jun	Jun-Jul	Jul-Aug	Aug-Sep	Sep-Oct	Oct-Nov	Nov-Dec
		Haml	Sawr	Jauza	Sartan	Asad	Sunbla	Mizan	Aqrab	Qaus
Generating the main information of the Questionnaire	Questionnaire reports			7 d						
Distribution of forms to responsible school staff	Form receipts			5 d						
Follow-up by district AS staff	Follow-up report			3 d	3d					
Filling of forms in school	Filled questionnaire				10 d					
Attestation and return of forms to district AS department	Signed Questionnaire				3 d					
Verification of 5% of forms at district level	One set of verified forms, Verification report				5 d					
Checking and attestation of forms by district AS, sending the forms to provincial AS	Signed set of counted forms				1 d	4 d				
Manual checking and data entry of forms by the provincial staff	Data entry report					18 d	7 d			

Activity	Means of Verification	Year 2021								
		Mar-Apr	Apr-May	May-Jun	Jun-Jul	Jul-Aug	Aug-Sep	Sep-Oct	Oct-Nov	Nov-Dec
		Haml	Sawr	Jauza	Sartan	Asad	Sunbla	Mizan	Aqrab	Qaus
Validation of 5% forms entered into the system	Validation report						5 d			
Verification of 5% data by provincial statistics department	Verification report						10 d	5 d		
Data cleaning at provincial level	Compliance report							8 d		
Forwarding data to MoE statistics unit	Soft copy, scanned forms							5 d		
Checking and cleaning of data at MoE statistics unit	Compliance report							4	16	
Verification of 20% data at statistics unit	Verification report						4	22	4	
Preparation of data verification report	Data verification report								5	
Preparation of final statistical dataset	Finalized statistical dataset								5	
Analysis and preparation of annual education statistics book	Annual statistics book								8	14

Activity	Means of Verification	Year 2021								
		Mar-Apr	Apr-May	May-Jun	Jun-Jul	Jul-Aug	Aug-Sep	Sep-Oct	Oct-Nov	Nov-Dec
		Haml	Sawr	Jauza	Sartan	Asad	Sunbla	Mizan	Aqrab	Qaus
Sharing of information with stakeholders	Checklist									1
Dissemination of information	Updated dissemination mechanisms									2