Developing Sustainable EMIS for Monitoring of SDG4

Strengthening Education Management Information Systems to monitor the Sustainable Development Goal 4
24-26 October 2018, Dushanbe, Republic of Tajikistan
What people say about Education Data

• Government senior officials say
  • We have everything
  • We don’t have sufficient resources

• EMIS staff say
  • Nobody care about our work
  • I am too busy
  • I don’t know what to do

• Local education staff say
  • Reporting after reporting
  • Everybody is asking same thing
What people say about Education Data

• Donors and developmental partners say
  • We are confused. Too many sources
  • How do they get this number, it is ridiculous
  • Where does our support to EMIS go
  • Data, Data, Data and no information

• Other say
  • What is EMIS? Is it a new cryptocurrency?
### Root causes of all these sayings

<table>
<thead>
<tr>
<th>Cause</th>
<th>Effect</th>
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<td>Decision making and planning at central level</td>
<td>Data are collected and compiled for central level</td>
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<td>There is little ownership and usage for local level</td>
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## Root causes of all these sayings

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<td>There is little ownership and usage for local level</td>
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<td>They are doing this to fulfill the minimum duty</td>
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<td>Low quality of data and incomplete coverage and delay in reporting</td>
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<td>Low utilization of data</td>
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<td>Cause</td>
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<td>Data can not be used</td>
<td>- Little or inadequate resource and capacity building for the EMIS</td>
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<td>- Parallel data collection</td>
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<td>- Planning without information</td>
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Changing paradigm

- Evidence-based policy formulation
- Result-oriented programme implementation
- Pressure from everywhere – Accountability

- Availability and affordability of IT solutions
  - Holistic approach
  - Broader participation
  - Better transparency
  - Faster responses
  - Better customization
  - Better quality
  - More user friendly
Evolution of EMIS

- Premature stage
- Fragmentary stage
- Independent stage
- Synergetic stage

Established System
Unsettled System

Established institutional framework
Unsettled institutional framework
Evolution of EMIS

DSS “Decision Support System”

MIS “Management Information System”

SIS “Statistical Information System”

Summary

Electronic forms

Manual Summary

Evolution of EMIS

Electronic forms

SIS “Statistical Information System”

Summary

Manual Summary
Evolution of EMIS

- **Summary Reporting**
  - General summary information for reporting

- **Statistical Information System (SIS)**
  - More detailed summary data
  - Disseminate in the form of annual yearbook
  - Use mainly for reference, national level policy planning and resource allocation

- **Management Information System (MIS)**
  - More management oriented information
  - Linkage and integrate other relevant information sources
  - Information are available in various formats and forms
  - Use for planning and monitoring of policy and programme at most levels
Evolution of EMIS

- Decision Support Information System (DSIS)
  - Support of setting different policy scenarios or future decisions
  - Real time up-to-date information
  - Ability to customize robust data retrieval and analysis
- Virtual and physical integration with other management systems
  - Ability to learn, reason and respond
Process of EMIS (How it evolves)
Business as usual

Central level School census DB

- Other MIS and databases
  - EMIS DB
  - Other MIS and databases

Sub-national level

Schools

EMIS DB

Schools

EMIS DB

Schools
New system architecture

- Other stakeholders
- Media/Public
- Community/Parents
- Central level Educational Authority
- Local level Educational Authority
- Schools
- Virtual Interface
- Artificial Intelligence
- Security layer
- EMIS DBs
- Other DBs of MOE
- NSO’s DBs
- DBs of other lines ministries and institutions
SABER-EMIS analytical framework

- **Enabling Environment**
  Assessment of intended policies in relation to building a sustainable infrastructure and human resources that can handle data collection, management, and access.
  - Legal Framework
  - Organizational Structure & Institutionalized Processes
  - Human Resources
  - Infrastructural Capacity
  - Budget
  - Data-driven culture

- **System Soundness**
  Assessment of the degree to which the processes and structure support the components of a comprehensive system.
  - Data Architecture
  - Data Coverage
  - Data Analytics
  - Dynamic System
  - Serviceability

- **Quality Data**
  Assessment of the degree to which the system accurately collects, securely saves, and produces high quality timely information for use in decision-making.
  - Methodological Soundness
  - Accuracy and Reliability
  - Integrity
  - Periodicity and Timeliness

- **Utilization for Decision Making**
  Assessment of the reality of system implementation and utilization of information in decision-making.
  - Openness to EMIS Users
  - Operational Use
  - Accessibility
  - Effectiveness in Disseminating Findings/Results

Source: SABER working paper series 7, pp.39
### Group work assignment

What are the **5 key challenges/issues** you are facing in the development and operationalization of EMIS in your country?

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Vicious cycle of having no data or many data or useless data !!!

Partial, unreliable, inconsistent, untimely data

Little use of data for planning and no incentive for monitoring

Less intention/desire or feel less importance for policy makers to allocate adequate resources for monitoring

Unable to undertake proper, systematic, effective monitoring

Inadequate resources available for monitoring
Some golden rules for getting quality data

Knowing of 5 i of data:

- **Incorrect**
  The information that is determinedly false. As an example, the age of a client can’t be 120 years.

- **Inaccurate**
  A real information, yet such an information is incorrect. Usually, it is mistakes in no. of students.

- **Inconsistent**
  The redundant data, usually duplicated. Same student with different name.

- **Incomplete**
  Empty or incomplete info such as address or a phone number.

- **Isolate**
  The data without context
Some golden rules for getting quality data

5-right principles

• Get the right data---To collect data which are relevant to the specific topic or issue.
  For example: In order to better understand gender disparity in school, one must collect data on students separately for boys and girls.

• Get the data right--- To collect data with precise definition and appropriate method of measurement.
  For example: Data on new entrants in Grade 1 must not include those who actually attended another school, dropped out then enrolled in this school for the first time.

• Get the data right away --- To get the most current and timely data
  For example: To organize school censuses as soon as enrolment and attendance in schools stabilized after the start of the school year.
Some golden rules for getting quality data

5-right principles

• Get the data the right way --- To get data through a rigorous process which can guarantee data quality and ensure consistency.
  For example: Clear instructions and data standards are given and explained; people involved are trained in data collection.

• Get the right data management --- To collect reliable data which is guaranteed by good quality control conducted by related stakeholders.
  For example: Involving all the stakeholders at different levels to check and ensure that the collected data are reliable and complete before they are processed, analyzed and used.
Having better system

- Consistent political commitment and support
- Adapt and build on existing data systems
- Establish **SYSTEM** rather than being overly concerned with IT
- Start with simple and affordable existing resources, skill and know-how; and gradually upgrade, expand and extend to a full-scale system
- Avoid complicated initial design and structure
- Do not under-estimate client demand/expectations
Having better system

- Think of long-term sustainability in building institutional mechanisms rather than piece-meal project approach
- Repeated training and continuous upgrading of people involved
- Proper staff incentives and reward
- Full utilization of collected data and derived information by every level of users including the general public and
- Be transparent, be available to all users
Having better system

• Decentralization
• Management oriented system
• Harnessing Technology
• Capacity Development
• Awareness building on Evidences
• Transparency
Final words

- EMIS is not a toy, it’s a SYSTEM
- Start with simple and gradually expand
- Practice makes perfect

- Many chickens in the farm doesn’t mean you are going to have a chicken barbecue
- Food doesn’t count, Taste does count
- The more you ask the less you have
- Garbage in, Garbage out
- BY product, but not THE product
- Mangoes come from trees not from sky