Ministry of Education and Sports

BACKGROUND TO EMIS

A Paper Prepared To Guide the Work of EMIS Review Task Force 2017

May 2017

1.0. Description of EMIS

1.1. Definition

The acronym *EMIS* stands for *Education Management Information System*. EMIS is a decision support system for the management of the education sector. It is an organized group of information and documentation services that collects, stores, processes, analyses and disseminates information for education planning and management.

EMIS is a collection of component parts including *input components*, *outputs* and *feedback* that are integrated to achieve a specific objective of providing accurate, reliable and accurate information on the state of education a country. It is a system for managing a large body of data and information that can be readily retrieved, processed, analyzed and made available for use and dissemination. EMIS therefore, is a tool that uses systems theory together with developments in computerization to create a comprehensive approach to the collection and use of vast quantities of information on the education system.

Consequently, EMIS integrates People, Technology and Practices / organizational Procedures in the process of collecting, storing, processing, analyzing and disseminating information on the education and sports sector. EMIS is both a manual and computerized system.

1.2. Rationale for EMIS

The absence of empirical data on education generated through a functional and carefully designed system justifies the establishment of EMIS.

1.3. Purpose

The purpose of EMIS is to integrate information related to the management of the Education and Sports System and to make it available in a comprehensive and yet specific manner to EMIS users (i.e. Top management, Directors, HoDs, DEOs, School inspectors, MoFPED, NPA, OPM, Donors etc).

The specific Objectives of EMIS are:

(i) *To collect, process, analyze and store relevant, reliable and timely data;*
(ii) *To coordinate scattered efforts in the acquisition, processing, storage, analysis, repackaging, dissemination and use of Educational Management Information.*
(iii) *To facilitate and promote the use of relevant information by EMIS stakeholders.*
(iv) *To streamline the flow of information for decision making by reduction/ elimination of duplication of efforts as well as filling information gaps*
(v) *To promote information for policy dialogue and scenario-setting for the development of the Education and Sports systems.*

1.4. Major features of EMIS

(a)   Synergy and integration

EMIS is expected to establish and maintain a systematic inter sectoral exchange ad flow of information between departments within MoES, Affiliate Bodies, Line Ministries and relevant Agencies and Departments of Government.   It therefore, integrates various sources of education management information into one coordinated system to serve the entire Country.

As a result, EMIS has eight dimensions;

(i)   Needs of producers and users
(ii)   Data
(iii)   Information handling
(iv)   Storage of data
(v)   Retrieval of data
(vi)   Data analysis
(vii)   Computer and manual procedures
(viii)   Network among centers.

Figure   1:   Dimensions   of   integration   in   an   EMIS
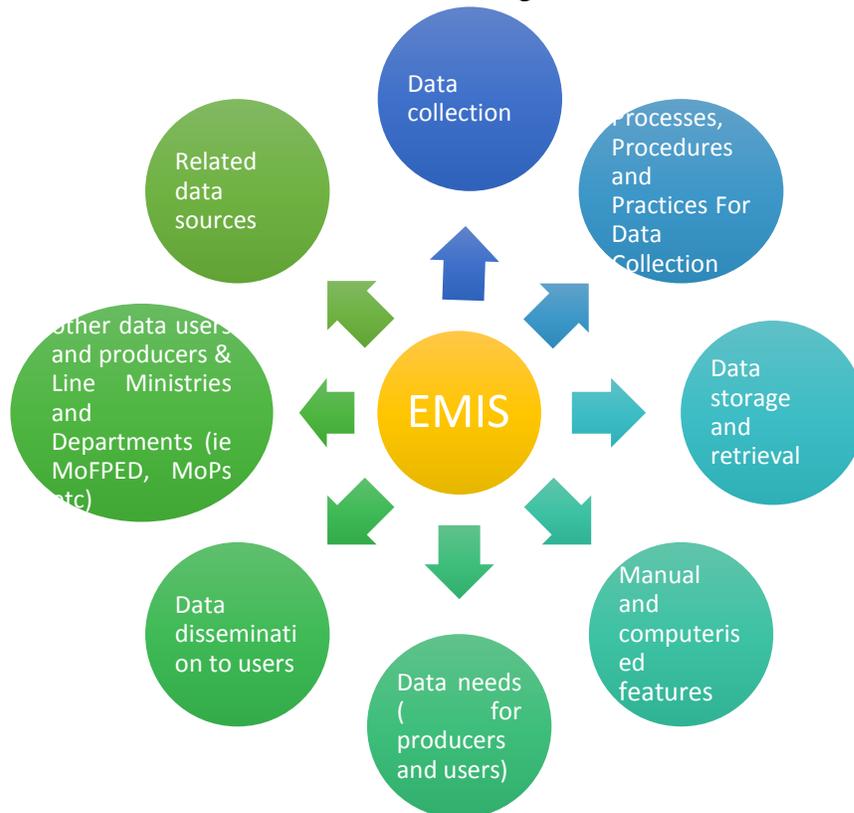
(b) Institutional Framework

EMIS is a sub system within the Education policy, planning and management system. It rationalizes and strengthens existing structures and processes to improve the coordination of information flows on various processes of education and Sports systems. Institutionally, all activities in the handling of Education Management Information are usually placed and coordinated within the same EMIS framework. In this regard, EMIS is institutionally partly a *network structure* (i.e. data producers & users) and partly a *subsystem of planning* that links together to facilitate the flow of information among data producers and users.

c) Role of EMIS

EMIS is the management support system for the education sector. It is constructed around the concept of the EMIS centre (i.e. where information services are located) to facilitate the flow of information between all agencies and individuals involved in its generation. It expected to link MoES to other agencies and institutions in education as well as other sectors that are engaged in educational activities. The functioning of all EMIS centers is normally coordinated by the planning department of MoES.

The role of EMIS therefore is to generate Education Management information to support evidence-based decision making in the areas of policy, planning, budgeting and management of the education and Sports systems.

(d) Information flow in the EMIS

Ideally, EMIS is expected to facilitate information flow in both directions (i.e. from Producers to EMIS and from EMIS back to producers and users in terms of feedback). However, due to a combination of factors (i.e. inadequate budgetary resources, inadequate personnel, out dated practices etc.). For instance, the basic statistics that are currently collected are transmitted one way i.e. from schools to districts to MoES Headquarters, the current EMIS transmits information in only one direction.

EMIS DATA AND INFORMATION	→ ←	LEVELS OF DECISION MAKING / DATA UTILISATION	→ ←	INFORMATION PRODUCTS

(e) Overview of Design and development stages of EMIS

EMIS is designed to minimize duplication and over laps in data collection exercise and maximize the impact of data collection results. Managing education through informed decision-making
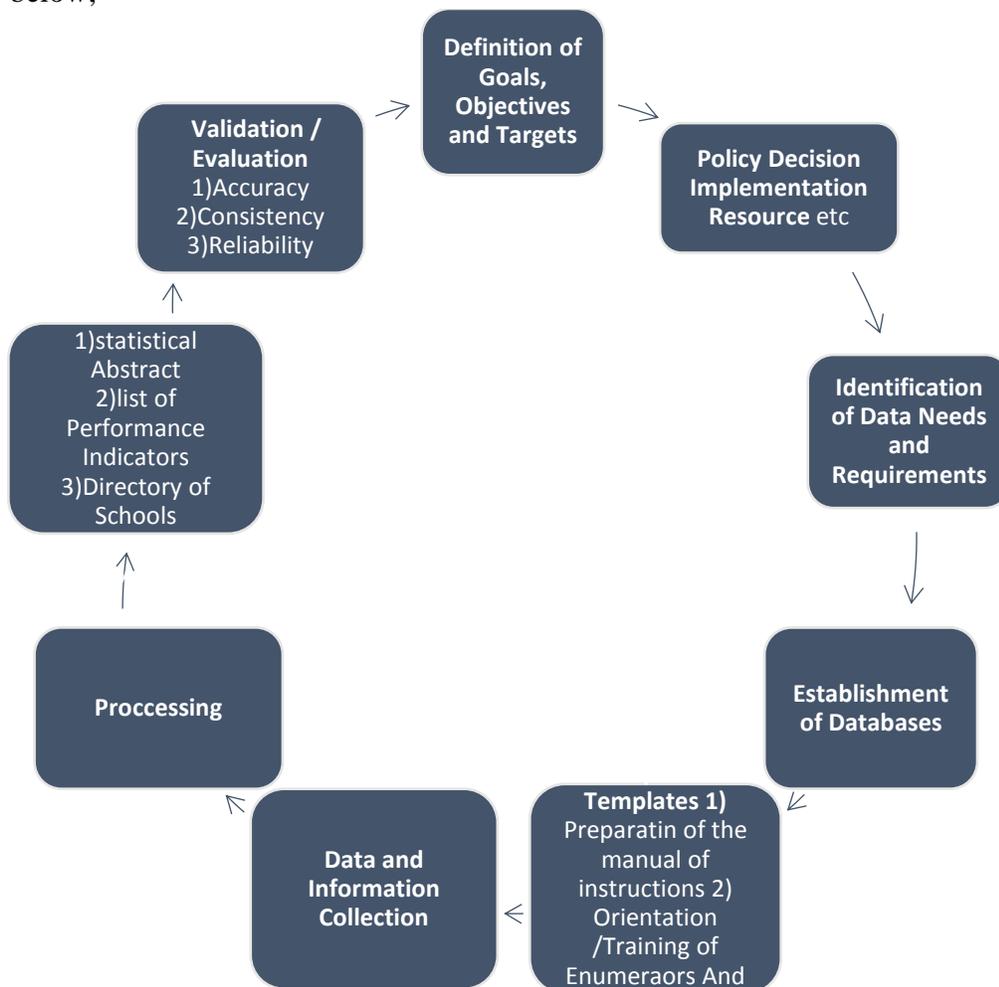
requires the availability of accurate and timely information which links together resource inputs to education teaching and learning conditions and process and appropriate indicators of the knowledge acquired by learners

Widespread use of information-based decision-making is known to result into more effective and efficient planning and the identification of new information needs. On the other hand, however, failure to supply information that is timely and reliable contributes to management inefficiencies and a reluctance on the part of decision-makers to use information.

Ideally the design and establishment of an EMIS should be preceded by appropriate policy development legislation and relevant administrative decisions.
 Government commitment is critical.

The development of a functional EMIS is usually based on sequence of activities reflected below;

```
    Validation /              Definition of
    Evaluation                  Goals,
    1)Accuracy                 Objectives          Policy Decision
    2)Consistency             and Targets         Implementation
    3)Reliability                                  Resource etc

    1)statistical                                          Identification
    Abstract                                               of Data Needs
    2)list of                                                  and
    Performance                                            Requirements
    Indicators
    3)Directory of
    Schools

    Proccessing                                          Establishment
                                                         of Databases

                    Data and          Templates 1)
                    Information      Preparatin of the
                    Collection         manual of
                                       instructions 2)
                                        Orientation
                                       /Training of
                                       Enumeraors And
```

1.5. Main Pillars

A fully functional EMIS is built around three Pillars; Technology, People and Practices. EMIS integrates the three pillars together to generate relevant data and information to support effective decision making and management of the Education and Sports Sector. In order to effectively sustain EMIS, therefore, full integration of these three pillars is key.

Figure 1.1: Key components /pillars of Education Management Information System
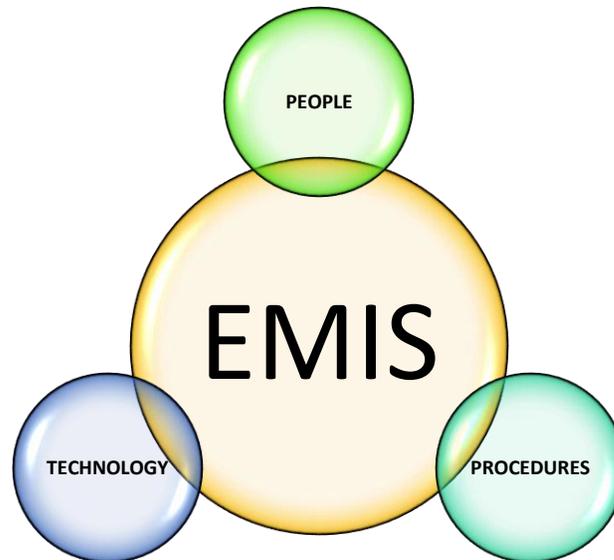
EMIS therefore, is not only the technology and related database software that performs different functions (as most people perceive it), but also includes organizational Procedures/ Practices (policies, laws, guidelines, Standing Orders, culture etc.) and People (the skilled/ technical staff, the users, the service providers).

(i) **People:** The People element/ pillar of EMIS are generally the most important. It involves the leadership, Managerial a well as front-end and back-end management staff. The staff managing EMIS should have the knowledge required to maintain, modify, use the system; even users of EMIS need skills to use the data and information generated by the system. In order to make the people use and manage the system, capacity development in terms of training and re-training is crucial.

(ii) **Procedures/Practices:** Procedures/Practices are constituted by concepts, processes/ stages and standards that any good EMIS requires. Most of the EMIS users, particularly at the district remain ignorant of the potential that EMIS has in improving their

operations. This is mainly attributed to inadequate advocacy and dissemination of information on EMIS. Most of the stakeholders also have limited use of ICT and have challenge interpreting EMIS terms definitions and concepts (MoES, 2011) - hence the need for targeted capacity building and advocacy.

(iii) **Technology:** this pillar constitutes the usage, and knowledge of tools, machines, techniques, crafts, systems, methods of organization, in order to solve a problem, and improve EMIS.

2.0. Conceptual Framework of the current EMIS

EMIS was visualized as a one stop center for management information on education and its role is to support senior management in making evidence–based decisions. Consequently, its initial design was conceptualized to comprise of 5 basic modules (functions) that include Basic Schools Statistics; Personnel (excluding payroll); Financial Management; School Outcomes and School Inspection. Additional modules were to be added as and when needed. Figure 1 below demonstrate the conceptual framework of EMIS at inception.

Figure 1: EMIS Conceptual Framework
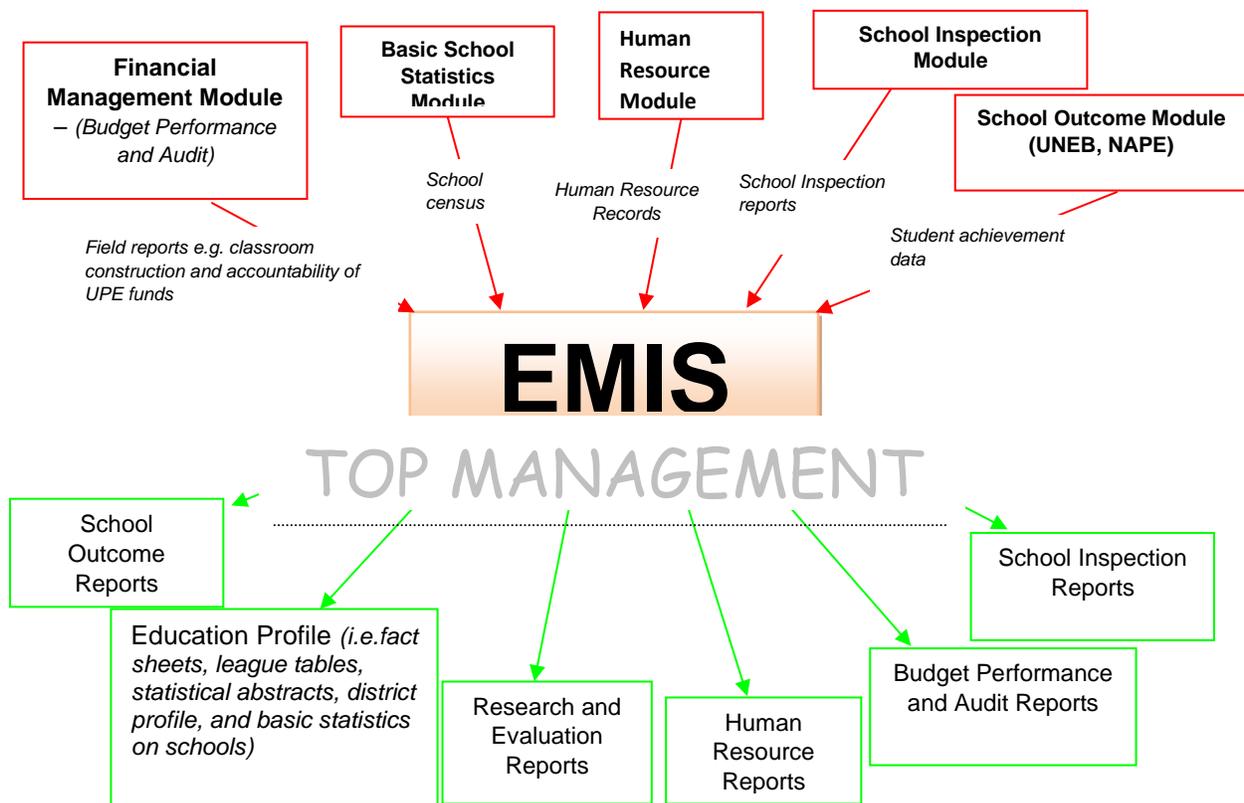
2.1. Scope

EMIS is designed as a National System for generation of Management Information on Education and Sports Sector. In this regard, EMIS is expected to generate management information in key aspects of Education and Sports sector. This include, Basic School Statistics, School Inspection, Human Resource excluding payroll, Financing of Education, School Outcomes, HIV/AIDS, Curriculum, and Sports.