Concepts, Issues & Recommendations for Re-Engineering and Re-Development of Education Management Information System (EMIS)
Executive Summary

**Education Management Information System (EMIS)** is a subsystem of education planning, policy development and management that collects, stores, processes, analyses, and disseminates information for Education Planning & Management. Its purpose is to integrate data & information on Education System and make it available to various stakeholders at various levels of decision and data consumption

(e.g. Top management, Directors, HoDs, DEOs, School inspectors, MoFPED, NPA, OPM, Donors etc.), for the effective planning and management of the Education System and accountability.

In Uganda, EMIS was conceived as part of the Primary Education Reform Program (**PERP, launched in 1993**), to enhance the management capacity of the sector in the areas of Planning, Budgeting, Policy development, Monitoring and Evaluation and has evolved through three major phases


Despite having been in existence for close to two decades, the current EMIS is yet to live to its expectations on account of poor quality data. In a bid to address this challenge, an EMIS review taskforce was constituted to oversee the realization of a robust and reliable EMIS capable of providing quality and timely Education and Sports Sector management Information.

**Chapter 1** gives a brief background to the assignment, terms of reference for the taskforce, membership of the taskforce, duration and expected outputs

**Chapter 2** focuses on the approach and methodology adopted by the taskforce in delivery of the terms of reference as well as the limitations

**Chapter 3** provides key highlights on the four technical papers presented (i.e. 1st Paper: EMIS definitions and Concepts; 2nd Paper: Analysis of the EMIS development stages; 3rd Paper: Evolution / History of development of EMIS and 4th Paper: Current status of EMIS)
Chapter 4 details the key issues regarding the current EMIS as identified by the taskforce. These issues were broadly categorized into eight issues (i.e. misconceptions about EMIS, Poor Design and Development framework for Current EMIS, Weak Policy Framework, weak Legal, Poor quality of EMIS data, Sustainability of EMIS, Limited Functionality of EMIS and EMIS development biased towards the technology pillar).

In this chapter the current status of EMIS in regard to the above listed broad areas is presented accompanied by the challenges or consequences resulting from them.

Chapter 5 is the last chapter of this report and presents a set of recommendations for each of the issues highlighted in chapter 4 that the sector can use for the realization of a robust and reliable EMIS capable of providing quality and timely Education and Sports Sector planning and management Information.

The recommendations are presented in two broad categories: Short term recommendations (targeted at short term improvements to be made on the current EMIS to enhance the quality of EMIS data and its accessibility) and medium, term recommendations (to be implemented within a two year period).
1.0 Background

On 29th March 2017, the Permanent Secretary MoES constituted an EMIS Taskforce to oversee the realization of a robust and reliable EMIS capable of providing quality and timely Education and Sports Sector management Information.

1.1 Terms of Reference of the Taskforce

The Terms of Reference for the above referred taskforce include:

(i) Studying the current Education Information requirements;
(ii) Studying the current EMIS to identify its capacity and gaps;
(iii) Making feasible and sustainable recommendations and strategies to improve data production and management in the sector, and;
(iv) Exploring internal linkages and synergies that could be created for purposes of ensuring quality data production and management.

1.2 Membership of the Taskforce

The taskforce is constituted by members from the following:

MoES technical departments (i.e. Education Planning and Policy Analysis, Basic Education, Government Secondary Schools, Private Schools & Institutions, Finance and Administration); National Information technology Authority of Uganda (NITA-U); National Council for Higher Education (NCHE) and Uganda Bureau of Statistics (UBOS). See Annex VI

1.3 Duration

The assignment was initially targeted for one month but the actual time was slightly over three months.

1.4. Expected outputs

Feasible and sustainable recommendations and strategies to improve data production and management in the sector

1.5. Processing of the report

The report went through the following stages:

(i) Adoption by the EMIS review Taskforce – Tuesday 1st August 2017
(ii) Adoption by the M&E Working Group – Thursday 17th August 2017
(iii) Discussion by EDPs (DFID, WB, UNICEF) – Wednesday 13th September 2017
(iv) Adoption by Education sector Consultative Committee – Thursday 28th September 2017
(v) Discussion by UNESCO Mission – Thursday 12th October 2017
(vi) Discussion by EDPs - 22nd November 2017
(vii) Adoption by MoES TMM --------------------------

1.6. Next Steps

After TMM has pronounced itself on this report, the next step will be:-

i) Final editing and Re-formatting to conform to the conventional formats of Taskforce reports.
ii) Printing and dissemination to primary stakeholders (i.e. MoES, EDPs, & MDAs)
iii) Refinement and re-alignment of the Work Plan with the actual available of resources
2.0 Approach and Methodology

2.1 Approach

A multi sectoral consultative approach involving key agencies of Government was adopted by the Taskforce.

2.2 Methodology

The methodology adopted by the taskforce to facilitate multi-sectoral consultation was mainly meetings. These meetings were structured into two broad parts:

(i) Technical/expert paper presentations on EMIS;
(ii) Plenary discussions;

The meetings were complimented by a preliminary mapping of EMIS Stakeholder information needs in 5 departments that include: Basic Education, Government Secondary Schools, Private Schools and institutions, BTVET and Higher Education.

2.3 Taskforce Process

2.3.1 Main activities of the Taskforce

The main activities of the taskforce were:

(i) Preparation of technical papers
(ii) Meetings
(iii) Mapping of information needs of select departments
(iv) Report writing
(v) Report presentation

2.3.2 Meetings: Paper presentations

During the process of the taskforce, six (6) papers were presented, four (4) of which were technical expert papers and the fifth was on issues and recommendations. Details in chapter 3

2.2.3 Mapping of information needs of select departments

As recommended and resolved during the 1st EMIS review taskforce meeting, mapping of stakeholder needs was undertaken in MoES MDAs (i.e. Ministry of Public Service and UBOS).
2.2.4 Report writing

Report writing was spearheaded by the Taskforce Secretariat comprised of mainly members of staff from the Statistics, Monitoring and Evaluation Division of the Education Planning and Policy Analysis Department, MoES

2.2.5 Report presentation

(i) EMIS Review taskforce
(ii) M&E WG meeting
(iii) Permanent Secretary, MoES
(iv) ESCC
(v) MoES Top Management

2.2.6 Limitations

There were two main limitations to this taskforce:

(i) The time of one month initially allocated to the taskforce proved ambitious. Most taskforce members found themselves called upon to attend to equally pressing matters. This led to the extension of the completion of the assignment to 3 months

(ii) A majority of taskforce members had less understanding of what EMIS really is.
3.0 Summary of Paper Presentations

1st Paper: EMIS definitions and Concepts

2nd Paper: Analysis of the EMIS development stages

3rd Paper: Evolution / History of development of EMIS

4th Paper: Current status of EMIS
3.1 1st Paper: **EMIS definitions and Concepts**

This paper was intended to help the members of the taskforce come to a common understanding of the definition of EMIS, the rationale for EMIS, purpose & specific objectives of EMIS, major features of EMIS, EMIS pillars *(i.e. the people, procedures & technology pillars)*, conceptual framework for the current EMIS and scope of EMIS pillar.

### 3.1.1 EMIS Definitions

**EMIS** is a subsystem of education planning, policy development and management. It can be defined as:-

(i) A system that collects, stores, processes, analyses, and disseminate information for Education Planning & Management; or

(ii) 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; or

(iii) A system that uses systems theory together with development in ICT to create a comprehensive approach to the collection and use of vast quantities of information on Education;

EMIS can be either manual or automated: however, automation is preferred due to recent rapid advances in ICT that facilitate it.

### 3.1.2 EMIS Concepts

#### 3.1.2.1 Rationale for EMIS

Lack of quality data and information in education sector *(arising from errors, inconsistencies, inaccuracies, untimeliness, incompleteness, data blanks, and misinterpretations etc.)*, coupled with the need for an adequate support system for evidence-based decision making in the education sector justifies the creation of an EMIS.

#### 3.1.2.2 Purpose and Objectives

(a) **Purpose**

The purpose of EMIS is to integrate data & information on Education System and make it available to various stakeholders at various levels *(e.g. Top management,
Directors, HoDs, DEOs, School inspectors, MoFPED, NPA, OPM, Donors etc.), for the effective management of the Education System.

(b) Objectives

The specific Objectives of EMIS are:

(i) To systematically provide accurate and timely information for evidence-based decision making, planning, project development and effective management of the education system;

(ii) To improve capacities in data processing, storage, analysis and supply of education management information so that education planners and administrators can avail themselves of reliable and timely data;

(iii) To co-ordinate and further improve dispersed efforts in the acquisition, processing, storage, transmission, analysis, repackaging, dissemination and use of educational management information;

(iv) To facilitate and promote the use of relevant information by various stakeholders at all levels (both public and private) for more effective educational planning and management;

(v) To streamline the flow of information for decision-making by reducing and eliminating duplications as well as filling information gaps;

(vi) To provide information for policy dialogue and scenarios for development of the education system;

3.1.2.3 Main Pillars

A fully functional EMIS is built around three Pillars as shown in figure 1 below:
Figure 1: EMIS Pillars

Pillar I: The People Pillar;
This is the most important pillar and involves producers, users and suppliers of data (i.e. Top management, front-end and back-end management staff, MDAs, EDPs, Local Governments, schools/institutions & general public).

Pillar II: The Practices / Procedures Pillar;
Procedures/Practices are constituted by Sector policies, rules & regulations, institution arrangements, practices, guidelines, concepts, processes and service delivery standards.

Pillar III: The Technology Pillar;
This pillar is constituted by ICT in terms of software and hardware for statistical operations, information sharing (between suppliers and producers), reporting and information dissemination (EMIS Users).
3.1.2.4 Major features of EMIS

(a) Synergy and integration (i.e. a systematic inter-sectoral exchange and flow of information between users and producers.)

EMIS integrates various sources of education management information into one coordinated system to serve the sector and entire Country based on eight dimensions (Needs of producers and users; Data dissemination; Information handling; Storage of data; Retrieval of data; Data analysis; Computer and manual procedures and Network among centres)

(b) Institutional Framework

This framework is comprised of all structures and institutions involved in coordinating or implementing EMIS activities. It’s partly a network structure (i.e. a network of data providers, information 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

To generate Management information to support evidence-based decision making in policy, planning, budgeting and management in the Education and Sports systems.

(d) Information flow in the EMIS

EMIS plays an intermediary role between data suppliers and data users. More specifically it facilitates information flow in both directions (i.e. from Producers to EMIS and from EMIS back to producers and users in terms of feedback):

see figure 1 below.

However, the current EMIS only facilitates information flow in one direction (i.e. from schools to districts to MoES Headquarters)

Figure 2. Ideal EMIS information Flow

The full 1st Paper is attached as Annex I
3.2 2nd Paper: Analysis of the EMIS development stages

This paper provided members with an insight into the nine EMIS development stages (i.e. Definition of goals, objectives & targets; policy decisions; for purposes of implementation and monitoring; identification of data needs & requirements; establishment of databases; design of monitoring / data collection instruments; data and information collection; data processing, data/information dissemination; and Evaluation of output).

It also provided members with an appreciation of the extent to which the above stages were followed during the development of the current EMIS
The development of a robust and fully functional EMIS involves a 9 stage development cycle (to ensure that EMIS development is based on a specific policy and legal framework, as well as underpinned by standards that guarantee timely, useful and relevant information) as follows:

**Stage I: Definition of Goals, objectives and targets**

This entails definition of the national development goals, mission statement, objectives and setting short- and long-term targets of the education system in the country. It is from these definitions that the mandate of the constitution on
education and other relative legislations, are carefully reviewed with reference to the development of EMIS.

**Status:**

This stage was never undertaken.

**Stage II:  Policy Decisions and prioritization**

This stage focuses on identifying the resources needed to establish EMIS. It is critical to determine the appropriate manpower to operate the system, the cost of services and activities, the overall structure, the timetable of activities and the overall strategies of implementation.

**Status:**

This was partially done

**Stage III:  Identification of Data Needs and Requirements**

This stage focuses on identifying the necessary data needed to support the various measures in determining the attainment of the objectives of the system through consultations with the key stakeholders of EMIS. This ensures that the data requirements and needs of the policy and decision-makers and other key users are taken care of while at the same time minimizing overloads of unnecessary data. It also inform the scope of EMIS data collections and other complementary official data sources to feed the education sector data demand such as learning outcomes, household and public expenditures, population data, etc.

**Status:**

Partially done.

**Stage IV:  Establishment of Databases**

This stage entails establishment of databases. It is at this stage that, the EMIS software Solution is designed and developed.

**Status:**

This has been undertaken although mostly funded by development partners, it requires re-engineering to accommodate the current and emerging needs of the sector.
The current EMIS was operationalized as a computer-based solution using a customized software solution for the education sector. However it is limited in its operations and functionalities.

**Stage V: Design of Monitoring/Data Collection Instruments**

This stage involves the design, production and testing of monitoring and data collection forms. These forms are designed to capture the data identified in the 3rd stage of EMIS development. Pilot-testing on the forms/instruments is carried out to ensure that the instructions, data definitions and elements requested are understood by the data providers before they can be administered on a national scale.

**Status:**

Data collection instruments are in-place and periodically evaluated however there is no Quality Assurance mechanism in place to enforce the quality of the process.

**Stage VI: Data and Information Collection**

This stage involves data and information collection. Operations manuals, and guidelines for both the enumerators and respondents are prepared to inform on the objectives of the exercise, schedule of activities, duties and responsibilities of key actors, administration of the questionnaire and definition of terms. It is also this stage where training of enumerators and key actors at the national and local government level is carried out for purposes of uniformity and common terms of reference.

**Status:**

Only basic data is collected. Critical data such as Human Resource, Finance, School Inspection, and School Outcome among others is not collected in EMIS; Operational Manuals and Guidelines and training of enumerators at national and local government levels are in place.

**Stage VII: Data Processing**

This stage entails data verification and quality control procedures, data processing, coding of data elements according to the system design, training of data entry operators and supervisors and generation of specifications from processed data for reporting purposes.
Status:

Data collection is manually undertaken. Processing, cleaning validation and analysis of data are semi-automated.

Stage VIII: Data/Information Dissemination

This stage focuses on data/information dissemination and generation. Statistical outputs such as compendium, bulletins, profile, reports among others help facilitate the dissemination and use of data by stakeholders and end users.

- EMIS data is used at national level by top managers (Ministers, legislators, Heads of international bodies and institutions); in making of policies, legislation, programme development and other national concerns

- Middle level managers use this data for organization and control, project implementation, budget preparation, programming and monitoring and evaluation

- The data is also used at operational level for day-to-day operations, supervision, reporting, action planning and advocacy, and mobilization of activities.

The general public are considered as interest groups for data consumption and information users who participate in sustaining the development process.

Status:

Presently, Statistical Abstracts are printed but with a time lag of one year. The printed Abstracts are centrally distributed leaving out other stakeholders at the decentralized levels.

The dissemination process of these Abstracts and other information is poor.

Stage IX: Evaluation of Output

At this level, an evaluation mechanism is put in place to map out the strength and challenges encountered in the development and operation of EMIS. Evaluation process forms a basis for strengthening the system. The end result of EMIS is to provide timely, relevant and quality information.

Status:

This stage is not undertaken due to budgetary constraints.

The full 2nd paper is attached as Annex II
3.3 3rd Paper: Evolution / History of development of EMIS

This paper outlined three main phases that the current EMIS has evolved through since its inception in 1999 to date, including the main challenges faced during each phase. These include:

3.3.1 PHASE I (2000 – 2005):

Operationalization of EMIS by Academy for Education Development (AED) with funding from the USAID and the World Bank.

Main Challenges

i. The EMIS software solution provided was heavily biased towards the education statistics module.

ii. It neither created an interface with UNEB nor operationalized personnel module as was expected. The solution had limitations to its single-year design which reduced the ability for multi-year reporting and longitudinal analysis. This impacted the ability to generate some of the key indicators.

iii. One of the greatest disappointments of the first 5 years of EMIS was that AED had exclusive rights to the software. This held MoES hostage to AED decisions since the software could be switched off by AED from Washington leaving MoES incapacitated.

3.3.2 PHASE II (2006 – 2009):

Under this phase, MoES was offered a free software for EMIS by UNESCO to enable MoES personnel to have access via the intranet. It was to be used for M&E, Management and Planning.

Main challenges

i. Although the UNESCO Software solution had the benefits mentioned above, it was not user-friendly;

ii. It also lacked a reporting module for easy access of information.

3.3.3 PHASE III (2008-2014):

This phase focused on addressing the decentralized needs of EMIS in the country. A new solution aided by USAID was brought on board to link data between MoES headquarters and District Local Governments (i.e. 134 Districts and Municipalities). It was put in place to enable stakeholders to access management
information via decentralized function and also had other innovative enhancements that include GIS and Mobile Computing platforms

**Main Challenges**

The sign-off process for the last project under this phase was not completed. Consequently, the contractor withdrew his support prematurely, leaving MoES in a state of despair considering the fact that MoES was not issued with installation software for the solution. Furthermore, as per the contract agreement signed between USAID and the contractor, the source code remained owned by the developer.

*The full 3rd Paper is attached as Annex III*
3.4 4th Paper: Current status of EMIS

This paper outlined the current status of EMIS with a focus on EMIS conceptual framework, functionality, Existing EMIS architecture, Assessment of the three EMIS pillars, Financing of EMIS, main achievements, challenges for EMIS and current EMIS stakeholders.

(i) Conceptual Framework of the software solution

EMIS was conceptualized as a one-stop centre 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 3: Conceptual Framework for the current EMIS**

![Conceptual Framework for the current EMIS](image-url)
(ii) Functionalities of the software solution

The functionality of the current EMIS is very limited.

i. Only one module is operational (*i.e.* Basic School statistics module)

ii. The decentralized EMIS (DEMIS) is non-operational.

iii. The current EMIS software solution is localized on MoES Local Area Network (*it is a Client-Server architectural design*)

iv. EMIS software solution is vendor locked-in meaning that MoES does not have exclusive ownership rights for modification or distribution

(iii) Assessment of the three Pillars of EMIS (*i.e.* Technology Pillar, People Pillar, Practices/Organizational Procedures Pillar)

i. **The Technology Pillar**

The technology pillar is relatively the most developed and has been the most favorite to donors. Under this pillar the focus has been on the development of the software for the current EMIS as well as supply of hardware and accessories.

ii. **The People Pillar**

- The People element/pillar of EMIS are generally the most important and involves the users as well as front-end and back-end management staff.

- Currently in terms of human resource, critical skills such as programmers, system analysts and database administrators are lacking (*see Annex V*)

iii. **The Practices/ Procedures Pillar**

The Practices / Organizational Procedures Pillar is the basis for Policies, Guidelines, Standard Operating Procedures and security for EMIS

(iv) Financing of EMIS

- There is no financing strategy for EMIS
- It has mainly been donor driven;
- GoU budgetary resources available are usually meant for collection of basic statistics data.
- There is no budget for EMIS development and maintenance.

(v) **Main Achievements**

- Only recognized National Management Information System for the education and sports sector;
- Automated data processing, storage, and report generation;
Multi-Year database (*i.e.* from 2000 to date);
- Accessibility within MoES LAN;
- GIS & Mobile Platforms capabilities (*only stopped at pilot phase*);

(vi) **EMIS stakeholders**

- Primary stakeholders: These include Ministries, Departments and Agencies (*i.e.* MoFPED, MoPS, MoLG, UBOS, NPA, OPM), Development Partners.
- Secondary stakeholders include Local governments, researchers/ Academicians, general public.

**The full 4th Paper is attached as Annex IV**
4.0 Summary of key issues identified by the Taskforce regarding the current EMIS

EMIS is one of the major reforms adopted by many African countries in the 1990s to strengthen capacity for education planning (through effective statistical operations and processes), as well as nurture the culture of rigorous performance monitoring of the Education Sector.

In MoES, EMIS was adopted in 1999 to enhance sector capacity for Management (in the areas of Planning, Budgeting, Policy development and Monitoring & Evaluation). It was officially launched in 1999, and has since gone through broadly definable phases of development (i.e. Phase I: 2000 – 2005; Phase II: 2006 – 2009 and Phase III: 2008-2014).

4.1. Issue 1: Poor quality of EMIS data

4.5.1 Current Status

According to independent assessments, the current EMIS produces acceptable but not high quality data, on account of the following:

(i) **Un-timeliness of data** (time lag of at least 6 months) and unpunctuality of the EMIS cycle / calendar of events (i.e. data collection supposed to start in March but most times delays to June or July);

(ii) **The current method of data collection is ineffectual** and does not assure quality;

(iii) **Inaccuracy of data** (attributed to poor data entry at point of collection, capture or both; filing wrong returns; poor data sources, poor integration of all data producers in the education sector and, deliberate falsification of data);

(iv) **Low reliability, consistency, validity, Coherence, Comparability and Integration of data** (on account of lack of sampling frame upon which response rates can be assessed and data validated; data blanks; incomplete coverage; misinterpretation of statistical concepts by respondents; methodology, concepts, quality assurance mechanisms);

(v) **Low levels of automation of critical statistical operations** (only data analysis and processing is automated, the rest of the processes are manual);

(vi) **Weak quality assurance mechanisms** for collection, processing, analysis, validation and verification of data.

(vii) **Less Comprehensiveness of the data collected** (current EMIS data is only limited to basic statistics and not all the subsectors such as BTVET & tertiary are adequately covered)
Limited Relevance (because the data collected is not based on regular mapping of stakeholder/client information needs)

Challenges (consequences) arising from this include:

(i) Increased turn-around time for data availability of between 8 months and 10 months (depending on whether funds become available) leading to untimeliness of data which creates a lot of tensions with MoFPED because of the need to confirm IPFs in time;

(ii) Increased transactional costs arising from isolated implementation of different activities of data collection by departments and affiliate bodies under MoES (due to uncertainty of budget availability); and,

(iii) Non-compliance with core data quality assurance protocols recommended by UBOS, UNESCO, African Union/ East African Community to ensure Relevance, Accuracy and Reliability, Timeliness and Punctuality, Coherence, Consistency, Comparability and Integration, Accessibility and Clarity, Comprehensiveness. The key ones include:

✓ Adequacy of resources
✓ Existence of quality Assurance
✓ Data reporting accountability
✓ Data Impartiality and Objectivity
✓ Use of Sound methodology and standard operating procedures for data collection (i.e. Appropriateness of Statistical Procedures; Non-Excessive Burden on Respondents, Recruitment of independent enumerators, Piloting of instruments, existence of a sampling frame, Systematic validation & verification of data)

4.2. Issue 2: Poor Design and Development framework for Current EMIS

4.2.1 Current Status

The current EMIS was operationalized (using donor funding), without a specific policy (which should have clearly specified its goals, objectives, targets, implementation strategies as well as financing arrangements & requirements). Consequently, the current EMIS design evidently skipped critical stages for development of a functional and effective EMIS. Instead it concentrated on stages 4, 5, 6 & 7, and omitted the rest (including the most critical stages 1&2), refer to section 3.2 or annex II.
4.3. Issue 3: Weak Policy Framework

4.3.1 Current Status

As already pointed out in 4.1 above, the current EMIS structure was operationalized without a policy; since inception therefore, operationalisation of EMIS has relied on:

(a) UBOS guidelines;
(b) The Government white paper,
(c) The Sector Wide Approach;
(d) Plan for National Statistical Development (PNSD), and;
(e) The Inter-ministerial Taskforce *(comprised of members from UBOS, NPA, OPM, MoPS, MoES technical Departments and Affiliate bodies)*.

While these frameworks are necessary, they are not sufficient to provide the necessary policy framework for a robust and fully functional EMIS.

Lack of a policy is the main reason for poor development of EMIS *(in terms of poor quality of data, limited functionality, poor accessibility & weak sustainability)*. The consequences of this include:

(i) Existence of parallel data systems *(i.e. in departments such as IIS, TMIS, CMU, BTVE etc.)*

(ii) Emergence of parallel data systems within the sector

(iii) Existence of multiple quality standards *(i.e. departments collect their own data which is not subject to any national or international quality assurance standards)*

(iv) Lack of a Data / Sampling Frame

(v) Poor identification of Information needs among data producers *(i.e. Schools, institutions, Local Governments, Line ministries, affiliate bodies under MoES) and users (i.e. Top management, Departments)*

(vi) Lack of approved EMIS Cycle calendar of events

(vii) Poor dissemination of EMIS information

(viii) Poor security of EMIS data

Absence of a specific sector policy on the EMIS structure has created challenges that include among others:

(a) Adoption of stop-gap measures *(firefighting)* such as

(i) Operationalization of only one module in the last 20 years *(i.e. the Basic School Statistics Module)* out of the five modules conceptualized at EMIS inception;
(ii) Poor financing of EMIS Development leading to overdependence on donors (which is mainly responsible for the distorted development of EMIS in the last two decades);
(iii) Poor security of EMIS;

4.4. Issue 4: Weak Legal Framework

4.4.1 Current Status

(a) MoES currently lacks an explicit legal mandate for both data collection and operationalization of EMIS in the sector. Instead, it relies on the UBOS Act (1998) which delegates authority for data collection to Ministries, Departments and Agencies (MDAs) of Government.

(b) The existing legal framework is inadequate to enforce compliance by all Schools and Institutions (particularly private schools and institutions) with the official data collection requirements.

Although Section 29 of the UBOS Act of 1998 provides for disciplinary measures in instances of violations of the law relating to collection of data, the legislative environment does not support MoES to access basic administrative data (particularly in private schools and institutions) in cases where the required information is deliberately withheld.

(c) The Education (Act 2008) on the other hand has a general proviso for collection of Statistics in Education; however Act is weak in areas of compliance, enforcement of compliance, falsification of data, code of conduct and ethics of key actors in the data collection and management process;

In the process of data collection, MoES has no legal provision to reprimand defaulting schools and institutions. As a result, there is a persistent problem of low response rates by private secondary schools and institutions to the Annual School Census (currently estimated at 65 per cent). Non-response by the private sector owned institutions represents a significant loss of data to the official Education sector database (as the private sector accounts for more than double the number of public schools at secondary level).

(d) Existing sanctions for data falsification are less punitive and comprehensive and therefore ineffective to deter or punish defaulters.
A weak Legal framework has given rise to challenges that include; *Low response rates to Annual School Censuses; Existence of ‘Ghosts’* (arising from falsification of data on schools, teachers and learners).

4.5. **Issue 5: Sustainability of EMIS**

Right from its inception, the current EMIS did not have a financing strategy. Instead MoES depended on any donor who was willing to fund any aspect of EMIS. Unfortunately, any available GoU funding was dedicated to only routine data collection activities (*to satisfy budget data requirements and disbursement of capitation grants*). Critical activities (*such as quality assurance, software development, EMIS security etc.*) were neglected. Furthermore, EMIS human Resource base was narrow and skewed towards statistics

(*neglecting other critical skills such as database management, software development and systems analysis*). Lack of EMIS policy coupled with a weak legal framework compounded the situation.

4.5.1. **Current Status**

(i) The current EMIS solution is predominantly Development Partner (*donor*) prescribed;

(ii) The main focus of donor support to EMIS in the past is overly biased towards technology (*mainly supply of hardware, software, accessories and development*). Despite this, EMIS equipment remains inadequate. Key education offices, particularly in districts, is mostly dysfunctional and inadequate. At the MoES headquarters, most of the equipment supplied in 2013/14 are already obsolete. The EMIS is also not well maintained (*due to lack of funding*). Perhaps of great significance was the observation that while donor investment in EMIS appears extensive to the casual observer, in actual fact this support is not based on the real needs of the EMIS functions across education sector;

(iii) Current MoES budgetary resources to EMIS are dedicated to collection of basic statistics (*student enrolment, sanitation facilities, teachers on pay roll, instructional materials etc.*), data capture and production of Annual Statistical Abstract;

(iv) The core functions of the statistics section (*i.e. Quality assurance, statistical analysis, monitoring learning achievements, monitoring of statistical indicators, development of data frames, validation, operational reviews Capacity development and EMIS software development as well as EMIS software development and maintenance*) are not funded. This state of affairs compromises the operations of the EMIS Unit and has negative knock-on effects on the quality and timeliness of EMIS outputs;

(v) In terms of human resources, the structure for the statistics section has never provided for critical positions such as programmers and system analysts. Since the late 1990s, the unit has depended on externally sourcing for these
critical skills \textit{(mainly financed by donor funding and until recently by MoES)}. Consequently, the skills base in EMIS unit are largely skewed towards statistics. MoES has only attempted to bridge this gap through the employment of an ICT specialist on a contractual basis to perform certain key EMIS functions coupled with support from the CIM Division;

(vi) While there is a capacity development plan for the EMIS unit, there is no funding for its implementation. The training that has ever taken place in the EMIS unit is mostly donor funded and donor driven. The participation of EMIS staff in regional, international conferences, workshops is very limited, mainly on the account of lack of funding. The EMIS staff only attend those that are fully funded by the organizers.

As result of the above, EMIS development is distorted \textit{(as most donors prefer to fund only one pillar of EMIS - Technology at the expense of two critical pillars of People and Processes)}, and creates false expectations among its users about its capacity.

4.6. Issue 6: Limited Functionality of EMIS

The current EMIS solution was conceptualized as a centralized \textit{(located in MoES headquarters)}, and decentralized solution \textit{(devolved to local governments and authorities)}, with a multi-tier database structure. The system was envisaged to be web-enabled, integrating Geographical Information System (GIS) and mobile telephony platforms. It was expected to link data between MoES headquarters and districts \textit{(via a WAN)} so that districts have the same key performance indicators and other related information. Furthermore, this solution was expected to operationalize at least 5 modules \textit{(i.e. financial management, basic school statistics, Human resource, school inspection and school outcome)}.

Operationally, the EMIS system was expected to be web-enabled with functionalities that include data capture, storage and processing; production of robust aggregated and dis-aggregated multi-year GIS integrated reports on all key performance indicators; user friendliness; linkage between EMIS & DEMIS; data Import & Export; questionnaires tracking and integration of SMS smartphone and school based platforms.

4.7.1 Current Status:

(a) The current EMIS is Vendor Locked-in \textit{(meaning that the ministry does not have the intellectual property rights and capacity to carry out any}
modification or enhancements to the system without the Vendors’ legal authorization and access to the source code and there is also no running support agreement);

(b) Although the current EMIS is web enabled, it is not web based;

(c) The current EMIS solution architecture is a Client-Server design. This architectural design limits the systems accessibility to MoES Local Area Network only (i.e. to only departments connected to the Ministry's Local Area Network); all the affiliate organizations under MoES are not connected.

(c) Decentralized functionality is non-operational. The EMIS infrastructure has not only become inadequate but is in a state of disrepair. 85% of the DEMIS equipment is dysfunctional (on account of a lack of budgetary resources & skilled manpower).

(d) The current EMIS is limited in its functionality with only one out of the five modules conceptualized at inception operational (i.e. the Basic School Statistics Module), the remaining four modules have remained dormant since its inception (i.e. Financial Module, school Inspection module, School Outcomes module, & Human Resource module).

As a result of a combination of the above factors, the following challenges exist with regard to the current EMIS:

(i) Access to EMIS is only limited to those connected on the MoES LAN;
(ii) The central EMIS cannot communicate with the decentralized EMIS (DEMIS)
(iii) MoES cannot make any adjustments to EMIS software
(iv) EMIS is yet to become a one stop center for sector management information

4.7. Issue 7: EMIS development biased towards the technology pillar

4.8.1 Current Status:

(a) Development of current EMIS is biased towards the Technology Pillar. Under this pillar the focus has been on the development of the software and supply of hardware and accessories.
The People Pillar of EMIS is very critical for human resource development for EMIS management and utilization. However, key skills such as programmers, system analysts and EMIS specialist are lacking.

The Organizational Procedures, Practices Pillar is the basis for Policies, Guidelines, Standard Operating Procedures and Security for EMIS. The neglect of this pillar is compounded by:

- Weak legal and policy framework for the development of EMIS;
- Donor dependence for EMIS Development (whose preference is technology pillar);
- Continued reliance on Ineffectual;
- Lack of a dissemination strategy for EMIS;
- One directional flow of information;
- Failure to implement all EMIS cycle activities (e.g. Validation, mapping, definition of goals, policy developments, mapping of data needs etc.), and;
- Existence of parallel information systems.

### 4.8. Issue 8: Misconceptions about EMIS

Below are the most common misconceptions about EMIS in the Sector.

(a) EMIS is just an IT Solution (Software);
(b) EMIS is heavily funded;
(c) Mix-up of the role of EMIS and that of CIM Division;
(d) Use of EMIS and Statistics Interchangeably;
(e) EMIS can be housed anywhere
(f) EMIS is not functional
5.0. Tentative Recommendations

The tentative recommendations made by the Taskforce are broadly categorised into two: viz – Short Term and Medium Term.

5.1 Short Term recommendations

Short term recommendations are targeted at short term improvements that must be made on the current EMIS to enhance the quality of EMIS data and its accessibility. The rationale for this is based on the findings of Independent Assessments of EMIS (by UBOS, UNESCO & AU / EAC etc.).

Independent assessments affirm that the fundamental problem with the current EMIS is NOT Technology (as most people perceive), but Poor Quality Data. Poor quality data is manifested by a combination of factors that include: utimeliness; Inconsistency; Inaccuracy; un-reliability &low comparability (on account of deliberate falsification of data, lack of integration with other systems relevant to the education sector, and non-response to Annual School Census), This matter is dealt with in greater depth under Issue 4.

5.1.1 Enhancing the quality of EMIS data

Enhancing the quality of its data is currently the most urgent need for EMIS. The taskforce recommends that MoES collaborates with UBOS to achieve this immediately. Based on UBOS guidance, the taskforce agrees that the efforts to enhance the quality of EMIS data (in the short run) should mainly revolve around two key initiatives – Construction of a data frame and Design of a new methodology for data collection.

5.1.1.1 Construction of a data frame

The preliminary results of the recent analysis of MoES datasets (for the last four years) undertaken by UBOS suggest that the data frame is incomplete and unreliable for any basic analysis and projections. For instance, preliminary analysis of distribution of schools covered by year of census suggest that at least 5,447 primary schools are excluded annually by the primary school census and 628 secondary schools. The numbers excluded at Early Childhood and tertiary levels are unknown.

Against this background, the taskforce recommends that MoES in collaboration with UBOS immediately commence efforts geared towards establishment of a
reliable and complete data frame before the commencement of the 2018 school year. This will be the basis for conducting future data surveys and censuses (by any stakeholder).

5.1.1.2 Design and implementation of new data collection methodology

The current data collection methodology was adopted as the least cost option (involving Senior Assistant Secretaries at the Sub County level as data enumerators). Most of the causes for poor data quality is attributed to this. The taskforce therefore recommends that a new methodology (that establishes independency in the process of data collection on one hand and stringent quality assurance mechanisms on the other), be adopted for the 2018 data collection exercise.

5.1.1.3 Improving the inter-operability of the current EMIS

Rebuilding of the front-end of the EMIS application and Customization the EMIS Database structure to achieve interoperability with other government systems (such as NIRA and MoFPED), and the web-based functionality.

5.2 Medium Term Recommendations

The taskforce recommends as follows:

5.2.1 Issue 1: Poor quality of EMIS data

5.2.1.1 Recommendation(s) of the Taskforce

5.2.1.1.1 The current methodology for data collection should be changed. This implies that data enumerators will be centrally recruited and deployed while local governments will participate as data providers.

5.2.1.1.2 MoES should prioritize automation of key statistical operations particularly data collection, transmission, analysis, reporting and feedback to stakeholders

5.2.1.1.3 International and regional statistical standards, guidelines and methodologies for data collection and management should be mainstreamed in all statistical operations in MoES;

5.2.1.1.4 The human resource base for statistical and ICT operations for EMIS should be strengthened by recruiting at least 5 Statisticians and assignment of three (3) ICT specialists (i.e. Programmers, systems analysts, database administrators) from CIM Division.
5.2.2 Issue 2: Poor Design and Development framework for Current EMIS

5.2.2.1 Recommendation(s) of the Taskforce

5.2.2.1.1 EMIS should be redeveloped and re-engineered iteratively based on the nine (9) development stages;

5.2.2.1.2 With regard to the Goal(s), objectives and targets of EMIS, the Taskforce recommends as follows.

(a) The Goal

The proposed overall goal of EMIS is “to establish a fully functional, integrated and sustainable EMIS capable of delivering quality management information to facilitate planning based on sound information and rigorous monitoring & evaluation of the performance of the Education and Sports sector”.

(b) Specific Objectives

(i) Improve institutional capacity for timely data collection, processing, analysis, management, storage and supply of management information

(ii) Coordinate, integrate and streamline statistical operations, information flow and dissemination to users in order to eliminate duplication of effort and make EMIS a one stop center for management information in the education sector;

(iii) Facilitate and promote the use of management information for effective educational planning, policy development as well as Monitoring & Evaluation, in the implementation and management of education sector activities, projects and programs;

(iv) Provide management information for planning (scenarios setting); policy dialogue & development; as well as management of the education sector.

(c) Targets

(i) Make EMIS a one-Stop Center for Management Information in Education and Sports Sector through:

- Operationalization of additional and relevant modules
- Integration of information relevant to the management of the Education and Sports Sector to make it comprehensive and easily accessible to all education sector stakeholders
- Enhanced automation of statistical operations (particularly data collection, transmission, analysis and feedback to stakeholders) in order to reverse the phenomena of ‘ghosts’ and incomplete data.
Connectivity to legacy systems and Improvement of Institutional capacity for EMIS (structures, laws, policies, practices/procedures, personnel, skills, hardware, software, materials);
- A coherent EMIS Communication and Dissemination Strategy
- Adoption of a Sustainability strategy for EMIS.

5.2.3 Issue 3: Weak Policy Framework

5.2.3.1 Recommendation(s) of the Taskforce

The Taskforce recommends that a comprehensive Sector specific EMIS Policy be developed. This policy should address among others:

(i) The mandate for data collection;
(ii) Norms and Standards for data collection for data collection (i.e. Accountability, Confidentiality, Objectivity, Commitment, Relevance, Accuracy & Reliability, Timeliness & Punctuality, Compliance, Data Security etc.)
(iii) the issues of statistical and EMIS operations in the sector
(iv) Financing for Statistical Operations and EMIS Development
(v) Statistical Standard Operating Procedures (i.e. Methodology for data collection, processing, analysis etc.)
(vi) Quality assurance

5.2.4 Issue 4: Weak Legal Framework

5.2.4.1 Recommendation(s) of the Taskforce

5.2.4.1.1 Review the Education Act (2008), The Business, Technical, Vocational, Education and Training (BTVET) Act 2008; The Universities and other Tertiary Institutions Act, 2001 (Amended) 2006 and related Regulations;
5.2.4.1.2 Generally address the issue of data collection and EMIS;
5.2.4.1.3 Include / Strengthen provisos for roles and responsibilities in data collection and management, sanctions, enforcement of compliance, falsification of data, code of conducts for all data collectors and managers;
5.2.4.1.4 Address the issue of ethics in data collection and management

5.2.5 Issue 5: Sustainability of EMIS

5.2.5.1 Recommendation(s) of the Taskforce

The Task Force recommends that the concern of sustainability should be addressed through:
5.2.5.1.1 Strengthening the Human Resource Base by recruiting staff and deployment of staff with critical skills in programming, database administration and systems analysis.

5.2.5.1.2 Automate all the key statistical operations (*i.e.* data collection, transmission, processing analysis and reporting).

5.2.5.1.3 Design a customized solution that reflect the real needs of EMIS and is in the total control of the MoES in terms of ownership (*i.e.* source code) and in-house technical capacity (*local expertise*) for frontend and backend management;

5.2.5.1.4 Formulate a funding strategy for EMIS

5.2.6 Issue 6: Limited Functionality of EMIS

5.2.6.1 Recommendation(s) of the Taskforce

5.2.6.1.1 Re-engineer the current EMIS based on the four principles of;

i. Quality of statistics generated (defined as fitness for use). The eight dimensions of quality include: relevance, accuracy, timeliness, accessibility, interpretability, coherence, methodological soundness and integrity.

ii. Sustainability in terms of skills, financing and technology support.

iii. Customized/ Appropriate EMIS which is in full ownership and control of MoES

iv. Local Content in terms of expertise and development.

The re-engineering should take advantage of current advances of ICT such as Cloud computing (*which facilitates connectivity to a wide range of computer devices; lowers the cost of maintenance; provides security for data transmission, storage and retrieval*)

5.2.6.1.2 Activate/ operationalize dormant and critical EMIS modules (*i.e.* Financial Module, school Inspection module, School Outcomes module, & Human Resource module).

5.2.6.1.3 Make EMIS web based

5.2.6.1.4 Fully operationalise the Decentralised EMIS to allow for two-way flow

of information between users and producers
5.2.6.1.5 Integrate EMIS with other systems Make EMIS web-based to allow access by all stakeholders anywhere anytime;
5.2.6.1.6 Regular mapping of stakeholder information needs, requirements and expectations;
5.2.6.1.7 Formulation of a comprehensive strategy for Information, education, communication and dissemination (to address stakeholder participation and feedback);
5.2.6.1.8 Institutionalization of policy dialogue on EMIS;
5.2.6.1.9 Institute a national EMIS calendar of events for adherence by all EMIS Centers (i.e. data producers across the country)

5.2.7 Issue 7: EMIS development biased towards the technology pillar

5.2.7.1 Recommendation(s) of the Taskforce

Refer to recommendations under issue five above.

5.2.8 Issue 8: Misconceptions about EMIS

5.2.8.1 Recommendations of taskforce

(a) EMIS is just an IT

Solution: Clarification:

The Taskforce wishes to clarify that:-

i. EMIS can be manual, automated or both;
ii. the current EMIS is both manual and automated;
iii. ICT is just a vehicle for delivering EMIS (i.e. accessing & disseminating management information);

(b) EMIS is heavily funded

Clarification:

The reality is that;

i. In the different historical stages of development, EMIS has heavily relied on donor funding;
ii. the available budgetary allocation is specific to statistical processes such as data collection;

(c) Mix-up of the role of EMIS and that of CIM Division, Clarification:
i. Based on its assessment, the taskforce wishes to clarify that the mandate for management of EMIS and its operations lies with the Planning Department (SME Division), and the role of CIM in this regard is to ensure a conducive environment for EMIS to thrive.

ii. Again, EMIS is a planning tool for generation of management information for evidence based decision making in the sector where else CIM is a support function of planning.

(d) EMIS and Statistics used interchangeably

Clarification:

EMIS and statistics are not one in the same. Whereas statistics is a section in SME Division which is responsible for data processing and production in the sector, EMIS is a tool (enabler) for this process.

(e) EMIS can be housed anywhere

Clarification:

The reality is that EMIS is a planning tool for the planning department for generation of core planning data and management information for evidence based decision making.

(f) EMIS is not functional

Clarification:

The current EMIS is fully functional based on its conceptual design. The Basic School Statistics module has been operational since inception and produce the required outputs as envisaged in its design.

** It is important to note that these misconceptions are injurious to the development of EMIS**.
## 6.0 Implementation Plan

### 6.1 Main Activities

<table>
<thead>
<tr>
<th>SN: Activity</th>
<th>Purpose</th>
<th>Linkage to Stages of EMIS Development</th>
</tr>
</thead>
</table>
| **1** Formulation of Sector EMIS strategy | i) Define EMIS Goals, Objectives, Purpose, Targets, and implementation strategies  
   ii) Redefine EMIS conceptual framework  
   iii) Determine resource requirements  
   iv) Mapping of EMIS Stakeholder information needs and requirements | Links to stages 1, 2, & 3 |
| **2** Strengthening of Sector support Legal and Policy Framework for EMIS | (i) Undertake comprehensive review of existing Legal and Policy Framework for EMIS to identify gaps and emerging issues  
   (ii) Harmonize EMIS Legal and Policy Framework  
   (iii) Formulate Sector EMIS Norms and Standards including Policy implementation guidelines | Links to stages 1 & 2 |
   (ii) Undertake comprehensive review of the current data collection methods to identify their weaknesses and strengths  
   (iii) Consult with experts stakeholders on data collection methodologies to identify a robust one for Education Sector. (i.e. UBOS)  
   (iv) Formally adopt data collection methodology that guarantees quality data.  
   (v) Prepare new manuals of instruction  
   (vi) Orient/train field staff (*new enumerators and supervisors*) for the new system  
   (vii) Sensitization of stakeholders  
   (viii) Development of new operating procedures for design, production and distribution of instruments  
   (ix) Submission and retrieval of returns  
   (x) Definition of Quality Assurance mechanisms for data collection, processing, storage and dissemination and evaluation of EMIS data quality i.e. accuracy, consistence and reliability  
   (xi) To develop norms for piloting, validation and verification of data  
   (xii) To develop procedures for annual production of the school location map and its update  
   (xiii) Development of new standard operating procedures (*for data collection, processing, storage, retrieval*) | Links to stages 3, 4, 5, 6, 7 & 9 |
Re-engineering and Development of EMIS Software Solution

(i) Determine new EMIS Solution Requirements
(ii) Design new EMIS solution architecture, functionalities and features
(iii) Implementation *(coding the back-end and front-end)*
(iv) Integration and Testing of the new software solution
(v) Training and Documentation
(vi) Operation Support and Maintenance

Links to stages 4 & 7

Development and operationalisation of EMIS communication and dissemination strategy

(i) To confirm EMIS outputs;
(ii) Officially adopt Key Performance indicators for which EMIS is responsible for provision of assessment data for their computation
(iii) Confirm outputs to be disseminated and the target stakeholders
(iv) Disseminate the school location map

Links to stage 8

6.2. Tentative Budgetary Requirements

(A) Short Term

Re-development and re-engineering of EMIS has a short term initiative of one year. This period is envisaged as a very critical one for the realization of a robust, operational and fully functional EMIS.

The key investments at this period are expected to be directed towards:

<table>
<thead>
<tr>
<th>No</th>
<th>Intervention</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Construction of a complete data frame of schools and institutions</td>
<td>5,657,625,000</td>
</tr>
<tr>
<td>2</td>
<td>Design and implementation of new data collection methodology</td>
<td>132,000,000</td>
</tr>
<tr>
<td>3</td>
<td>Formulation of a sector specific Policy and Legal Framework</td>
<td>436,500,000</td>
</tr>
<tr>
<td>4</td>
<td>Rebuilding of the front-end of the EMIS application and Customization the EMIS Database structure to achieve interoperability with other government systems <em>(such as NIRA and MoFPED)</em>, and the web-based functionality</td>
<td>300,000,000</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>6,526,125,000</strong></td>
</tr>
</tbody>
</table>
(B) Medium Term

In the medium term, the following will be undertaken:

<table>
<thead>
<tr>
<th>No</th>
<th>Intervention</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mapping of EMIS stakeholders’ information needs, Capacity Development, and design of a Communication and Dissemination strategy</td>
<td>388,900,000</td>
</tr>
<tr>
<td>2</td>
<td>Re-engineering of EMIS</td>
<td>13,277,500,000</td>
</tr>
<tr>
<td>3</td>
<td>Development and operationalization of EMIS sustainability strategy</td>
<td>205,000,000</td>
</tr>
<tr>
<td>4</td>
<td>Monitoring and Evaluation</td>
<td>140,000,000</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>14,011,400,000</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Grand Total</strong></td>
<td><strong>20,537,525,000</strong></td>
</tr>
</tbody>
</table>

*Exchange Rate*

<table>
<thead>
<tr>
<th>USD</th>
<th>UGX</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3700</td>
</tr>
<tr>
<td>Desired Outcome</td>
<td>Expected Outputs</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------</td>
</tr>
</tbody>
</table>
| EMIS Sector Strategy | Formulation of Sector EMIS strategy | i) Approval of EMIS Goals, Objectives, Purpose, Targets, and implementation strategies  
ii) Redefinition of EMIS conceptual framework  
iii) Determination of resource requirements  
iv) Mapping of EMIS Stakeholders and Stakeholders' information needs and requirements |
| (i) Amended Education Act | Strengthening of Sector support | i) Comprehensive review of existing Legal and Policy Framework for EMIS to identify gaps and emerging issues  
ii) Harmonization of EMIS Legal and Policy Framework |
| (ii) Sector EMIS Policy | Legal and Policy Framework for EMIS | Standards including Policy implementation guidelines |
| Robust and Reliable | Development of a new methodology and Standard Operating Procedures for the education sector | i) Undertaking of comprehensive review of the current data collection methods to identify their weaknesses and strengths  
ii) Consultation with experts & stakeholders on data collection methodologies to identify a robust methodology  
iii) Formal adoption of data collection methodology that guarantees quality data  
iv) Preparation of new manuals of instruction  
v) Orientation/Training of field staff (new enumerators and supervisors) for the new system  
vi) Sensitization of stakeholders  
vii) Development of new operating procedures for design, production and distribution of instruments  
viii) Submission and retrieval of returns |

<table>
<thead>
<tr>
<th>Timeline (2 years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
</tr>
<tr>
<td>Month 1</td>
</tr>
<tr>
<td>Month 1</td>
</tr>
<tr>
<td>Month 1</td>
</tr>
<tr>
<td>Month 1</td>
</tr>
</tbody>
</table>

Table 1: Implementation schedule
<table>
<thead>
<tr>
<th>Enhanced Accessibility of the Current EMIS</th>
<th>Revamping of the Current EMIS</th>
<th>Interlink the current EMIS with other government systems (such as NIRA and MoFPED), as well as enable its web-based functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Robust, Customized and Scalable Solution in tandem with the management Information needs of the Education and Sports Sector</td>
<td>Re-engineering of EMIS Software Solution</td>
<td>i) Determining of the new EMIS software Solution Requirements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii) Definition of new EMIS software solution Design Specifications (i.e. Software architectural design, functionalities and features)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iii) Implementation (coding the back-end and front-end)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iv) Integration and Testing of the new EMIS software solution</td>
</tr>
<tr>
<td></td>
<td></td>
<td>v) Training and Documentation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>vi) Operation Support &amp; Maintenance</td>
</tr>
</tbody>
</table>

(i) Approved Key Performance Indicators and EMIS Outputs

(ii) Approved Communication and Dissemination Strategy

Development and operationalization of EMIS communication and dissemination strategy

i) Confirmation of EMIS outputs:

ii) Official adoption of Key Performance Indicators for which EMIS is responsible for provision of assessment data for their computation

iii) Confirmation of outputs to be disseminated and the target stakeholders
Annex VI: Membership to the EMIS Review Taskforce

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Department/ Institution</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mr. Aggrey David Kibenge</td>
<td>MoES - Finance and Administration Dep’t</td>
<td>Chairman</td>
</tr>
<tr>
<td>2</td>
<td>Mr. Joseph Eilor</td>
<td>MoES – Education Planning and Policy Analysis Department</td>
<td>Member</td>
</tr>
<tr>
<td>3</td>
<td>Ms. Irene Lubega</td>
<td>MoES – Education Planning and Policy Analysis Department</td>
<td>Member - Secretary</td>
</tr>
<tr>
<td>4</td>
<td>Mr. Edson Tusiime</td>
<td>MoES – Education Planning and Policy Analysis Department</td>
<td>Member</td>
</tr>
<tr>
<td>5</td>
<td>Mr. Boniface Philip Mavyuva</td>
<td>MoES – Education Planning and Policy Analysis Department</td>
<td>Member</td>
</tr>
<tr>
<td>6</td>
<td>Ms. Sharon Apio</td>
<td>Uganda Bureau Of Statistics</td>
<td>Member</td>
</tr>
<tr>
<td>7</td>
<td>Ms. Norah Mulira</td>
<td>National Council for Higher Education</td>
<td>Member</td>
</tr>
<tr>
<td>8</td>
<td>Ms. Angella Tugume</td>
<td>National Information Technology Authority, Uganda – NITA(U)</td>
<td>Member</td>
</tr>
<tr>
<td>9</td>
<td>Ms. Sylvia Nakanwagi</td>
<td>National Information Technology Authority, Uganda – NITA(U)</td>
<td>Member</td>
</tr>
<tr>
<td>10</td>
<td>Mr. Ssebukyu Edward</td>
<td>MoES - Private Schools and Institutions Department</td>
<td>Member</td>
</tr>
<tr>
<td>11</td>
<td>Mr. Bbuye Abubakr</td>
<td>MoES - Government Secondary Schools</td>
<td>Member</td>
</tr>
<tr>
<td>12</td>
<td>Dr. Lusambu Tony</td>
<td>MoES - Basic Education Department</td>
<td>Member</td>
</tr>
<tr>
<td>13</td>
<td>Mr. Mukooyo Humphrey</td>
<td>Finance Administration – Communication and Information Management Division</td>
<td>Member</td>
</tr>
</tbody>
</table>