

Lao Education Management Information System
(Lao EMIS)

Strategic Plan : 2008 – 2010

April 2008

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1. Historical Context of Lao EMIS Organization Development

Before the school year 1991-1992, education data collection in Lao PDR used a set of several forms – spreading over three time-points in a year: beginning, middle, and end of school-year. Data collection forms were disseminated to the provincial education services (PES) from MOE, copied by PES and sent on to DEB for filling in. The forms were paper-based and sent up to Planning Division for collation. Planning Division then calculated the national totals and published an “Annual (Education) Bulletin” with national and provincial level data.

All steps were carried out manually and both central and provincial levels did not have school-level data. The bulletin was for internal use, and dissemination outside MOE was very restricted. The system could not collect the forms in a timely fashion and the publication was always late. Moreover, the focus of the data collection was basic statistics, such as number of schools, pupils by grade, teachers and classes. There was no feedback at all to the lower levels.

The first nationwide computerized EMIS was established at the Department of Planning and Finance in the school year 1991-1992. It became a unit of a division of Statistics and Planning under the Cabinet in 1993 and moved to the Department of Planning and Cooperation (DPC) in 1998 when the new department, DPC, was established. In 2002 the Statistics and Planning Division was divided in two division as Statistics and IT division and Planning division under the DPC. Since then, EMIS has been able to improve the timeliness, reliability and relevance of education data in Lao PDR and the MOE has been using EMIS as its only official data source.

The new Educational Statistics and Information Technology Center (ESIT Center) was established with the Minister’s notification (order) number 3468 dated 02 November 2006. The notification has seven articles including the establishment of the center as a technical unit under the MOE (or department level unit), and its major roles are to take charge of building, managing, developing and sharing statistics and information technology on education.

Although its tasks, roles, organizational structure, positions, and guidelines for implementation of the Center are yet to be fully defined, the center will play the central role in further developing EMIS, coordinating data collection for other departments, enabling linkages among all relevant data sources (other MISs, census and population projection databases from NSC and now called DoS), and promoting the use of education statistics and indicators in decision making, planning and monitoring.

Current Status of EMIS Development. The MOE has been operating a data management system using an Annual School Census (ASC) for over 15 years. Each year the MOE, through the PES and DEB, collects data from more than 10,000 schools. The current data collection system, using an ASC questionnaire and PC-based data analysis programme was locally developed. It is administered by the Educational Statistics and Information Technology Center comprising 9 staff, including the director of the Center, and is fairly well equipped with computers, printers, copiers and state-of-the-art e-communication facilities. At the provincial

level, 2 to 3 staff are usually assigned to undertake data entry at the time of the school census; equipment available at local level is often inadequate, and e-communication not yet functional.

2. Key Issues and Challenges

Facilitating Policy Development and Sector Performance Monitoring. It is recognized that the EMIS needs to be a reliable tool for making policy decisions on education. A fully functional EMIS is an information system capable of operating a systematic process of collection and dissemination of data to support policy making, planning and management for education sub-sectors at all levels in a timely, cost effective, and user appropriate manner.

Reliable Education Management Information Systems (EMIS) are therefore important levers to inform policy and strategy development and help introduce and sustain education reform efforts. Integration of EMIS with other systems and planning mechanisms is critical when the Government and donors are moving toward sector-wide approaches (SWAPs) to enhance their cooperation and collaboration, within the context of the national development policies and programs and EFA action plans.

EMIS Diagnosis 2006 : Main Findings. A Stocktaking and Diagnostics of EMIS was conducted in June – November 2006 by an MOE taskforce with technical and financial support from the World Bank. Although the current system has been operating for about 15 years its effectiveness, coverage and quality of information produced are open to question. As a result, policy design and implementation monitoring tends to rely to a large extent on data collection and fact finding undertaken by external partners and project support MIS rather than the Ministry's EMIS.

Enhancing Human Resource Capacity. Human resources for the EMIS operation are insufficient to adequately perform its functions and tasks: there exist no backups for key technical personnel, just one GIS staff and an insufficient number of staff for the timely production of the “Annual Bulletin”.

Serious shortage of human resources is also apparent at the district level. Just one or two officials are working part-time for EMIS activities. Districts may require at least 2 staff and may be one more dedicated staff for larger districts with more schools. The problem is compounded by the lack of sufficient numbers of well-trained staff at central and in particular at province level, which is partly due to transfers, promotion and attrition and lack of skills training programs.

Schools, on the other hand, do not require additional staff or resources for supplying EMIS data. A technical guideline or manual featuring clear definitions of education statistics and indicators, how to organize data (recording and displaying class and school statistics), and how to use data for school management will greatly facilitate their operations.

Ensuring EMIS Comprehensiveness. Forms used for the annual school census are incomplete not covering core information regularly required by some departments and external partners (e.g. number of pupils sitting for examination, passing, graduates; student performance; within school-year dropouts; absenteeism; education and professional qualifications of teaching and non-teaching staff; teacher

absenteeism; physical conditions of school buildings, classrooms, facilities; availability of textbooks; community participation and financing).

Current EMIS has limited outputs: just one publication, the “Annual Bulletin”, containing pure statistics without further analyses except some indicators such as gross and net enrollment ratios (GER and NER), and repetition and dropout rates in the annex of the annual MOE report. Further sharing of EMIS data is provided through ad-hoc requests from various users including MOE departments, projects, IOs and NGOs. In addition, online data sharing among provinces and with MOE is not functioning, and dissemination of education statistic (bulletins) is limited because of financial constraints.

Addressing Logistical and Timeliness Constraints. Most provinces have stable power supplies, fairly good buildings with sufficient space. On the other hand, none of the provincial planning and statistics sections have a computer training room or internet access. The sections require equipment: computers, printers, copiers, LCD projectors, etc. and utilities: paper, toner and back-up devices.

All in all, 25 districts do not have public electricity. Those districts are in need of secure and low cost alternative power supplies like solar power. Again, over one-half (55.2%) of districts do not have a computer and thus need to be equipped with computers and printers. As a result, the reference date for EMIS data is 1st October, exactly one month after opening of the new school year, but the “Annual Bulletin” is published only around July the following year, which is at the end of that school year. Lack of timeliness is the most serious concern of the current EMIS.

Ensuring Harmonization of EMIS Support. Over the past few years there have been many attempts at creating education information systems. Almost all major donor assisted development projects had a management capacity building component, including one kind or another of an EMIS component. However, these management information systems were all of a partial nature.

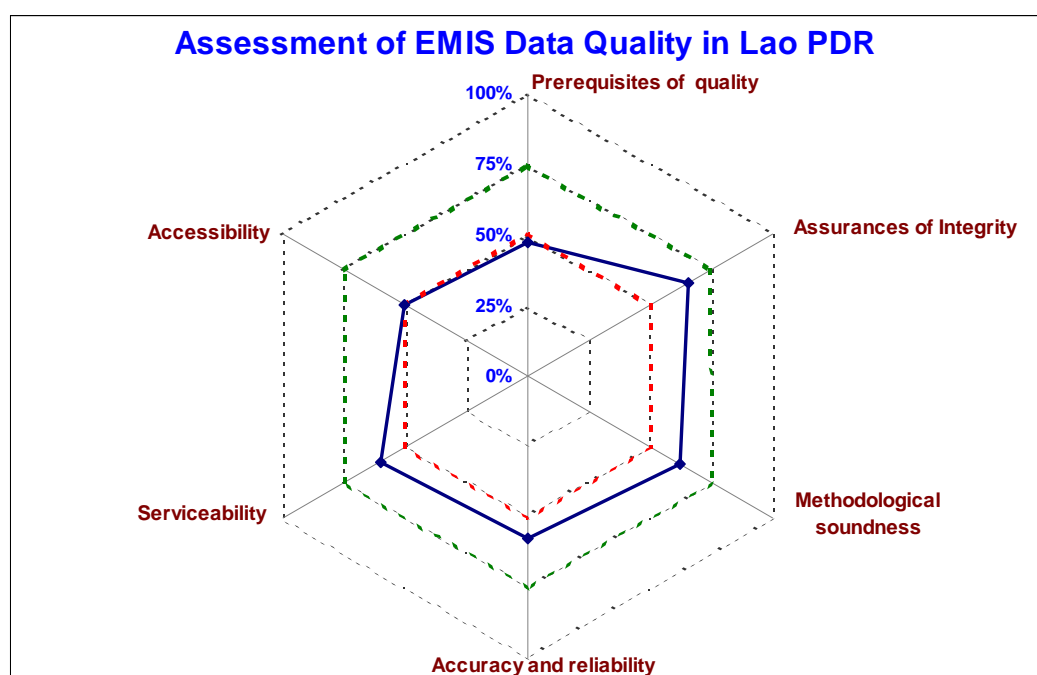
On the other hand, a number of weaknesses of EMIS have been identified in the studies, project documents and reviews prepared by both internal and external partners. At the same time, several recent projects included activities aiming at correcting various weaknesses at different levels. However, responses to specific EMIS weaknesses have been developed in a largely *ad hoc* manner, with the result that they have been unable to contribute to an overall integration of the various components into a coherent, robust system that answers the needs of a modern education sector.

Overview of EMIS Strategic Planning Parameters and Needs. Based on the diagnostic study of the quality of Lao EMIS, two dimensions, namely prerequisites of quality and accessibility are found to be very weak. In the prerequisites, the followings constraints hamper the ability to achieve good quality: (i) existence of parallel data collections (from the same source at the same time); (ii) lack of feedback and sharing to lower levels; (iii) no personal (or individual teacher or pupil) data collected; (iv) legal mandate exists, but no measures to encourage correct responses; (v) insufficient technical staff at all levels; (vi) inadequate physical resources at PES and almost non-existent at DEB; (vii) systematic monitoring of relevance and

practical use of EMIS statistics is rare; and (viii) no regular processes are in place to monitor the quality of data

Similarly, deterrents of accessibility to EMIS data include: (i) a purely statistical, non analytical output: the Annual Bulletin without pre-announced schedule for publication; (ii) statistics are not routinely disseminated and are made upon request within MOE (departments and projects) and to some selected users only; (iii) documentation on concepts, scope, definitions, etc. cannot be found easily; (iv) no formal contact point by field / sub-sector is assigned for the users; and (v) catalogues of publications, documents, and other services are not widely available, available only at DPC on request.

Plan Guided by the Data Quality Assessment Framework (DQAF). In general, according to the scores in the **Data Quality Assessment Framework (DQAF)**, the quality of EMIS (of its process, databases and statistics) is in the range of weak to mediocre (see the chart below). All, except prerequisites of quality (48%), get medium scores (between 50% and 75%) and EMIS data quality is just mediocre to weak (overall score of 57%). However, with the creation of a new center and improved data collection and wider dissemination, EMIS data quality is anticipated to result in substantial improvements in the coming years.



Generally, all data are required by different disaggregations: by sex, by urban-rural residence, by province and sometimes by district. EMIS data are currently being used for monitoring and evaluation of plans and projects (42.5%), planning (36.8%), and preparation of various reports (18.4%). Although the use of EMIS databases is limited at the lower levels, both PES and DEB are using EMIS data through manual processing. Both levels expressed their confidence in EMIS data quality. They acknowledged the delays in receiving ASC forms from remote and difficult to communicate schools. Both levels described that the current data collected by EMIS are relevant and serving its purposes at the respective levels.

3. EMIS Strategic Plan : Objectives and Outcomes

The main objective of this short term strategic plan is to develop the capacity of the MOE toward a fully functioning of Education Management Information System for the sector. As an associated aim, taking account of all Partners Development, it will enhance the capacity of the EMIS at all level (Central, PES, DEB and School) to collect, store, analyze and disseminate an annual school statistics census and associated tasks.

Strategic Outcomes. The major outcomes of this EMIS strategic plan will be:

- ❖ enhanced capacity to maintain and develop the EMIS, including technical skills and operational resources
- ❖ a functioning and sustainable EMIS, responsive to user needs, including improved human resource capabilities
- ❖ enhanced management decision making at senior and middle levels using the EMIS, through provision of timely and accurate data
- ❖ ensuring consistent and reliable reports and analyses of the education sector used by all interested people
- ❖ enhanced capacity to conduct and analyse school statistics surveys

Conceptual Framework and Operational Outcomes. It is expected that a functioning EMIS will have a major impact on the MOE capacity to regulate, supervise and monitor the entire education system, incorporating :

- ❖ *A functional management information system* will include school based data, staff based data and financial data. It should be capable of displaying the data on maps using a geographical information system [GIS]. These should be linked together in a system that can take the data from a variety of sources and with varying frequencies of updating. It should be able to disseminate this information to a range of users, distributed across a number of physical locations. It also has to incorporate the varying needs of the users of the system, from data entry and validation to situation analysis.
- ❖ *Comprehensive and integrated data collection and analysis.* The EMIS should contain as full and complete set of data as can be gathered. However the information available to users may vary according to their needs. The management process of the EMIS should enable the definition of which information is considered confidential, and which users may access what data. For instance aspects of the monthly expenditure may be deemed commercially confidential, as well as specific biographical information about individual staff such birthdates or pay points. In addition access to the full data set must be constrained for security reasons so that individuals may not access and falsify their own records for example.
- ❖ *Integrated data sets with user-friendly reports.* The EMIS will consist of a series of datasets. These will be linked by a system of data entry procedures designed to allow systematic and consistent storage and cross referencing. There will also be program system designed to facilitate the regular

updating of the data either to correct or add incremental changes [such as postings data] or to add another set of historic data [such as another year of school statistics]. Finally there will be a series of programs that produce reports driven by a user friendly front-end. . The EMIS will also have the facility to produce user defined unique searches based on key variables.

The proposed operational approaches, activities and inputs are detailed in section 4 below.

4. Detailed Operational Outputs and Activities

4.1. Establishing an Effective and Operationally Functioning EMIS

The key dimensions of a fully functional EMIS will consist of the following :

- ❖ *Improved school record keeping.* It is very important to improve the school record keeping to be more systematic and to be uniform. At the same time, it is crucial to promote EMIS to a position which enables fulfilling all its responsibilities and functioning smoothly at all levels. It is necessary to collect only Annual School Census from the schools at the beginning of school year.
- ❖ *Meeting operational decision-making timelines.* EMIS should also take the responsibility for fulfilling data requirements to other departments. For that a new data collection procedure is proposed providing the provisional (first draft) data by end-December and final yearbooks by the end of January.
- ❖ *Ensuring human resource and logistical needs.* The requirement of new staff at different levels, and major equipment and facilities needed are presented in section 4.4. The continuing to support of both donors and MOE in replenishing the utilities and updating hardware, and instating a mechanism for monitoring, supporting and encouraging the use of the facilities more effectively and efficiently is very important.
- ❖ *Improving data collection comprehensiveness and timeliness.* Fourteen recommendations are provided from the studies to reinforce the EMIS process and procedures. These include: officially setting of school catchment area; collection of in- and out- of school population (aged under 25), new intakes with preschool experiences, students with special characteristics, ethnicity and NFE programs. Moreover, two more data collections, at the end of Semester 1 and at the end of Semester 2 are recommended for updating basic information on enrollment, staffing, monthly examination results, absent teachers and students, etc.
- ❖ *Ensuring easy to use procedures.* Improved preparedness is the key for schools to generate data timely, consistently and efficiently. Easy to follow procedures, modifications, and presentations are proposed for the schools with exhibits for the primary education level.
- ❖ *Ensuring timely decision-making.* A fully functional EMIS” is an information system which could operate a systematic processes of collection, storage, analysis and dissemination of basic data, statistics and

indicators to support education planning and management, from preschool to secondary education sub-sectors, at all levels in timely, cost effective, and user appropriate manner, and which could also provide direct support to the policy makers in preparing key and future decisions for the education system¹. That is, EMIS were to function as a “Decision Support Information System (DSIS)” for the entire Ministry of Education including provincial, district and school levels.

- ❖ *Ensuring appropriate capacity building.* To have a fully functional EMIS, intensive capacity building at all levels is needed. Capacity building is not only “training” or “providing technical assistance”. Capacity of an organization, a center or an EMIS can be viewed from different angles and different components. Training will enforce some, but not all components of the capacity. To reinforce EMIS capacity, it is important to intensify or build all components in a coherent and systematic manner.

4.2. Building on Agreed EMIS Policy Mandates and Organizational Responsibilities

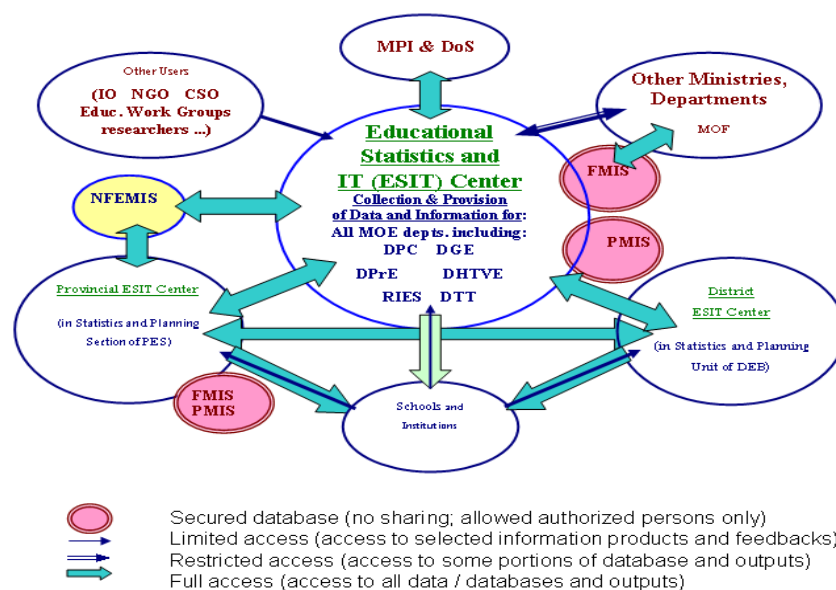
Reaffirming Central EMIS Responsibilities. According to the new setup, EMIS is entrusted with a clear policy of being the only agency allowed to collect data from schools at the beginning of school year. At the same time, EMIS will incorporate data requirements of other MOE departments into ASC forms and provide necessary data in a timely manner. As usual, EMIS will be the focal point (or the coordinator) for all data collections for monitoring, evaluation and research for anyone who seeks to collect data from schools including projects, managed by the MOE project management teams or externally by donors.

On the other hand, due to the different nature and to safeguard confidentiality, non-formal education, personnel and financial management information systems will operate separately but cooperate nonetheless with EMIS. For the short term, starting by linking of three databases such as (EMIS, Finance and personnel) at all levels : the district, provincial and national levels by making all systems use the same EMIS area codes, by this way all EMIS , personnel and finance can link information for cross-checking and for making further analyses.

Redefining and Broadening Provincial and District EMIS Responsibilities, through Provincial EMIS Center in the Statistics and Planning Section of every PES to be: (i) responsible for providing EMIS and planning related training to lower levels such as DEB and school principals; (ii) have the authority to coordinate and control data collections in the province; (iii) use the computer training centers for secondary teachers since computerization of secondary schools is gaining foothold: and (iv) strengthen the place for data entry, analysis, production and dissemination of “Provincial Education Yearbook”, covering all important education statistics and indicators for the province.

¹ *Educational Management Information Systems: Training Manual* (UNESCO, 1991) and *EMIS: What Is It and Why We Not Have More of It?* (Kurt D. Moses, Academy for Educational Development, 2001)

Organization of EMIS in Lao MOE



Similarly, at district level create a “District EMIS Center” to work directly with the provincial EMIS center and also with the schools in the district. District EMIS centers will fulfill various data needs of the district as well as to provide provincial data needs in a timely manner. Again, district centers will be the local e-documentation centers as well as the resource centers for all schools and local population.

4.3. Appropriate Staffing Levels, Deployments and Training Needs

A decision support information system (DSIS), requires not only normal functions of EMIS such as collecting and providing data and information, but also technical expertise and experiences in advanced education data analysis, skillful presentation (tables, graphs, maps, etc...) and display of the outputs, and modern education planning techniques. For acquiring these technical skills, it is important to plan and conduct several rounds of training for the staff at the central, provincial, district and school levels. Recruit new staff to fill up the shortage of manpower at each level: the central (for the new ESIT Center), provincial and district.

One more staff for every 50 additional schools is advisable for the larger districts. At the provincial level, at least **four** technical staff are to be fully available for the provinces with fewer than 400 schools and one additional staff for every 200 schools (with a maximum of 9 staff). Thus, total number of EMIS and IT staff at the district level will be 428 staffs (27 DEBs with 2 staff, 82 with 3 staff and remaining 32 with 4 staff), and at the provincial level will be 93.

It is anticipated that the proposed staffing norms at central, provincial and district levels will be met through a combination of mainly staff redeployment and selective additional staffing resources, alongside appropriate operational resources. The EMIS centre will conduct an initial PES/DEB survey of staffing levels and operational resources available and make proposals for ensuring appropriate staffing and operational budgets are put in place.

4.3.1. Training required for the central staff

At the central level, at least 10 more technical staff need to be recruited to complete the quota of the ESIT Center with the different backgrounds or fields of expertise such as: (i) computer and information technology (basic hardware setup and trouble shooting, internet and intranet, designing web-site, etc.); (ii) database management and programming (FileMakerPro, WinDev, dBase, Oracle, Access, SQL, etc.); (iii) data analysis (programming in SPSS, Visual Basic, Excel Macros); (iv) GIS/ school mapping (ArcView, ArcInfo, MapInfo, Google Earth, etc.), and (iv) education planning (concepts, developing simulation model, etc.). For each and every field at least 3 persons to be trained

4.3.2. Training required for the provincial staff

At provincial level, the EMIS staff should be trained to perform the provincial EMIS tasks including monitoring EMIS activities at the district level, batching, checking, editing, data entry, data analysis and producing publications with improved efficiency, basic database management techniques such as creating new databases, drawing data entry forms and instating internal checking and summarizing key statistics. In addition, trouble shooting, data entry program and databases, and basic modern education planning techniques are also to be initiated step by step. With eminence of computerization in secondary schools (at least upper), the provincial EMIS staff must be prepared to train secondary teachers on practical computer skills.

4.3.3. Training required for the district staff

All district EMIS staff should be trained in basic computer skills (Word, Excel, FileMakerPro, WinDev-LaoEMIS, dBase and basic computer operation, setup and trouble shooting) and also to perform the district EMIS tasks such as distribution and collection of ASC forms, checking, editing, assisting data entry at the DEB or PES, making basic data analysis and production of district level education statistics and indicators, and preparation of feedback to schools, etc...

4.3.4. Manual development

Develop a manual on “school management information system (SMIS)” for each level which will highlight the definitions of the statistics requested from the school, basic school data management, and explanation with examples on school management monitoring and assessment , citing data and information readily available at the school.

4.4. Resource requirements at different levels

Resource requirements at different levels are sketched based on the duties, responsibilities and expected future workload of the level. The support for setting up the ESIT Center is very urgent. Moreover, it is equally crucial to provide operating funds (for training, communication, telephone and internet), to replenish consumables (paper, toner, etc.), and to conduct regular refurbishment and upgrading of furniture,

software and hardware (equipment). The basic equipment and facilities required at different levels are classified in the table below.

Required Resources at Different Levels

Item	MOE ESIT Center		Provincial EMIS Center		District EMIS Center	
	Quantity	Use	Quantity	Use	Quantity	Use
Staff	19 persons		4 to 9 persons		2 to 4 persons	
Large meeting (lecture) room	1 (for 100 persons)	lecturing / meeting	1 (with 50-60 person)	lecturing / meeting	1 (with 50-60 person)	lecturing / meeting
Computer training room (if avails public power):	1 (with 20-30 PC & assc.)	training, hands-on, practicing	1 (with 10-15 PC & assc)	training, hands-on, practicing	1 (with 5-10 PC & assc)	Training, hands-on, practicing
Local Area Network Server	2 per center	data sharing and backup	1 per center	data entry, share and backup	(none)	
personal computer	1 per staff	data analysis and EMIS/IT tasks	1 per staff	data entry; other EMIS tasks	1 per staff (if avails public power)	general EMIS tasks
Laptop computer	5 per center	training, field visit, monitoring	2 per center	training, field visit, monitoring	1 per staff (if no power)	general EMIS tasks
USB storage device (1GB at least)	1 per staff + 2 per center	data transport, training, storage	2 per center	data transport training	1 per center	data transport training
External USB hard drive (100 GB at least)	2 per center	Backup	1 per center	backup	(none)	
Printer: B/W laser (A3)	1 per center	print ASC forms	1 per center	print ASC forms	(none)	
B/W laser (A4)	2 per center	general use	1 per center	general use	1 per center	general use
colour plotter (A0)	1 per center	school maps	(none)		(none)	
colour laser (A3)	1 per center	Sch. graphics	1 per center	sch. graphics	(none)	
Copier: A3 size (high speed)	1 per center	ASC forms	(none)		(none)	
A3 size (normal)	(none)		1 per center	ASC forms	1 per center	general
LCD projector	2 per center	Training presentation	1 per center	Training	(none)	
Flatbed Scanner			1 per center	GIS/ sch. map	(none)	
Ethernet network (LAN) hub	2 per center	Data entry	1 per center	data entry	(none)	
Broadband or ADSL internet access with telephone line	1 per center (wireless BB)	data sharing, feedbacks	1 per center (if available)	reporting data sharing	(none)	
Internet access through modem (if ADSL is not available)	(none)		1 per center	reporting data sharing	(none)	
GPS (global positioning system)	20 per center	school mapping, studies	(none)		(none)	
Motorcycle	1 per center		1 per center	ASC follow-up, monitoring	1 per center	ASC follow-up, monitoring
Power supply (if no public power supply: batteries + UPS + solar panels/ chargers)	(none)		2 per center (if required)	for computers and lighting	1 per center (if required)	for computers and lighting

Note: Basic utilities such as paper, toner and ink cartridges, etc. and office furniture are not listed here.

4.5. Strengthening Data Collection Instruments, Procedure Data Entry Software and Outputs

4.5.1. Broadening the data collection instruments

Scope of Current Instruments. The annual school census contains four core forms as follows: (i) Annual School Census Form (ASCF) for pre-schools; (ii) ASCF for primary schools; (iii) ASCF for secondary schools, and (iv) ASCF for higher, technical and vocational institutions (with DHTVE).

The current annual school census form for data collection was revised in 2006 and started using since 2007-2008, the major changes in the revised ASCF are: (i) the ethnic group (change from the geographical classification to the four ethno-linguistic classifications); (ii) five years old enrollment in primary preparation class of primary school to be counted as preschool enrollment; (iii) new intakes with preschool experience in the primary schools questionnaire form; (iv) data on the revenue of school by different sources including their own incomes and data on school expenditure; and (v) individual teaching and non teaching staff by qualification and experience

Proposed Extension of Data Collection : Scope and Analysis. But based on the result of the diagnostic study these forms still need to add more information, manuals and guides also require updating. Major changes required in the data collection instruments and procedures are as follows:

- (a) To establish an official school catchment area for each and every school. Collect in and out of school population by single year of age for ages under 25 years by sex in the villages within the catchment area.
- (b) To establish an official coordination between ESIT Center and Department of Statistics (DOS) to counter check the population data obtained from schools and to verify education data (statistics and indicators) obtained from various studies and surveys.
- (c) Schools should record special or significant characteristics of students, for example, with physical or mental difficulties, slow learners, without parental guardianship, and etc., and EMIS should collect students with special/significant characteristics.
- (d) Apart from ASC which is conducted at the beginning of school-year, during the school year some additional data will be collected to update the enrollment, to estimate the within year dropout rate, to monitor monthly absenteeism of students and staff, and to oversee student performance within the school year.
- (e) Revise all outputs, especially education statistics and indicators in consultation with education specialists/ advisors from UNICEF, UIS, UNESCO, the World Bank and ADB in order to be more relevant with current developments (to be up-to-date), and revise accordingly.

- (f) Disseminate widely all outputs (including annual bulletins, basic information on schools and students learning outcome performances) through printed materials, electronic formats and www.
- (g) Develop a “district summary sheet” with limited items to release provisional education statistics (only summary) soon after the opening of the school at district, provincial and national levels in consultation with the department of general education. District EMIS unit prepare the “district education statistics (provisional)” based on ASC forms and submit to provincial and central EMIS centers for further processing.

These ASC forms are used throughout the country and printed on quarto sized paper and bound to become a booklet. All forms are printed centrally and packed by province for the entire country and distributed to schools via the PES and DEB as timing and process below.

The expected ASC Form (beginning of school-year) Flow and Process:

Level	Actions	Destination
ESIT Center	→ Make printing ASC & send to PES	→ PES EMIS (1 Aug)
School	→ fill 4 copies of ASCF (as of 1st Oct)	→ DEB EMIS Unit (15 Oct)
DEB EMIS	→ check, edit, confirm or entry, summarize	→ PES EMIS Center (30 Oct/15Nov)
	→ compile/collate preliminary summaries	→ DEB, PES (20 Nov)
PES EMIS	→ check, edit, entry, summarize	→ MOE ESIT Center (15 Dec)
	→ produce Provincial Summary Report	→ PES, MOE (31 Dec)
ESIT Center	→ produce National Summary Report	→ MOE Departments (15 Jan)
	→ verify, analyze, produce draft Yearbooks	→ Key users (31 Jan)
	→ verify, analyze, produce final Yearbooks	→ All users (31 Mar)
	→ provide cleaned provincial databases	→ PES EMIS Center (31 Jan)
PES EMIS	→ analyze, produce Provincial Yearbook	→ PES and all DEB (15 Feb)
DEB EMIS	→ provide feedbacks to schools	→ Schools (28 Feb)

End Semester 1 & 2:

data collections for updating (enrollment, staff, etc.) and for monitoring and assessment (examination results, absenteeism of teachers and students, ... for the professional departments)

4.5.2. Developing a user-friendly school register

School-based data collection and data management will be supported through the introduction of a school register. Information on students, teachers and facilities will be recorded. It is needed to develop, test, produce and distribute a user-friendly school register. The school register will include a class register (recording attendance,

test scores and performance etc.) and a school record (inventory of school infrastructure, equipment, teaching-learning materials, financing and community participation etc.).

A format with a brief manual will be provided to schools to help them develop class registers, using exercise books for individual class registers. A printed school record book will be provided to each school with an appropriate manual. A draft school register will be tested in several schools in urban and rural areas before being introduced in all schools.

Data recorded will be used primarily by the school principal for classroom and school management purposes and to assess school performance. The practice of record keeping by schools will also contribute to improve the quality of school census data by feeding recorded data into the ASC form.

4.5.3. Improving timeliness of data collection

Proposed Arrangements. School data are collected as of September 30, that is, exactly one month after the beginning of the school-year. Schools are required to fill-in four copies of the respective form during the first week of October and send three copies to their respective DEB as soon as possible.

District EMIS staff at the Statistics and Planning Unit, check the completed forms and send a copy of the school forms for the entire district to PES or enter data into LaoEMIS databases (in the case where a DEB has a computer) and once the data entry is finished, export all school databases to the province for them to import into the provincial database. Similarly, provincial EMIS staff validate again and enter data into LaoEMIS databases by the staff of the Statistics and Planning Section or the staff of the Statistics and Planning Unit of DEBs which have no computer.

4.5.4. Procedure of data entry, maintenance and software

Pilot Approach to Provincial Delegation. From the school year 1996-1997, EMIS data entry was assigned to the provincial level by using FileMakerPro 4.1. Just one province, Vientiane Province is organizing data entry together with the responsible staff of the districts starting from previous year. The experience of Vientiane Province highlights the improvement of the quality of data since coordinated data entry was performed with the district staff.

The main reasons include the familiarity of the district staff with the actual situation at the schools enable them to correct mistakes in filling out the ASC forms; the district staff are exposed to on-the-job training and thus knowledgeable on how to enter data and what/where to check in the completed forms; assisting schools to avoid repeating such errors in the forthcoming years. Currently, all other provinces enter data using PES staff only.

Increased Delegated Authority to Provinces and Districts. Starting from the school year 2007-2008, data entry has been assigned not only to the provincial level by using the new tailor made application from WinDev tool developer, but to the

district level in almost of the districts (even those with no computers). In the case of districts with no computers the provincial EMIS invite the District EMIS staff to do the data entry at provincial level following the process below:

Delineating Specific Responsibilities, which are specified as follows at different levels :

- ❖ The MOE produce the ASCF and send to different schools in different provinces and schools fill out the form with their real data and send to the District Education Bureau (DEB)
- ❖ The EMIS unit of the DEB check the form to see if there are mistakes that need to be corrected. In such cases they check the data with the school concerned to correct them first
- ❖ Districts that have computer systems will enter the data into the system and finally export the data from system to a file and send the file to the Provincial Education Service (PES) and with districts that have no computer system, they will immediately send the forms with data to the Provincial Education Service
- ❖ The Provincial Education Service receive the forms with data from districts that don't have computer systems and they have to enter the data in the form into their system; and when they receive the export files from districts that have computer systems they will directly import the files into the system.
- ❖ After having put all data from all schools in their province into the system they will export the data from their system and send to MOE as an export file to CD or put in the handy drive or even by email.
- ❖ The MOE will import the files from all provinces into the system and then they can process data as needed.

Improving Database Maintenance. Due to the unstable situation of the boundaries between districts and provinces, to avoid the duplication of school data and to maintain the same database at each level, all transfers of schools between districts and provinces are considered as an important events. The process of maintenance of the database at each level must follow the following procedure:

- ❖ *In case of transferring a school to another district within the same province* from the district with computers. After all documents have been accepted; district exports school Information to a file and sends to province. Province imports the file and automatically saves to new file and sends to the destination district. Destination district imports the file.
- ❖ From the District with no computers, after all documents have been accepted, province exports schools to a file and sends to destination district. Destination district imports the file to the system
- ❖ *In case of transferring a school to another province*, from district with computers. After all documents have been accepted; district exports school Information to a file and sends to province. Province imports the file and automatically saves to new file and sends to the destination province.

Destination province imports the file and automatically saves to new file and then sends to district if there is computer, if not do nothing.

- ❖ From the District with no computer, province exports school Information to a file and sends to the destination province. Destination province imports the file and automatically saves to new file and then sends to district if there is a computer, if not do nothing.
- ❖ *In case of district transferring to another province*, the ESIT Center exports district information to a file and send to destination province. The destination province imports the file and automatically saves to new file and sends new file to district. District imports the file

4.6. Expanding Performance-Based Production and Use of Data and Indicators

Up to now, final editing of data, data analysis and preparation for publication, production and dissemination are carried out only at the central level. The main output, Annual Bulletin of education statistics, is the only official education statistics for MOE and distributed in central MOE, to the relevant government departments, provincial education services, IOs, NGOs, and donors.

Moreover, the single publication “Annual Bulletin” features purely statistics and only for the national and provincial levels. As such, the following outputs (more diversified) will need to be pursued in the near future. Some of them could be produced at local levels such as provincial and district levels and when required technical expertise (through hands-on training) and resources are to be made available.

For MOE departments, the key information provided for internal use will be : (i) provisional national education statistics and indicators; (ii) mid-year national education statistics and indicators; and (iii) end-of-year national education statistics and indicators.

For all users, the key information provided will be (i) national education statistics and indicators; (ii) provincial education statistics and indicators; (iii) basic information on schools; and (iv) handbook on education in Lao PDR.

Feedback publications will include (i) graphics of primary schools; (ii) current education development in Lao PDR; (iii) pamphlet on education in Lao PDR; and (iv) selected education databases. *Detailed specifications are at Annex 2.*

5. Detailed Cost Estimates

The overall estimated cost for the three-year plan is an indicative US\$ 6.3 million, incorporating US\$ 3.3 million investment costs and US\$ 2.9 million operational expenditure, including staff consultancies to help design operational procedures. Additional operational costs provided by Government, in terms of staff salaries and field operational support has yet to be calculated. Detailed indicative cost estimates are *Annex 1*.

Annex 1 : Indicative Investment Cost for EMIS development: 3 years

Annex 1.1 Indicative Overall Cost for 3 years

Investment Cost Item	Unit	Central (MOE)			Provincial (PES)			District (DEB)			Grand Total
		Units	Unit Cost	Total Cost	Units	Unit Cost	Total Cost	Units	Unit Cost	Total Cost	
ESIT Center:											
Construction (with furniture)	building	1	1,000,000	1,000,000	17	50,000	850,000	0	30,000	0	1,850,000
Staff Notebooks	number	16	2,000	32,000	17	1,000	17,000	140	800	112,000	161,000
Staff Computer	number	15	1,500	22,500	12	1,500	18,000	0	1,500	0	40,500
Local Area Network Server	set	1	5,000	5,000	17	2,500	42,500	0	2,500	0	47,500
USB storage device (1GB)	number	18	25	450	68	25	1,700	280	25	7,000	9,150
100 GB USB hard drive	set	2	250	500	17	250	4,250	0	250	0	4,750
B/W laser jet (A3) printer	number	0	2,000	0	0	2,000	0	0	2,000	0	0
B/W laser jet (A4) duplex printer	number	0	500	0	17	500	8,500	0	500	0	8,500
B/W laser jet (A4) printer	number	0	300	0	0	300	0	140	300	42,000	42,000
Colour plotter / large form printer	number	1	10,000	10,000	0	10,000	0	0	10,000	0	10,000
Colour laser jet (A3) printer	number	1	5,000	5,000	17	3,500	59,500	0	3,500	0	64,500
High speed copier with scanner	number	0	5,000	0	0	5,000	0	0	5,000	0	0
Office copier	number	0	3,000	0	17	3,000	51,000	0	3,000	0	51,000
Flatbed scanner	number	0	100	0	17	100	1,700	0	100	0	1,700
Ethernet network switch	set	8	100	800	17	100	1,700	0	100	0	2,500
Wireless broadband internet access	set	1	2,000	2,000	0	2,000	0	0	2,000	0	2,000
ADSL internet access	set	36	500	18,000	150	500	75,000	0	500	0	93,000
Dial-up internet access	set	0	200	0	4	200	800	0	200	0	800
GPS (global positioning system)	number	2	1,000	2,000	0	1,000	0	0	1,000	0	2,000
Motorcycle / boat	number	1	2,000	2,000	17	2,000	34,000	140	2,000	280,000	316,000
Solar Power System (2x150Ah batteries, UPS and 2 solar panels)	number	0	500	0	0	500	0	25	500	12,500	12,500
Sub-Total ESIT Center				1,100,250			1,165,650			453,500	2,719,400
Meeting/ Lecture Room:											
Projector (set)	set	1	2,000	2,000	0		0	0		0	2,000
PA with recording system	set	1	3,000	3,000	0		0	0		0	3,000
Sub-Total ESIT Meeting Room		2		5,000	0		0	0		0	5,000
EMIS and IT Training/Resource Room:											
Computer (set)	set	30	1500	30,000	255	1500	255,000	140		140,000	425,000
Projector (set)	set	1	2000	2,000	17	2000	34,000	0		0	36,000
PA with recording system	set	1	3,000	3,000	17	2,000	34,000	0		0	37,000
Interactive computer teaching system	set	1	4,500	4,500	17	2,250	38,250	0		0	42,750
B/W Laser A4 Printer	number	1	300	300	17	300	5,100	140		42,000	47,400
Sub-Total ESIT Training Room				39,800			366,350			182,000	588,150
Total Investment Expenditure				1,145,050			1,532,000			635,500	3,312,550
Variable Cost Item											
Training											
	person	5		50,000	44		68,000	6140		0	118,000
	person	0		60,000	0		0	6140		70,000	130,000
	person	0		25,000	0		67,000	0		635,000	727,000
	person	8		0	3		0	1		550,000	550,000
Consultants											
EMIS Specialist	person-mth	5	18000	144,000	2.5	18000	54,000	0	18000	18,000	216,000
Database Management Specialist	person-mth	0	18000	54,000	0	18000	27,000	0	18000	0	81,000
Education Statistics and Planning Specialist	person-mth	434	18000	90,000	0	18000	45,000	0	18000	0	135,000
Testing of materials + Suevey											
Fieldwork: Data collection	schools	4		114,000	0		0	0		0	114,000
Preparation, analysis and report writing	consultant	0		40,000	0		0	0		0	40,000
Dissemination of results + workshop	workshop	150000		20,000	0		0	0		0	20,000
Annual Data Collection and Dissemination											
Central: Printing forms and distribution	set	1500		30,000	1320		0	22000		0	30,000
PES/DEB: Distribution and collection	district	51		0	420		21,000	0		16,500	37,500
Central/PES: Print/disseminate outputs	set	50000		10,500	0		13,200	0		11,000	34,700
Central: Sharing databases to PES (WS)	province/districts	33000		30,600	0		126,000	0		0	156,600
School registers and record books	set	0		100,000	0		0	0		0	100,000
Printed formats: to fill-in and display	set	204		99,000	0		0	1251		0	99,000
SMIS Manual	set	3		7,500	1251		0	417		0	7,500
Contingencies											
Travel	mission	0		40,800	0		62,550	0		25,020	128,370
Others	-	0		15,000	0		51,000	0		208,500	274,500
Total Recurrent Expenditure				930,400			534,750			1,534,020	2,999,170
Total Expenditure (Rec+Cap)				2,075,450			2,066,750			2,169,520	6,311,720

Annex 1.2 Indicative costs for year 1: 2008

Indicative Costs for EMIS Development: YEAR 1

Investment Cost Item	Unit	Central (MOE)			Provincial (PES)			District (DEB)			Grand Total
		Qty.	Unit Cost	Total Cost	Qty.	Unit Cost	Total Cost	Qty.	Unit Cost	Total Cost	
ESIT Center:											
Construction (with furniture)	building	0.06	1,000,000	60,000		50,000	0		30,000	0	60,000
Staff Notebooks	number	4	2,000	8,000		1,000	0		800	0	8,000
Staff Computer	number	0	1,500	0	12	1,500	18,000		1,500	0	18,000
Local Area Network Server	set	1	5,000	5,000	0	2,500	0		2,500	0	5,000
USB storage device (1GB)	number	18	25	450	34	25	850		25	0	1,300
100 GB USB hard drive	set	2	250	500	17	250	4,250		250	0	4,750
B/W laser jet (A3) printer	number		2,000	0		2,000	0		2,000	0	0
B/W laser jet (A4) duplex printer	number		500	0	17	500	8,500		500	0	8,500
B/W laser jet (A4) printer	number		300	0		300	0		300	0	0
Colour plotter / large form printer	number	1	10,000	10,000		10,000	0		10,000	0	10,000
Colour laser jet (A3) printer	number	0	5,000	0	17	3,500	59,500		3,500	0	59,500
High speed copier with scanner	number		5,000	0		5,000	0		5,000	0	0
Office copier	number		3,000	0	17	3,000	51,000		3,000	0	51,000
Flatbed scanner	number		100	0	17	100	1,700		100	0	1,700
Ethernet network switch	set	8	100	800	0	100	0		100	0	800
Wireless broadband internet access	set	1	2,000	2,000		2,000	0		2,000	0	2,000
ADSL internet access	month	12	500	6,000	120	500	60,000		500	0	66,000
Dial-up internet access	set		200	0	4	200	800		200	0	800
GPS (global positioning system)	number	2	1,000	2,000		1,000	0		1,000	0	2,000
Motorcycle / boat	number	1	2,000	2,000	17	2,000	34,000		2,000	0	36,000
Solar Power System (2x150Ah batteries, UPS and 2 solar panels)	number		500	0		500	0		500	0	0
Sub-Total ESIT Center				96,750			238,600			0	335,350
Meeting/ Lecture Room:											
Projector (set)	set	1	2,000	2,000			0			0	2,000
PA with recording system	set	1	3,000	3,000			0			0	3,000
Sub-Total ESIT Meeting Room				5,000			0			0	5,000
EMIS and IT Training/Resource Room:											
Computer (set)	set	0	1,500	0		1,500	0		1,500	0	0
Projector (set)	set	1	2,000	2,000	0	2,000	0			0	2,000
PA with recording system	set	1	3,000	3,000	0	2,000	0			0	3,000
Interactive computer teaching system	set	1	4,500	4,500	0	2,250	0			0	4,500
B/W Laser A4 Printer	number	1	300	300		300	0		300	0	300
Sub-Total ESIT Training Room				9,800			0			0	9,800
Total Investment Expenditure				111,550			238,600			0	350,150
Variable Cost Item	Unit	Central (MOE)			Provincial (PES)			District (DEB)			Grand Total
		Units	Unit Cost	Total Cost	Units	Unit Cost	Total Cost	Units	Unit Cost	Total Cost	
Training											
Training No (1): 2-Week Abroad	person	5	10,000	50,000			0			0	50,000
Training No (2): 4-Week In-country	person	10	1,000	10,000			0			0	10,000
Data Collection training / Districts EMIS	person				34	500	17,000	140	250	35,000	52,000
Data Collection training / School principals								6000	80	480,000	480,000
Consultants											
EMIS Specialist/Software Development	person-mth	4	18,000	72,000	1	18,000	18,000		18,000	0	90,000
Database Management Specialist/Software Development	person-mth	1	18,000	18,000	0.5	18,000	9,000		18,000	0	27,000
Education Statistics and Planning Specialist	person-mth	1	18,000	18,000	0.5	18,000	9,000		18,000	0	27,000
Testing Instruments/early data analysis											
Field: Data collection forms	district	34	1,000	34,000			0			0	34,000
WS: Databases and data entry program	workshop	2	5,000	10,000			0			0	10,000
WS: Data analysis program, outputs	workshop	2	5,000	10,000			0			0	10,000
Annual Data Collection and Dissemination											
Central: Printing forms and distribution	set	50000	0.2	10,000			0			0	10,000
PES/DEB: Distribution and collection	district			0	140	50	7,000	11000	0.5	5,500	12,500
Central/PES: Print/disseminate outputs	set	500	7	3,500	480	10	4,800			0	8,300
Central: Sharing databases to PES & DEB (WS)	province/districts	17	600	10,200	140	300	42,000			0	52,200
School registers and record books	set	50000	2	100,000		2	0		2	0	100,000
Printed formats: to fill-in and display	set	11000	3	33,000		10	0		10	0	33,000
SMIS Manual	set	500	5	2,500		5	0		5	0	2,500
Contingencies											
Travel	mission	68	200	13,600	417	50	20,850	417	20	8,340	42,790
Others	-	1	5,000	5,000	17	1,000	17,000	139	500	69,500	91,500
Total Recurrent Expenditure				399,800			144,650			598,340	1,142,790
Total Expenditure (Rec+Cap)				511,350			383,250			598,340	1,492,940

Annex 1.3 Indicative Cost for year 2 : 2009

Indicative Costs for EMIS Development: YEAR 2

Investment Cost Item	Unit	Central (MOE)			Provincial (PES)			District (DEB)			Grand Total
		Qty.	Unit Cost	Total Cost	Qty.	Unit Cost	Total Cost	Qty.	Unit Cost	Total Cost	
ESIT Center:											
Construction (with furniture)	building	0.5	1,000,000	500,000	10	50,000	500,000		30,000	0	1,000,000
Staff Notebooks	number	6	2,000	12,000	17	1,000	17,000	70	800	56,000	85,000
Staff Computer	number	15	1,500	22,500		1,500	0		1,500	0	22,500
Local Area Network Server	set	0	5,000	0	10	2,500	25,000		2,500	0	25,000
USB storage device (1GB)	number	0	25	0	34	25	850	140	25	3,500	4,350
100 GB USB hard drive	set	0	250	0	0	250	0		250	0	0
B/W laser jet (A3) printer	number	0	2,000	0		2,000	0		2,000	0	0
B/W laser jet (A4) duplex printer	number	0	500	0	0	500	0		500	0	0
B/W laser jet (A4) printer	number	0	300	0		300	0	140	300	42,000	42,000
Colour plotter / large form printer	number	0	10,000	0		10,000	0		10,000	0	0
Colour laser jet (A3) printer	number	0	5,000	0	0	3,500	0		3,500	0	0
High speed copier with scanner	number	0	5,000	0		5,000	0		5,000	0	0
Office copier	number	0	3,000	0	0	3,000	0		3,000	0	0
Flatbed scanner	number	0	100	0	0	100	0		100	0	0
Ethernet network switch	set	0	100	0	10	100	1,000		100	0	1,000
Wireless broadband internet access	set	0	2,000	0	0	2,000	0		2,000	0	0
ADSL internet access	set	12	500	6,000	13	500	6,500		500	0	12,500
Dial-up internet access	set	0	200	0	0	200	0		200	0	0
GPS (global positioning system)	number	0	1,000	0	0	1,000	0		1,000	0	0
Motorcycle / boat	number	0	2,000	0	0	2,000	0	60	2,000	120,000	120,000
Solar Power System (2x150Ah batteries, UPS and 2 solar panels)	number	0	500	0	0	500	0	25	500	12,500	12,500
Sub-Total ESIT Center				540,500			550,350			234,000	1,324,850
Meeting/ Lecture Room:											
Projector (set)	set	0	2,000	0		0	0		0	0	0
PA with recording system	set	0	3,000	0		0	0		0	0	0
Sub-Total ESIT Meeting Room				0			0			0	0
EMIS and IT Training/Resource Room:											
Computer (set)	set	30	1,000	30,000	150	1,000	150,000	70	1,000	70,000	250,000
Projector (set)	set	0	2,000	0	10	2,000	20,000			0	20,000
PA with recording system	set	0	3,000	0	10	2,000	20,000			0	20,000
Interactive computer teaching system	set	0	4,500	0	10	2,250	22,500			0	22,500
B/W Laser A4 Printer	number	0	300	0	10	300	3,000	70	300	21,000	24,000
Sub-Total ESIT Training Room				30,000			215,500			91,000	336,500
Total Investment Expenditure				570,500			765,850			325,000	1,661,350
Variable Cost Item											
Training											
Training No (3): 4-Week In-country	person			0	34	1,000	34,000			0	34,000
Training No (4): 2-Month Abroad	person	5	10,000	50,000			0			0	50,000
Training No (5): 2-Week Study Tour	person	5	5,000	25,000	10	5,000	50,000			0	75,000
Training No (6): 2-Week In-country	person			0			0	140	500	70,000	70,000
Consultants											
EMIS Specialist/Software Development	person-mth	2	18,000	36,000	1	18,000	18,000			0	54,000
Database Management Specialist /Software	person-mth	1	18,000	18,000	0.5	18,000	9,000			0	27,000
Education Statistics and Planning Specialist	person-mth	2	18,000	36,000	1	18,000	18,000			0	54,000
Data Quality Assessment Sivevy											
Fieldwork: Data collection	schools	200	200	40,000			0			0	40,000
Preparation, analysis and report writing	consultant	1	15,000	15,000			0			0	15,000
Dissemination of results + workshop	workshop	1	5,000	5,000			0			0	5,000
Annual Data Collection and Dissemination											
Central: Printing forms and distribution	set	50000	0.2	10,000			0			0	10,000
PES/DEB: Distribution and collection	district			0	140	50	7,000	11,000	0.5	5,500	12,500
Central/PES: Print/disseminate outputs	set	500	7	3,500	420	10	4,200	11,000	0.5	5,500	13,200
Central: Sharing databases to PES & DEB	province/districts	17	600	10,200	140	300	42,000			0	52,200
School registers and record books	set	0	10	0	0	10	0		10	0	0
Printed formats: to fill-in and display	set	11000	3	33,000	0	3	0		3	0	33,000
SMIS Manual	set	500	5	2,500		5	0		5	0	2,500
Contingencies											
Travel	mission	68	200	13,600	417	50	20,850	417	20	8,340	42,790
Others	-	1	5,000	5,000	17	1,000	17,000	139	500	69,500	91,500
Total Recurrent Expenditure				302,800			220,050			158,840	536,690
Total Expenditure (Rec+Cap)				873,300			985,900			483,840	2,198,040

Annex 1.4 Indicative Cost for year 3 : 2010

Indicative Costs for EMIS Development: YEAR 3

Investment Cost Item	Unit	Central (MOE)			Provincial (PES)			District (DEB)			Grand Total
		Qty.	Unit Cost	Total Cost	Qty.	Unit Cost	Total Cost	Qty.	Unit Cost	Total Cost	
ESIT Center:											
Construction (with furniture)	building	0.44	1,000,000	440,000	7	50,000	350,000		30,000	0	790,000
Staff Notebooks	number	6	2,000	12,000		1,000	0	70	800	56,000	68,000
Staff Computer	number	0	700	0		700	0		700	0	0
Local Area Network Server	set	0	5,000	0	7	2,500	17,500		2,500	0	17,500
USB storage device (1GB)	number	0	25	0	0	25	0	140	25	3,500	3,500
100 GB USB hard drive	set	0	250	0	0	250	0		250	0	0
B/W laser jet (A3) printer	number	0	2,000	0		2,000	0		2,000	0	0
B/W laser jet (A4) duplex printer	number	0	500	0	0	500	0		500	0	0
B/W laser jet (A4) printer	number	0	300	0		300	0		300	0	0
Colour plotter / large form printer	number	0	10,000	0		10,000	0		10,000	0	0
Colour laser jet (A3) printer	number	1	5,000	5,000	0	3,500	0		3,500	0	5,000
High speed copier with scanner	number	0	5,000	0		5,000	0		5,000	0	0
Office copier	number	0	3,000	0	0	3,000	0		3,000	0	0
Flatbed scanner	number	0	100	0	0	100	0		100	0	0
Ethernet network switch	set	0	100	0	7	100	700		100	0	700
Wireless broadband internet access	set	0	2,000	0	0	2,000	0		2,000	0	0
ADSL internet access	set	12	500	6,000	17	500	8,500		500	0	14,500
Dial-up internet access	set	0	200	0	0	200	0		200	0	0
GPS (global positioning system)	number	0	1,000	0	0	1,000	0		1,000	0	0
Motorcycle / boat	number	0	2,000	0	0	2,000	0	80	2,000	160,000	160,000
Solar Power System (2x150Ah batteries, UPS and 2 solar panels)	number	0	500	0	0	500	0	0	500	0	0
Sub-Total ESIT Center				463,000			376,700			219,500	1,059,200
Meeting/ Lecture Room:											
Projector (set)	set	0	2,000	0		0	0		0	0	0
PA with recording system	set	0	3,000	0		0	0		0	0	0
Sub-Total ESIT Meeting Room				0		0	0		0	0	0
EMIS and IT Training/Resource Room:											
Computer (set)	set	0	700	0	105	1000	105,000	70	1000	70,000	175,000
Projector (set)	set	0	2,000	0	7	2,000	14,000			0	14,000
PA with recording system	set	0	3,000	0	7	2,000	14,000			0	14,000
Interactive computer teaching system	set	0	4,500	0	7	2,250	15,750			0	15,750
B/W Laser A4 Printer	number	0	300	0	7	300	2,100	70	300	21,000	23,100
Sub-Total ESIT Training Room				0		150,850				91,000	241,850
Total Investment Expenditure				463,000			527,550			310,500	1,301,050
Variable Cost Item											
Training											
Training No (7): 4-Week In-country	person			0	34	1,000	34,000			0	34,000
Training No (8): 2-Week In-country	person			0			0	140	500	70,000	70,000
Training No (9): 2-wk for school Principals	sessions			0			0	6000	100	600,000	600,000
				0			0			0	0
Consultants											
EMIS Specialist/Software Development	person-mth	2	18,000	36,000	1	18,000	18,000	1	18,000	18,000	72,000
Database Management Specialist /Software	person-mth	1	18,000	18,000	0.5	18,000	9,000			0	27,000
Education Statistics and Planning Specialist	person-mth	2	18,000	36,000	1	18,000	18,000			0	54,000
Data Quality Assessment Suvvey											
Field: Data collection forms	schools	200	200	40,000			0			0	40,000
WS: Databases and data entry program	consultant	1	15,000	15,000			0			0	15,000
WS: Data analysis program, outputs	workshop	1	5,000	5,000			0			0	5,000
Annual Data Collection and Dissemination											
Central: Printing forms and distribution	set	50000	0.2	10,000			0			0	10,000
PES/DEB: Distribution and collection	district			0	140	50	7,000	11,000	0.5	5,500	12,500
All Levels: Print/disseminate outputs	set	500	7	3,500	420	10	4,200	11,000	0.5	5,500	13,200
Central: Sharing databases to PES & DEB (WS)	province/districts	17	600	10,200	140	300	42,000			0	52,200
School registers and record books	set	0	10	0	0	10	0		10	0	0
Printed formats: to fill-in and display	set	11000	3	33,000	0	3	0		3	0	33,000
SMIS Manual	set	500	5	2,500		5	0		5	0	2,500
Contingencies											
Travel	mission	68	200	13,600	417	50	20,850	417	20	8,340	42,790
Others		1	5,000	5,000	17	1,000	17,000	139	500	69,500	91,500
Total Recurrent Expenditure				227,800			170,050			776,840	1,174,690
Total Expenditure (Rec+Cap)				690,800			697,600			1,087,340	2,475,740

Annex 2 : Overall Specification and Volume of EMIS Publications

Annex 2.1 For MOE Departments (internal use - 200 copies)

(1) Provisional National Education Statistics and Indicators

(provisional summaries at the beginning of school-year – as of 1st October)

A short draft summary of “Yearbook” quickly assembled at the beginning of the school year to inform the policy makers and planners, which

- includes only few selected statistics and indicators
- uses summarized data from districts (through PES) without in-depth checking, and
- will be available by end of October

(2) Mid-year National Education Statistics and Indicators

(summaries at the middle of school-year – as of 31 January)

A short summary of “Yearbook” updated for the mid-year quickly assembled during February-March to inform policy makers and planners

- include only few selected statistics and indicators especially on the changes in enrollment and student’s performance during the first half of the school-year
- uses summarized data from districts without in-depth checking
- will be available by end of March (internal use - 200 copies)

(3) End of School-Year National Education Statistics and Indicators

(summaries at the end of school-year – as of 30 June)

A short summary of “Yearbook” updated at the end of school-year quickly assembled during July-August to inform the policy makers and planners

- include only few selected statistics and indicators especially to provide enrollment at the end of school-year, absenteeism of students and teachers, and student’s performance during the second half of the school-year
- use summarized data from districts without in-depth checking
- will be available by middle of July (internal use - 200 copies) before “Education Conference”

Annex 2.2 For All Users (publication – 500+ copies)

(4) (National) Education Statistics and Indicators

- the “Yearbook” containing detailed education statistics and indicators for the national and provincial levels (to be published by end of February)
 - all statistics will be disaggregated by total, boys and girls as appropriate, and
 - statistics and indicators for general education will be divided by level of education, preschool, primary and secondary
- national summary together with disaggregations by:
 - location – urban/rural/remote areas, and
 - school authority – private/public
- provide to various users – all PES, DEB, and MOE departments; other Ministries and concerned departments; IOs and donor communities
- contain at least the followings statistics and indicators:
 - Total number of Schools, Classes, Students and Staff and by Level of Education (preschool, primary, lower secondary and upper secondary)
 - Characteristics of Schools and School Principals
 - Number of Schools by Highest Grade Taught
 - Enrollment by Level of Education by Sex (previous school-year)
 - Enrollment by Level of Education by Sex (current school-year)
 - Enrollment by Level of Education by Ethnicity
 - Enrollment and Repeaters by Grade by Sex
 - New Intake and Enrollment by Level and by Age Group by Sex
 - Schools Providing Basic Education and Those Receiving Teacher Guides for All Main Subjects
 - Availability (or Distribution) of Textbook by Grade in Primary Level
 - School Staff by Age Group, Service, Education Level
 - School Staff by Education Level and by Pedagogical Training
 - Schools with Specific Functions
 - Primary Teachers by Age, Sex, Service, Education and Training
 - Secondary Teachers by Age, Sex, Education and Training and Specialized Subjects
 - Condition of School Buildings, Classrooms and Facilities
 - School Space and Sports Facilities
 - Community Participation and Financing
 - Educational Staff in Province and District Offices and Schools
 - School-Going Age Population and Respective Sex Ratios
 - Intake, Enrollment, Graduates and Staff in Vocational, Technical and Teacher Training Schools and Centers
 - Intake, Enrollment, Graduates and Staff in Higher Education Institutions

- Intake, Enrollment, Graduates and Staff in Private Schools
 - Participants, Successful Completers and Staff in Non-Formal Education
 - Indicators on Schools
(Pupils per School; Teachers per School; Staff per School; Buildings per School; Rooms per School; Classrooms per School; Classes per School; Percentage of Schools without Drinking Water; Percentage of Schools without Latrine; Percentage of Schools with Large Classes; Percentage of Schools Urgently Requiring More Classrooms)
 - Indicators on Students and Staff (by level of education)
(Pupil Teacher Ratio; Pupil Staff Ratio; Pupil Class Ratio; Pupil Classroom Ratio; Classes per Classroom; Classroom Area (square meter) per Pupil; Percentage of Total Students in each Education Level; Percentage of Teaching and Non-teaching Staff; Percentage of Female Staff)
 - Indicators on Enrollment, Access and Equity by Sex
(Percentage of Repeaters by Education Level; Percentage of Overage Enrollment by Education Level; Gross Admission Rate; Net Admission Rate; Percentage of Overage (6+) Admission; Transition Rate from Primary to Lower Secondary; Transition Rate from Lower Secondary to Upper Secondary; Gross Enrolment Ratio by Education Level; Net Enrolment Ratio by Education Level)
 - Student Flow Rates by Grade and Graduates by Level
 - Survival and Completion Rates by Level by Sex
- (5) **(Provincial) Education Statistics and Indicators (one volume per province)**
- Similar to above item, the provincial yearbooks containing detailed education statistics and indicators for the national level together with for the provincial and district level data of the concerned province (to be published by end of February)
- (6) **Basic Information of Schools (statistics by school – organized by province)**
- one line per school for basic information as school name, code, location, type of school, buildings and classrooms (with condition), classes, total enrollment (by sex), staff (by sex and teaching, non-teaching), and etc.
- (7) **Handbook on Education in Lao PDR**
- History of education development in Lao PDR, selected facts and figures, useful information from education conference, EFA, MDG, etc.. in article / short write-up format with some table, graphs and maps
 - Provide to all MOE departments, PES, DEB and schools. Also to make available to the interested users at minimal cost

Annex 2.3 Feedback (publication – 10,000 copies)**(8) Graphics of Primary Schools**

- basic information of schools such as enrollment and repeaters by grade, teachers, etc., and selected core indicators such as flow rates, absenteeism rates and internal efficiency
- to be printed and distributed to all primary schools in the country

(9) Current Educational Development in Lao PDR

- basic information on Lao education system, recent development (5-year trend) on enrollment and repeaters by grade, teachers, etc., in tables, and in graphs and charts
- presented on a wall-sheet printed in 4 colour on A0 art paper
- to be printed at a commercial printing house and distributed to all schools, MOE departments, PES, DEB, IOs / NGOs, and donors (10,000 copies)

(10) Pamphlet on Education in Lao PDR (optional for MOE, PES and DEB)

- a smaller form of “Current Educational Development in Lao PDR”
- provide to visitors of MOE, PES and DEB

(11) Education Databases (optional for MOE Departments, PES and DEB)

- a provincial subset of EMIS databases with school level data for every PES
- a district subset of EMIS databases with school level data for every DEB