

Project Proposal
on
Education Management Information Systems
(EMIS)

UNICEF, Beirut
January 1997

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Funding proposal on

Education Management Information Systems
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A Decision Support System

Rationale

For almost two decades the education sector in Lebanon has been living in the dark, not only because of lack of electricity during the long years of war, but because educators did not have proper access to reliable data. The war has paralyzed the work of the Ministry of Education (MOE) and the Center for Educational Research and Development (CERD). The matter was further complicated with the cessation of the Ministry of Planning and the Directorate of Statistics from functioning, in addition to the fact that the country didn't conduct a national census since 1932. All this contributed to the fact that educators for long years could not generate information that can be used in the planning and implementation of programmes to improve the education system by providing recommendations for action as to educational access, quality and efficiency. Thus, educators whether decision makers or implementors were left with no significant data on educational inputs, processes and outputs leading to complete absence of educational planning.

Background

Lebanon is a small country of 10542 sq.km. overlooking the Mediterranean. It has a population of around 3 million and a child population of around one million between 0-15 years. Emerging out of 16 years of war that has destroyed its economy and its infrastructure Lebanon has embarked on a process of healing and reconstruction in which the Government, the private sector, non-governmental organizations (NGOs) and individuals are all playing a part. Yet, despite the tangible revival of the national economy relative to the situation during the war, the sequels of the civil war are still perceptible. Twenty eight percent of the families live under the poverty line, and seventy five percent of these families are found in the rural peri-urban areas. Moreover, some 450000 people are still displaced and living under hard conditions with some of their basic needs being deprived of.

In education, the system seems hardly to be meeting the Education for All goals as set in the Jomtien Conference of 1990. Compulsory education as stipulated in Lebanese laws has not been enforced yet. Available information on net enrolment ratios gives contradictory figures. Table 1 gives an idea of this confusion, stressing the need for a unified educational information system and for a standard set of educational indicators. The two mentioned studies in the table indicate two different enrolment rates for the same year; 1992-1993.

Table 1. Net Enrollment as estimated by two studies for the same year

School Level	Jubai & Abu Rijaili Study		CDR Study	
	Age	Estimated Ratio	Age	Estimated Ratio
Pre-school	2-5	43,5	4-6	43,0
Primary	6-10	99,3	7-11	96,0
Intermediate	11-14	65,0	12-15	89,0
Secondary	15-17	30,0	16-18	59,0
All levels	2-17	63,5	4-18	N/A

The primary level enrollment rate of 96% reflects no problems in terms of access, but the internal efficiency of the system is dramatic. According to the joint UNESCO-UNICEF Learning Achievement project conducted in 1995, and which was the only source of primary data since the beginning of the war, the repetition rate is 37.5% and the over-age rate is 30.5% at the primary level. While estimates on available pre-war studies reflect that the dropout rate is 30% at the end of the basic education level. It is true that schools continued to function during the war but problems accumulated and are still existing though five years have passed since the end of the war. The problems are evident especially in the public sector which caters for the poor of the Lebanese and has 31% of the student body. One of the major problems is that teachers were dislocated during the war. Central administration lost control over the recruitment, appointment and transfer of teachers; with the result that many schools have become overstaffed and some of them with more teachers than pupils. Presently, the number of teachers in public schools is high with a pupil teacher ratio (PTA) of 8:1, imposing thus a heavy burden on the finances of the government. The pre-service and in-service training of teachers have been continuously disrupted and, for years, completely stopped. Consequently, the number of unqualified or underqualified teachers increased. Curricula were not revised since 1968-1972 period and were not assessed in terms of outcomes. Also, enrolment in vocational and technical training and education is low and the level of technical and vocational abilities and skills of workers is well below what is needed to ensure proper and efficient use of resources. Furthermore, the system seems to be hardly meeting the

needs of the country's economy, social recovery, and development raising questions about relevance of education at all levels. The system's full recovery and future development can not be conceived and achieved without proper attention being focused on the enhancement of the management of the public sector, and particularly building national capacities in the management of data at all levels of the system and in all its units as to local and EFA goals especially in the monitoring of its access, quality, and efficiency. Thus, a project that will establish a unified education management information system and a standard set of educational indicators is needed to act as a decision support system to educators at all levels. The proposed project will grasp the opportunity of national efforts to reform and restructure the education system. It will build on the success of the Learning Achievement Project which lead into enriching local experiences and building national capacities. Also, it will benefit from the increased interagency collaboration and will compliment their efforts into common aims instead of their diversification.

The overall goal of this project is:

To reduce disparities in equity of access to quality education along regional and socio-economic lines by strengthening the assessment and monitoring of performance indicators and the design of intervention programmes.

Objectives

1. To extend a continuous and permanent monitoring system that is learner-based and that consists of local, EFA and CRC performance indicators.
2. To upgrade management skills, supervision and the design of intervention programmes by policy-makers and educators to improve the efficiency and quality of the education system.
3. To ensure completion and retention of 80% school age children within the basic education level by reducing overage ratios, repetition and drop out rates to half.

Strategies

- Mobilizing all educational and communication channels for the realization of national goals, broaden the EFA alliance, partnership and interagency collaboration at local, regional and international levels.
- Empowering beneficiaries including decision makers, and implemetors while enhancing community participation of social workers and by strengthening

collaboration between governmental, non-governmental organizations and the private sector.

- Building national capacities by training and the transfer of knowledge like on the job training and by participation in the different project activities at local and peripheral levels while encouraging the exchange of national and international expertise.
- Modeling targeted and progressive interventions that will consider problems of repeaters, slow learners with a focus on gender issues and while reducing regional disparities along rural-urban and socio-economic lines.
- Building on existing initiatives as the interactive and intergrative Learning Achievement project.

Geographical Coverage, Beneficiaries and Partners

The studies in the project will cover around 200 schools each year from the basic education level and around 5000 students with their parents, teachers and principals. The household surveys will reach around 200 children in and out of school with their parents. 200 educators will be trained each year from all levels. The project will focus on all the 6 regions of Lebanon thus covering all areas. The main partners in this project will be MOE, CERD, MOSA in addition to UNESCO and other UN agencies. CERD will be the lead manager.

Activities

Advocacy

Advocacy efforts in collaboration with MOE, CERD, UNESCO and other partners will focus on bringing to the fore data its analysis and implications in order to mobilize local and international support, collaboration and partnership. This mobilization will aim at facilitating the implementation of CERD national Plan for Educational Enhancement Lebanon (PEEL), and the NPA in addition to meeting the quantitative and qualitative EFA and Summit goals. These efforts will lead into following the CRC provisions especially the enforcing of compulsory education progressively and as stipulated by PEEL. Advocacy will be realized through holding three seminars and workshops each year to involve top level decision makers and other educators. These seminars and workshops will sensitize participants to the objectives of this project and the importance of meeting its qualitative and quantitative goals. They will also draw on the

results and recommendations of the on-going studies and surveys within this project. In addition, representatives from official bodies and the private sector working in this project will be sponsored to participate in international symposiums, workshops and other events to promote the application and replication of innovative related experiences of other countries. Media will be utilized to raise public awareness and focussed information packages will be produced to meet the objectives of this project.

Output: Seminars, workshops, information package.

Planning

In collaboration with UNESCO and other UN agencies, universities, the private sector and international consultancy, technical expertise will be extended to MOE, CERD to plan the EMIS while anticipating a more fully integrated sectoral and cross-sectoral issues. The process, will operate from a broader understanding of education to include data and its analysis in relation to national development issues in a way that will address cross-impacts where changes in one area affect activities in another. The system will rely on school studies and household surveys. Survey results will be compared to the results of the studies to gain deeper insight of underlying causes to certain situations and to check for errors in the education information system. The household surveys and school studies will be conducted on a yearly basis to cover the last grade each year of one of the three cycles of the basic education level. This will be done in representative samples of the student body of Lebanon and their schools. The system will be learner-based, where each learner will be allotted an identification number and her/ his progression will be followed to monitor on a continuous and permanent basis performance indicators including learning achievement, rates of completion and attendance, and those indicators related to equity, and access along gender, regional, socio-economic lines in addition to those related to quality, internal and external efficiency. Accordingly, data will be categorized and disaggregated into:

- The distribution of educational resources and outputs across geographical areas and population subgroups. This disaggregation will reveal underlying differences to suggest trends in future educational planning.
- The internal and external efficiency of the education system to reflect the extent that the educational process contributes to sustained economic and social development and whether knowledge, attitudes and skills gained are geared for instance to anticipated employment opportunities in the economy.
- Access and equity to reflect on policies, laws and social considerations that need to be enhanced to meet these issues.

- Management policies, procedures, cost and financing to reflect through projections and assessments on factors that impact the education system.

The EMIS will rely on the formula of shuffling information in a spiral manner to involve all educators at all levels and from all units and the various sectors. In this connection, a national task force will be formed to include educators from the public and private sectors in addition to the different units of the MOE, CERD, MOSA and the Higher Council for Childhood. This last semi-governmental body is responsible for reporting on following the provisions of the CRC in addition to coordinating among different NGOs.

Outputs: Plans and policies and the design of intervention programmes..

Studies and Surveys

In collaboration with UNESCO, other UN agencies, universities and the private sector, technical expertise will be provided to MOE, CERD and MOSA to collect data from different sources, their analysis and interpretation to arrive at the needed implications and recommendations including the design of the right intervention programmes. To arrive at the collection of these data and since this system is learner-based tools and instruments will be developed on characteristics of the learner covering her/his home environment, schools, teachers, principals, instructional materials and facilities. These materials will cover numbers, grade, gender, regions, districts and others as needed and defined. The teams working on this project will pass through a certain process to arrive at these studies and surveys. This process is as follows:

- Determining management information needs
- Developing essential structure of the system.
- Defining key terms, and significant concepts and sampling method.
- Developing the related indicators accordingly.
 - Writing items for collecting data.
 - Organizing items into instruments such as tests, questionnaires, interview questions and observation sheets..
 - Choosing appropriate design and statistical methods for the data analysis.
 - Field administration of the tools adjustments.
- Collecting data from the various identified sources
- Refining data collected

- Entering data into appropriate storage devices.
- Processing and analyzing data.
- Interpreting the data and writing reports
- Designing focused interventions

Outputs: Studies, household surveys, casestudies

Building National capacities

Having an EMIS is more than just collecting data and filling forms. Educators in the whole sector, from teachers at schools to mothers at homes, to mayors in the remotest village, to decision makers working at top level positions will be introduced and encouraged to contribute data to the system and to use it for their decision making purposes. This kind of training will be at the same time training in planning, management and programme design. Thus, national capacity-building becomes an integral objective and strategy of this project. This will be achieved mainly through on-the-job transfer of knowledge and skills. In addition, and in order to lay the ground and reinforce these acquisitions, more formal training activities are foreseen as important components of the project. Each year a group of 200 educators will be reached through on-the-job transfer of expertise and direct training. During the course of the project, training will be organized for all persons involved in the project. It will be achieved through a series of workshops and seminars on framework, methodology, and approach as follows:

Enhancing the capacities of the Steering Committee

The full utilization of Lebanese nationals in the implementation of all phases of the project is one of the cornerstones and objectives of this project. This kind of action-oriented approach will enhance national capacities in planning and monitoring the education sector in all its inputs, process, outputs and outcomes. The steering committee formula will contain as members key officials who within their actual working environment and through formal seminar meetings and on-the-job transfer of skills will refine and apply the methods and techniques related to their functions.

Training of Technical Committees

Technical committees will be trained each in its specific domain. Six workshops each year will be devoted to technical matters dealing with the development of Education Management Information System (EMIS). This will ensure proper collection and processing of the data. Three workshops per year pertaining to curricula analysis

and the elaboration of domain-specific learning objectives, as well as criterion-referenced test construction, will be held. Expertise will be transferred in a progressive manner to the peripheries to include teachers working in the remotest villages in the design and development of tests and questionnaires. Three other workshops will deal with the factors influencing education management , and data processing.

Training of Field Coordinators and Administrators

Field coordinators will attend a national seminar to introduce them to the objectives and the methodology of the project, and to make them familiar with its operational procedures in a way that they can in a multiplier effect train field test administrators and supervise the collection of data with relative autonomy. Field test and questionnaire administrators will be trained at the regional level by field coordinators assisted whenever necessary by other members of the task force. Detailed instructions on testing and data collection procedures will be given to them and training will include role playing and simulation, as well as actual participation in pilot testing of the instruments.

Training in Data Analysis and Interpretation

In order to ensure the optimum use of the data collected and the best presentation of the results obtained to decision-makers, a seminar at the national level will be carried for those involved in data analysis, in addition to interpretation and report writing. The participation of teachers at the peripheral level to ensure the shuffling of information from bottom to top level will be planned in a way that will involve them in a progressive manner. Thus, training will be held in the first year of implementation at the central level. Expertise will be transferred in the second and third years to the regions to heads of educational areas and within teacher training centers at district level. In the fourth and fifth years expertise will be transferred to teachers at the school level.

PROJECT MANAGEMENT AND TECHNICAL SUPERVISION

A National Task Force will be set to plan the project, implement and monitor it. In addition, several training seminars and workshops will take place to enhance national capacities to carry out this project and subsequent similar ones.

The National Task Force

The National Task Force will be composed of the following bodies.

The Steering Committee

A Steering Committee (SC) will be appointed to plan and oversee the project, monitor the implementation of all its phases, and look after timely completion of the different outputs. The SC will provide guidance to the whole project. It will extend needed assistance in securing access to information, documents, and schools. Generally, it will facilitate the coordination and the implementation of the various activities of the project. It will be composed of top level officials, namely

- a) the President of CERD;
- b) the Director General of MOE;
- c) the Inspection;
- d) the MOSA
- e) a representative of UNESCO;
- f) a representative of UNICEF;
- g) a representative of any other agreed upon agency.

The Project Coordinator and the Project Office

The general responsibility for the coordination of the project activities and the day-to-day management of the project will rest with a Project Coordinator. A Project Office will be created to provide technical and administrative support to the management of the project and to the various committees involved. The Project Office will include a Data Processing Team which will develop computer capability in order to take care of data processing and to facilitate the statistical and computing requirements. CERD will assign premises and equipment for the project, as well as the required technical and support staff dedicated to the Project Office, in consultation with the Steering Committee.

Team of experts

This team will be formed of international and national experts in educational management in addition to members from technical agencies like UNESCO and others as needed. They will develop the technical frame work and indicators within which all information gathering will be processed. They will provide initial training in addition to proposing methodologies for the various parts of the work including methodology for conducting school studies and household surveys, data processing, analysis and interpretation.

The Technical Committees

Several technical committees will take charge of developing indicators, tools and instruments, and of carrying out data analysis. In view of capacity building, each of these committees will have at least one member from CERD professional staff, one specialist nominated by the Director General of Education, and one by the Inspector General of Education. Other members could be chosen from colleges and universities, the private sector and MOSA depending on expertise. Team leaders will be responsible for organizing working sessions and shall plan their tasks in a way to meet standards and deadlines set out by the Steering Committee. The needed technical committees are those concerned with education management and planning, curricula analysis and development, research and studies, and data analysis and interpretation.

The Field Central Team

A Field Central Team will be appointed to supervise the logistics concerning data collection. Its main responsibilities are essentially the following: a) to ensure proper handling of tools and instruments at all phases of implementation; b) to appoint field coordinators and to approve the appointment of field test administrators; and c) to ensure the participation of the selected schools and homes in data collection.

The Field Coordinators

The field coordinators will be responsible for the management and supervision of field administration and data collection in the regions assigned to them, as well as of the training of field test administrators. Field coordinators may be essentially drawn among educational inspectors, professional staff of regional bureaus of MOE, and teachers.

The Team for Data Entry and Analysis

Data processing on the computer will be done at CERD and MOE using available micro-computers and mainframe terminals. It should be envisaged that technical staff from these two bodies take charge of these duties under the supervision of the steering committee and the experts committee. Data will be analyzed in sufficient levels of disaggregation so that differences in educational experiences across regions, districts, socio-economic lines, sub-populations and gender are taken into consideration.

The Report Writers

Reports will be written with the assistance of members drawn from the whole task force, appointed by the Steering Committee. If needed, persons from outside the task

force experienced with policy-making oriented writing would be chosen to join the team of report writers. The task of this team is to further analyze the data and interpret the results so that reasoned conclusions may be derived. Teachers at central and peripheral levels will be invited to participate in this task.

Monitoring and evaluation

Monitoring and evaluation activities will be carried by participating through the different activities and committees formed. Progress will be closely monitored through regular field visits to all regions of Lebanon where the project activities are implemented. The project activities will be monitored as to their impact on policy makers, on the children, on the community including parents, and on educators including teachers and other care-givers in the context of advocacy, planning, programming, legal enforcement and compliance at district, regional and national levels. Periodic progress reports will highlight the progress of the project implementation, lessons learned and the course corrections needed to address problems. Annual and mid-term reviews will be organized within a set schedule.

Inputs

The project activities will essentially be carried out with contributions from two main inputs: Government and UNICEF with inputs from other financing agencies.

- Government inputs will include both direct and indirect contributions.

The in-direct input will cover the following:

- a) Allocation of space, office equipment and computer facilities, micro computers, main frame and terminals and the use of school facilities needed to carry out all the activities of the project, including those needed for the training and the work for all committees envisioned;
- b) The costs of public utilities such as water and electricity used in all premises in the project, and the costs of general services such as cleaning and maintenance.
- c) The remuneration for officials involved in the project.

Direct contributions include the following:

- a) Sharing part of the cost of direct training the committees working in this project including teachers and social workers.
- b) The necessary budget to carry out printing of materials.

- c) The costs of all stationary and paper needed to carry out all the activities of the project, including those needed by the various committees, activity modules, tests and questionnaires, and all reports.
- Inputs from UNICEF and other agencies will cover all the activities of the project except the Learning Achievement project which will be covered by the General resources.
Inputs from UNICEF and other agencies include human and financial resources.
Human resources include the following:
 - a) Participation to the different committee; and
 - b) Participating to any other activity.

Financial resources include the following:

- a) Transport and overtime for Lebanese officials of all levels working on the project;
- b) Fees to the consultants (training activities, design and development of materials including info. and educ packages, surveys and evaluations including tests and questionnaires, data analysis, reporting, etc.), translators (activities, tests, reports, etc.), and field workers;
- c) Travel costs of international and local consultants and other professionals working in this project.
- d) Miscellaneous.

Constraints

The implementation of this project may be hindered by constraints that need to be specified in order to devise ways to overcome them.

- Lack of a governmental agenda on the CRC, EFA and Summit goals with a set plan and strategies is a major hindrance to this project. Sensitizing policy-makers to the importance of this project as to achieving goals of education national plans, within these goals, is a priority. The direct involvement of key decision makers in the process of planning and implementation of this project will help in the full achievement of these objectives.
- The scarcity of national financial resources and the further decrease in budget allocation by the government to education will cause difficulties in sharing some of the running cost as envisaged. Thus seeking commitment of international funding for the total period and duration of this project is a priority

to achieve a firm and clear support of Lebanese authorities to initiation and sharing part of its cost.

- The project proposes a long list of partners among governmental authorities, universities, NGOs, and the private education sector, and inside these bodies between their various departments. Yet, previous fruitful cooperation in the joint UNESCO- UNICEF Learning Achievement project will be utilized and followed as a module for further collaboration. A firm commitment to the project from all official and private bodies concerned and a joint and strong advocacy to it are essential to its wide acceptance and proper implementation.

- Lack of qualified expertise nationally is another constraint. Collaboration with international consultants and bodies will be essential to enrich local experiences and to formulate the right frameworks for the school and management studies and household surveys, building capacities and for monitoring and evaluation purposes.

Opportunities

Implementation of this project may be enhanced by certain factors.

- The time is just right to grasp the opportunity of the national efforts to reform and restructure the education system. This process will build on the success of the Learning Achievement Project which led into enriching local experiences and building national capacities.

- Interagency collaboration are focussing now on developing a project for school mapping and targetting 100 schools for overall improvements. The two projects and the sharing of experiences will help in focussing efforts into common aims instead of their diversification

- Interest of international donors and bilateral and multilateral agencies in development projects in Lebanon is another point to build on. Efforts could be tuned to achieve cost effectiveness, to avoid overlapping and duplication.

Budget	1997	1998	1999
Advocacy	\$20,000-	\$20,000-	\$10,000-
Planning	\$30,000-	\$30,000-	\$30,000-

Studies & Surveys	\$240,000-	\$240,000-	\$240,000-
Building Capacities	\$30,000-	\$30,000-	\$20,000-
Project Support	\$70,400-	\$70,400-	\$66,400-
Total	\$390,400-	\$390,400-	\$366,400-

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