DEVELOPMENT OF AN
EDUCATION MANAGEMENT
INFORMATION SYSTEM
(EMIS) IN NORTHERN SUDAN"
PROJECT

Letter of Contract N° 2011/264695

EVALUATION REPORT

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CONTENTS

ACKNOWLEDGEMENTS

ACRONYMS AND ABBREVIATIONS

EC	European Commission
EDF	European Development Fund
EU	European Union
EMIS	Education Management Information System
FMoGE	Federal Ministry of General Education
IIEP	International Institute of Educational Planning
IT	Information Technology
LogFrame	Logical Framework
NSC	National School Census
OR	Organisational Review
PE	Project Estimate
SMoE	State Ministry of Education
TA	Technical Assistance
TNA	Training Needs Analysis
UNICEF	United Nations Children's Fund

1. Background *(#1.1)*

1.1 The EMIS Project" commenced in September 2008 and, following a ten-month extension from March 2010, ended in December 2010.

1.2 The project was funded by a grant from the 9th EDF.

1.3 Consultants funded by EU and through UNICEF provided technical support to the project at federal level and in all fifteen sates.

1.4 The project succeeded in delivering at least part of each planned result but none was entirely achieved.

1.5 With the current consultancy inputs of UNICEF and appropriate organisational changes, there are prospects for further progress towards achievement of the project purpose.

2. Methodology *(#1.2 & seq)*

2.1 The consultants conducted interviews with federal and state ministry officials, including planners, IT personnel and statistical officers. During visits to five states, they also observed EMIS operations in SMoEs.

2.2 Three questions were considered as central to the task:
- To what extent were the planned results of the project actually delivered?
- Where delivery was incomplete, what were the constraints which caused this to happen?
- What steps can be taken in future to achieve the project purpose?

3. Project Preparation, Design and Relevance *(#2.1 & #2.2)*

3.1 The project design is internally coherent.

3.2 The project is highly relevant, not least in the context of decentralisation where there is a clear need for SMoEs to produce policy-driven strategic plans which make the best use of all available resources.

4. Efficiency *(#2.3)*

4.1 Very few activities were commenced in the first year of the project with less than a quarter of the budget expended after sixteen months. This resulted in a crowded series of interventions in the latter half of the extended project.

4.1 A considerable sum was expended on the development of a software application for EMIS and a final payment has been made to the developers. Observations in the field showed that the software is not performing according to specification; the funds utilised in its development have therefore not obtained good value for money.

4.2 The consultants recommend the establishment of a technical committee to ensure that out-sourced activities are carried out efficiently and that the outputs are effective under real working conditions.

4.3 To the extent that other activities were completed, the project appears to have made good use of funding.

4.4 Project implementation was strengthened by the setting up of project implementation committees in the states but it was seriously jeopardised by the withdrawal of the Education Information Centre in the federal ministry. To obviate such difficulties, the consultants recommend the establishment of a committee to clarify the roles of concerned ministry units both in the implementation of established programmes and in participation in projects designed to strengthen them.

5. Effectiveness *(#2.4)*
5.1 None of the results identified in the logical framework has been delivered in its entirety and the project has therefore not fully achieved its purpose. This does not mean that nothing has been achieved for useful training has been given, surveys and a school census successfully conducted, and various strategy papers prepared.

5.2 At the same time, it is clear that:
- no concrete steps have been taken to effect structural change and revise job descriptions (Result 1)
- the new EMIS system is not fully functional (Result 2)
- no new, strengthened, policy-based state and federal strategic plans are extant (Results 3 and 4)
- the performance review process is not established at state level (Result 5)
- the capacity of FMoGE to guide and support SMoES in the planning function remains weak (Result 6)

6. Impact and Sustainability *(#2.5 & #2.6)*
6.1 The potential impact of the project is high in that it should facilitate improved allocation of resources to the provision of education services; this will only occur when appropriate strategic plans are in the course of implementation.

6.2 EMIS has no "home" in the federal ministry. To ensure EMIS sustainability a new Centre for Education Statistics and Management Information should be formed by the amalgamation of the Education Information Centre and the Department of Statistics. In the meantime, EMIS can be located in the existing statistics department and be managed by the director of statistics who will report directly to the State Minister.

6.3 The project interventions will not be sustainable without further external finance and managerial institutional support. More capacity building, provided through UNICEF, is needed to build on that already provided. This should then enable full delivery of the project results.

6.4 It is important that adequate funding be made available for the operations and maintenance of assets provided through the project, especially the SMoE computer laboratories.

7. The Role of UNICEF *(#2.7)*
7.1 The training provided by UNICEF has clearly contributed to increased capacity in SMoEs, not least in their ability to conduct a successful school census.

7.2 Managing a project involving multiple partners is not an easy task. The consultants advise that frequent liaison, both formal and informal, is essential to facilitate effective inputs to project implementation; this should be the first concern of the PIU. A common logical framework will assist this process.

8. Improved Strategic Planning *(Part Three)*
8.1 The consultants make various suggestions, based on international practice, for
- strengthening policy-based strategic planning
- identifying education programmes and sub-programmes for service delivery, support to services and quality assurance
- obtaining a set of core indicators from simple data tables

9. Summary of Conclusions *(Part Four)*
9.1 The project began very slowly with less than a quarter of the budget expended in the first year, leading to an over-crowded programme in the extension period.

9.2 The results were only partly delivered, giving rise to much "unfinished business".

9.3 The EMIS software, in particular, is not yet fully developed; although school data were successfully collected and entered, there is still a dearth of available contemporary information for planning purposes.

9.4 Ministry organisation has been reviewed but remains unchanged at all levels.

9.5 Further training is needed to strengthen strategic planning, performance assessment and federal support to SMoEs.

9.6 Prospects for sustainability are good, subject to:
- completion of software development
- production of enhanced strategic plans
- reorganisation of ministries as required, especially the creation of a home for EMIS in the federal ministry
- government funding for operations and asset maintenance
- provision of further external assistance for training and software completion

10. Recommendations *(Part 5)*
The consultants make a series of recommendations linked to the seven results in the logical framework. They are summarised here.

10.1 Result 1 Organisational development
- assign education services to an agreed programme structure
- review and plan organisational change, making incremental changes as soon as possible
- establish a body to advise on and oversee strategic planning for the ministry's programmes

10.2 Result 2 EMIS
- further develop software to make it fully functional
- ensure that final payment for out-sourced services is not completed until the outputs are fully functional
- establish a technical committee to advise on the above
- investigate the feasibility of a fully web-based EMIS
- improve the layout of the NSC questionnaire to make it more compatible with the EMIS software and to make it more user-friendly for respondents
- reconsider timing of NSC in the light of annual performance assessment and revision of strategic plans
- task locality offices with manual checking of completed NSC questionnaires

- formally involve finance officials in costing activities for strategic planning
- invoke rigorous procedures to ensure the quality of personnel recruited for state level IT posts
- provide incentive allowances to retain the services of key IT personnel
- amalgamate existing statistics department and education information centre to create a Centre for Education Statistics and Management Information responsible for day-to-day EMIS operations and continuing system development
- temporarily locate EMIS in the statistics department under the management of the director of statistics who will report directly to the State Minister

10.3 Results 3 and 4 Strategic planning
- FMoGE to develop templates and manual for state-level strategic planning
- provide further training in costing, budget forecasting and financial estimating for identified federal and state personnel

10.4 Result 5 Performance monitoring
- FMoGE to take lead in identifying data requirements

10.5 Result 6 Support to SMoEs
- relevant FMoGE officials to participate in all EMIS, strategic planning and performance monitoring training provided to SMoEs
- clarify, for each programme, role of FMoGE departments in support of SMoE activities

10.6 Result 7 Project management
- disbursement of project funding should be timely and not delay implementation
- roles of all participants should be clarified, agreed and made binding at the start of a project
- provided that the foregoing recommendations are implemented, EU should provide further funding subject with periodic disbursement conditional upon the attainment of agreed targets

1. OVERVIEW

1.1 Introduction

The "Development of an Education Management Information System (EMIS) Project" commenced in September 2008 and, following a ten-month extension from March 2010, finally ended in December 2010. The project was funded by a grant from the 9th EDF. The Federal Ministry of General Education provided office accommodation for the duration of the project.

The project was national in scope, involving development activities in all fifteen states and at the federal ministry. Through the conduct of a national school census, all schools and locality offices were also involved in project activities.

The logical framework for the project identified a purpose and seven results necessary and sufficient for its achievement. One of the key tasks of the evaluation was to determine the extent to which the project purpose was achieved.

1.2 Methodology

The consultants saw their initial task as finding the answers to three questions:
- To what extent were the planned results of the project actually delivered?
- Where delivery was incomplete, what were the constraints which caused this to happen?
- What steps can be taken in future to achieve the project purpose?

The methodology had three components: a study of the project documents, including the programme estimate, periodic progress reports and the outputs of various activities; structured interviews with key actors at federal and state levels; and first-hand observation of the EMIS system and its products in the field.

1.2.1 Interviews

At each of five selected SMoEs, the consultants had a short general meeting with the director general followed by an in-depth discussion with the director of planning and statistics and other planning and IT staff. This discussion focused on issues of strategic planning, performance monitoring, training and EMIS hardware and software.

In addition to SMoE officials, the consultants also spoke at length with various officers and consultants of the Directorate General of Planning and Statistics. The discussions ranged over all aspects of the EMIS project. Notable participants were the director-general of planning and statistics, the director of statistics and staff, the director of planning and staff, and the UNICEF IT and planning consultants. There were also discussions with the director of training and the director of the Education Information Centre.

1.2.2 Observation

The consultants were able to see copies of existing state planning documents and to observe the EMIS hardware and software application in use. They were able to see data entered in the software and to ascertain the extent to which reports and indicators were available.

1.3 Field visits

Visits were made to five state ministries of education selected as representative, following discussions with various informants. Those chosen were: Khartoum, Al Jezira, Sennar, River Nile and Blue Nile. The consultants also visited the locality education office at Bau in the latter state. More detail is given in Table 1 below.

Table 1: Field visits of the evaluation consultants

Date	Location visited	Persons met
9 August	Khartoum SMoE	Director-General, Director of Planning and staff
14 August	Al Jezirah SMoE	Director-General, Director of Planning and staff
15 August	Sennar SMoE	Director-General, Director of Planning and staff
17 August	Blue Nile SMoE	Director-General, Director of Planning and staff
18 August	Bau Locality Education Office	Locality Planner
21 August	River Nile SMoE	Director-General, Director of Planning and staff

2. PROJECT PREPARATION AND DESIGN

2.1 Planning and Design

The key activity preceding the design of the project was the presentation of a conceptual framework for the development of an education management information system ("EMIS Specification and User Needs Analysis Report" David Towers, 2008).

This was followed by a contract with a developer for initial system development. The result was a database application for stand-alone computers which precluded multiple user access for data entry and retrieval. This application, which failed to comply with the approved specification in the Towers report, was not completed and the EMIS Project had perforce to commence software development from scratch.

It was also realised that developing a computerised EMIS would not, of itself, ensure the strengthening of strategic planning and subsequent monitoring of performance against the plan. This would also require the building of appropriate capacity through structural change and new systems, and the enhancement of individual knowledge and skills. The Programme Estimate reflects all of these concerns and can thus be described as internally coherent.

2.2 Relevance of the project

In order to make the most effective and efficient use of limited resources for the achievement of desired policy outcomes, strategic planning is a necessity. Given the decentralisation to the states of greatly increased responsibility for the provision and management of education services, there is a clear need to strengthen the planning and monitoring functions at this level. Strengthening is also necessary at federal level to enable FMoGE better to plan its own programmes and to provide relevant support to SMoES.

In creating and implementing the required systems for planning and monitoring, the consultants identify five key processes:
1) the formulation of policy, including the identification of outcomes and the assignment of priorities
2) the selection of appropriate strategies to achieve the desired outcomes
3) the planning of activities to deliver the results needed to achieve the outcomes
4) the allocation of resources (human, material and financial) to the various activities
5) the utilisation of a monitoring system to collect relevant data, to track implementation and to facilitate subsequent performance monitoring

Fig.1 below gives a diagrammatic representation of the linkages between data collection, policy development, planning and monitoring in an education system managed at four levels. The EMIS project has focused on the lowest row of the diagram (data collection and transmission) and on the two columns which comprise planning and monitoring at federal and state levels. There has also been some focus on activities at the locality but, apart from the NSC questionnaire and action research activities at a few selected institutions, there has been no activity at the level of the school.

Fig. 1: Relationships between Policy, Planning, Budgeting and Monitoring at Successive Levels of an Education System

EMIS: Operations, Policy, Planning, Budgeting and Reporting by Level

	Service delivery	Locality	State	Federal
monitoring & reporting	monitoring reports	monitoring reports	annual performance reports	annual performance reports
policy, planning & budgeting	institutional policies, plans, budgets	*locality policy goals* → / *school development plans* → locality policies, plans, budgets	*state policy goals* → / *locality development plans* → state policies, strategic & operational plans, budgets	*national policy goals* → / *state strategic plans* → national policies, strategic & operational plans, budgets
data sets	finance personnel assets students demographics	finance personnel assets students demographics	finance personnel assets students demographics	finance personnel assets students demographics
NSC & other data	provide data through NSC *(also other data as required)*	*NSC questionnaires* / *completed NSC questionnaires* / *other data* — verify NSC data and store paper copies	*NSC questionnaires* / *completed NSC questionnaires* / *other data* — further verify, clean, enter & store NSC data	*NSC questionnaires* / *copy of NSC data* / *other data* — store NSC data and analyse further as required

Upon successful delivery of the planned results, the immediate beneficiaries of the project would be federal and state officials with responsibility for education policy formulation, strategic and annual operational planning, budgeting, system monitoring and assessment of performance. The ultimate beneficiaries will be the rising school-aged population, present-day students and their teachers.

Federal and state education ministries are committed to the achievement of the education millennium development goals. This poses considerable challenges, especially in ensuring the enrolment and subsequent retention of children who are currently unschooled. The five dimensions of equity (gender, ethnicity, poverty, location and disability) are addressed through the NSC which collects data on:

- location of institution
- sex, age, school class, repetition and drop-out of students
- students with special needs
- institutional income

Using EMIS and population census data, enrolment rates can be calculated, giving key system performance indicators and identifying locations which would benefit from new or continuing targeted interventions.

In addition, cohort analysis will show the probability of students surviving to a given grade level at school, locality, state and national levels and give measures of internal efficiency by location and level.

All of these planning activities require relevant, accurate and timely data which allow the discernment of trends over time and comparison between and within states. The project has resolved the problem of collecting relevant data from schools by creating a standardised questionnaire. Teachers trained to fill the questionnaire have become more aware of key characteristics of their schools and students, and further training in data entry has acquainted selected officials with new technology.

During implementation, gaps of competence and skill became apparent, revealing clear needs for further training. In particular, all of the IT personnel interviewed said that they need more training in statistical analysis, including indicator trends. They were also well aware of the problems with the software.

The main issue to be addressed has been the need to strengthen the capacity of FMoGE and SMoEs in the fields of policy development, strategic planning and performance monitoring. Although many activities were commenced, they have had only a very limited impact so far.

The final report of the consultant team leader *(David Dean: Development of EMIS Project: Summative Report February 2011, p.10)* contains an apposite quotation from the team leader's inception report of February 2009 in which it was noted that a project originally focused on technical issues of the development and installation of a computerised EMIS had, necessarily, been expanded to address the closely associated issues of organisation and strategic planning.

He noted that:
> "This broader vision results in far more ambitious agenda and a more complex project design. Since the timescale of the Project was not adjusted to take this into account, those agenda now appear to be overly ambitious." *(Team Leader's Inception Report, February 2009)*.

The relatively short original timeframe of the project, coupled with significant delays in procurement and implementation of activities at the outset, caused the project to be extended by ten months from March 2010. A wide range of important project activities was then rapidly implemented in the remaining period. The net result of this can best be described as unfinished business. A start has clearly been in all activities but none has been sufficiently well-developed fully to deliver the planned results. In turn, this has meant that the project purpose has yet to be completely achieved.

This is especially unfortunate in that implementation issues with the EMIS software have had a negative effect on the supply side of the information system. EMIS is essentially a tool which enables education ministries to plan, monitor and evaluate their service delivery and support programmes. The information which it supplies is an essential input to the processes of strategic planning and performance monitoring.

The project might have been better formulated as "Strengthening of Strategic Planning and Performance Assessment Programmes in FMoGE and SMoEs". Central to such a project would be the development of the required capacity at the various levels, including, in order of priority:
1 development and installation of a computerised EMIS to supply information for strategic planning and performance assessment
2 development of enhanced systems for strategic and annual operational planning, based on simple templates incorporating EMIS and financial data, and supported by a comprehensive manual
3 enhancement of the planning, monitoring and evaluating skills of planning personnel and other identified officials

4   establishment of an annual performance monitoring process with wide stakeholder participation
5   identification of necessary changes in organisations required to facilitate the new and enhanced systems

The foregoing list is not significantly different from the results specified in the project logical framework except for its greater emphasis on the demand side of the information system, i.e. the requirement of planners and evaluators for timely and reliable information.

A computerised EMIS, based on standardised data entry forms, a set of appropriately related tables and a menu of user-defined parameter queries, is clearly a very useful support system for education planners. That said, most of the information they require can also be provided, albeit at greater expense in time and manpower, through the use of spreadsheets and even by manual compilation.

2.3.1 Timing of the implementation of main project activities

Fig.2a below summarises the implementation of the main activities of the project by month. Many of the activities were sub-divided into smaller sub-activities or tasks. In a given month there may have one or more of these tasks in the course of implementation; details are given in Fig. 2b on the following page.

Fig.2a: EMIS Project Main Activities by Month
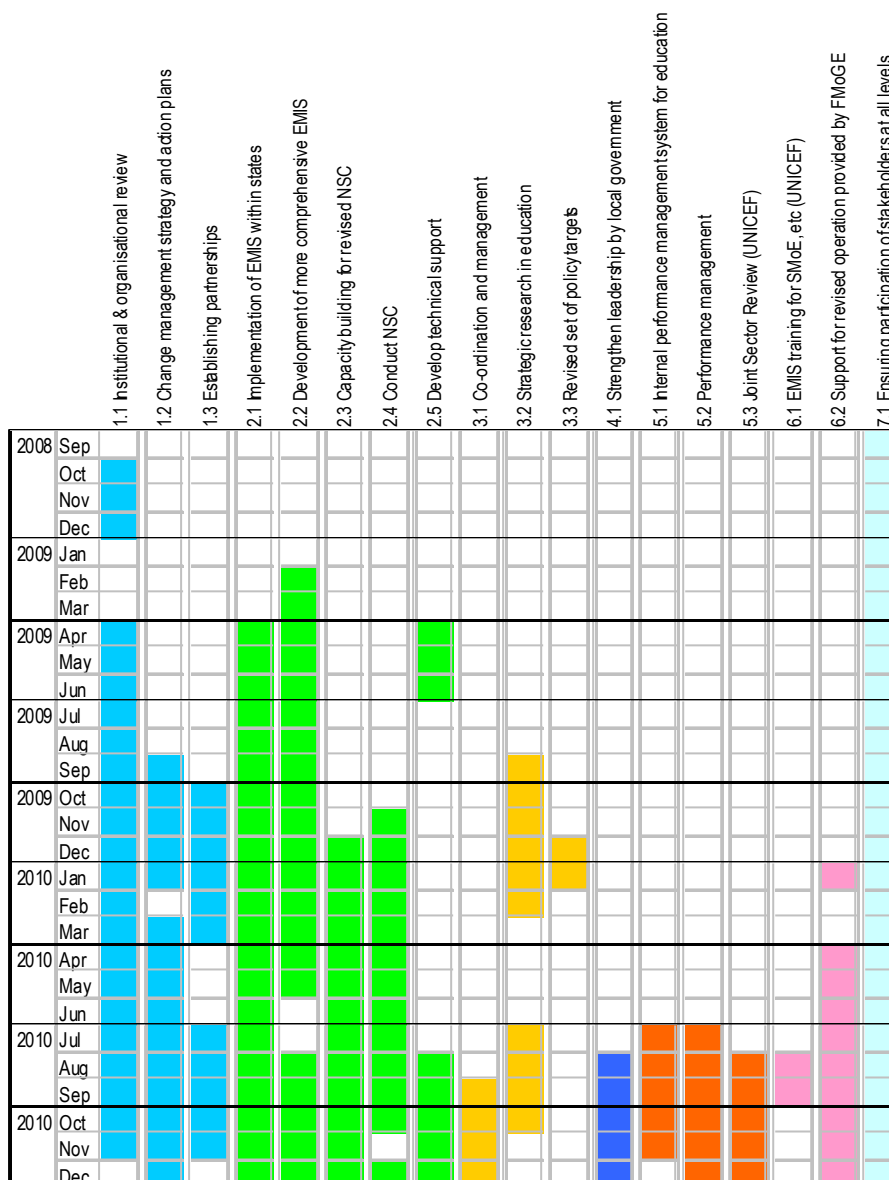
based on Gantt charts in EMIS Project quarterly reports
data for Sep 2008 to Sep 2010 refer to achievement; data for the last three months refer to proposals

Fig 2b: EMIS Project Activity by Task (Sub-activity) by Month *(component colour coding same as Fig.2a)*

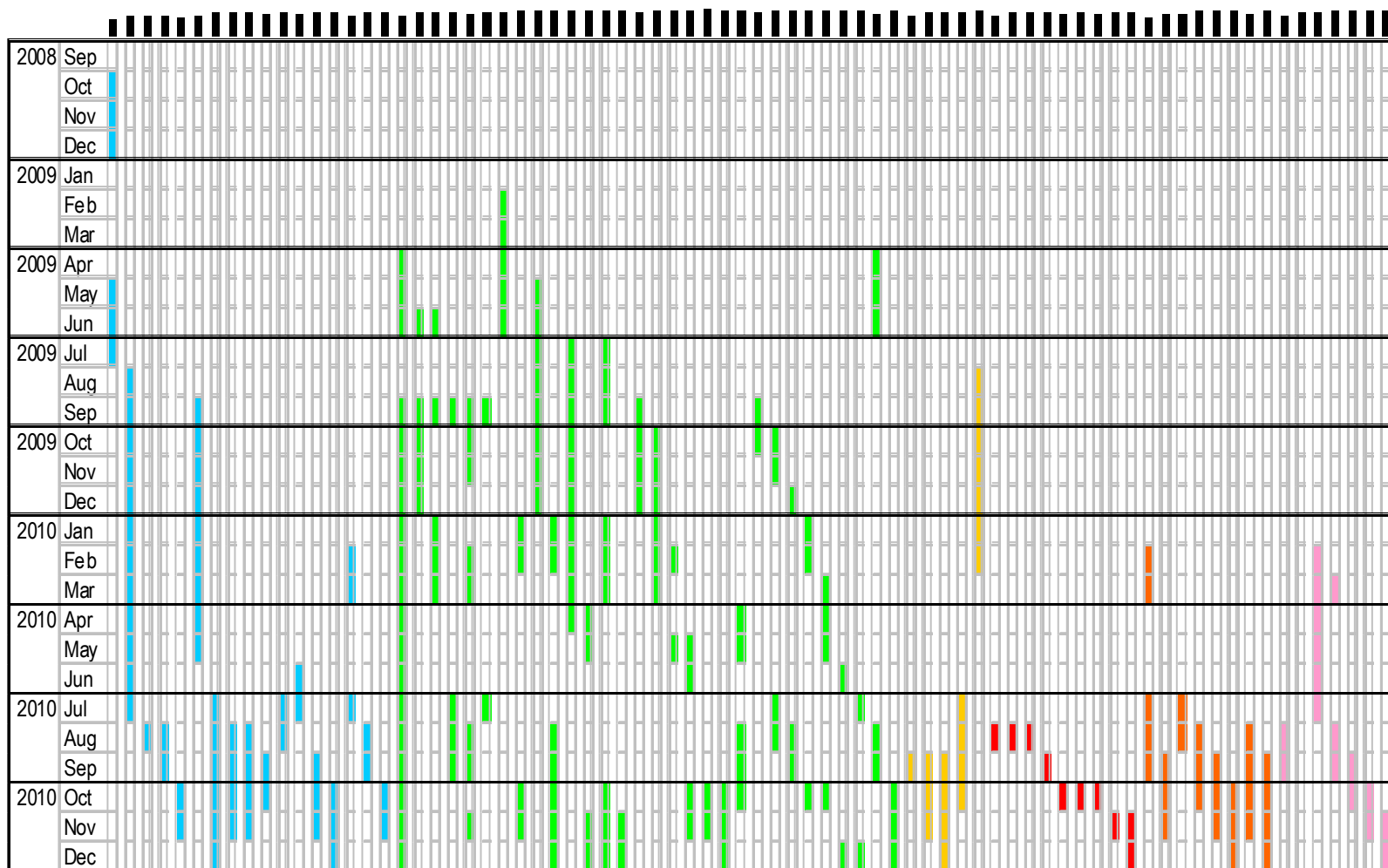**EMIS Project Tasks by Month**

based on Gantt charts in EMIS Project quarterly reports

data for Sep 2008 to Sep 2010 refer to achievement; data for the last three months refer to proposals

It is clear from the figures that, in the first seven months of a nineteenth-month project, only two activities were undertaken. In the second quarter of 2009 there was a small increase in momentum but only in three of the six components. In contrast, the final six months of the extended project show a great many activities being undertaken simultaneously. This crowding of activities has two risks: that resources of both time and money are not fully utilised and that there is insufficient time left for an effective handover to ministry counterparts.

The issue of slow progress was raised by UNICEF as early as January 2009 but little positive action appears to have been taken at this time, with negative consequence for project achievement. At that stage, the PIU seems not to have realised the vital need for pro-active management in projects, especially those of short duration. Managers must "make it happen".

The slow pace of progress in the first year is further reflected in the data for expenditure by main line item, shown in Fig.3 below.

Fig.3: EMIS Project Expenditure at End of 2009

EMIS Project: Percentage Expenditure by Main Line Item at 31 December 2009
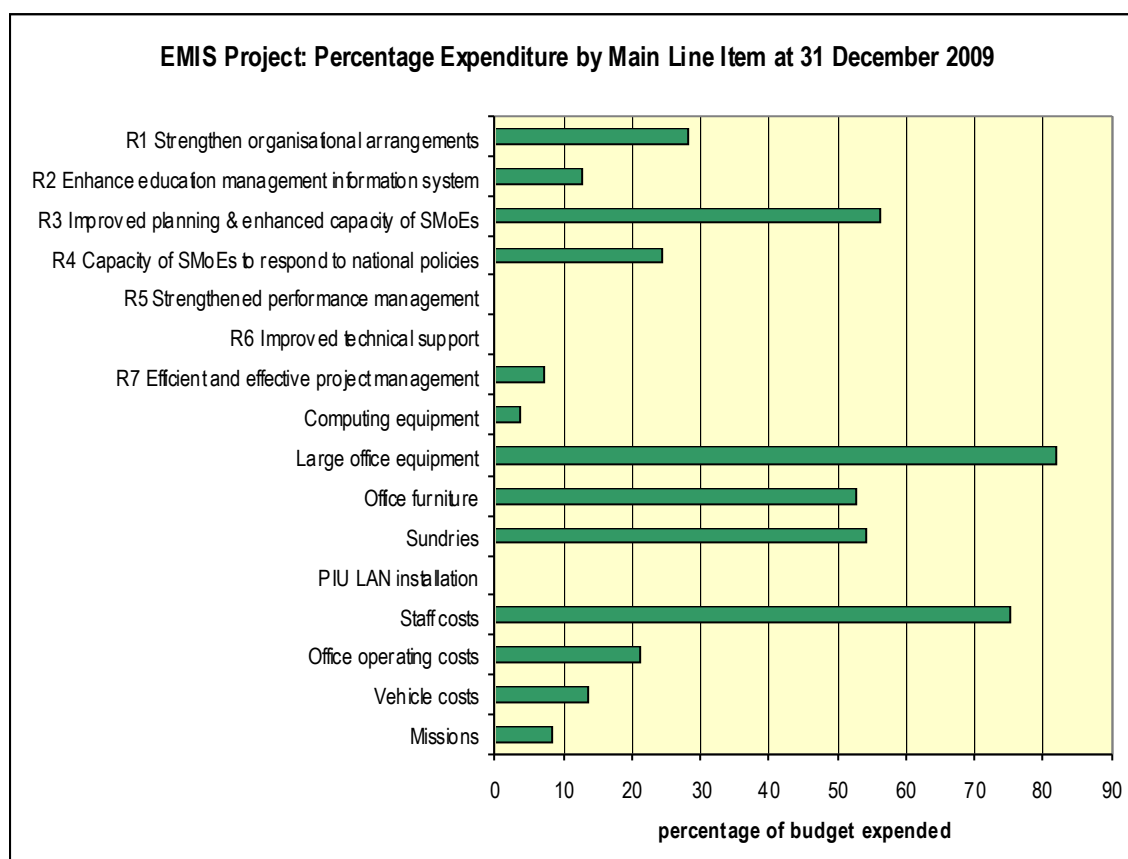
At the end of 2009, some sixteen months after the start of the project, only 22 per cent of the imprest budget was reported as spent. This amount comprised 41 per cent of the allocation for operating costs, 17 per cent for activities and eight per cent for investments.

2.3.2 EMIS budget analysis

Table 2 below gives more detail of projected project expenditure by main budget line, including data for the revised budget.

Table 2: EMIS Project Budgets

	Activities	original budget SDG	as %	as % of imprest	revised budget SDG	% change	note
1	**Activities**						
11	Strengthen organisational arrangements	763,585	22.9	13.0	830,479	8.8	Result 1
12	Enhance EMIS	1,065,000	31.9	18.2	1,115,000	4.7	Result 2
13	Improved planning & enhanced capacity of SMoEs	265,000	7.9	4.5	265,000	0.0	Result 3
14	Capacity of SMoEs to respond to national policies	171,000	5.1	2.9	90,000	-47.4	Result 4
15	Strengthened performance management systems	735,000	22.0	12.6	235,000	-68.0	Result 5
16	Improved technical support and capacity development	80,000	2.4	1.4	80,000	0.0	Result 6
17	Efficient and effective project management	255,000	7.6	4.4	100,000	-60.8	Result 7
		3,334,585	**100.0**	**57.0**	**2,715,479**	**-18.6**	
2	**Investments**						
21	Computing equipment	704,780	92.7	12.0	1,230,740	74.6	
22	Large office equipment	25,450	3.3	0.4	30,000	17.9	
23	Software	7,000	0.9	0.1	0	-100.0	
24	Office furniture	16,300	2.1	0.3	20,000	22.7	
25	Sundries (small office equipment items)	5,000	0.7	0.1	5,000	0.0	
26	Installations (of IT equipment - LAN for PIU)	1,500	0.2	0.0	1,500	0.0	
		760,030	**100.0**	**13.0**	**1,287,240**	**69.4**	
3	**Operating costs**						
31	Staff costs	674,454	43.0	11.5	1,190,000	76.4	
32	Office rental	no cost	-	-	-	-	
33	Office operating costs	192,910	12.3	3.3	151,000	-21.7	
34	Vehicle costs (18 months, 18 vehicles)	629,000	40.1	10.7	378,000	-39.9	
35	Missions	72,000	4.6	1.2	72,000	0.0	
		1,568,364	**100.0**	**26.8**	**1,791,000**	**14.2**	
4	**Audit**	**130,740**		**2.2**	0	-100.0	
5	**Contingency**	**57,937**		**1.0**			

grand total allocated to imprest account:	**5,851,656**
total P E budget was set at:	6,145,821
% allocated to imprest account was:	95.2
remainder for audit and evaluation:	294,165

Budget revision

When the budget was revised, funding for strategic planning and associated training for SMoEs (Result 4) and performance assessment (Result 5) was reduced. This reflects the increased activity in this field of UNICEF with technical support from IIEP and funding from EU. The EMIS project conducted only one training course in strategic planning for SMoE directors of planning; this was for five days in the final quarter phase of the project.

An increased sum was allocated to EMIS enhancement, rising from SDG 1,065,000 (31% of the total activity budget) to SDG 1,115,000. This amount covered data collection, entry and training on the use of data for strategic planning. Most states have entered the 2010-11 NSC data but they have failed to obtain indicators or reports for input to the strategic planning process.

The significant reduction in vehicle costs was possible because the purchase price included a period of warranty, thus reducing expected maintenance costs.

Activities budget

Total disbursement against the activities budget was SDG 1,946,334, equal to 72% of the total activities budget of SDG 2,715,479. This means that over a quarter of the funding available for activities was not utilised. This suggests that either the financial plan was over-estimated or that it was appropriate but the implementers failed to execute the required activities, causing the project to fall short of its goals.

Funding for organisational review (Result 1 activities) was 80% disbursed and surveys and reports were completed. However, there is as yet little sign of any significant re-organisation at either federal or state level.

For EMIS enhancement (Result 2) there was 81% disbursement but with the lack of expected results previously noted.

Activities directed towards improved policy development and strategic planning (Results 3 and 4) utilised 79% of the available funds. However, the consultants were unable to find any examples of improved state strategic plans, including clear statements of sub-sectoral policies.

Only 32% of the funding for strengthening performance management (Result 5) was disbursed, reflecting the low achievement of this component.

Improved technical support (Result 6) used none of its funding, reflecting a serious weakness in project achievement.

Efficient and effective project management (Result 7) used less than a quarter (22%) of the funding provided.

Investments budget

Overall, some two-thirds (67%) of the investments budget was disbursed, large office equipment having the highest rate of liquidation at 90%. The project was hosted in one of the offices of FMoGE which was already equipped with furniture.

Operating costs

Some 72% of the total budget was disbursed, ranging from 94% for staff costs to 17% for missions. The latter funds were presumably made available for visits to SMoEs and localities. It seems unfortunate that they were not put to greater use.

It is not likely that the outputs of the various activities could have been achieved at lower cost and, insofar as they have been liquidated, most of the project budgets appear to have obtained acceptable value for money. The one exception must be the EMIS software which has been paid for in full but does not yet yield all of the required reports and indicators in the state computer laboratories.

The chart below shows percentage expenditure of the allocated budgets by main line item.

Fig.4 EMIS Project Total Expenditure by Main Budget Line

EMIS Project: Percentage Expenditure by Main Budget Line
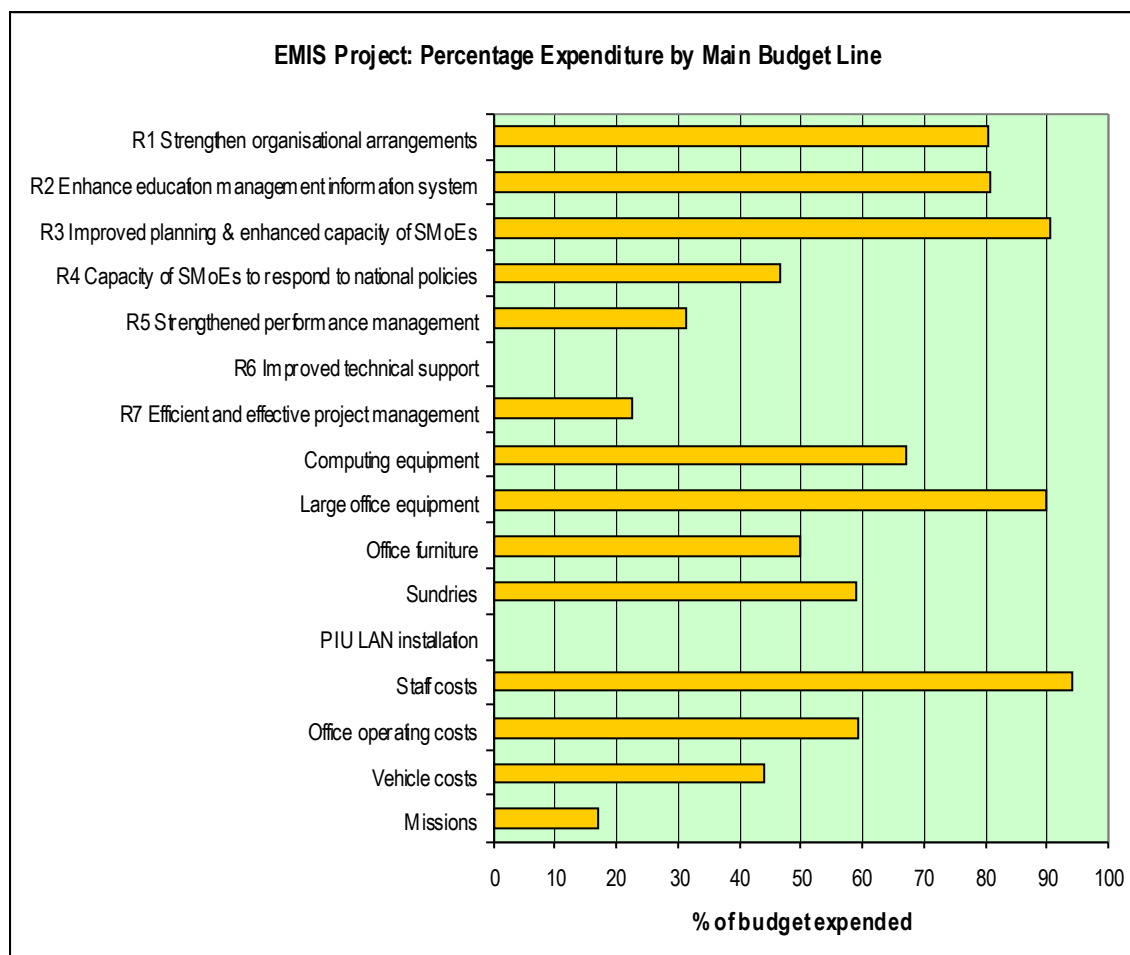
2.3.3 Budget liquidation and project achievement by activity

Each of the seven planned results in the logical framework has a number of identified activities considered necessary and sufficient for the delivery of those results. This section examines achievement and expenditure at the activity level as shown in Table 3 below.

Table 3: EMIS Project Budget Liquidation Rate and Achievement by Activity

Result 1 Activities			Budget expended
1.1	Carrying out of an institutional and organisational review	The logical framework identifies five sub-activities required for carrying out an institutional and organisational review; all were completed. However, no action has yet been taken to implement the various findings and recommendations.	80.5%
1.2	Formulation of a change management strategy and action plans, including capacity development	Documentary and other evidence testify to the development and dissemination of change management strategy papers but no action plans for implementation have been made to date.	79.3%
1.3	Set up education partnership processes with government agencies, NGOs and donor development partners	A national level stakeholder performance review was organised (see Result 5). This is clearly a useful step but it falls short of institutionalising a process which is vital for effective future planning, not least for the mobilisation of funding and other assistance from all available sources.	99.2%
Result 2 Activities			
2.1	Implementation of EMIS within states and management of EMIS data collection and data processing	Data collection procedures were revised and data collected through NSC for 2010-11. A fact-finding exercise following the data collection activities appears not to have been conducted. A comprehensive technical manual (November 2009) for the EMIS application is available but, because of malfunctioning software, the consultants were unable to relate its contents to use of the application under operational conditions.	12.4%
2.2	Development of a more comprehensive EMIS, data analysis, and report functionality	A detailed specification for a bespoke EMIS application was drawn up and the required software then developed and installed in all fifteen states, together with the necessary hardware and network. Some of the states have subsequently entered data for 2010-11. Although the EMIS application stores the input data, it is not producing reports and indicators as required. This means that statistical yearbooks based on the 2010-11 NSC cannot be produced. The consultants found no evidence for the establishment of an FMoGE statistical web page.	98.1%

Table 3: EMIS Project Budget Liquidation Rate and Achievement by Activity (contd)
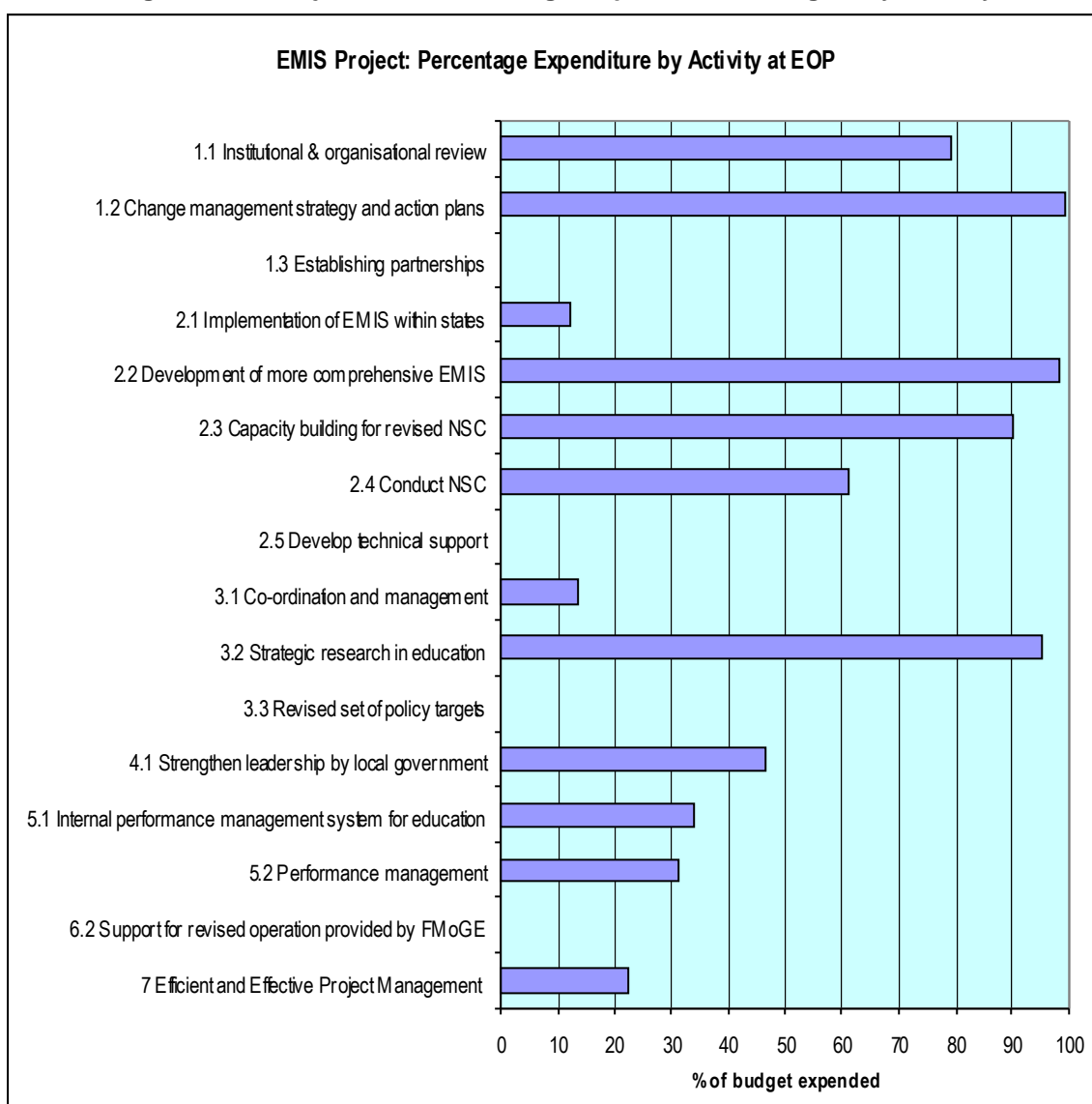
2.3	Training/capacity building for revised NSC exercise	The first sub-activity of training head teachers on the revised NSC questionnaire was successfully completed. From discussions with SMoE planning staff, it is clear that the training provided is insufficient; further training in system maintenance and statistical analysis, especially indicator trend analysis, will be required. Further training to ensure sustainability of SMoE EMIS will necessarily be dependent upon the strengthening of FMoGE capacity to provide the necessary support and guidance.	90.3%
2.4	Support government in conducting NSC	This activity was successful but lessons learned have yet to be documented.	61.0%
2.5	Develop technical support systems to ensure effective operation of EMIS software and hardware	The withdrawal of the Education Information Centre from the project has severely compromised this activity.	0%
Result 3 Activities			
3.1	Setting up the co-ordination and management mechanisms for strategic and financial planning	UNICEF took over this activity and provided training in strategic planning with the assistance of IIEP.	13.7%
3.2	Informing policy and strategy development through baseline surveys, operational research and studies focusing on key thematic issues	Action research was conducted and reports submitted by selected SMoE personnel (15) and head teachers (45) in the fields of mentoring for untrained teachers, improvement of the school environment, and school feeding programmes.	95.3%
3.3	Based on the needs assessment and research, within the Education Strategic Plan (ESP) develop a revised set of policy targets for priority indicators and development of potential priority strategic interventions for achieving them	The lack of contemporary EMIS data precluded progress with this activity.	There appears to have been no budget for this activity
Result 4 Activities			
4.1	Strengthen leadership by local government and local levels	This activity was commenced late in the life of the project and was limited accordingly. The main achievement was the identification of key issues with recommendations for strategic planning in the areas of quality education, finance, training, curriculum and enrolment. *(The objectives for Result 4 are now being further pursued through the activities of UNICEF and the World Bank)*	46.6%

Table 3: EMIS Project Budget Liquidation Rate and Achievement by Activity (contd)

	Result 5 Activities		
5.1	Carrying out a performance management assessment	Draft guidelines were produced and disseminated with the assistance of a consultant. In the absence of updated strategic plans, based on contemporary EMIS and other data, it was not possible further to pursue these activities.	31.5%
5.2	Strengthening performance management systems		
5.3	Undertake joint sector review process	A national level stakeholder performance review was organised but there were no reviews conducted at state level.	Financed by UNICEF
	Result 6 Activities		
6.1	Capacity building/training programmes and on-the-job training support (EMIS), planning, finance and performance monitoring for identified SMoE and locality staff, and guidelines	EMIS/NSC training was provided by UNICEF to 180 SMoE/locality staff in data analysis and utilisation, systems management and technical support. Further, on-the-job training, was given by UNICEF to some 500 SMoE/locality staff. 20,000 head teachers were trained on the revised NSC questionnaire.	Financed by UNICEF
6.2	Monitoring and follow-up technical support for revised operation provided by FMoGE		0%
	Result 7 Activities		
7.1	Managing the project efficiently and effectively		22.3%

Fig. 5 below shows percentage expenditure of the allocated budgets for individual activities (column four of the preceding tables).

Fig. 5: EMIS Project Final Percentage Liquidation of Budgets by Activity

EMIS Project: Percentage Expenditure by Activity at EOP

Activity	% of budget expended
1.1 Institutional & organisational review	~79
1.2 Change management strategy and action plans	~99
1.3 Establishing partnerships	0
2.1 Implementation of EMIS within states	~12
2.2 Development of more comprehensive EMIS	~98
2.3 Capacity building for revised NSC	~90
2.4 Conduct NSC	~61
2.5 Develop technical support	0
3.1 Co-ordination and management	~13
3.2 Strategic research in education	~95
3.3 Revised set of policy targets	0
4.1 Strengthen leadership by local government	~46
5.1 Internal performance management system for education	~34
5.2 Performance management	~31
6.2 Support for revised operation provided by FMoGE	0
7 Efficient and Effective Project Management	~23

% of budget expended

Some of the activity budgets were clearly underspent at the end of the project. Notably the funding for Results 6 and 7. Either they were over-estimated in the first place or, as seems more likely, the slow progress of project activities precluded full utilisation of the available funding.

2.3.4 Project organisation, management and monitoring

The EMIS Project was set up in the conventional manner with a project implementation unit and a steering committee. For a small project, with a single development partner and no out-sourcing of services to the private sector, this set-up would doubtless have proved sufficient.

However, the EMIS project involved fifteen states, several FMoGE departments and centres, two development partners and a private sector software developer. Such a mix would always present significant management challenges. In this context, the setting up of project implementation committees in each state was clearly a wise move, introducing an element of decentralisation to project management.

The UNICEF logical framework notes that it "cannot be responsible for the full achievement of the purpose or the objective" but "clearly does participate in its realisation". In this context, it is worth pointing out the implementers of a project are essentially responsible for the delivery of the results which should be necessary and sufficient to achieve the purpose. If, however, there are potentially adverse factors (identified as risks and assumptions) which cannot be managed directly by the implementers, then the purpose may not be achieved even though the results are delivered.

It would have been useful to have created a common logical framework for the project which specified the activities and results for which the different implementing agencies were to be responsible.

At the centre, there were other issues. One of the most serious concerned the role of the Education Information Centre in the installation of networking and the storage of data. The departure of the EIC from the project left a gap, not least in FMoGE's capacity to sustain the new EMIS.

In any further project activities, it is essential that there is binding agreement from the outside in regard to the roles of the concerned units of the federal ministry. The consultants recommend the appointment of a committee for this purpose. This proposal is discussed in more detail under recommendation 5.1.4 below.

The other major issue has been technical. Ensuring that newly developed computer software is fit for purpose requires technical expertise and realistic testing. All new applications have "bugs", experience in highly developed countries showing no exception to this problem. Three requirements follow:

1   the need to monitor software development very closely with relevant testing under heavy data loads
2   a group of persons competent to make fully informed judgements about the efficacy of the software
3   a payment schedule which ensures that final payment is not made to the service provider until the application has been proved robust and reliable

To meet these requirements, the consultants recommend the appointment of a technical committee. This is discussed further under recommendation 5.2.3 below.

Regular quarterly reports were submitted by the consultant team leader noting progress and raising issues where necessary. It is clearly the job of the PIU to act on such reports, raising the most important issues with the project steering committee. Projects are timebound and will only flourish with strong pro-active management.

2.4 Effectiveness

This section provides an assessment of the extent to which the project results have contributed towards achievement of project purpose and begins with the findings for each of the results.

Result 1
Organisational arrangements realigned & new roles & responsibilities allocated in support of strengthened education planning, management and performance monitoring, including EMIS processes.

In the discussions with officials at FMoGE and four out of five selected SMoEs, the consultants found no verification for the delivery of this result. An organisational review has been conducted and reported, and a change management strategy formulated and shared with federal and state ministry stakeholders. However, no subsequent changes have been made and existing structures therefore remain in place. The one exception was Blue Nile State where a number of NGOs are in active partnership with the state ministry of education and joint planning and review processes are in place, together with relevant tasking and deployment of SMoE officials.

The implementation of new organisational arrangements involves issues of the relationship between federal and state governments. For example, at present, state authorities can only be advised by the federal ministry to adopt measures for the deployment of appropriately qualified personnel for planning and EMIS operations. For the future, it is to be hoped that the role of the federal ministry, in supporting education operations in the states and in assuring their quality, will be clearly defined.

Result 2
Enhanced capacity of FMoGE to formulate federal education policies and strategies, including policy-led planning and finance projections.

This result has been only partly delivered. According to project reports, the requisite software application, hardware and network have been installed in all states. In the five selected states visited by the consultants, data for the 2010-11 national school census were seen to have been entered in the new EMIS software. The state authorities reported a high rate of institutional response with relatively low levels of error.

The new EMIS software facilitates entry of NSC data and also provides a series of reports based on user-defined parameters. The latter function was not available in any of the five states visited nor in a sixth state contacted by telephone. It is therefore impossible at present to utilise information from the 2010-11 NSC for the development of new strategic, annual operational and budget plans for the period 2012-16.

The apparent malfunction of the EMIS software is due to its complexity which makes it difficult to perform what should be straightforward tasks. Clearly, more development will be necessary to make the application more user-friendly and also to eliminate some remaining "bugs". Then it will be fully fit for purpose. In this context, the consultants are unable to agree with the findings of the EMIS receiving committee which concluded that the software was in a good working condition and running perfectly in some of the states (see Annex 6: Report of EMIS Receiving Committee - in Arabic).

The only technical support available to SMoEs has been given by the software developers. It has not been universal and, in one state, was reported to have compounded the problems rather than solving them.

Training has been provided to head teachers in NSC procedures and to relevant SMoE officials in EMIS procedures and in strategic planning. Given the need for FMoGE to provide future support to state-level EMIS (see Result 6), it is unfortunate that the trainers appear to have made little use of available federal officials as counterparts in the delivery of state-level training.

Result 3
Enhanced capacity of FMoGE to formulate federal education policies and strategies, including policy-led planning and finance projections.

A revised federal ESP for 2012-16 has yet to publish. This is mostly due to the need to base much of the plan on state-level ESPs which are not yet available.

There appears to be no road map for a transition to program-based approaches. This need is discussed in further detail in section 3.3 below.

The project has provided some training, of very limited duration, in strategic planning, to federal and state education planners. They have received no training in financial projections. However, after the project ended in December 2010, capacity has been further strengthened through the provision of two 30-day training courses for state education planners provided through UNICEF by trainers from the UNESCO International Institute of Education. However, on their visits to SMoEs the consultants found no evidence that the trainings had yet been utilised to formulate improved strategic plans. Those in the course of development for the period 2012-16 appeared to be in the same format as that used for 2007-11.

At FMoGE the situation is clearly unsatisfactory. The staff of the planning and statistics department were either uninvited or chose not to participate in the IIEP training. Had they done so, it would undoubtedly have strengthened their capacity for the future support of their SMoE counterparts.

Result 4
Enhanced capacity of SMoEs and Localities to plan and implement federal education policies and strategies, including results oriented financial planning and budget formulation.

The observations made under Result 3 are also applicable here. Planning personnel in most states visited perceived the need for close links between finance and planning but, given the unpredictable nature of development budgets, felt unable to provide realistic targets and costings for their planned activities.

Result 5
Performance management processes implemented at federal and state levels that enable annual strategic and program review and any subsequent adjustment, including broad based internal and external stakeholder participation.

One stakeholder review was held at national level but the consultants found no evidence of the implementation of annual review processes at state level with the exception of Blue Nile SMoE cited under Result 1 above.

Result 6
Strengthened FMoGE capacity to provide and coordinate technical support to SMoEs and Localities related to education planning, performance monitoring and EMIS.

Little, if any, capacity is evident. This is due largely to the exclusion of federal level officials from various courses of relevant training and also to the withdrawal of the Education Information Centre from the project.

In addition, because of decentralisation, FMoGE officials do not feel obligated to supervise and monitor the activities of SMoEs. It appears that all such contact has to be mediated through the office of the Under-Secretary.

Result 7
The project management is effective and efficient guaranteeing the achievement of expected results.

Although many activities have been carried out, including procurement and training, none of them has resulted in the full delivery of the intended results.

Purpose
The overall purpose of the programme is to enhance national, state and locality level capacity to influence policy, plan, manage and monitor education service delivery through integrated systems and process outcomes, underpinned by the development of an effective and timely EMIS.

On the basis of their assessment of the delivery of the planned results, the consultants conclude that the project has not fully achieved its purpose.

2.5 Impact

One of the major economic and social effects of achieving the project purpose would be the establishment and institutionalisation of capacity to plan the effective use of limited resources in education programmes. The present lack of results precludes good planning and will result in increased expenditure for additional materials and training to reach the required standard.

There is a positive general impact in that training provided has strengthened individual teachers and officials in the field of education. This should form the basis for increased co-operation between different departments in the support and delivery of education services.

2.6 Sustainability

The project has potential for sustainability but there is still a continuing need for external financial and managerial institutional support. To guarantee sustainability of the project, strong bodies with responsibility for monitoring and follow-up, and reporting directly to the highest administrative level, should be introduced as detailed in the recommendations. Further capacity building is required, especially in strategic planning and organisational development, before the results of the project can be effectively subsumed in the continuing programmes of FMoGE and the SMoEs.

Although the EMIS project has ended, EU financial support to EMIS and education planning continues through the work of UNICEF. This has enabled two national consultants to be embedded in the Directorate of Planning and Statistics in FMoGE. One is an IT specialist and the other a planning expert. They are scheduled to work with the federal ministry and the states until early 2012. This augurs well for the full implementation of the EMIS system, thus ensuring an appropriate supply of information, and for the development of strategic planning with its concomitant need for reliable and timely data.

The project has provided appropriate technology for its continuation. There is a computer laboratory in every state and each of them should now provide the required running costs for these facilities. The success of the project should convince the states of this need to provide a supportive environment for the tools of the system. Failure to do this will clearly threaten sustainability.

It is also essential to keep officials with specialist training in post. For example, it is not possible for another employee simply to walk in to the computer laboratory and take over the role of a SMoE IT officer. If there is a need to replace a key official, careful thought should be given to the training needs of the new appointee and to a suitable period for handover. In this context, it is also recommended that incentive allowances be paid to appropriately qualified IT officials in FMoGE and SMoES. This will reduce the tendency for such officials to seek more lucrative employment in the private sector.

Finally and most important of all, there is the key issue of providing an institutional home for EMIS in the federal ministry. At present, there is no specific location identified with EMIS and there is no single official with clear responsibility for both day-to-day operations and the continuing development of the system. These activities will include:

1) identification of new data needs
2) design of questionnaires
3) further development of software to meet changing needs
4) further training of federal and state EMIS personnel
5) storage of data
6) managing access to data

7) analysis of data
8) production of periodic national statistical reports
9) support to strategic planning
10) support to performance monitoring and assessment
11) technical support to SMoEs

This issue was discussed at the workshop for the dissemination of the evaluators' findings and recommendations. Following these discussions, the consultants have identified the present statistics department and the education information centre as best suited to provide the services listed above. To ensure the sustainability of EMIS, these two units should be amalgamated as soon as possible in order to create a new Education Statistics and Management Information Centre. In the meantime, EMIS should be temporarily located in the Department of Statistics and be managed by the Director of Statistics who will report directly to the State Minister.

2.7 The role of UNICEF

The role of UNICEF in the EMIS project was described as follows:

"Funded under the PE, the PIU-MIS Unit will be leading the implementation of this activity under the guidance of the PSC and in cooperation with UNICEF. UNICEF through its MIS Unit (at state level) will assist in the overall implementation of the EMIS rollout. UNICEF, under the guidance of the PIU-MIS Unit will coordinate activities in states relating to:

- identifying and appointing MIS liaison at each SMoE
- conducting ad hoc targeted training (in relation with MIS unit at PIU)
- undertaking IT assessment to ensure each site is ready to implement EMIS software and hardware
- hardware, and software installation
- monitoring the implementation of procedures for data collection and data collection forms and make recommendations with regards to possible revisions in procedures.

In other words, UNICEF will be the eyes and hands of the MIS–PIU unit at State level."
(PE1 EMIS *final version* 31 August 2008)

UNICEF's key achievements are shown in the table below. Table 4 below is based on the two annual reports, for 2009 and 2010. The results are those specified in the UNICEF logical framework.

In the performance of the training, it appears that UNICEF and the PIU did not effectively co-operate until the final phase of the project. According to the PIU team leader, this was largely due to two agencies working with different logical frameworks. In situations of this nature, the consultants would advise both parties to promote harmonious working through commitment to a memorandum of understanding clarifying their respective roles and interactions.

The EMIS PIU team leader explained the situation as follows:

"The primary role of UNICEF in the Project was to provide training for head teachers in providing reliable data through the NSC questionnaire, and capacity building at the level of localities and states in the use of EMIS data for planning.

The co-operation and collaboration between UNICEF and the PIU has been positive and professional throughout the duration of the Project implementation. However, there is always the potential for operational difficulties or confusion when one Programme Estimate has two implementing agencies each with its own logframe, but with one agency having sole responsibility for the PE budget, and the other working through a separate Contribution Agreement.

This was illustrated by the proposals for the provision of liaison officers and IT support for the states.

Table 5: Key Points from UNICEF EMIS Project Annual Reports 2009 and 2010

	August 2009 report	August 2010
Result 1 Organisational review and capacity and training needs assessment supported in order to design and plan a strategic skills development intervention	Documents designed for OR and TNA but field work in states delayed until October 2009 (contract with Ahfad University not signed until August 2009)	OR and TNA completed Plan made for training of 500 state and locality personnel by EOP (December 2010)
Result 2 Enhanced capacity of SMoEs and localities to produce and use education information in support of education planning, management and monitoring	NSC questionnaire developed but not yet approved by FMoGE and associated training therefore delayed Training of SMoE officials scheduled to follow OR and TNA	Training provided for 190 SMoE and locality statistical officers in EMIS, NSC, etc in two 7-day workshops TOT provided to enable same group to train head teachers on NSC Training given to c.20,000 head teachers on NSC at >400 events **EMIS sustainability remains a critical challenge**
Result 3 Broad-based internal and external stakeholder participation at federal and state levels enabled to facilitate an annual strategic and programme review in the edu sector	Activities dependent on guidelines developed as Result 5 of the Programme Estimate PIU key expert left post early in project and was not replaced	Joint sector review organised at national level in August 2010 with federal, state and non-government stakeholder partiσ No dedicated consultant fielded - UNICEF EMIS consultant assisted process
Result 4 Participation in setting up an effective and efficient project management team supporting the implementation and co-ordination of the EMIS programme at all levels	Pro-active support of PIU, worked with committees, etc Raised concerns re lack of project progress in January 2009	UNICEF TA provided for liaison wi

The original intention was that UNICEF would employ fifteen liaison officers to provide an administrative resource in each state. One of the tasks would have been to manage Project finances, but the arrangement was not implemented, compromising audit procedures.

The burden then fell upon the PIU to develop a system for not only liaising with states, but disbursing funds to SMoEs when required. Similarly, the Programme Estimate envisaged that UNICEF would, through its Contribution Agreement, recruit five IT support staff.

Unfortunately this did not happen, again leaving the PIU to find an alternative solution, which in this case was to include each SMoE IT Officer in the state's Project Implementation Committee and thereby ensure IT support.

The total cost of this strategy to the PE budget was a significant expenditure not anticipated in the PE budget."
(David Dean *Summative Report* February 2011, p.44)

It is clear that the implementation of the project was hindered by the difficulties of the development partners in working together. The subsequent reduction in the role of UNICEF led to a significantly weaker project presence at state level than would otherwise have been the case.

However, despite all of this, the UNICEF training for the National School Census was a success, all states managing to achieve a very high level of completed and submitted questionnaires.

In addition, UNICEF is now working with an IT expert and planning consultant further to develop EMIS. The IT consultant is trying to fix identified errors and to help the statistics staff to obtain what they can from the system. On the planning side, the consultant is working with the states in identifying indicators whilst the IIEP-supported training continues.

3. IMPROVED STRATEGIC PLANNING

This part has some simple examples, based on international experience, which will provide officials of FMoGE and SMoEs with some basic components to help them in the preparation of revised and strengthened strategic plans. These are only suggestions to help which could be modified as required to suit the Sudanese contexts or even neglected. However, similar organised strategic planning should be put in place.

3.1 A generic example for primary education

Resources for the delivery of education services are invariably in restricted supply. The processes of strategic planning and subsequent monitoring of performance help to ensure that the available resources (people, equipment, materials and finance) are put to the most **effective** use, facilitating the achievement of desired outcomes, and the most **efficient** use, obtaining good value for money.

The first section of a strategic plan should be an introductory overview which can include a vision, a mission statement and a summary of the key features of overall sector policy.

The succeeding sections can be devoted to each sub-sector or sub-programme including, for each one:

1) a situation analysis, noting the key achievements of the previous plan period, the financial resources employed and the main challenges for the next plan period
2) a statement of specific policy for the sub-sector/programme together with intended outcomes, indicators and targets, and a forecast of the total funding required
3) a list of the strategies (broad interventions) identified as necessary for achieving the relevant policy goals. Appropriate indicators and targets should also be listed, together with an indication of the funding required for the implementation of each strategy

(An exemplar list of programmes and sub-programmes is given below)

Targets at all levels should be realistic. If it is clear that universal primary completion will not be attainable within the plan period, the targets chosen should reflect this fact. Equally, any forecast of funding needs should be related to previous levels of actual financing. This does not mean that the plan is to be based solely on government funding; where development partners have indicated a desire to assist, plans should also include expected financing from this source.

Table 6 below summarises the notes above with an incomplete "international" example for primary education.

Table 6: An Outline Strategic Plan for Primary Education

Programme: General Education
Sub-programme: Primary Education

1 Situation analysis	*Indicators*	*Financing*
What is the current situation in primary education?	Use EMIS data to provide primary enrolment and completion rates	What funding (government, donor and private) has been utilised for primary education during the previous plan period?

2 Policy	*Outcome indicators/targets*	*Financing*
Enable an increasing proportion of eligible children successfully to complete primary education	Use EMIS data as basis for targets for: primary NER = x% primary completion rate = y% primary gender parity index = z%	How much government funding (recurrent and development) is likely to be available for primary education over the plan period?

3 Strategies	*Output indicators/targets*	*Financing*	*Funding shortfall*
3.1 Build new primary schools in under-schooled areas	Use EMIS data as basis for assigning targets for each strategy	How much funding will be needed to implement the strategy over the plan period? State expected funding from government and from development partners	If the expected funding is insufficient, state the shortfall
3.2 Extend accommodation at existing primary schools as required	*as above*	*as above*	*as above*
3.3 Provide bursaries for female students from poor families	*as above*	*as above*	*as above*
3.4 Deploy trained teachers according to student needs	*as above*	*as above*	*as above*
3.5 Provide textbooks, furniture and equipment according to agreed minimum criteria for each school	*as above*	*as above*	*as above*

3.2 Annual operation planning

Five-year strategic plans are a guide for developing and extending a ministry's programmes. The strategic plan does not specify in detail what needs to be done for successful implementation. This is the role of the annual operational plan (AOP).

The AOP is based on the strategies of the strategic plan and identifies, for each strategy, the activities needed to achieve the strategy targets. This requires statements of which agencies will engage in identified activities, utilising specific financial resources and, where appropriate, giving targets for each activity.

An example of a strategy-based activity for primary education is given in Table 7 below:

Table 7: A Strategy-based Activity for a Primary Education Annual Operational Plan

Programme: General Education
Sub-programme: Primary Education

A) Strategy	Output indicators/targets	Indicative Financing
3.3 Provide bursaries for female students from poor families (from strategic plan)	250 female primary school students from poor families in receipt of bursaries annually, starting from academic year 2012-13	SMoE girls education fund SDG 125,000 Save The Children Scotland SDG 500,000

B) Activity	Target	Sources of Finance	Amount	Budget chapter
3.3.1 Locality education offices identify eligible female students by end of April				
3.3.2 SMoE girls education department selects 250 recipients from applications submitted by localities	250 selected female primary school students in receipt of bursaries from June 2012	SMoE Save The Children Scotland (Girls Education Support Project)	SDG 25,000 SDG 100,000	2

3.3 Education programmes and sub-programmes

It is helpful for management purposes in general, and for planning in particular, to envisage the activities of an education ministry in terms of programmes. Put simply, a programme is a set of inter-related activities which serve a common purpose. A programme may operate at one or several levels in the organisation.

Organising the work of a ministry on a programme basis facilitates performance-based budgeting in which outputs and outcomes can be assessed in terms of the resources used to deliver them. It also facilitates the adoption of a sector-wide approach (SWAP) to the allocation and utilisation of donor funding.

For a ministry of education, we can envisage three major programmes which are described below.

3.3.1 Service delivery

This programme is the "core business" of the ministry and its many "branch offices" through which education services are delivered to thousands of young people. For convenience, the service delivery programme can be divided into sub-programmes corresponding to the various levels and modes of education. The federal ministry, state ministries, localities and schools are all major stakeholders in the service delivery programme although most of its activities are clearly performed at school and locality level.

3.3.2 Support to service delivery

Teachers must be paid, textbooks supplied to students and new classrooms built where they are needed. All of this is achieved through a range of sub-programmes which provide necessary support to the core programme of service delivery.

Some of these sub-programmes, such as financial management, are found in all government ministries. Others, such as educational planning and pedagogic research, are peculiar to ministries of education. A sub-programme of education information services would provide many services to other support programmes. When fully developed it is likely to store data for examinations, personnel, finance and planning purposes, making them available through wide area and local networks.

A particular department will act as the lead agency for a given sub-programme but it will not necessarily provide all of the required services. For example, a training department will co-ordinate the provision of training for human resource development but it is likely to employ skilled personnel from other departments in order to deliver specialised training courses.

3.3.3 Quality assurance

Implementing strategic and operational plans involves committing large quantities of resources, not least to service delivery. It is clearly important to know what is being achieved in terms of achieving the ministry's policy and strategy goals and of the value obtained for the funds expended.

To do this, education ministries have traditionally relied upon school inspection reports, which provide information about the quality of school management and teaching, and school examination scores which provide a measure of student learning.

With the advent of education management information systems (EMIS), it is now possible to monitor a wider range of inputs and outputs of the education system. In particular, monitoring of the implementation of strategic plans enables an annual assessment of actual performance against the plan. An internal audit or inspection/evaluation department may take the lead in this process. The results provide essential feedback on the efficacy of selected strategies and thus facilitate stakeholder review, followed by such revision of strategy, policy and activities as may be necessary.

A typical generic list of education programmes is given below. It would require appropriate adaptation for Sudan.

1 Education Service Delivery
1.1 Pre-school Education
1.2 Primary Education
1.3 Lower Secondary Education
1.4 Upper Secondary Education
1.5 Technical and Vocational Education and Training
1.6 Non-formal Education
1.7 Special Education
1.8 Teacher Education
1.9 Higher Education

2 Support to Service Delivery
2.1 Financial Management
2.2 Personnel Management
2.3 Planning and Policy Development
2.4 Information Services
2.5 Asset Management
2.6 Human Resource Development
2.7 Curriculum Development and Textbooks
2.8 Pedagogic Research

3 Quality Assurance
3.1 School Inspection
3.2 Student Examinations
3.3 Internal Audit and Performance Monitoring

3.4 Indicators from data tables

The EMIS application software is designed to facilitate two main processes:
- the entry, storage and subsequent retrieval of NSC data
- the generation of reports and indicators based on user-determined parameters and the data stored in the various tables.

From observations at selected state ministries, the consultants conclude that entry of NSC data for 2010-11 is possible in most cases but the generation of reports and indicators is either very limited or non-existent. It is therefore clear that the EMIS software is currently not fully fit for purpose and requires further development.

In the meantime, the most recently approved education statistics available to the federal and state ministries are from the academic year 2008-9. It has not been possible to enter census data for 2009-10 into the new EMIS databases and, where this has been achieved for the 2010-11 census, there is little or no useful output. This means that the new strategic plans for the period 2012-16 will not be based on the pertinent data unless an alternative source can be put in place.

A key objective of the EMIS project has been to strengthen capacity for strategic planning and subsequent assessment of system performance. Indicators are essential measures for all stages of this planning and monitoring, and data to generate them must be available as required. In this context, the consultants note that, in the absence of reports from the new software, various state ministries are reverting to the established spreadsheet-based system in order to produce the required annual education statistics.

The consultants recommend that, until appropriate and reliable software is available for EMIS, planners and statistics officials at state and federal levels continue to store census data in spreadsheet tables. These, together with other relevant information, can then be used to produce the required outcome, output and other indicators for the policy, strategy, and activity levels of the ministries' strategic plans.

The following list of indicators can be readily generated from spreadsheet data, provided that officials have sufficient knowledge and skills for the effective use of the application. In order for this task to be properly carried out the consultants recommend advanced training in both spreadsheet operations and in the generation and utilisation of indicators. This should ensure that planners and statistical officers become thoroughly familiar with data sorting and filtering operations in spreadsheets and, later, acquire appropriate knowledge of more advanced operations using the Anova statistical add-in for Microsoft Excel.

The indicators in the list below are not exhaustive but, as they stand, would make a useful contribution to the strategic planning process and to subsequent performance assessment. In this context, planners should avoid the temptation of collect large quantities of data to generate a wide range of indicators, many of which are of limited valuable. Large volumes of data lead to increased delay and greater rates of error and should be avoided. The need is to identify the key outcome and process indicators which will facilitate good planning and subsequent performance assessment, and to collect only the appropriate data for this purpose.

1 Indicators generated from single-year NSC data tables

Students
1.1 total enrolment (by grade, sex and location)
1.2 gender parity index (by grade, cycle and location)
1.3 average class size (by grade, cycle and location)

Teachers
1.4 teacher numbers (by qualification, cycle, sex and location)
1.5 student:teacher ratio (by grade, cycle and location)

Materials and equipment
1.6 textbooks per student (by cycle and location)
1.7 guides per teacher (by cycle and location)
1.8 seating per student (by cycle and location)

Buildings
1.9 student:classroom ratio (by cycle and location)
1.10 percentage of classrooms constructed of durable materials (by cycle and location)
1.11 percentage of buildings in need of repair (by cycle and location)

Finance
1.12 school income per student (by cycle and location)

2 Indicators generated from single-year NSC tables and relevant demographic data

Enrolment and completion
2.1 gross intake rate (by sex and location)
2.2 net intake rate (by sex and location)
2.3 gross enrolment rate (by sex, class, cycle and location)
2.4 gross enrolment rate (by sex, class, cycle and location)
2.5 completion rate (by sex, cycle and location)

3 Indicators generated from NSC data tables for two successive years

Student flow
3.1 promotion rate (by class, sex and location)
3.2 repetition rate (by class, sex and location)
3.4 drop-out rate (by class, sex and location)
3.5 transition rate to next cycle (by cycle, sex and location)

4 Indicators of internal efficiency from cohort analysis
(based on student flow rates from #3)

years of schooling per student
years of schooling per completer
years of schooling per drop-out
cycle efficiency index (output:input ratio)

4. CONCLUSIONS

4.1 Implementation of the project was very slow in the early phase. This is evidenced by the utilisation of only 22 per cent of the imprest budget by the end of the first sixteen months. Implementation gained momentum in the later stages of the project.

4.2 Most project activities were at least partly completed but not to the point of full delivery of the required results. The overall outcome can be summarised as "unfinished business".

4.3 The organisational review was conducted successfully and reports disseminated. However, there has been no implementation of the recommendations.

4.4 Significant project resources were devoted to the technical issues of developing and installing a computerised EMIS but the new system is not yet fully functional in any state. In particular, the generation of indicators and reports is currently problematic. The EMIS software is clearly in need of further development. This issue is being addressed through the continuing UNICEF input.

4.5 The EMIS project succeeded in creating a unified instrument for data collection which captures much important information. Head teachers were successfully trained to collect data and officials to enter it into the computerised system.

4.6 Some training in strategic planning has been provided through the project but strengthened strategic plans for 2012-16 have yet to be developed. The ongoing work of UNICEF, with the support of IIEP, should provide the required capacity for this task.

4.7 The capacity of the federal ministry to support planning and EMIS operations in SMoEs is currently limited and requires strengthening. This will require both training and clarification of the federal role in regard to state education programmes.

4.8 One positive general impact of the EMIS project is the wide range of training delivered and the potential opportunities for co-operation and interaction between FMoGE and SMoEs. A negative impact is due to the lack of complete results which leads to a requirement for further training and follow up, incurring additional costs.

4.9 The prospects for sustainability are good provided that:
- FMoGE and SMoEs effect the necessary organisational changes to support EMIS, strategic planning and performance review operations
- capacity building in strategic planning is continued with the production of enhanced strategic plans for 2012-16
- EMIS software development is completed according to specification so that timely and relevant information is available on demand
- adequate government funding is made available for EMIS operations and asset maintenance
- additional external financing is made available for technical assistance and project management
- a detailed weekly timetable for the further development of EMIS, strategic planning, performance assessment and new organisational arrangements is drawn up and rigorously reviewed by the PIU, the steering committee and funding agencies at monthly intervals for the duration of the additional intervention

5. RECOMMENDATIONS

5.1 Organisational review

5.1.1 FMoGE can assign the various services provided in the public education system to a programme structure which identifies:

- the purpose of each programme and sub-programme
- the bodies which are responsible for the delivery of the services, specifying the leading agencies

Projects, at national or lower levels, should then be seen as short-term, timebound sets of interventions designed to extend, modify and strengthen existing FMoGE and SMoE programmes. The EMIS, in particular, should be considered as a project within a wider framework of education programmes in FMoGE and SMoEs.

The State Minister for General Education is expected to give the necessary directions for this process.

5.1.2 In the light of the chosen programme structure, FMoGE and SMoEs have to review the proposals for organisational change as shown in the consultant report and, at the earliest opportunity, make such incremental changes as they deem necessary. They can then also determine the organisational structure best suited to the achievement of their policy goals and then make proposals for any necessary legislative or regulatory changes requiring the approval of higher authority.

5.1.3 To facilitate the timely achievement of project objectives, conflict between departments and the resulting lack of co-operation should be resolved by clear regulatory decisions based on a policy of team-work. The State Minister can take the necessary action to ensure compliance with this policy.

5.1.4 The newly established Strategic Planning Unit should be supported by a Ministerial decree and necessary regulations.

The unit should include directors of the following departments: planning, statistics, finance, personnel, pre-school education, primary education, secondary education, technical education, nomadic education, girls' education and training.

The State Minister can identify a mandate, objectives and an operational plan for the Strategic Planning Unit. Its mission must include monitoring and evaluation of the performance of SMoEs with regard to:

- strategic planning
- organisational restructuring
- performance assessment

The Strategic Planning Unit would be required to hold regular meetings, make frequent visits to the states and report quarterly to the State Minister.

5.2 EMIS

5.2.1 There is currently no recognisable "home" for EMIS in the federal ministry; this constitutes a major threat to the sustainability of the system. The consultants therefore recommend that EMIS should be temporarily located in the Department of Statistics where it will be managed by the Director of Statistics who will report directly to the State Minister.

5.2.2 The consultants further recommend that, when organisational restructuring takes place in FMoGE, the existing statistics department and education information centre should be amalgamated to create a new unit with responsibility for day-to-day EMIS operations and for system development. The resulting unit can be called the Centre for Education Statistics and Management Information.

5.2.3 An international and a national consultant should be recruited for a period of at least nine months to support the further development of EMIS. The national consultant should have detailed knowledge of the MySQL database application and the PHP programming language. He or she should also have a proven record for the complete and successful delivery of bespoke computer applications. The international consultant will not need the same detailed programming expertise but should be experienced in the development and effective operation of EMIS at all levels, including the provision of user support services.

5.2.4 The EMIS software should be further developed until it fulfils all of the required functions under field conditions with populated database tables. This work should be put out to competitive tender.

5.2.5 The development of software must be based on detailed specifications drawn up by fully qualified specialists with experience of work in the relevant applications. It is advisable to engage the services of appropriate external advisers for such work to support the consultants as required.

5.2.6 In contracting service providers to develop and install computer application software or to provide and install hardware, the final payment (equal to at least 40% of the contract value) for the services should not be made until competent authorities have certified that the programmes and devices are fully functional in field operating conditions.

5.2.7 A Ministerial decree should be issued to form a temporary committee which will follow up EMIS technical issues. This technical committee should be supervised directly by the State Minster and be constituted as follows:
- Director of Statistics Department FMoGE (director)
- Director of Education Information Centre FMoGE (deputy director)
- UNICEF IT Officer, member
- IT Officer from the software developers, member
- EU Education Officer, member
- Director of Finance Department FMoGE

The State Minister can identify the mandate, objectives and tasks of the technical committee, among which should be to:
- ensure funding to meet the running costs of EMIS at both federal and state levels
- determine, by interview, placement tests or other means, the ability of the IT personnel working in the states to implement the project properly
- identify and implement necessary training for those able to benefit
- ensure that all SMoEs are able to generate reports and indicators, starting with states that have successfully entered NSC data
- make regular visits to the states, hold regular meetings and make quarterly reports to the State Minister, EU and UNICEF

The committee should be dissolved once the Centre for Education Statistics and Management Information is established.

5.2.8 Given that all state capitals have internet service providers, it is recommended that the EMIS software be used as a web-based application where data for all SMoEs are stored on servers in the Education Information Centre and are backed up at an additional location such as the National Information Centre. Concerned departments in FMoGe and SMoEs will upload and download data as required and according to access privileges.

5.2.9 The National School Census questionnaire should be split into smaller instruments, specifically appropriate for the different types of institution to be surveyed. To reduce work loads, increase accuracy and the timeliness of the EMIS reports, only the data essential for strategic planning and subsequent monitoring should be collected by the NSC; other information can always be obtained through sample surveys. To ensure accurate and timely data entry, the layout of the NSC questionnaire and the software entry forms should be matched as closely as possible.

5.2.10 In order to ensure the timely availability of appropriate data and indicators for planning and monitoring, the timing of the NSC should be changed to a point earlier in the academic year.

5.2.11 Quality assurance is required at every step in the NSC/EMIS process. Check lists should be developed for use by:
- schools to ensure that questionnaires are filled completely and accurately
- locality offices to conduct manual checks of completed questionnaires
- SMoE statistics and IT staff to ensure systematic data entry

5.2.12 Managing the technical aspects of EMIS at the state level requires a high level of IT competence; it is not a task for amateurs. Recruitment of IT officers for the state SMoEs should therefore be based on a rigorous assessment of their academic record, and relevant training and experience.

5.2.13 There is a definite risk that trained IT staff will leave government employment for greater rewards in the private sector. Such departures seriously jeopardise the operation of computerised systems for replacement staff are usually lacking the requisite knowledge and skills. Some government ministries are addressing this issue by paying incentive allowances to suitably qualified IT staff. The consultants strongly recommend that FMoGE and SMoEs adopt the same strategy as soon as possible.

5.3 Planning at the federal, state and locality levels

5.3.1 An international and a national consultant should be recruited for a period of at least nine months to ensure that the training currently undertaken by UNICEF and IIEP is translated into the production of enhanced state and federal strategic plans for 2012-16 and the establishment of an annual stakeholder review process at federal level and in every state.

5.3.2 The strategic planning unit should develop templates and a manual for policy-based and prioritised strategic and operational planning in FMoGE and SMoEs. The revised plans should reflect the principles that an effective plan depends on an adequate budget and that an efficient budget is based on clear linkage between proposed expenditure and identified output targets.

5.3.3 Further training in estimating costs, making budget forecasts for strategic plans, and making actual financial estimates for annual operations should be given to appropriate personnel in relevant FMoGE and SMoE departments.

5.4 Performance monitoring

5.4.1 Once strengthened strategic and annual operational plans are being implemented, steps can be taken to obtain relevant data for monitoring and subsequent performance assessment. The statistics department should take the lead in this by identifying the information which will be required from the EMIS databases and also any other data which could be obtained by sample surveys.

5.5 Strengthening the capacity of FMoGE to support SMoEs

5.5.1 In order to develop capacity for support to SMoEs, members of the strategic planning unit and the statistics department should be involved, as trainees or resource personnel, in all training provided for SMoE staff in the fields of planning, monitoring, performance assessment and EMIS operations.

5.5.2 Within an education planning programme, the role of relevant FMoGE departments should be clarified in terms of the:
- nature of the support to be given to SMoEs
- provision of funding for this purpose
- need for quality assurance

5.6 Project management

5.6.1 To enable timely completion of activities, it is essential to ensure adequate and timely cash flow to the project implementers. Steps should be therefore be taken by funding agencies to ensure that disbursement is not held up by time-consuming procedures.

5.6.2 At the beginning of a project, the role of the concerned ministry departments and centres should be clearly defined and agreed in writing by all concerned, subject to the approval of the project steering committee. This will avoid situations in which a key department, such as the Education Information Centre, chooses to withdraw from the project.

5.6.3 The consultants further recommend that, when recommendations 5.1.4, 5.2.1 and 5.2.7 are fully implemented, additional EU funding be made available for the continuation of the project. Such funding would be further subject to the successful delivery of identified outputs within an agreed timeframe.

6. ANNEXES

6.1 Specific terms of reference

DESCRIPTION OF THE ASSIGNMENT

Objectives:

The specific objective of the assignment is to evaluate the relevance, efficiency, effectiveness, sustainability and impact of the intervention.

The overall objectives of the assignment are to contribute to:
- Effective information-driven FMoGE and SMoE educational planning, implementation and monitoring, through an objective assessment of the current situation;
- Effective on-going EC support to education, drawing upon lessons learned and foundations laid by the EMIS project; and
- Improved coordination/harmonisation among main education partners (UNICEF, UNESCO, USAID, WB, JDO, Japan, DFID and NGOs) in support of Federal and State governmental education sector plans.

Requested services:

The EU Delegation is seeking to recruit two experts for this assignment to work in a complementary manner bringing together the required level of international experience, local knowledge and context.

The experts are expected to access and study relevant documents, meet key people at Federal and State levels and observe pertinent activities. Based on this review, discussion and analyses, they should produce an evaluation report in accordance with EC standards and conventions, as summarised in 2.3, below.

The experts should prepare and deliver a 1-day final workshop with key sector partners (FMoGE and SoME, other governmental, Development Partner, Academe and Civil Society representatives) to discuss their key findings and draft recommendations, and should reflect the outcomes of this workshop in their evaluation report.

Required outputs:

The main output shall be the Evaluation Report:

Framework for the Analysis and Report Layout

The document should have a contents page, a comprehensive listing of acronyms and abbreviations, and a self-contained ***Executive Summary of no more than six pages***. The cover page should state clearly that "*The views set out in this document are those of the Consultant and do not necessarily reflect those of the European Commission or the Federal or any State government of the Sudan*". The main document should be no more than 80 (eighty) pages and should comprise the following chapters:

Project Preparation and Design: a description and assessment of the planning and design phases of the EMIS project from the initial project idea to the final financing proposal. It should establish which preparatory activities have been undertaken by which actors and how the results of such activities (for example, pre-feasibility and feasibility studies) have been incorporated into the final project document. The chapter should also assess the internal coherence of the project as can be discerned from the analysis of the preparation and design phases, including an assessment of the financing proposal in terms of the elements of the European Commission's Project Cycle Management.

Relevance of the Project: This chapter should assess the problems to be solved and the project objectives against their physical and policy environment: the evolution of the context over time and its consequences on the project should also be reviewed. Attention should be given to the structural characteristics and dynamics of the education sector and to Government policies and commitment (relative expenditure shares). There should be an examination of the problems to be solved, beneficiaries and various actors involved in the project, the parameters for technical, socio-economic and institutional analysis, gender issues and socio-cultural factors. The evaluation should identify the problems that have been resolved by the project and those that have not, as well as problems that may have become apparent during the implementation. The consultants should evaluate the relevance of the strategy and the overall approach together with the attention paid to alternative solutions.

Efficiency: This chapter should relate to the relationship between the activities and the results of the project as specified in the LogFrame. It should be devoted to the evaluation of the efficiency with which the activities have been undertaken in order to yield the project results. Have the means of the project been efficiently transformed through the project's activities in to those specified results? Could the same or similar results have been achieved at lower costs? This will require an assessment of (a) means and costs, including the adequacy of the project budget with regard to the means to be used for implementation, (b) organisation, management and monitoring including the general organisational set-up relating to the project and the project specific organisational framework, and (c) intervention methods, The external monitoring carried out at the level of the project by both the Government and the Commission should be reviewed.

Effectiveness: This chapter should cover to the relationship between the results of the project and the project purpose (specific objective) specified in the LogFrame. It should provide an assessment of the extent to which the project results have contributed towards the achievement of the project purpose (unplanned results should also be analysed). Particular attention should be given to the beneficiaries of the project. Questions to be answered, referring where possible to objectively verifiable indicators, will include (a) What are the results and who benefits (compare actual versus planned)? (b) To which extent have these results contributed to achieving the project purpose? (c) Have there been unforeseen results or unforeseen beneficiaries? (d) Have the assumptions required to translate project results into project purpose been realised? If not, why and how did this affect the project? (e) Which accompanying measures of a policy support nature have been or should have been taken by the Government, at Federal or State levels?

Impact: This chapter should assess the contribution of the EMIS project in a broader context. Starting from the project purpose and the degree of effectiveness achieved, it should analyse the overall (educational, economic and social) effects of the project, be they positive or negative, expected or unforeseen. It should analyse the contributions of the project purpose to the overall objectives and then go beyond the focus of those objectives as defined in the project and assess the impact of EMIS in terms of the Education Sector Plan and of the major General Development Objectives of the European Commission.

Sustainability: The evaluators should give an assessment in global terms of the sustainability prospects for the project, at both Federal and State levels: will the system continue and flourish without further external support? Particular attention will be given, as relevant, to (a) policy support measures, (b) economic and financial sustainability, (c) socio-cultural embedding including gender issues, (d) appropriate technology, (e) environmental protection and (f) institutional and management capacity (for instance, were counterparts adequately prepared for the handing-over of the project/continuation of the project activities?).

Conclusions and Recommendations: Under this heading the evaluators should, drawing on their conclusions, summarise the overall outcome and formulate proposals for future actions. *Each conclusion should lead to a corresponding operational recommendation, indicating responsibility for action.* This chapter should set out the main successes/failures of the EMIS project and the factors underlying these outcomes. It should assess whether the

effects/ impacts identified justify the costs involved and state clearly the extent to which the LogFrame objectives were achieved within the specified time and budget.

Annexure: All *necessary* supporting papers should be annexed, together with (a) a bibliography of references and key documents studied, and (b) a list of persons met together with their roles and institutions. The original and any updated LogFrame matrices should be annexed to the report. These TOR should be presented as an appendix.

Reporting

The experts will report directly to the EU Delegation in Khartoum and work in close coordination with the Programme Manager responsible for the education projects at the Delegation.

▪ **Inception Report** The team leader will prepare an initial Inception Report within one week from the start of the assignment. The Inception Report will detail the experts' interpretation of the ToR, main processes and methodologies for the work, the work plan and a more detailed specification for each individual consultant's responsibilities and inputs. This will be discussed and agreed with the EU Delegation.

6.2 Persons met

Name	Designation
Suad Abdelrazig	State Minister of Education, FMoGE
Eltahir Hassan Eltahir	Director-General, FMoGE
Abdel Ati	Ministry of International Co-operation
Ayman Musmar	Education Specialist, World Bank
Mustafa Elkarib	Task Manager, EU Delegation, Khartoum
Hassan Osman Mohmed Khair	Director-General, Khartoum State
Osman Abdalla Ahmed	Director of Planning, Khartoum State
Mohmed Ibrahim Alimam	Director-General, Gezira State
Izeldin Abdelsalam	Director of Planning, Gezira State
Mohmed Babikir	Director-General, Sinnar State
Salah Aushari	Director of Planning, Sinnar State
Mohmed Saeed Ali	Director-General, Blue Nile State
Gaffar Mohmed	Director of Planning, Blue Nile State
Ismail Mukhtar Daoud	Education Planner, Bau Locality, Blue Nile State
Khalid Elmusaraf	Director of Statistics, FMoGE
Maria Hassan Omer	Director of Planning, FMoGE
Suliman Mohmed Abdelkarim	Managing Director, Guard Solutions Ltd
Asim Alhumar	Director of Education Information Centre, FMoGE
Louise Mvomo	Chief, UNICEF Education Unit
Musa Gasmelseed Almalik	Consultant, UNICEF
Tarig Kamil Nufal	Consultant, UNICEF
Mohmed Farah	former IT Consultant, EMIS project

6.3 Documents consulted

SN	Title	Authors/Publishers	Date
1	PROJECT: Development of an Education Management Information System (EMIS) PROGRAMME ESTIMATE 1 OPERATIONAL PERIOD FROM: 1 September 2008 TO: 28 February 2010 with Annexes	The Republic of the Sudan Ministry of International Co-operation/European Development Fund	Aug 2008
2	EMIS Project Quarterly Progress Reports, December 2008 to September 2010	David Dean	quarterly
3	EMIS Project Final Summative Report, February 2011	David Dean	Feb 2011
4	Organisational Review and Training and Development Needs Assessment Final Report	National Experts/EMIS PIU	Aug 2010
5	Organisational Review of the Federal Ministry of General Education and State Ministries of Education, North Sudan: A Policy Paper Based on the Review Results	EMIS PIU	Aug 2010
6	Consolidated Report of 15 State Profiles	UNICEF/EMIS PIU	Aug 2010
7	Consolidated Report of 15 State Profiles: Summary of Results with Recommendations	UNICEF/EMIS PIU	Aug 2010
8	A Change Management Strategy for Federal Ministry of Education	EMIS PIU	Nov 2010
9	Organisational and Individual Capacity Development in the Context of Revised ESP: Guidelines for Action Planning	EMIS PIU	Dec 2010
10	Change Management Strategies for State Ministries of Education of North Sudan	EMIS PIU/SMoEs	Dec 2010
11	EMIS Software development and Implementation into Fifteen states: Final Report	Guard Solutions Ltd	Dec 2010
12	National School Census 2009-10 Questionnaire *(in Arabic)*	General Directorate of Educational Planning, FMoGE	2010
13	Educational Statistics 2007-8	General Directorate of Educational Planning, FMoGE	2008
14	Final Report of Education Adviser	Mike Douse, Education Adviser	Oct 2010

6.4 Logical frameworks

EMIS Project Logical Framework (final version)

Intervention Logic	Objectively Verifiable Indicators	Means of Verification	Risks & Assumptions
Overall Objective			
To contribute to the attainment of policy goals/ targets in the medium-term ESP 2007/11, consistent with global EFA And MDG targets.	Continued progress towards policy goals and targets within FMoGE and SMoE strategic plans and improvement in key EFA and MDG indicators. *By 2011.*	• EFA and MDG progress reports. • Federal and state level sector performance reports. • Federal and state level joint stakeholder sector performance reviews.	• Continued commitment to and progress under Comprehensive Peace Agreement (CPA) and other conflict resolution measures. • **Risk:** Unstable political and security situation.
Program Purpose			
The overall purpose of the programme is to enhance national, state and locality level capacity to influence policy, plan, manage and monitor education service delivery through integrated systems and process outcomes, underpinned by the development of an effective and timely EMIS.	• Federal & state organizational strengthening & capacity development strategy & plans, including performance targets. *Early 2009.* • Revised and approved ESP, incorporating medium-term financing plan based on EMIS baseline & policy-led projections of key planning indicators. *From 2009.* • All SMoEs prepare & implement med-term operational strategies and plans. *From 2009.* • FMoGE and all SMoEs produce annual sector performance reports, based on EMIS data, and disseminate to all education stakeholders. *From 2009.* • FMoGE and all SMoEs organize and host annual joint stakeholder sector reviews, including participation of other parts of Government (e.g. Wali, Ministries of Finance, Labour). *From 2009.* • Publication of annual comparative performance rankings, based on EMIS data, for an increasing number of states, localities and schools. *From 2009.*	• Strategy and plans are included in federal and state ESPs, with endorsement from FMoGE senior officials and the PSC. • Plan and financing arrangements endorsed by Council of Ministers and Ministry of Finance. • PSC progress monitoring reports. • SMoE operational plans approved by State Council of Ministers and Wali, with annual progress and financial reports. • PSC progress monitoring reports. • Sample stakeholder satisfaction surveys, including at departmental, locality and school/community levels. • PSC progress monitoring reports. • Annual joint sector review reports, including recommendations for policy, strategy and program adjustment. • Comparative performance rankings made available to local Governors office and school PTAs. • Sample stakeholder satisfaction surveys.	• Continued progress toward political and economic stability, including commitment to decentralisation. • Sustained commitment and leadership by federal and state Government to education reform and EFA/MDGs. • Sustained commitment by FMoGE and SMoEs and other stakeholders, including donors, to strengthening sector partnership • Sustained leadership of change management processes at all levels. **Risks** • Unstable political and security situation. • Change in decentralization is kept to minimum or no change at all. • Low commitment between the Government and Donors

Expected Results			
R1: Organisational arrangements realigned & new roles & responsibilities allocated in support of strengthened education planning, management and performance monitoring, including EMIS processes.	• Issue of revised federal regulations and operational guidelines covering revised arrangements at federal, state and locality levels. *By end 2008.* • Formulation of federal & state level capacity development action plans for implementing revised regulations/ guidelines, including staff development programs. *From 2009.*	• Revised FMoGE & SMoE arrangements and guidelines approved by Minister of Education and State Ministers of Education. • PSC progress monitoring reports & sector performance reports.	• FMoGE commitment to regulatory & organisational reform. • Sustained commitment from all states to organisational change and implementation of revised responsibilities.
	• Annual FMoGE and SMoE work plans reflect new organizational arrangements and include clear targets against	• Action plans are included in federal and state strategic plans, with endorsement from FMoGE senior officials and the PSC. • PSC progress monitoring reports & sector performance reports. • FMoGE and SMoE work plans approved by senior officials. • PSC progress monitoring reports & sector performance reports. • Federal, state and locality education budget allocations.	• Revised information and communication strategies between federal, state and localities effectively sustained. • Sustained commitment from schools and Localities to regularly provide education data on time. • FMoGE, SMoE and Localities allocate sufficient recurrent Government resources to maintain program results. • System developments, including performance reviews, do not adversely affect or slow down policy and program implementation.
R2: Strengthened capacity to produce & use education information in support of education planning, management and monitoring.	• EMIS data collection, validation, entry and storage systems implemented at FMoGE and SMoEs. *By end 2008.*	• SMoE data entry collection/validation & processing monitoring reports. • SMoE electronic datasets provided to and analyzed by FMoGE.	• Joint commitment between Government and donors to adopt a sector management approach, including gradual phasing out of parallel project management • Joint commitment between federal and state Governments and other stakeholders to adopt more performance led sector support modalities.
	• Analytical tools, management reports and information products developed for all levels, linked to EMIS data. *By early 2009.* • Strategic /financial and operational/budget planning increasingly utilizes up to date EMIS data. *From 2009.*	• Operational research & policy/strategy scenario analysis. • FMoGE & SMoE annual education statistics yearbooks. • FMoGE & SMoE performance monitoring reports. • SMoE and Locality human resource and facilities development plans.	**Risks** • Unstable political and security situation

R 3: Enhanced capacity of FMoGE to formulate federal education policies and strategies, including policy-led planning and finance projections.	• Revised ESP includes national sector wide planning projections incorporating baseline EMIS analysis and ESP policy targets, including human resources, facilities and sector financing. *By 2009.*	• Projections are included in federal ESP, with endorsement from FMoGE senior officials and the PSC. • Performance monitoring reports include trend analysis of planning indicators against targets and projections.	• Low commitment between the Government and Donors • No fundamental changes to broad education decentralization policies and strategy.
	• New/revised policies and strategies are increasingly informed by operational research, performance assessment & sector review recommendations. *From 2009.* • Road map developed for transition to program based approaches, including feasibility study of alternative partnership, donor coordination and support modalities. *By 2009.*	• Federal ESP incorporates baseline assessment and targets. • Selected research and studies are presented for appraisal during joint annual sector performance review. • Road map approved, with ongoing progress monitoring and evaluation by FMoGE and donor partners. • Policy dialogue board and other donor partnership arrangements established, including minutes of any FMoGE/donor consultations.	
R 4: Enhanced capacity of SMoEs and Localities to plan and implement federal education policies and strategies, including results oriented financial planning and budget formulation.	• Strategic/financial planning guidelines and models developed and implemented in states, including resource and financial projections within state ESPs. From 2009.	• PSC progress monitoring reports & sector performance reports. • Projections included in state ESPs, with endorsement from SMoE senior officials.	
	• An increasing number of states and localities utilise EMIS information in support of teacher deployment/redeployment and facilities planning. From 2009.	• State sector performance reports include trend analysis of planning indicators against targets and projections. • Medium-term and annual state and locality operational plans.	
R 5: Performance management processes implemented at federal and state levels that enable annual strategic and program review and any subsequent adjustment, including broad based internal and external stakeholder participation.	• FMoGE & an increasing number of SMoEs produce a comprehensive annual sector performance report, including sub-sector and thematic assessments. From 2009. • FMoGE and an increasing number of SMoEs hold an annual joint sector review exercise including broad based stakeholder participation. From 2009.	• PSC progress monitoring reports. • Annual performance report presented to national and state Parliaments, education Ministers and other stakeholders. • Annual joint review report presented to national and state Parliaments, education Ministers and other stakeholders.	
	• Production of annual FMoGE and SMoE review reports, including recommendations & plans for subsequent years, disseminated to stakeholders. From 2009.	• Follow-up actions and planned program adjustments approved, with endorsement from FMoGE and SMoE senior officials.	

R 6: Strengthened FMoGE capacity to provide and coordinate technical support to SMoEs and Localities related to education planning, performance monitoring and EMIS.	• Phased and sequenced FMoGE action plans for capacity development and provision of technical support to SMoEs and Localities. By 2009.	• Action plan approved, with ongoing progress monitoring and evaluation reports by FMoGE. • SMoE annual sector performance reports include an assessment of development & implementation progress.	
	• Implementation of data analysis tools and models at the state level in support of strategic planning and performance monitoring. From 2009.	• SMoE and locality strategic and operational plans include outputs from tools and models. • PSC progress monitoring reports.	
	• Implementation of help desk, supervision and monitoring systems to enable on-going and sustainable capacity development. From 2009.	• FMoGE annual sector performance report includes an assessment of help desk and monitoring systems development.	
R 7: The project management is effective and efficient guaranteeing the achievement of expected results	• Optimal financial management through Imprest account / EDF regulations	• Financial accounts & reports	
	• Duly prepared reports following the EDF guidelines	• Reports	
	• Effective coordination of activities with relevant actors	• Reports & minutes of the coordination meetings, SC minutes	
	• Information and communication is transparent	• Information materials	
	• PIU is operational and supports effectively the implementation of the project	• Clear ToRs, Job descriptions & working guidelines for PIU	

Results Areas	Main Activities	Comments
R1: Organisational arrangements realigned & new roles & responsibilities allocated in support of strengthened education planning, management and performance monitoring, including EMIS processes.	**R 1.1 Carrying out of an institutional and organizational review**	See result 1 in UNICEF logframe. Activities R1.1 to R 1.4 corresponds to a participation in Activity R.1.1 (excluding sub-activity 1.1.5)
	1.1.1. Design ToR for the Organisational Review and Capacity and Training Needs Assessment for FMoGE and SMoE	
	1.1.2. Organizational Review and Capacity and Training Needs Assessment	
	1.1.3. Dissemination Workshop: Organizational Review	
	1.1.4. OCA reference group set up and meetings	
	1.1.5. Publication and dissemination of findings	
	R 1.2 Formulation of a change management strategy and action plans, including capacity development	Activities R 1.5 of UNICEF logframe corresponds to a participation in Activity R.1.2 (esp. 1..2.4; 1.2.7 and 1.2.8.)
	1.2.1. Develop change management strategies	
	1.2.2. Implement change management strategies through ad hoc OD interventions, policy revision, policy drafting, documents reviews, etc.	
	1.2.3. Develop organizational and capacity building planning guidelines for FMoGE to implement revised polices, strategies, guidelines and organizational arrangements.	
	1.2.4 Ensure complementarity between OD interventions at FMOGE and SMoE level.	
	1.2.5 Review progress of implementation guidelines and appointment of people to identified roles in the FMoGE and States	
	1.2.6. Make FMoGE organisation-ready for institutionalisation of EMIS across (through Policy dev, identification of roles, Cb)	
	1.2.7. Raise awareness about organisational development, roles and methodologies and sensitise staff	
	1.2.8. Ensure consultation and active participation in organizational strengthening through w/shops, etc	
	1.2.9. Documentation of process and publication of findings	

	R 1.3 Set up education partnership processes with government agencies, NGO's and donor development partners	
	1.3.1. Mapping of education stakeholders and policies (environment and policy scan) through establishing a database of educational stakeholders	
	1.3.2. Set up thematic working groups to assist institutional strengthening of FMoGE and its relation to stakeholders	
	1.3.3. Reinforce the capacity of the FMoGE to collate, communicate and disseminate education information in Sudan	
R 2: Enhance Education Management Information System	2.1 Implementation of EMIS within states and management of EMIS data collection and data processing	
	2.1.1. Implement EMIS within states and facilitate management of EMIS data collection and data processing	
	2.1.2. Revise data collection procedures for NSC (before 1st NSC)	
	2.1.3. Conduct fact finding exercise in 5 states (+ FMOGE) after NSC exercise (year 1) to review lessons learned from data collection issues	
	2.1.4. Revise user manual and data management procedures to take account of lessons learned from conducting NSC in December 2008.	
	2.1.5. Design, print, disseminate user manual & technical manual	
	2.1.6. Design /review data collection material for EMIS (y2) (questionnaire+ guidelines)	
	2.2 Development of more comprehensive EMIS, data analysis, and report functionality	
	2.2.1. Identify further educational information needs required for operational activities, planning and monitoring	
	2.2.2. Development of EMIS software upgrade	
	2.2.3. Complete revised data capture forms for EMIS Upgrade	
	2.2.4. Develop procedures and plans for the release of EMIS software updates	
	2.2.5. Develop EMIS database, user interfaces and reports that responds to User Needs Analysis	
	2.2.6. Produce NSC national statistics year book	
	2.2.7. Develop EMIS Statistical Application to interrogate EMIS data.	
	2.2.8. Develop FMoGE Webpage which provide interactive statistical reports	

		R 2.3 Training / capacity building for revised NSC exercise	See result 2 in UNICEF logframe below. Activities R2.3 here is jointly implemented by UNICEF with their own resources. UNICEF focus is on sub-activities:
		2.3.1. Training of school head teachers on revised school census form	R 2.3.1.
		2.3.2. Training of SMoE staff on data entry and systems management and EMIS technical support	R 2.3.2.
		2.3.3. Training of FMoGE and SMoE staff related to issues such as database design, management and maintenance and computer network management	
		2.3.4. On-the job training for FMoGE staff related to statistical analysis and education indicator trend analysis	
		2.3.5. On-the job training for States staff related to statistical analysis and education indicator trend analysis	R 2.3.5.
		2.3.6. Implement technical support and capacity development program, supported by FMoGE staff	R 2.3.6.
		2.3.7. Conduct ad hoc targeted and strategic EMIS related training interventions in FMoGE in SMoEs	
		R.2.4. Support government in conducting NSC	
		2.4.1. Test Software and Training Manual	
		2.4.2. Print NSC questionnaire and guidelines	
		2.4.3. Finalise NSC data collection and verification guidelines and procedures	
		2.4.4. Monitor NSC exercise (form distribution, data collection and verification), identify best practises and document for replication	
		2.4.5. Monitor, supervise and support data cleansing at FMoGE (y1) and SMoEs level (y2) supported by UNICEF	
		2.4.6. Document lessons learned from data issues	
		2.4.7. Review of EMIS data management and Collection systems	

	R.2.5. Develop technical support systems to ensure effective operation of EMIS software and hardware	
	2.5.1. dentify need for IT support/ backstopper for support at national and state levels	
	2.5.2. Devise and implement strategy for setting up help desk at FMoGE level	
R 3: Enhanced capacity of FMoGE to formulate federal education policies and strategies, including policy-led planning and finance projections.	R 3.1 Setting up the coordination and management mechanisms for strategic and financial planning	
	3.1.1. Form working groups on specific thematic areas in the ESP	
	3.1.2. Drafting of joint review guidelines for annual sector review processes.	
	3.1.3. Drafting of joint review guidelines for annual sector review processes.	
	R 3.2 Informing policy and strategy development through baseline surveys, operational research and studies focusing on key thematic issue	
	3.2.1.Baseline assessments of national, state and locality performance	
	3.2.2. Inform policy and strategy development through operational research and studies focusing on key thematic issues	
	R 3.3 Based on the needs assessment and research, within the Education Strategic Plan (ESP) develop a revised set of policy targets for priority indicators and development of potential priority strategic interventions for achieving them	

R 4: Enhanced capacity of SMoEs and Localities to plan and implement federal education policies and strategies, including results oriented financial planning and budget formulation.	**R 4.1 Strengthen leadership by local government and local levels**	
	4.1.1.Identify policies and strategies for implementation in the States and Localities	
	4.1.2.Review implications of implementing the selected strategies in each state	
	4.1.3.Design an implementation programme for each selected strategy and policy	
	4.1.4.Setup State level taskforces to implement strategies at state and locality level	
	4.1.5.Raise awareness about the implementation program in the states and localities	
	4.1.6.Design training materials to implement strategy	
	4.1.7.Train trainers to conduct training	
	4.1.8.Conduct Workshops at FMoGE and the States for the new policies and strategies	
	4.1.9.Develop and conduct a follow up program to monitor implementation of policies	
R 5: Performance management processes implemented at federal and state levels that enable annual strategic and program review and any subsequent adjustment, including broad based internal and external stakeholder participation.	**R 5.1 Carrying out a performance management assessment**	See result 3 in UNICEF logframe below. Activities R3.1 to R 3.3 corresponds to a participation in Activity R.5.3 here.
	5.1.1.Conduct audit of existing performance management in Sudan & international best practices	
	5.1.2.Undertake multi-stakeholders consultations to devise guidelines for performance management system (width, depth, periodicity, methodology, indicators) and develop ownership	
	R 5.2 Strengthening performance management systems	
	5.2.1.Provide support to FMoGE	
	5.2.2.Provide support to SMoEs	
	5.2.3.Provide support to localities	
	5.2.4.Provide support to schools	
	R 5.3. Undertake Joint Sector Review process	
	5.3.1.Host joint annual reviews, with broad stakeholder participation from: federal & State Governments, Localities & civil society.	
	5.3.2.Draft and disseminate annual review findings and recommendations, including production of annual review reports which summarize the key results and findings of the review and detail recommendations and mutual undertakings for subsequent years. These reports will be formally "signed off" and will form a guiding framework for annual work planning.	

R 6: Strengthened FMoGE capacity to provide and coordinate technical support to SMoEs and Localities related to education planning, performance monitoring and EMIS.	**6.1 Capacity building / training programmes and on the job training support (EMIS), planning and finance and performance monitoring) for identified SMoE and locality staff & guidelines**	
	6.1.1.Implementation of Training programmes/ SMoEs level (incl. dev material/ curriculum, etc) 6.1.2.Monitoring and follow-up by UNICEF	
	6.2 Monitoring and follow-up technical support for revised operation provided by FMoGE	
	6.2.1.Conduct TDNA at FMoGE (incl. skills gap analysis and skills audit) 6.2.2.Implementation of TDNA recommendations/ FMoGE level (incl. dev material/ curriculum, etc) 6.2.3.Monitoring and follow-up by PIU 6.2.4.Assess link between programme capacity interventions and FMoGE internal staff development policies/practices (impact on HRD policies, set up workplace skills development plan etc) 6.2.5.Assess issues of trainer's accreditation and training certification process to ensure sustainable training service delivery post EMIS programme.	
R 7: The project management is effective and efficient guaranteeing the achievement of expected results	**7.1 Managing the project in efficiently and effectively**	