**Final Report**
(September 5th, 2012)

# Technical Review of EMIS and Statistical Analysis in Ghana

## REPORT

Submitted to

**Director General**
Ghana Education Service
Government of Republic of Ghana

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# Technical Review of EMIS and Statistical Analysis in Ghana

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# Technical Review of EMIS and Statistical Analysis in Ghana

## Executive Summary

## 1. BACKGROUND

1.1 A Ghana delegation led by Acting Deputy Director General, Ghana Education Service visited India in January 2012. Subsequently, the Director General of the Ghana Education Service, Government of Ghana, requested NUEPA, New Delhi to depute its expert in the areas of EMIS and Data Analysis to help Ghana in strengthening its EMIS. Accordingly, the Vice-Chancellor, NUEPA, New Delhi deputed Dr. Arun C. Mehta, Professor and Head, Department of EMIS to Ghana. The main objectives of the visit were as follows:

1) To review the system setting, current processes and outputs of the EMIS in Ghana;
2) To study and understand the current situation of the education sector in Ghana with a particular focus on the EMIS and monitoring framework and indicators set out in the government's national strategies and plans;
3) To review the existing analysis indicators as well as procedures for educational statistics analysis; and,
4) To provide technical advices based on findings from the above studies to improve the EMIS in Ghana.

1.2 The present report is based on the wide-range discussions held with different Officers and presentations made by EMIS Officers of the Ministry of Education and intensive field visits to four Regional Directorates and eight districts

## 2. EMIS IN GHANA

2.1 A number of attempts are made to improve the coverage, quality and consistency of educational data amongst which the Ministry of Education and UNESCO Institute for Statistics joint initiative to strengthen EMIS in Ghana is the most prominent and recent one. EMIS located in the Ministry of Education is doing excellent work and should be further strengthened both in terms of equipments and professionals.

2.2 Despite significant achievements, there is still further scope of reducing the time-lag as well as improving the coverage, quality, consistency, sharing, dissemination and use of educational statistics which are briefly presented below:

## 3. DATA CAPTURE FORMAT

3.1 At present five Data Capture Formats, are in use which is part of the Annual School Census. Though the formats in use are comprehensive, still there may be a few region and district-specific variables which are required to be added in formats for flexibility may be provided to the Regional Directorate's to identify and add supplementary variables in the existing formats. Information on the supplementary/additional variables need not be transmitted to the national level.

3.2 The first page of the DCF in case of all schools is printed from the software at the national level along with other items. It's also print school code which is unique and has been assigned to all school covered under EMIS. This is significant achievement and EMIS unit should ensure that they be not changed.

3.3 District and Regional Directors developed their own formats to collect information on quarterly basis. They are of the view that EMIS data is one year old and they need up-to-date information for distribution of text-books, exercise-books, uniforms etc. Regions and the Districts may not be encouraged to have parallel collection of information. All efforts may be focused on to further strengthening of present EMIS.

## 4. ROLE OF CIRCUIT SUPERVISIORS

4.1 It is recommended that a place be identified in the district so that Circuit Supervisors can sit there and are always available to schools. They may be made accountable through a Government Order to ensure that coverage of schools under Annual School Census is complete and the formats are correctly filled-in by the school HM and there are no blank entry and data provided by the schools is consistent and true to the extent possible.

4.2 The best Government school within in circuit schools having better infrastructure should be identified. The school identified may be named as Circuit Resource Centre (CRC). The Circuit Supervisors may be asked to sit in the CRC and should always be available to schools falling under its jurisdiction. This will provide not only a

platform to Teachers/HMs to meet on regular basis and discuss the academic issues of common interest but will also provide Circuit Supervisors, a place to sit.

4.3 Efforts should be made to develop a Data Repository Unit (DRU) at the national level, may be in the GES to maintain database of all regions. Advisory Unit on Decentralized Education Management located in the GES (with the help of the EMIS) may be assigned this responsibility.

## 5. COVERAGE

5.1 A few Private schools have not been covered under EMIS. During the field visit, the Mission got an impression that districts do not own Private schools as much they own Public schools. To create awareness about the Annual School Census, advertisements can be given in News Papers and other modes be explored for wider publicity of Annul School Census. A letter from the Director General, GES may be addressed to all the Private Schools in this regard. To ensure that data from all private schools is obtained, an abridged format may be commissioned specially for such schools.

5.2 It is recommended that the MoE/GES may come out with annual publication presenting region as well as nation-specific indicators on regular basis which may be named as *EMIS Flash Statistics*.

## 6. FLOW OF INFORMATION

6.1 As of now it seems that the EMIS activities developed under the Ministry of Education/National EMIS is highly centralized in the nature. There is limited reverse flow of information from top to the bottom.

6.2 It is recommended that the existing EMIS unit with all the modern software and hardware and computer professionals exclusively for the work relating to EMIS be strengthened in all the regions which may be treated as the short term activity.

6.3 To further improve the quality of data, through especially designed format, officers involved in EMIS at all levels should certify that data is free from inconsistencies and errors and hence it be merged into the national database maintained at the MoE.

6.4 Random sample checking of EMIS data by an independent agency may be initiated in at least two districts in each region responsibility of which may be entrusted to other Government departments/institutions, like GSS, IEPA, GIMPA.

## 7. COMPUTER HARDWARE

7.1 May be the hardware is not a major issue at the national level but the same is found to be one of the major areas of concern which is true for all the regions across Ghana. In none of the districts visited, neither the computer hardware is found to be adequate nor were the same across four regions found to be functional. The computer virus is said to be one of the biggest problems being faced by the EMIS. The HWs are not put under the Annual Maintenance Contract resulting into inordinate delay in making the computers functional. Funding for EMIS in general and HWs in particular is told to be inadequate and not available on time. Largely, UPS are available but found non-functional. EMIS room in most of the districts is not properly developed and is not fitted with the modern gadgets. ACs have been found in a few places but are generally not being used because of lack of funds for the electricity consumption. In the absence of internet connection, it is not possible for the District EMIS to transmit data and other relevant material to the national EMIS nor the national level EMIS officers could able to communicate with the districts. It is therefore recommended that EMIS room located at the district level be renovated at the earliest with all modern fitting and computer HW and SW and necessary budget may be provided well in time.

7.2 In the event of formatting of the Computers, the entire existing database is lost and the districts have to start a fresh. In none of the districts, complete EMIS database is available. The districts may be given adequate instructions as how to take up the back-up of the EMIS data on regular basis and software be redesigned to meet this requirement.

7.3 Someone from the National EMIS visit district each year before the commencement of data entry for the needful to ensure smooth data entry and visit again to collect database when data entry is over. In longer term, it is viable for the national EMIS team to visit all the 170 districts personally. To avoid this, expertise at the district

level needs to be developed. Instead of visiting each district annually, it is recommended use of software like 'team builder' so that even without visiting districts, needful is done by the national EMIS while sitting in their office but for that purpose internet connectivity is must.

7.4 National Information Technology Agency may be approached to provide hassle free internet connectivity to both the District Regional Directorates. Till such time, districts may be provided internet though the modems which may be treated as an easy option.

## 8. EMIS STAFF

8.1 Perhaps one of the most important limitations which significantly affecting the present EMIS is the lack of technical staff available for EMIS work at all levels. Even though adequate staff is available but since most of them are not technical they feel handicapped in handling EMIS. University graduates having technical degrees can be identified and posted to work for EMIS. For example, the Director, Kumasi, Municipality Education Office identified a technical graduate from outside the education department and put him to look after maintenance of the HWs who is designated as IT Officer.

8.2 Frequent changes/transfers of EMIS staff is another major problem being faced by EMIS in view of which it is suggested that who so ever join EMIS unit should be made to work for at least a period of five years.

8.3 Irrespective of the level, it is recommend that a capacity building plan is carefully developed by the national level to ensure that proper orientation, both technical as well as EMIS data analysis, utilization, indicators and its implications in planning, is planned to ensure that in a phased manner all the EMIS staff at district, directorate and national level are trained..

## 9. DISSEMINATION & PUBLICATIONS

9.1 Through the EMIS initiatives, not only the time-lag in availability of educational statistics in Ghana is reduced but the necessary statistics is also made available at the National, Regional and District levels which are significant achievements.

9.2 As of now EMIS data is being disseminated and used mostly at the national level by the EMIS Division, Ministry of Education which is limited in the nature. However, it is not bringing out publications on regular basis based on the EMIS data even though it has all relevant statistics both at the district and regional levels..

9.3 Instead, districts used to bring out *Annual District Performance Report*. The ADPR is based on the set 'EXCEL Templates' provided by the national EMIS which is common to all districts. On the other hand, Regional Directorates brings out *Regional Education Sector Performance Report* which presents a variety of region-specific indicators as well as district-specific indicators on key parameters. School-age child population, enrolment, staff, number of schools by category, and key performance indicators are presented separately by type of institutions. Gross Enrolment Rate, Gender Parity Index, Net Enrolment Rate, Transition Rate, PTR, pupil-trained ratio, percentage of trained teachers, SCR, percentage of public schools having sanitation facility and potable water etc. is been presented in the ADPR. However, one of the other important indicators, dropout rate is not being disseminated through the ADPR which has got serious implication for universal school enrolment.

9.4 In addition to ADPR and ADEOP reports, EMIS also generate *'School Profile'* of each of the schools covered under EMIS each year and provide it to districts which they send it to schools. The School Profiles are supposed to be discussed at different forums with the stakeholders. The Circuit Supervisors may be trained to analyze the School Profiles which in turn explain to the school HM, teachers, members of the community, parents and other stakeholders and officers at the grassroots level. Further, it is recommended that community be also involved in the process of EMIS as they can play important role in obtaining quality data.

9.5 A set of about 10 key indicators may be identified and shared with all concerned including the Community. It is further, recommended that School Profile be displayed in prominent place in the schools which would also eventually help in improving the quality of data.

9.6 It is recommend that the School Profiles be made available 'on-line', like the school report cards in India and the responsibility to develop such as website may be entrusted to the proposed Data Repository Unit (DRU) located in the GES.

9.7 As has already been mentioned, the national EMIS division used to generate School Profile at the national level and send it back to schools through districts and Circuit Supervisors. This is significant achievement and should be further strengthened to ensure that all schools (Public as well as Private schools) receive it on time which can be displayed in schools. A few variables, such as grade-wise number of disabled children, retention rate and flow rates, such as drop-out, repetition and promotion rates may be added to the existing 'School Profiles' which may be treated as the short-term goal.

9.8 As a mid-term goal, the proposed DRU/GES in collaboration with the EMIS at the national level may explore possibility to bring out District Report Cards in the line of report cards being brought out by NUEPA annually. The Programmers engaged in the EMIS activities at the national level will be playing an important role in designing and bringing out District Report Cards.

9.9 The proposed Data Repository Unit at GES in consultation with the EMIS Division at the national level should develop annual dissemination and publications plan *indicating titles of publication, coverage, level at which information would be presented, month by which it would be published, how many copies would be printed, to whom publications would be dispatched, when would it be made available on-line* on above lines and time-frame for regular and timely publication of data highlighting clearly types of publications, their coverage and the level at which data will be disseminated. This may be done for both the national as well as for regional level publications. As a short term goal, it should make available its publications on-line.

9.10 The annual publications may include Regional Report Cards (RRCs) which present information on all aspects of school education. Bringing out the Regional Report Cards may be treated as the short term goal. Till the Regional Report Cards are brought out, the DRU at GES and EMIS Division at the national level should

continue to bring out its existing reports in the form of publications which may be further strengthened by including new variables such as Retention Rate.

9.11 Efforts should be made to present the data analysis at the time of release of EMIS data in a function to be jointly organized by the EMIS at the national level (MoE) and GES starting 2012-13. This is expected to create awareness and generate demand for the EMIS data which would eventually help in improving the quality of data.

## 10. QUALITY & RELIBAILITY OF EMIS DATA

10.1 Based on the information available through the Annual School Census, a variety of indicators are generated at district and national levels and have found place in ADPR and Report on Basic Statistics but since all the private schools are yet to be covered under EMIS, the same may not be treated as the complete one.

10.2 The way of improving the quality of EMIS data would be to have an element of sample checking of data for which independent agencies, like research scholars in the Universities, and other such institutions/government offices, like IEPA, GIMPA, GSS may be entrusted the task. Formats for sample checking and procedure for drawing sample be specifically outlined and developed and the agency engaged be asked to submit detailed report with regards to discrepancy in case of key indicators.

## 11. EMIS SOFTWARE

11.1 The software adopted in Ghana was originally not developed for Ghana but is customized to meet its requirements. In view of the changes in the Data Capture Format, the software also need modificatins, to do that, a team of three UIS technical officers are coming to Ghana from Montreal so that the SW is made to use during the 2012-13 annual data collection. The EMIS Division of the MoE fully depends upon the UIS. In the light of the above the EMIS, MoE may like to re-visit its EMIS software and if need be may like to modify the existing software or like to add additional features *(such as repot module)* in the light of the requirements at different levels as presented above. This may be treated as a short term activity.

11.2 A reporting module was recently developed by the Advisory Unit on Decentralized Education Management, GES and attached to the existing EMIS database which will definitely help in ensuring use of EMIS data at the district level which is also

expected to enhance ADEPs and ADPRs reporting systems is considered a welcome development. To ensure that district EMIS officers do not face problem in using the attached module, GES has also developed a manual which the users will found useful.

11.3 Because of the lack of technical expertise, the database is not being maintained at the District and the Regional Directorate levels. The full set of the database is available only at the national level and districts are having only one year data. The EMIS at present is developed in such as fashion that as it seems that it is highly a centralized system. The district EMIS is so dependent on the national EMIS that every year just before the commencement of the data entry, someone from the national level visits the district to make the modifications in the software. Let the EMIS at the national level develop a dedicated webpage for the EMIS activities where the modified software patches can be provided which can be downloaded by the district EMIS to make modifications in the software on its local machine.

11.4 In the light of the above, the EMIS Division of the MoE may like to modify EMIS software so as to develop a comprehensive module which can handle all the aspects of EMIS at all levels as a long-term goal. The software should have all necessary modules such as internal data consistency check, data feeding, graphic, analyzer, report, and other modules. Till such time, the present EMIS software is further modified and strengthened to meet the challenges as specified above.

11.5 To reduce the time-lag, data entry through Intelligent Character Recognition (ICR) technology may be initiated on pilot basis in a few select districts as it would avoid manual data entry. If successful, the same may be extended to other districts in a phased manner which may be treated as a medium term activity.

## 12. GENERAL SUGGESTIONS

12.1 Across the country the data should be collected on a particular date and the record date (date of reference) should also be the same. At present, last Friday of November is the date of reference of the EMIS data which may be changed to November 30$^{th}$ each year. Each region to specify a week/fortnight during which the data will be collected across the region for which special campaigns through print and electronic

media, advertisements in local newspapers and FM radio, SMS should be launched just before launching the collection of EMIs data. Private schools may be the focus of all such campaigns. The frequency of data obtained from the school may be annual.

12.2 EMIS Division at the National level located in the Ministry of Education should be strengthened adequately both in terms of manpower and equipments and possibilities be explore for their capacity building in the areas of data analysis, technical aspects of EMIS software and use of indicators in education planning.

12.3 In the absence of projected population, districts till recently were facing problems as they do not have expertise in making population projections which is a technical exercise. In view of urgent requirement, as a temporary solution, the Advisory Unit on Decentralized Education Management provided EXCEL Templates, which is very simple to use. Anyone having basic computing skills can project population. In this direction, it is advised to strengthen the Regional Directorates also.

## 13. ANALYSIS OF DATA

13.1 There are several training institutes in Ghana (IEPA, GIMPA, institutes in University of Education etc.) which can be entrusted the task of capacity build in the areas of EMIS, educational planning and data analysis and utilization. It is happy to observe that Advisory Unit on Decentralized Education Management of GES is trying to coordinate these institutes to provide comprehensive training programmes. If required, some of these institutions can be strengthened and entrusted the task of capacity building in the areas of educational planning and management.

13.2 The mission couldn’t see printed regular publications based on the EMIS data either at the regional or district levels except Annual District Performance Report and Regional Education Sector Performance Report. Whatever, the little analysis is undertaken that too is not made available in the public domain. However, extensive analysis of EMIS data in the form of tables, charts, maps etc. is undertaken at the national level which is presented in the form of Basic Statistics and Planning Parameters for Basic Education which is comprehensive in nature and presents all the crucial indicators separately for different types of schools.

## 14. CAPACITY BUILDING PLAN

14.1 NUPEA would be happy to accommodate two officers from Ghana each year in its ongoing International Diploma in Educational Planning and Administration. Special capacity building programmes in the area of educational planning with focus on EMIS and Data Analysis can be developed by NUEPA in case any such request is received from the Ghana Government.

## 15. The EMIS Master Plan

15.1 The SPIMPR, Ministry of Education developed EMIS Master Plan: 2010-11 presenting major challenges which the present EMIS is facing in Ghana which are categorized into three areas, namely Institutional, System and Technical challenges. Subsequently with respect to each of these challenges, recommendations have been made. If implemented, it would have far reaching implications for EMIS in Ghana.

15.2 In view of the detailed comments made in the present document, whatever is required for strengthening EMIS in Ghana has been recommended in Master Plan but road plan to achieve such goals has not been specified. The Ministry of Education and GES may like to re-look in to the recommendations in the light of the observations presented in this report and may also like to prepare a road map for the same which should include time-frame for each of the activities specified. It may also specify role of different agencies at the national, regional and district level.

## 16. POLICY NOTE ON WEB-BASED EMIS

16.1 A policy note on web-based centralized database for EMIS prepared by the Ministry of Education was made available to the Mission which is found to be comprehensive in nature as it highlights major areas of concerns which has also been highlighted in the present report. The objective of this policy note is to propose the way forward on how to establish enabling management environment for districts through the reformation of the EMIS process in Ghana.

16.2 The Mission is of the view that on-line web-based application for the EMIS in Ghana may not be able to succeed immediately because of the serious hardware problems and absence of technical expertise at all levels. In the first attempt, adequate hardware with necessary software, along with external hard disks/pen drives, UPS,

internet connectivity, ACs etc. should be provided to the district EMIS. All the hardware provided to the EMIS team should have an annual maintenance contract in the absence of which many of the computers across Ghana are just lying unused. The present EMIS has serious difficulties mainly because of the hardware problems and software limitations. As suggested above, the Mission is of the view that at present there is no alternative to further strengthen the existing EMIS by providing additional features such as, reporting module for both district and regional levels. The existing EMIS software has limitations because of which EMIS team at the national level has to visit district twice a year; all such limitations in the application should be removed on the priority basis.

16.3 The EMIS team at the national level completely depends on the UIS and if the web-based EMIS is implemented as suggested in the policy note, the EMIS team at the national level would have to totally depend on outside venders and consultants. On-line application may succeed after the programmers at the national level engaged in the EMIS are able to write the software themselves, and have software maintenance capabilities.

In view of the above observations, it is suggested that the entire exercise of strengthening EMIS in Ghana be undertaken in a phased manner, such as:

(i) EMIS units across Ghana be strengthened optimally which may be considered as a short term activity;

(ii) Second priority be given to internet connectivity for which NITA may be approached to provide hassle free internet at all levels;

(iii) UIS be approached to suitably remove all limitations in the existing EMIS software which may be treated as the top most priority; and

(iv) Develop capacity building plan for all officers not only to take care technical and SW aspects but also in the area of data analysis and its use in planning at district and regional levels.

16.4 In the short term, the goal should be to improve the present EMIS application but as a long term goal, when adequate HWs are made available across Ghana and professionals are also available for EMIS, one can go for web-based data processing

for EMIS. In view of the problems that the District EMIS is facing with regard to database back up, time-series database, visits of the national EMIS official twice a year to districts and absence of reporting module, the idea of web-based structure mooted in the policy note, if implemented can resolve many of these limitations. In the light of the above, it is recommended that proposed policy plan of action may be implemented in one of the regions on pilot basis. If successful, the same may be upscale to remaining regions. In the mean time, possibilities may be explored to provide ready to use tables on-line for which a dedicated web page be developed. The webpage so developed may also have provision for downloading of raw data which can be used by researchers for empirical studies. The districts may also download and use database through their EMIS software. Ready-to-use tables which are required to develop ADPR can also be made available. Since the EMIS unit at the national level is having times-series database, the same may also be made available on-line so that time-series reports can also be generated. For developing such a webpage, rather than hiring a consultant, computer professionals may be appointed/hired who should be exclusively available for development and maintenance of webpage so developed. The webpage may be developed in Dot-Net/ SQL/PHP.

## 17. SUMMING-UP

17.1 NUEPA, if approached can provide expertise and technical support in the area of software development, use and analysis of EMIS data. Exact modalities may however be decided by the Vice-Chancellor, NUEPA upon receiving such request from the Ghana Government. The Indo-African Institute of Educational Planning is coming up soon in Burundi and the Ghana Government may like to approach it in due course of time for capacity building of its EMIS and other officers.

# Abbreviations

| | |
|---|---|
| AMC | Annual Maintenance Contract |
| ADEOP | Annual District Education Operational Plan |
| ASC | Annual School Census |
| AUDEM | Advisory Unit on Decentralized Education Management |
| CS | Circuit Supervisor |
| DCF | Data Capture Format |
| DISE | District Information System for Education |
| DRC | District Report Cards |
| FCUBE | Free, Compulsory and Universal Basic Education |
| EFA | Education for All |
| EMIS | Education Management Information System |
| ESP | Education Strategic Plan |
| GER | Gross Enrolment Ratio |
| GES | Ghana Education Service |
| GIMPA | Ghana Institute of Management and Public Administration |
| GoG | Government of Ghana |
| GPI | Gender Parity Index |
| GSS | Ghana Statistical Services |
| HR & SW | Hardware & Software |
| IAIEPA | Indo-African Institute of Educational Planning |
| ICR | Intelligent Character Reading |
| IDEPA | International Diploma in Educational Planning & Administration |
| IEPA | Institute of Educational Planning and Administration |
| IIEP | International Institute for Education Planning |
| JICA | Japan International Cooperation Agency |
| MDA | Ministry Department and Agencies |
| MEO | Metropolitan/Municipality Education Office |
| MoE | Ministry of Education |
| NER | Net Enrolment Ratio |
| NITA | National Information Technology Agency |
| NFE | Non formal education |
| NUEPA | National University of Educational Planning and Administration |
| RESPR | Regional Education Sector Performance Report |
| RR | Retention Rate |
| SPSS | Statistical Packages for Social Sciences |
| SRIMPR | Statistics, Research, Information Management and Public Relations |
| TR | Transition Rate |
| TOR | Terms of Reference |
| UIS | UNESCO Institute for Statistics |
| USAID | United States Aid for the International Development |

**Final Report**
(September 5th, 2012)

# Technical Review of EMIS and Statistical Analysis in Ghana•

## Section I

## BACKGROUND

A Ghana delegation led by Acting Deputy Director General, Ghana Education Service (GES) visited India in January 2012. During their visit to India, the delegation visited the *National University of Educational Planning and Administration (NUEPA), New Delhi* and had interaction with its faculty on different aspects of educational planning and management. NUEPA has successfully developed *District Information System for Education* (DISE) which is in operational in all the districts of the country (www.dise.in). Like other publications, the analysis of data produced in the form of *Analytical Report* was found impressive by the delegation. The delegation was of the view that NUEPA's expertise can be of great help in strengthening EMIS in Ghana as well as in designing Capacity Building programmes for Ghana's Officers in the areas of EMIS and data analysis. Subsequently, the Director General of the Ghana Education Service (GES), Government of Republic of Ghana, requested NUEPA, New Delhi to depute its expert in the areas of EMIS and Data Analysis to help Ghana in strengthening its EMIS. Accordingly, the Vice-Chancellor, NUEPA, New Delhi deputed Dr. Arun C. Mehta, Professor and Head, Department of EMIS to Ghana. Japan International Cooperation Agency (JICA) provided all financial and logistical support to this mission. The GES and Ministry of Education (MoE), Ghana envisages long term association with NUEPA on different aspects of EMIS and Data Analysis. The main objectives (detailed TOR is annexed) of the visit were as follows:

1) To review the system setting, current processes and outputs of the EMIS in Ghana;

2) To study and understand the current situation of the education sector in Ghana with a particular focus on the EMIS and monitoring framework and indicators set out in the

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government's national strategies and plans;

3) To review the existing analysis indicators as well as procedures for educational statistics analysis; and,

4) To provide technical advices based on findings from the above studies to improve the EMIS in Ghana particularly focusing on the following points:

   a). What need to be considered on system designing for enabling the upgraded EMIS described in the draft policy note based on lessons learnt from Indian experiences;

   b). What are necessary steps to be taken for the above upgrading exercises;

   c). What need to be improved in terms of contents of the School Census Report and any additional modes of publications could be suggested to promote use of EMIS data; and

   d). Organizational arrangements for capacity development on data analysis skills of MoE and GES officers as well as on facilitating more use of data for educational planning and management.

The present report is based on the wide-range discussions held with different Officers and presentations made by EMIS Officers of the Ministry of Education and intensive field visits to four Regional Directorates namely, Greater Accra, Eastern, Ashanti and Central Regions during August 27 to September 5, 2012 details of which is annexed. During the field visits, eight districts, namely Accra MEO, Dangme East, East Akim, Afram Plains, Kumasi MEO, Amansie West, Cape Coast and Upper Denkyira West MEO were visited. Discussion with the Regional Directors (Ashanti Region), Statistics Officers and Data Entry Operators of both Regional as well as the District EMIS Offices helped immensely in understanding the entire process of EMIS/Annual School Census. Throughout the field visits, Mr. Sulemana Yusif, Statistics Officer, GES, Greater Accra Regional Office and Mr. Herbert Gorman, Programmer, EMIS, MoE, Accra accompanied and participated actively in discussion.

## Section II

## EMIS IN GHANA

The EMIS in Ghana is being maintained by the Ministry of Education. In view of the limitations in educational statistics, a number of attempts are made to improve the coverage,

quality and consistency of educational data amongst which **the Ministry of Education (MoE) and UNESCO Institute for Statistics (UIS) joint initiative to strengthen EMIS in Ghana is the most prominent and recent one.**

Up to 1987, data upto the pre-tertiary education was collected and processed manually resulting into delay in release of results. As an integral part of the massive education reform launched in 1987, the UNESCO/UNDP *Project for Strengthening Education Planning* took off in 1988 resulting in computers being procured and software application developed (Dbase III/IV) for data processing. However, it was later realsied that in view of only four computers being procured for MIS work, the same was found to be inadequate and since the data processing was centralised which resulted in the Headquarter‘s staff being over-burdened and delay in release of data.

Later in 1997, the Education Management Information System (EMIS) project was launched as an integral part of the Free, *Compulsory and Universal Basic Education* (FCUBE) *Programme* (Pilot Phase: February 1997 to August 1999 & Second Phase: January 2001 to March 2002). During these phases, EMIS was piloted in 10 Regional Education Offices, and 26 of the then 110 District Education Offices, questionnaires for pre-tertiary institutions was revised; coding system improved with each school given a unique code; computers and their accessories as well as software application (Microsoft Access/SQL/Visual Basic) for capturing data and generating reports were installed in these sites; four officers from each of the 36 sites were trained in basic and intermediate computer skills as well as analysis of statistical data.

However, a number of problems were faced amongst which the most prominent ones was the lack of programming tool (Microsoft SQL); lack of routine maintenance of the computers; and inability to keep trained staff in the regions and districts. In view of the limitations, the *Education Sector Plan* (ESP) took note of the importance of the EMIS and proposed strategies for its enhancement and expansion. The Ministry took advantage of the *UNESCO Institute for Statistics* (UIS) Capacity Building Project in Ghana to acquire UIS EMIS application which was expected to meet its EMIS requirements.

The UIS customised its web-based aplication for use in Ghana and it was supposed to provide Technical support and was expected to fully transfer the application to Ghana with local expertise for future modifications under the arrangement. The customised off-line UIS EMIS pacakge in Ghana is in use since 2007. All the levels of education, such as, Pre-school Primary School, Junior Secondary School, Senior Secondary School, Technical/Vocational Institutes, Colleges of Education (now tertiary), Non-Formal Education, Polytechnics and Universities were initially covered under EMIS. The frequency of data collection is annual. All the schools are required to fill-up one copy of format which is required to be sent to the EMIS section located in the office of the Director District Education through the Circuit Supervisor (CS) for checking, editing, data entry and analysis.

A cursory look at the formats suggests that all the variables required for developing an efficient education plan are found place in the format. In addition, to number of institutions, enrolment by sex and grade, teachers, school profile, physical infrastructure, management, financial data, textbooks etc., information is also being collected on a number of special variables such as, population, girls education, school health, HIV/AIDS, special education, ICT in education. Enrolment ratio, percentage of girls in educational programmes, percentage of trained teachers, pupil/teacher ratio, and pupil-classroom ratio are some of the indicators being generated which is being used by the Ministry of Education, Ghana Education Service, Parliamentary Select Committee, Ministry Department's and Agencies (MDA's), Development Partners, UN Agencies, Institutions & Civil Society Organisations, NGO's and researchers and students.

Data processing in all Metro, Municipal and District Offices, Capacity Building, giving technical support to field staff, production of Statistical Digest *(not shared with the Mission)*, meeting international obligations, providing special requests (NGO's, researchers, universities and others), collaboration with other MDA's are said to be some of the major achievements of the present EMIS in Ghana.

**EMIS located in the Office of the Director, Statistics, Research, Information Management and Public Relations (SRIMPR) in its Division of EMIS in the Ministry of Education is doing excellent work and should be further strengthened both in terms**

**of equipments (computer software and hardware) and professionals.** EMIS team in Ghana has a rich experience. **Across the Republic of Ghana, EMIS through the Annual School Census is very popular and it has covered all of its 10 Regional and 170 Districts which is not a mean achievement.** Despite significant achievements, there is still further scope of reducing the time-lag as well as improving the coverage, quality, consistency, sharing, dissemination and use of educational statistics which are briefly presented below:

## Section III

## DATA CAPTURE FORMAT

At present five Data Capture Formats (DCFs), one each for Basic Education, Senior Secondary, Technical and Vocational Education, Teachers Training and College Education are in use which is part of the Annual School Census (ASC). Though the formats (under EMIS) in use are comprehensive in nature, still **there may be a few region and district-specific variables which are required at the region/district level, provisions for which may be made in the software to tackle additional/supplementary variables both for data entry as well as for the report generation** for which flexibility may be provided to the Regional Directorate's to identify and add supplementary variables in the existing formats. (*for example if a region/district has a provision to provide scholarships to its students and wants to know how many children received it, information on such variables is not being collected through the Annual School Census as it is specific to the region/district only and not applicable to other regions/districts. Such variables may be identified by the individual regions/districts and not at the national level).* Information on the supplementary/additional variables need not be transmitted to the national level. All the items in the present formats are pre-coded and the first page of the DCF in case of all schools are printed from the software at the national level which are then provided to Regional Directorates for distribution to schools through District EMIS and Circuit Supervisors (CS).

Circuit Supervisors arranged meeting at the Circuit Centers in groups and provide some sort of orientation to Schools Head Masters (HMs) who are the respondents of Annual School

Census across Ghana. During such orientations, Statistics Officers of district EMIS is also available and wherever possible, Regional Directorate's (EMIS) officers also available. In a few districts, School HMs are asked to bring all the relevant records/registers with them to fill-up the information on the stop but this practice is not being followed across districts. In remaining districts, the DCFs are collected by the relevant Circuit Supervisors which is then passed onto the district EMIS. Before that, the Circuit Supervisors are supposed to thoroughly check the filled-in formats but in most of the cases, it is routine in nature and passed on the formats to the relevant district EMIS officer. In a few cases, since the DCFs are not received on time and they are received much later after the data is submitted to the national EMIS, these formats are sent to Accra for data entry which should be discouraged. In such cases, database, if available at the district level is different than at the national level, which is treated as final one but the same is generally not available with the district and regional levels.

**During the field visits, both the District and Regional Directors informed that in addition to the Annual School Census through EMIS, they have also developed their own formats to collect information on a few key variables on quarterly basis**. These local formats are developed by the District and Regional Directorates and vary from region to region. However, one of the districts visited informed that the parallel collection of information is discontinued in their district as it has created a number of problems with respect to the coverage, consistency and reliability of data but other districts still continue with the same and collect the data on quarterly basis and use it for local use. The information collected through the local formats are generally not transmitted to MoE/GES and in a few cases not even transmitted to the Regional Directorate assuming that the same will not be used as the Regional Directorate have got access to the EMIS data. The districts are of the view that since the EMIS data is one year old and they need up-to-date information on enrolment, teachers, trained teachers etc. they collect and use the same for distribution of text-books, exercise-books, uniforms etc. On the other hand, EMIS data is being used by the district to develop *Annul District Performance Report* but for the actual use instead of using EMIS data, district use data which is collected through its own formats. **So far as the possible, the Regions and the Districts be discouraged to have parallel**

**collection of information and all efforts be focused on to further strengthening EMIS data across Ghana.**

## Section IV

## ROLE OF CIRCUIT SUPERVISIORS

In addition to the EMIS activities, Circuit Supervisors are engaged in a number of other activities and are supposed to visit schools once in week. The Circuit Supervisors are supposed to be available in the Circuit Centers but in most of the cases, such centers are not yet made operational in view of which it is recommend that **a place be identified in the district so that Circuit Supervisors can sit there and are always available to schools.** In addition, **the Circuit Supervisors may be made accountable through a Government Order issued from the MoE/GES to ensure that coverage of schools under Annual School Census is complete.** In addition, the Circuit Supervisors should also certify that they have distributed EMIS formats to all schools including the Private schools falling under their jurisdiction. Further, they should also be made accountable to ensure that all the formats are correctly filled-in by the school HM and there are no blank entry and data provided by the school is consistent and true to the extent possible. Circuit Centers in Ghana is the lowest level at which through checking of filled-in DCF can only be ensured. In India, similar arrangement has helped immensely in improving the coverage, quality and consistency of EMIS data and if implemented, definitely will also help in further strengthening EMIS in Ghana.

On an average a Circuit Supervisor has up to 25 public schools under their jurisdiction. **The best public school within these schools having better infrastructure, better teachers and leadership should be identified.** Along with the School HM, the Circuit Supervisors can provide academic leadership to all the schools falling under its jurisdiction/Circuit Centers. The school identified may be named as Circuit Resource Centre (CRC). The Circuit Supervisors may be asked to sit in the CRC and should always be available to schools falling under its jurisdiction. In this way, the resources available in the CRC can be shared by all the schools under its jurisdiction and teachers once/twice in a month can assemble in

the CRC School to share their experiences which can be of help to other schools also. **This will provide not only a platform to Teachers/HMs to meet on regular basis and discuss the academic issues of common interest but will also provide Circuit Supervisors, a place to sit**. At present, the Circuit Supervisors are supposed to report to the districts on weekly basis.

**In view of the above, it is recommended that Circuit Supervisors are made accountable for EMIS by issuing Government Order from the MoE/GES and a school having better infrastructure be identified and termed as CRC (Circuit Resource Centre) and Circuit Supervisors be asked to sit in CRC.** While identifying the best school, distance from other schools located within the CRC is kept in mind as school teachers and HMs will be required to visit CRC on regular basis for sharing issues of common interest. In due course of time, CRC Schools can be further strengthened and provided with at least one computer which can also be used for EMIS data entry and other relevant activities, such as printing of school report cards/school profile, printing of DCFs etc. in long term.

In one of the Regions, namely Central Region, the collection and data entry in case of Senior High schools and Technical and Vocational institutions and Colleges of Education is being maintained by the Directorate. The Directorate has taken a considered decision to collect the information at their own in view of only a few such institutions at the district level. Other Directorates may also like to follow the Central Region provided that they have the technical expertise. This Directorate also maintain database of all of its 17 districts which is unique as none of the other Directorate's visited, maintain EMIS database of its districts. It is also of the interest to know that EMIS formats are being distributed through the Regional Directorates to the districts but after the data entry is over, districts directly send the database to the national EMIS which in turn provide a few district-specific selected tables to Directorates in the 'Excel Format' which is common to all Directorates. This clearly shows that the **database is generally not available both at the District and Directorates' level which is considered to be the one of the important limitations of the present EMIS. Efforts should be made to develop a Data Repository Unit (DRU) at the national level,** may be in the GES to maintain database of all regions across 170 districts for which it should be technically strengthened and necessary HW & SWs be provided. **Advisory Unit**

**on Decentralized Education Management (AUDEM) located in the GES may be given the responsibility of developing such a Data Repository Unit (DRU) with the help of the EMIS (MoE).** The DRU may also be entrusted the responsibility to analyze the EMIS data, disseminate it and bring out the publications annually presenting both the region-specific as well as district-specific indicators. Being a Data Repository Unit, regions and districts may approach it for the database in the event of loss of database at that level.

## Section V

## COVERAGE

For assessing the level of educational development and progress towards EFA goals, it is essential to analyze and present the overall picture. Whatever is the little analysis that is undertaken and presented in the *Annual District Performance Report* (ADPR) and *Regional Education Sector Performance Report* (RESPR) confines mostly to public schools. **Though comprehensive data under EMIS is being collected both from the Public and Private schools but most of the crucial indicators are presented only Public schools.** During the field visits to districts, it was informed that all Private schools have not been covered under EMIS as many of such schools do not supply data. In addition, the new Private schools which have come up recently are also not covered under EMIS, as a few of them started functioning without registration. During the field visit, **the Mission got an impression that district do not own Private schools as much they own Public schools.** Whenever, they mention number of schools, they report only the Public schools in view of which **it is recommended that special efforts are made to ensure that all schools including Private schools are covered in the coming Annual School Census**: 2012-13. To create awareness about the Annual School Census, advertisements can be given in News Papers and other modes such as FM Radio, SMS etc can also be explored for wider publicity of Annul School Census. In addition, **a letter from the Director General, GES may be addressed to all the Private Schools informing that it is there duty to co-operate District EMIS Officers and supply complete information within the stipulated time.** Information from all the Private schools is crucial to assess the status of universalisation of education. For example, presenting enrolment ratio separately for Private schools will unable to present the complete

coverage of child population unless enrolment in private schools is also considered in computing the enrolment ratio. This is also true in case of the other indicators such as promotion, drop-out and repetition rates which are not been computed. Therefore, **in all the forthcoming publications, it would be better to have published crucial indicators by considering data of both the Public and Private schools together and wherever necessary, separately for Public and Private Schools.** It is recommended that the MoE/GES may come out with annual publication presenting region as well as nation-specific indicators on regular basis which may be named as *EMIS Flash Statistics*. To ensure that data from all private schools is obtained, an abridged format may be commissioned specially for such schools.

## Section VI

## FLOW OF INFORMATION

**As of now it seems that the EMIS activities developed under the Ministry of Education/National EMIS is highly centralized in the nature.** There is limited reverse flow of information from top to the bottom. The formats are printed at the national level and through the Regional Directorates and districts and Circuit Centers/Supervisors, they reach schools and through the same channel they reach back to District level for data entry and analysis. In most of the cases the Regional level data is not available at their level; thus minimizes chances of data utilization at the Regional Directorate's level. **The data entry has been decentralized to the district level but in most of the districts visited a functional EMIS could be seen.** In view of the above, **it is recommended that the existing EMIS unit with all the modern software and hardware and computer professionals exclusively for the work relating to EMIS be strengthened in all the 10 Regional Directorates and Metropolitans/Municipalities/Districts (MMDs) of Ghana which may be treated as the short term activity.** To further improve the quality of data, through a especially designed format, officers involved in EMIS at all levels (such as district and regional directors) should certify that data is free from inconsistencies and errors and hence it be merged into the national database maintained at the MoE.

If planning exercises are decentralized to the level of MMDs, the same would generate demand for data and that would eventually improve data utilization at all levels. Upon decentralization, the MoE/GES will oversee the management and organization of EMIS operations at the national level and would focus more on dissemination and analysis of data. The EMIS would also arrange training of MMD level officers in the use of EMIS software and data analysis on continuing basis. It would continue to make efforts that would help in improving the quality of EMIS data as quality of data cannot be improved in one go. **Random sample checking of EMIS data by an independent agency may also be initiated in at least two districts in each region** responsibility of which may be entrusted to other Government departments (like Ghana Statistical Services) and Education Departments located in the Universities. The responsibility to provide technical and software support to EMIS Units in all the regions/districts of Ghana may be exclusively taken up by the National EMIS (MoE).

**Local Data for Local Consumption**

Field visit to four Regional Directorates/eight districts helped a lot in understanding the flow of information, data entry, use and dissemination of EMIS data. Discussions with the District EMIS Officers, reveals interesting information. For example, for immediate requirements, they first collect information on the priority basis quarterly through a local format and arrange its data entry by using the EXCEL and generate information on number of schools, teachers and enrolment. The formats designed at the local level vary from district to district; however most of the information they collect is of the same nature and being also collected as a part of the Annual School Census (EMIS).

The information so generated is immediately used at the district level and in some cases it is also sent to the Regional Directorates. Only upon the completion of this task, data entry of EMIS gets started; thus causing delay in making available information. It is of interest to note that because district wants to use the latest information on key indicators as they think EMIS data is old, they first completes data entry of local data. **It is also of interest to note that two parallel systems are going on but both are being handled by the same EMIS Officers at the district level.** Had the EMIS software supports both the data entry and

report generation, it would have avoided duplicity of efforts. Since the EMIS is scientific and official one, it should only continue. **The National EMIS may provide flexibility to districts to first undertake the data entry of key variables to facilitate their urgent need; thereafter data entry of remaining variables can be undertaken as this would help them in avoiding duplicity of efforts.** If duplicity is avoided, report module is made part of the existing EMIS software; the same would help in reducing time-lag in the availability of data which is about six to eight months. It was unfortunate to know from the district and regional directorate EMIS officers that they use only data collected by themselves and EMIS data is being used only for the reporting purposes.

## Section VII

## COMPUTER HARDWARE

Since the EMIS in Ghana is computerized, effective implementation of the same largely depends upon the type of computer hardware and software made available and also technical persons involved in the management and organization of EMIS across the country. During the field visit to four Regional Directorates and eight districts, and also discussions with the EMIS team at the national level helped immensely in assessing the status of hardware available and officers involved in EMIS across Ghana. **May be the hardware is not a major issue at the national level but the same is found to be one of the major areas of concern which is true for all the regions across Ghana.** This is true for district level EMIS located in the Office of the District Director of Education. It has been observed that **in none of the districts visited, neither the computer hardware is found to be adequate nor the same across the four regions were found to be functional.** In some cases, personal laptops were being used for EMIS work.

Both at the District and Regional Directorate levels, the computer virus is said to be one of the biggest problems being faced by the EMIS teams across Ghana. No where antivirus SWs have been provided which resulted into formatting of computers frequently. In none of the districts visited, all the computers were functioning. The **HWs are not put under the Annual Maintenance Contract (AMC) resulting into inordinate delay in making the**

**computers functional.** Funding for EMIS in general and HWs in particular is told to be inadequate and not available on time. This may be treated as one of the significant challenges in keeping up-to-date database across Ghana both at the District and Regional Directorate levels. Largely, UPS are available but generally found non-functional because of the battery which has not been replaced. In most of the districts, UPS is down for at least one or more years; thus influencing effective maintenance of EMIS across Ghana. **Generally,** EMIS **room in most of the districts is not properly developed and is not fitted with the modern gadgets**. ACs have been found in a few places both at the District and Regional Directorate's level but are generally not being used because of lack of funds for the electricity consumption. In addition, continuous electricity supply is another major problem being faced by the EMIS across districts.

**In view of the above, it is recommended that EMIS room located at the district level in the Office of the District Director be renovated at the earliest possible with all modern fitting and computer HW and SW.** It should also have proper electric wiring. In most of the districts, internet connection is not available and in some other districts, the EMIS uses modem. Even though connecting switch is provided by the EMIS at the national level, generally it has not seen being used except in one of the districts visited. **In the absence of internet connection, it is very difficult for the District EMIS to transmit data and other relevant material to the national EMIS located at Accra nor the national level EMIS officers could able to communicate with the districts.** During the field visits, it was told and seen that **in the event of formatting of the Computers, the entire existing database is lost and the districts have to start a fresh. In none of the districts, complete EMIS database is available** neither on EMIS PCs nor in external hard disks or pen drives in view of which **it is recommended that all the districts be provided with the external storage devices.** Rather, the districts may be given adequate instructions as how to take up the back-up of the EMIS data on regular basis.

When the computers are formatted, at the time of next annual school statistics, as has already been mentioned that the data feeding is taking place a fresh and since the district is not having the backup of the EMIS database and also not having the technical expertise, **someone from the National EMIS visit district each year before the commencement of**

**data entry for the needful so as to ensure smooth data entry**. In longer term, **it may not be viable for the national EMIS team to visit all the 170 districts personally, first to make the computers operational for data entry and then to take copy of the database.** To avoid this, **expertise at the district level needs to be developed for which a careful capacity building planning is chalked out by the national EMIS and GES.** Instead of visiting each district annually, it is recommended use of software like 'team builder' so that even without visiting districts, needful is done by the national EMIS while sitting in their office but for that purpose internet connectivity is must. **National Information Technology Agency (NITA) may be approached to provide hassle free internet connectivity to both the District EMIS as well as Regional Directorates. Till such time, all districts may be provided internet though the modems which may be treated as an easy option.**

## Section VIII

**EMIS STAFF** Perhaps **one of the most important limitations which significantly affecting the present EMIS is the lack of technical staff available for EMIS work across Ghana** including that at the national level. Even though adequate number of EMIS staff such as Statistics Officers (SOs) and Data Entry Operators are available both at the district and the regional directorate levels but since most of them are not technical they feel handicapped in handling EMIS, especially the technical aspects of EMIS. The EMIS staff is never being properly trained to look after technical aspects of the EMIS nor most of them posses' technical qualification. Most of the SOs is found to be having graduates but majority of them dose not posse's technical degrees. EMIS staff, such as the Statistics Officers, is identified from within the education department and generally the positions are not open to outsiders. If extended to outsiders, University graduates having technical degrees can be identified and posted for the EMIS work. For example, the **Director, Kumasi, Municipality Education Office (MEO) identified a technical graduate from outside the education department and put him to look after maintenance of the HWs who is designated as IT Officer.** In view of the above, it is therefore recommended that whenever, there are vacancies for EMIS available, the same is filled-up by identifying persons having technical degrees/background. Even, **teachers those who have technical qualification from within**

**the education department can be identified and be given the responsibility of EMIS.** However during the field visit, it was informed that such teachers are not eager to work for EMIS because of the longer working hours and also because of the fact that promotional avenues are limited. **One of the other major limitations of the EMIS is frequent changes/transfers of EMIS staff** and the district EMIS has to start a fresh when someone new join the EMIS team in view of which **it is suggested that who so ever join EMIS unit should be made to work for at least for a period of five years.**

Irrespective of the level, **it is recommend that a capacity building plan is carefully developed by the national level** to ensure that proper orientation, both technical as well as EMIS data analysis, utilization, indicators and its implications in planning, is planned to ensure that in a phased manner all the EMIS staff at district, directorate and national level are trained.

## Section IX

## DISSEMINATION & PUBLICATIONS

**Through the EMIS initiatives, not only the time-lag in availability of educational statistics in Ghana is reduced but the necessary statistics is also made available at the National, Regional and District levels which are significant achievements.** As of now EMIS data is being disseminated and used mostly at the national level by the EMIS Division, Ministry of Education which is limited in the nature. However, it is not bringing out publications on regular basis based on the EMIS data even though it has all relevant statistics both at the district and regional levels. As has been reported, the EMIS data is being shared by all the stakeholders as and when such request is received from the data users. Instead, districts used to bring out *Annual District Performance Report* (ADPR) which it submitted to the Headquarters through Regional Director. The ADPR is based on the set 'EXCEL Templates' provided by the national EMIS which is common to all districts. In addition to the EMIS data, the ADPR also use school mapping and monitoring reports, internal budget books, DFID and Government of Ghana (GoG) Work Plans, Annual Staff Census data and other sources. Similarly, the Regional Directorates brings out *Regional*

*Education Sector Performance Report* (RESPR) which disseminates district-specific information. RESPR is primarily based on Education Strategic Plan (ESP), Annual District Education Operational Plan (ADEOP), Annual District Education Performance Reports, Ghana Statistical Service and Education Management Information System. RESPR presents a variety of region-specific indicators as well as district-specific indicators on key parameters.

School-age child population, enrolment, staff, number of schools by category, and key performance indicators are presented separately by type of institutions. Gross Enrolment Rate (GER), Gender Parity Index (GPI), Net Enrolment Rate (NER), Transition Rate, PTR, pupil-trained ratio, percentage of trained teachers, SCR, percentage of public schools having sanitation facility and potable water etc. is been presented in the ADPR. However, **one of the other important indicators, dropout rate is not being disseminated through the ADPR which has got serious implication for universal school enrolment.** In addition to ADPR, EMIS also make available 'District Profiles' which is comprehensive in nature and in fact, the ADPR are largely based on the district profiles provided by the national EMIS, MoE.

In addition to ADPR and ADEOP reports, EMIS also generate *'School Profile'* of each of the schools covered under EMIS each year and provide it to districts which they send it to schools. In addition to School Profiles, district also bring out *'School Report Cards'* which is based on the local data collected on quarterly basis technical support of which till recently was provided by the USAID but in the absence of the updated software, the same in most of the districts has been discontinued. The School Profiles are supposed to be discussed at different forums with the stakeholders. **The Circuit Supervisors may be trained to analyze the School Profiles which in turn explain to the school HM, teachers, members of the community, parents and other stakeholders and officers at the grassroots level.** Further, **it is recommended that community be also involved in the process of EMIS** as they can play important role in obtaining quality data. **A set of about 10 key indicators may be identified and shared with all concerned including the Community. It is further, recommended that School Profile be displayed in prominent place in the schools** which would also eventually help in improving the quality of data. As of now

School Profiles are being created and provided by the EMIS at the national level and that too is in the off-line mode. **It is recommend that the School Profiles be made available 'on-line', like the school report cards in India** and the responsibility to develop such as website may be entrusted to the proposed Data Repository Unit (DRU) located in the GES.

**As has already been mentioned, the national EMIS division used to generate School Profile *(School Report Cards)* at the national level and send it back to schools through districts and Circuit Supervisors. This is significant achievement and should be further strengthened to ensure that all schools (Public as well as Private schools) receive it on time which can be displayed in schools.** School Profile presents raw data and indicators as well as a few charts on key variables/indicators such as, grade-specific enrolment and repeaters, physical facilities, total teachers, trained teachers etc. **A few variables, such as grade-wise number of disabled children, retention rate and flow rates, such as drop-out, repetition and promotion rates may be added to the existing 'School Profiles' which may be treated as the short-term goal.** It would be better to decentralize the creation of school profiles to the Regional Directorate's level as it would help in making available 'school profiles' on time. **As a mid-term goal, the proposed DRU/GES in collaboration with the EMIS at the national level may explore possibility to bring out District Report Cards in the line of report cards being brought out by NUEPA annually.** Each district can have one page where information on all aspects of school education can be presented. If required, NUEPA will be happy to provide expertise in this direction. The Programmers engaged in the EMIS activities at the national level will be playing an important role in designing and bringing out Regional as well as District Report Cards.

In the light of the above observations, **the proposed Data Repository Unit (DRU) at GES in consultation with the EMIS Division at the National level should develop annual dissemination and publications plan** *indicating titles of publication, coverage, level at which information would be presented, month by which it would be published, how many copies would be printed, to whom publications would be dispatched, when would it be made available on-line* on above lines and time-frame for regular and timely publication of data highlighting clearly types of publications, their coverage and the level at which data will be

disseminated. This may be done for both the national as well as for regional level publications. As a short term goal, it should make available its publications on-line.

The annual publications may include **Regional Report Cards (RRCs) which present information on all aspects of school education. Bringing out the Regional Report Cards may be treated as the short term goal.** Thus data concerning each region may be presented in one sheet details of indicators and variables which are to be disseminated through the Regional Report Cards that may be identified by the proposed DRU in consultation with the EMIS at the national level and other data users and stake holders. The Regional Report Cards may include information regarding kindergarten, Primary as well as Junior High Schools on one sheet. **NUEPA may provide expertise for bringing out the Regional Report Cards and may depute one of its technical experts to Ghana.** Report Cards such as this need to be designed in such a manner so that they not only reflect progress towards achieving EFA goals but also provide a clear insight as to the emerging realities with respect to the planning and management of basic education in Ghana. **Till the Regional Report Cards are brought out, the DRU at GES and EMIS Division at the national level should continue to bring out its existing reports in the form of publications which may be further strengthened by including new variables such as Retention Rate** which presents information about the retaining capacity of the system which is calculated by using enrolment data over a period of 6 years. In addition, grade-to-grade promotion, repetition and drop-out rates may also be computed and disseminated through the EMIS publications which presents information regarding transition during two years but the same failed to present information about the retaining capacity of the system which can be known only if enrolment in Grade 6 (minus repeaters) is linked to enrolment in Grade 1 six years back. This is the standard method being used elsewhere and is different than the Survival Rate which is based upon a set of assumptions amongst which continuation of current promotion, repetition and drop-out rates throughout the evolution of cohort are the most crucial one. On the other hand, completion rate is being calculated by relating number of primary graduates to relevant single-age '11' population. However, the best way of obtaining information about completion rate would be to initiate child-tracking studies which allow tracking of students those who enter into the education system (Grade

1) in a year. These students are then tracked from year to year until they reach Grade 6 over a period of 6 years. Those who complete Grade 6 are termed as 'completers' and are linked to Students in Grade 1 through which true completion rate of students those who complete Primary level in 6 years can be obtained. However, the students be tracked until the last remained in the system. Through such analysis, students who complete Primary level in 6 years as well as in 7, 8 and more years can be estimated. The completion rate through child-tracking can also be undertaken for the previous cohorts based upon the class registers available in the schools. Completion rates for different cohorts would be helpful in assessing progress towards retaining capacity of the system. Special formats can be designed for tracking students from one class to another.

In addition to the educational indicators, basic data such as literacy rate, number of districts in directorate, number of villages, total population, percentage of rural and urban population, child population in different age groups, annual population growth rate, sex ratio etc. should also be presented as the background information in the Regional Report Cards. Information regarding out-of-school children should also be presented in report cards, if available. NUEPA's State Report Cards may be referred in identifying new variables a copy of which is annexed.

**Efforts should be made to present the data analysis** (to begin with region-specific and national analysis) **at the time of release of EMIS data in a function to be jointly organized by the EMIS at the national level (MoE) and GES starting 2012-13.** All those who are interested in school education may be invited (including Government Officers, NGO's and Development Partners) to attend the release function. This will create awareness and is expected to generate demand for the EMIS data which would also help in improving the quality of data.

## Section X

## QUALITY & RELIBAILITY OF EMIS DATA

As the data respondents are primarily school HMs they need intensive training to better understand and comprehend the importance of EMIS and the ways and means for

completing the several instructions of data collection. This would also be of great help in improving the quality of data. Based on the information available through the Annual School Census, variety indicators are generated at district and national levels and have found place in ADPR and Report on Basic Statistics but since all the private schools are yet to be covered under EMIS, the same may not be treated as the complete one. Such type of training may be imparted through the District level EMIS and other officers as the regional level officers may not be able to devote sufficient time. The **officers at the district level should also be exposed to use and analysis of EMIS data and its importance in educational planning.** The EMIS formats should contain written instructions.

As has already mentioned that the Circuit Supervisors be made responsible for EMIS work. The responsibility of thorough checking of the filled-in formats should be entrusted to the Circuit Supervisors as in view of a large number of schools at the district level, thorough checking of filled-in format is not possible. *On the other hand, there are only 5-25 schools per circuit and it is the only level where thorough checking of formats can be ensured because of only a few schools. Distribution and collection of filled-in formats can also be handled efficiently, if* Circuit Supervisors *are involved in EMIS and made accountable.* In view of this, the **Government may like to make Circuit Supervisors accountable for ensuring the complete coverage of schools falling under his/her jurisdiction and also to ensure that formats are correctly filled-in and there are no missing values.** This may not over burden the Circuit Supervisors as it is only one time activity in a year. In case, if the formats are not correctly filled-in, the same may be sent back to the School HM for necessary corrections. The error free formats thus only are sent to the district level for further checking and data feeding. This is expected to help in improving the quality of data as well as also in reducing the time-lag.

**The way of improving the quality of EMIS data would be to have an element of sample checking of data for which independent agencies, like research scholars in the Universities, and other such institutions/government offices, like Ghana Statistical Services may be entrusted the task.** Formats for sample checking and procedure for drawing sample be specifically outlined and developed and the agency engaged be asked to

submit detailed report with regards to discrepancy in case of key indicators such as number of schools, enrolment and teachers.

## Section XI

## EMIS SOFTWARE

As has already been mentioned that the Ministry took advantage of the *UNESCO Institute for Statistics* (UIS) Capacity Building Project in Ghana to acquire UIS EMIS application which is expected to meet its EMIS requirements. The UIS customised its web-based aplication for use in Ghana and provided an off-line application. It is supposed to provide technical support and is expected to fully transfer the application to Ghana with local expertise for future modifications under the arrangement. The customised UIS EMIS pacakge in Ghana is in use since 2007. However, it may be observed that initially the software was developed in the French so it was not possible for the EMIS team to make modificatins. Off late, it has been informed that the UIS has now changed it's software into English. The software adopted in Ghana was originally not developed for Ghana but is customized to meet its requirements. **In view of the changes in the Data Capture Format, the software also need modificatins, to do that, a team of three UIS technical officers are coming to Ghana from Montreal so that the SW is made to use during the 2012-13 EMIS data collection.** *The EMIS Division of the MoE fully depends upon the UIS. Needless to mention* that the source code of the UIS EMIS is not shared with the EMIS Ghana, in the absence of which even expertise available at the local level, no modifications can be made by the EMIS team. In the light of the above **the EMIS, MoE may like to re-visit its EMIS software and if need be may like to modify the existing software or like to add additional features** *(such as repot module)* **in the light of the requirements at different levels as presented above. This may be treated as a short term activity.**

Over a period of time the number of schools covered under EMIS will increase so as the database itself with each passing year. As of now, Ghana has a total of about 25,000 schools. The EMIS at the national level may like to explore other alternatives such as Oracle at the back-end so as to handle the large database. At present, the database engine for EMIS is

SQL and the final outputs are prepared in the EXCEL which may not be treated as the user friendly. Till recently, the EMIS software did not have the basic reporting module in the absence of which it was not possible for the district EMIS Officers to optimally utilize the EMIS data by themselves. **However, a reporting module was recently developed by the** Advisory Unit on Decentralized Education Management, **GES and attached to the existing EMIS database which will definitely help in ensuring use of EMIS data at the district level which is also expected to enhance ADEPs and ADPRs reporting systems is a welcome development. To ensure that district EMIS officers do not face problem in using the attached module, the unit has also developed a manual which the users will found useful.**

The Regional and the District EMIS officers are totally dependent on the national EMIS located in Accra. Because of the hardware problems, as specified above, and also because of the lack of technical expertise, **the database is not being maintained at the District and the Regional Directorate levels.** The full set of the database is available only at the national level and districts are having only one year data, if there computer is not formatted recently else they are supposed to start the entire operations a fresh. The EMIS at present is developed in such as fashion that as it seems that it is highly a centralized system which is against the basic principle of a good EMIS. For example, the district EMIS is so dependent on the national EMIS that **every year just before the commencement of the data entry, someone from the national level visit the district to make the modifications in the software so that data entry gets started.** The Mission is of the view that because of the software limitations, districts are not in a position to keep database of more than one year. It is not viable for the national EMIS to visit each district every year to make modifications. Even though that the district EMIS officers are not technically trained but if the written instructions are provided as how to modify the software, they themselves will able to do that. **Let the EMIS at the national level develop a dedicated webpage for the EMIS activities where the modified software patches can be provided which can be downloaded by the district EMIS to make modifications in the software on its local machine.** In India, this practice is being followed and found to be useful which is reflected in the quality of data been produced each year across 600+ districts. Alternatively, in place

of visiting each of the 170 districts across Ghana, the EMIS team at the national level identifies one officer each at the Regional Directorate levels' and train them in software with focus on initialization of software and report generation. As has already been specified that the national EMIS team can do the software modifications on the district EMIS computer by taking the remote of their computers by using the software such as 'Team Viewer'.

It may also be observed **that neither the regional-specific database is created from the software nor region-specific reports can be generated.** The limited data that they have is made available to them in the EXCEL format by the national EMIS team. As has already been mentioned that though the reporting module is attached recently to EMIS database but in the absence of database at the district level, the same in a few districts couldn't be utilized optimally. In such cases, EXCEL Templates have been provided to them by the national EMIS so as to compute indicators covering different aspects of universal enrolment which takes a lot of time. In the event of formatting of computers, which is common across districts, the districts re-do the whole exercise which is time consuming. **In the light of the above, the EMIS Division of the MoE may like to modify EMIS software so as to develop a comprehensive module which can handle all the aspects of EMIS at all levels as a long-term goal.** The software should have all necessary modules such as internal data consistency check, data feeding, graphic, analyzer, report, and other modules. Till such time, the present EMIS software is further modified and strengthened to meet the challenges as specified above. However, **the top most priority should be assigned to built-in report generation module at all levels.** In the absence of built-in report module, it is not possible for the regional directorates and district level EMIS officers to use the EMIS data optimally.

The software should have provision to add region/district-specific variables as supplementary/additional variables. Not only it should facilitate data feeding but it should also support report generation by using the same EMIS software. This will help Directorates to add variables as per their requirement. The schools containing inconsistent data should be highlighted for that purpose **a separate module to check the consistency of data may be added to the existing EMIS software.** A few checks have been provided in the existing EMIS software. The software should be supported by a user manual.

As has already been specified above that one of the other important activities of EMIS is the transmission of data from the lower level to the higher and the highest level. As the data entry will take place at the district level, data can be transmitted either through a CD or an email to both the Regional Directorates and EMIS at the national level. **In view of small number of schools, it may not be a difficult task to transmit the data through the e-mails in the compressed/zip format** provided that the District EMIS has facility to download data from the software and have got internet connection.

Development of a web enabled EMIS software depends upon availability of computers, internet connectivity and technical expertise especially at the national level (for detail comments on on-line software, please refer to a section on policy note on web-based EMIS application in subsequent section).

**To reduce the time-lag, data entry through Intelligent Character Recognition (ICR) technology may be initiated on pilot basis in a few select districts as it would avoid manual data entry.** This is quite possible as Ghana has only a total of 25,000 schools. The EMIS at the National level/GES may like to undertake the pilot. The formats will be required to be modified to meet the special requirements so as the software. Use of ICR as a substitute to manual data entry is expected to take less time and at the same time it would improve quality of data as it would avoid chances of human errors. If successful, the same may be extended to other districts in a phased manner. This may be treated as a medium term activity.

Prior to the initiation of data collection process, attempts should be made to engage collectively all the officials in building their capacities in the use of the software. Training materials and manuals should be provided on definitions, use, meaning, interpretation and methods and techniques of educational planning, analysis of different variables, terms, and the indicators used in the Data Capture Formats.

## Section XII

## GENERAL SUGGESTIONS

Data should be disseminated in both print and electronic forms as well as through internet. Access to raw and processed data should be provided to users at all levels. Across the country the data should be collected on a particular date and the record date (date of reference) should also be the same. **At present, last Friday of November is the date of reference of the EMIS data which may be changed to November 30th each year.** Each region to specify a week/fortnight during which the data will be collected across the region for which special campaigns through print and electronic media, advertisements in local newspapers and FM radio, SMS should be launched just before launching the collection of EMIs data. Private schools may be the focus of all such campaigns. The frequency of data obtained from the school may be annual.

**EMIS Division at the National level located in the Ministry of Education should be strengthened adequately both in terms of manpower and equipments** and possibilities be explore for their capacity building in the areas of data analysis, technical aspects of EMIS SW and use of indicators in education planning.

To compute enrolment based indicators, age-specific projected population is required at all levels, such as, district, regional and national levels. The projected population is supposed to be provided by the Ghana Statistical Services which is still to release projected child population. In the absence of projected population, districts till recently were feeling handicapped as mostly they do not have expertise in making population projections which is a technical exercise. In view of urgent requirement, as a temporary solution, the Advisory Unit on Decentralized Education Management (AUDEM) located in GES, provided EXCEL Templates, which is very simple to use. Anyone having basic computing skills can project population by using these template provided they have the basic population figures over two census years. In this direction, it is advised to strengthen Regional Directorates also who can also project district-specific population themselves for all of its districts.

## Section XIII

## ANALYSIS OF DATA

There are several training institutes in Ghana, such as Institute of Educational Planning and Administration (IEPA) at Cape Coast University, Ghana Institute of Management and Public Administration (GIMPA), and some institutes in University of Education which can be entrusted the task of capacity build in the areas of EMIS, educational planning and data analysis and utilization. **It is happy to observe that Advisory Unit on Decentralized Education Management is trying to coordinate these institutes to provide comprehensive training programmes**. If required, some of these institutions can be strengthened and entrusted the task of Educational Planning and Management which should meet the requirements of district, directorate and also that of the national level. Eventually, it would take care of the capacity building needs of the entire country. In addition, a few of these institutions may be encouraged to undertake studies exclusively based on EMIS.

The mission couldn't see printed regular publications based on the EMIS data either at the regional or district levels. Little data analysis is undertaken through the *Annual District Performance Report* and *Regional Education Sector Performance Report* both of which mostly presents only data and have little analysis. Whatever, the little analysis is undertaken that too is not made available in the public domain as they are in the report form and being used for internal consumption. However, extensive analysis of EMIS data in the form of tables, charts, maps etc. is undertaken at the national level which is presented in Basic Statistics and Planning Parameters for Basic Education in Ghana which is latest available for 2011/12 which is comprehensive in nature and presents all the crucial indicators separately for different types of schools. The Basic Statistics prepared by the EMIS, Ministry of Education is comprehensive in nature and impressive as it covers most of the parameters required in assessing the status of school education region-wise.

## Section XIV

## CAPACITY BUILDING PLAN

**NUPEA would be happy to accommodate two officers from Ghana** (depending upon their qualifications and background) **each year in its ongoing International Diploma in Educational Planning and Administration (IDEPA)** which has already been attended by the Officers from more than 70 countries. However, it may not be possible for the regional directorate/district level officers *(in view of large number)* to undergo such orientation. For their requirement, special capacity building programmes in the area of **educational planning with focus on EMIS and Data Analysis** can be developed by NUEPA in case any such request is received from the Ghana Government. Such capacity building exercises can be arranged either at NUEPA, New Delhi or a team of three faculty members from NUEPA may impart training in Ghana. Apart technical aspects, the following are the suggestive themes which can be exposed to officers during orientation on educational planning with emphasis on EMIS and Data Analysis:

- Educational Planning : Concept and Scope
- Types of Educational Planning
- Methodology of Planning
- Approaches to Educational Planning
- Issues involved in Planning for Education
- Educational Management Information System
- Use of Sample Survey Techniques in Education
- School Mapping: Concept and Methodology
- Micro-Level Planning: Concept and Methodology
- Stock and Flows Indicators
- Efficiency of Education System
- Concept & Measures of Inequalities in Education System
- Projection & Forecasting Techniques: Enrolment, Population and Teacher
- Projections and Scenario-Building and Simulation
- Target Setting

**The EMIS Master Plan**

The SPIMPR, Ministry of Education developed EMIS Master Plan: 2010-11 presenting major challenges which the present EMIS is facing in Ghana which are categorized into three areas, namely Institutional, System and Technical challenges. Subsequently with respect to each of these challenges, recommendations have been made. If implemented, it would have far reaching implications for EMIS.

During the field visits to Regional Directorates, it was informed that funds for the EMIS activities are generally not available on time in view of which the EMIS Master Plan recommends timely release of sufficient budget funds to support the Annual School Census. To further, reduce the time-lag in school data, the master plan recommends that the school census aims to produce its final data for the previous school year by end of March but how it will be made to operational is not specified. Further, the Master Plan advocates Ministry/GES's ability to improve use of data for evidence-based planning which is very much required. Various modes are suggested through which it envisages data dissemination.

With regard to systems solution, it specifies number and type of computers be made available at national, regional and district level EMIS for which it recommends dedicated budget. Last part of its recommendations focus more on database and software capacities amongst which strengthening of EMIS staff on the application software administration module with sustained training is emphasized. As a medium term solution, it further recommends that the Ministry, in collaboration with partners, needs to ensure that a web-based reporting interface for school census is developed.

The Master Plan also recommends redesigning of exiting EMIS format, adjust the data entry module and the database structure to the new information needs; pilot two regions to manage the printing, dissemination and collection of the EMIS formats, ensure that GES supplies a budget to cover the printing and transport costs for the circuit and district officers; and review the feasibility of extending this to other regions.

Further, the master plan emphasis that accurate and comprehensive data depends on the kind of data verification processes built in. To ensure coverage, it mentions an updated listing of

all schools be prepared (School Directory), for both public and private schools, It is essential to ensure complete coverage of the School Census. In this direction, it is also recommended that all questionnaires are verified for internal consistency against the knowledge of the Circuit Supervisor upon reception from the school. Some of the other significant recommendations which may have far reaching consequences for EMIS are:

- Build automated reporting modules; ensure that the reporting templates are based on information needs assessment of the Ministry, GES, districts and schools;
- EMIS Schools Profile designed for the first time in 2010/2011 should be an annual affair and ensure that the EMIS Schools Profile has its own linked website;
- Train Regional and District Statistics Officers on basic data;
- Create an online query facility for data users to produce customized tables;
- Place annual census reports on the Ministry's website; and
- Place annually a limited Excel database of key indicators of school-level aggregates online for data-manipulation by civil society, researchers and development partners.

In view of the detailed comments made in the present document, whatever is required for strengthening EMIS in Ghana has been recommended but road plan to achieve such goals has not been specified. The Ministry of Education and GES may like to re-look in to the recommendations in the light of the observations presented in this report and may also like to prepare a road map for the same which should also have time-frame for each of the activities specified. Is may also specify role of different agencies at the national, regional and district level.

## Section XV

## OBSERVATIONS ON POLICY NOTE ON WEB-BASED CENTRALISED DATABASE FOR EMIS

A policy note on web-based centralized database for EMIS prepared by the Ministry of Education was made available to the Mission which is found to be comprehensive in nature as it also highlights major areas of concerns which is also highlighted in the present report.

The objective of this policy note is to propose the way forward on how to establish enabling management environment for districts through the reformation of the EMIS process in Ghana. It first describes the present process of EMIS and highlights the major areas of concern which also gives an impress that the present EMIS in Ghana is highly centralized in nature. Only the EMIS team at the national level has got access to the central database to analyze the EMIS data over a period of time i.e. time-series. It also highlights absence of networking between districts, regions and HQs because of which the web-based EMIS application is being used in off-line mode in Ghana.

The policy note thereafter highlights challenges in the present EMIS which are quite similar to the areas of concerns mentioned in the present report. In addition, it also highlights problems being faced by the districts to extract the data for ADPR even though reporting module for the districts has been added to EMIS. However, population (school-age) and other similar database couldn't be connected to the EMIS database as they are on different platforms.

In order to overcome the limitations, the policy note, thereafter proposes a web-based centralized database with following as its main features:

- Central database is put in as server with a web-based interface so that each district office is able to access it to enter school census data through internet;
- Districts which have difficulty in accessing internet should come to some districts nearby where there is internet access or come to regional capitals to access the central database;
- Central database should also be equipped with reporting modules so that district offices can quickly extract required data; and
- EMIS team at the HQ maintains the central database, makes necessary adjustments on data, and gives help-desk services to districts.

The Mission is of the view that on-line web-based application for the EMIS in Ghana may not be able to succeed immediately because of the serious hardware problems and absence of technical expertise at all levels. In the first attempt, adequate hardware with necessary

software, along with external hard disks/pen drives, UPS, internet connectivity, ACs etc. should be provided to the district EMIS. All the hardware provided to the EMIS team should have an annual maintenance contract in the absence of which many of the computers across Ghana are just lying unused. The present EMIS has serious difficulties mainly because of the hardware problems and software limitations. As suggested above, the Mission is of the view that at present there is no alternative to further strengthen the existing EMIS by providing additional features such as, reporting module for both district and regional levels. The existing EMIS software has limitations because of which EMIS team at the national level has to visit district twice a year; all such limitations in the application should be removed on the priority basis.

The EMIS team at the national level completely depends on the UIS and if the web-based EMIS is implemented as suggested in the policy note, the EMIS team at the national level would have to totally depend on outside venders and consultants. On-line application may succeed after the programmers at the national level engaged in the EMIS are able to write the software themselves, and have software maintenance capabilities. The policy note has given example of such experiments and DISE in India is also said to have adopted such system which is factually not correct. It may be corrected that DISE is an off-line system and software is developed in-house at NUEPA. DISE software is installed in more than 600 districts and data entry is also taking place at this level which in turn is transmitted to the State EMIS either through the CD or e-mail. By using another SW at state level, the State EMIS then merge district data into the state database which is then submitted to the national level through CD with proper certification by the State Project Director. All this could happen because of the strong technical team available at the national level which can modify the SW as its own and does not depends upon outside software consultants/programmers for day-to-day modifications.

In view of the above observations, it is suggested that the entire exercise of strengthening EMIS in Ghana be undertaken in a phased manner, such as:

(i) EMIS units across Ghana be strengthened optimally which may be considered as a short term activity;

(ii) Second priority be given to internet connectivity for which NITA may be approached to provide hassle free internet at all levels;

(iii) UIS be approached to suitably remove all limitations in the existing EMIS software which may be treated as the top most priority; and

(iv) Develop capacity building plan for all officers not only to take care technical and SW aspects but also in the area of data analysis and its use in planning at district and regional levels.

**In the short term, the goal should be to improve the present EMIS application but as a long term goal, when adequate HWs are made available across Ghana and professionals are also available for EMIS, one can go for web-based data processing for EMIS.** In view of the problems that the District EMIS is facing with regard to database back up , time-series database, visits of national EMIS twice a year to districts and absence of reporting module, the idea of web-based structure mooted in the policy note, if implemented can resolve many of these limitations. In the light of the above, it is recommended that proposed policy plan of action may be implemented in one of the regions on pilot basis. If successful, the same may be upscale to remaining regions. **In the mean time, possibilities may be explored to provide ready to use tables on-line for which a dedicated web page be developed.** The webpage so developed may also have provision for downloading of raw data which can be used by researchers for empirical studies. The districts may also download and use database through their EMIS software. Ready-to-use tables which are required to develop ADPR can also be made available. Since the EMIS unit at the national level is having times-series database, the same may also be made available on-line so that time-series reports can also be generated. For developing such a webpage, **rather than hiring a consultant, computer professionals may be appointed / hired who should be exclusively available for development and maintenance of webpage so developed.** The webpage may be developed in Dot-Net/SQL/PHP.

## Section XVI

## SUMMING-UP

In view of the above, the following are the areas where NUEPA, if approached can provide its expertise and technical support. Exact modalities would however be decided by the Vice-Chancellor, NUEPA upon receiving such request from the Republic of Ghana Government. For better understanding of Ghana's need and possible NUEPA's support to capacity-building exercises in the areas of educational planning with focus on EMIS and data analysis, Vice-Chancellor, NUEPA, New Delhi (India) may be approached to depute its faculty members to Accra for detailed discussion with the Director General, Ghana Education Service and Officers of the Ministry of Education, Ghana. In addition, all the officers from Ghana who has undergone six months International Diploma in Educational Planning and Administration (IDEPA) at NUEPA, New Delhi may be involved in EMIS and data analysis. The **Indo-African Institute of Educational Planning** (IAIEPA) is coming up soon in Burundi and the Ghana Government may like to approach it in due course of time for capacity building of its EMIS and other officers.

## Possible Support from NUEPA for Strengthening EMIS in Ghana

| Sl. No. | Activity | Possible Support from NUEPA | Nature of the Activity |
|---|---|---|---|
| 1 | The Department of Planning may explore possibility in bringing out Regional Report Cards (PRCs) annually which may present information on all aspects of school education. | NUEPA may provide expertise for bringing out Regional Report Cards and may depute one technical expert to Ghana. | Bringing out Provincial Report Cards may be treated as the short term goal |
| 2 | GES/MoE may explore possibility to bring out District Report Cards | NUEPA may provide expertise for bringing out District Report Cards | Mid-term |
| 3 | A team of five officers at the National level in the MoE/GES may be constituted to prepare and undertake analysis of EMIS data on annul basis which should be published in the form of **School Education in Ghana: Analytical Report.** The team may be intensively oriented and exposed to data analysis tools and techniques | One week workshop may be organized at NUEPA, New Delhi upon receiving such request from the Government Republic of Ghana. | Short-term |
| 4 | Two officers from Ghana each year may be nominated for International Diploma in Educational Planning and Administration (IDEPA) | NUPEA would accommodate Ghana officers depending upon their qualifications and background. | Short-term |
| 5 | Special capacity building programmes for Regional/District level officers in the area of educational planning with focus on EMIS and Data Analysis should be arranged | May be developed by NUEPA in case any such request is received from Government of Republic of Ghana. | Mid-term |
| 6 | School Profiles of individual school be made available on-line for which a dedicated web-page may be developed which may also provide users to download raw school-specific data for further intensive use. This will promote demand for EMIS data. | NUEPA, if approached will provide technical knowhow of developing such a webpage. | Mid-term |

**Annexure I**

# Ghana Education Service
## Terms of Reference

### Technical review of EMIS and Statistical Analysis in Ghana

**1. Background**

A Ghanaian delegation headed by Mr. Stephen Adu, Acting Deputy Director General of the Ghana Education Service (GES) visited in January 2012 the National University of Educational Planning and Administration (NUEPA) in India, which is one of the most prominent institutes for educational planning and administration in the World. Vice-Chancellor and the faculty of NUEPA, especially Prof. Arun C Mehta kindly offered that they can support the Ministry of Education (MOE) in Ghana and the GES to strengthen its performance on educational statistics analysis, as well as to strengthen Ghana Education Management Information System (EMIS) itself.

A presentation on District Information System for Education (DICE) was made for the delegation. NUEPA has successfully developed DISE which is in operational in all districts of the country. District and State Report Cards as well as Analytical Reports based on DISE data has become the regular source of data on elementary education in India. Even school report cards have also been made available on internet (http://schoolreportcards.in). The analysis of DISE data produced in the form of Analytical Report is very impressive. DISE has completely eliminated time-lag in availability of educational statistics in India and there are no more data gaps.

The expertise that NUEPA has developed over time in the areas of EMIS and data analysis can be of great help in strengthening EMIS in Ghana. It can also be of great help in designing capacity development of EMIS officers in the MOE as well as planning and statistics officers of the GES in the areas of EMIS and data analysis. In view of a relatively small number of schools in Ghana and the existence of fairly developed EMIS, intensive technical support could bring about tangible improvements in both EMIS and data analysis in a short span.

Meanwhile, the MOE and the GES are currently seeking a possible intervention to upgrade the existing EMIS to enable its data entry and provision of data though web-based technologies in view of rationalizing the data collection process and the arrangement of management information provision especially to district education offices. More details can be referred in the attached draft policy note. The MOE and the GES has therefore requested the JICA Expert to support them by inviting an EMIS/DISE expert from the NUEPA (Prof. Arun C Mehta) to provide necessary technical advices to improve the EMIS in Ghana.

**2. Key tasks**

The NUEPA Expert is expected to conduct the following tasks:

- To review the system setting, current processes and outputs of the EMIS in Ghana;
- To study and understand the current situation of the education sector in Ghana with a particular focus on the EMIS and monitoring framework and indicators set out in the government's national strategies and plans;
- To review the existing analysis indicators as well as procedures for educational statistics analysis; and,
- To provide technical advices based on findings from the above studies to improve the EMIS in Ghana particularly focusing on the following points:
- What need to be considered on system designing for enabling the upgraded EMIS described in the draft policy note based on lessons learnt from Indian experiences;

- What are necessary steps to be taken for the above upgrading exercises;
- What need to be improved in terms of contents of the School Census Report and any additional modes of publications could be suggested to promote use of EMIS data; and,
- Organizational arrangements for capacity development on data analysis skills of MOE and GES officers as well as on facilitating more use of data for educational planning and management.

**3. Expected output**

The expert from NUEPA will develop a technical advisory report to strengthen the EMIS in Ghana and capacity on educational statistics analysis. The proposal should include situation analysis on the EMIS and educational statistics analysis in Ghana, identifications of the areas that need further upgrading in terms of both EMIS and educational statistics analysis, specific technical advices on the above-mentioned four points.

**4. Schedule**

It is expected that the EMIS Expert from NUEPA conducts the consultancy on mutually agreeable dates preferably in August/September 2012. The expert will be required to visit Ghana for about 10 days. All the above expected outputs will be submitted to Dr. Dominic Pealore and Mr. Daisuke Kanazawa through e-mail within one month from the date of visit.

**5. Payment**

Airfare for a return economy class ticket between Delhi and Accra, remuneration, DSA for the duration of the trip to Ghana, and other necessary expenses such as visa fees and other transportation costs will be paid by Japan International Cooperation Agency (JICA) according to its standard. Remuneration will be paid at submission of the final outputs.

**6. Contact information**

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**Annexure II**

## GHANA EDUCATION SERVICE HEAD QTRS

## Technical Review of EMIS and Statistical Analysis in Ghana

## (27th August to 5th September 2012)

# Agenda

| Day | Date | Region | Station | Remarks |
|---|---|---|---|---|
| **1** | Sunday<br>26th August 2012 | Arrival in Ghana | | |
| **2** | Monday<br>27th August, 2012 | Greater Accra | 1. Headquarters – Formalities<br>- Director General of GES<br>- Mr. Adu<br>- Dr. Pealore<br>- Chief Director of MOE<br>2. EMIS Team Presentation on:<br>- Annual School Census and its reporting<br>- System details of EMIS<br>- EMIS Master Plan<br>3. NITA<br>Presentation on DA network. | |
| **3** | Tuesday<br>28th August, 2012 | Greater Accra | 1. Regional Office of GAR<br>2. Accra MEO<br>3. Dangme East | |
| **4** | Wednesday<br>29th August, 2012 | Eastern | 1. Regional Education Office<br>2. East Akim<br>3. Afram Plains | Night halt at Nkawkaw |
| **5** | Thursday<br>30th August, 2012 | Ashanti | 1. Regional Education Office<br>2. Kumasi MEO<br>3. Amansie West | Night halt at Kumasi |
| **6** | Friday<br>31st August, 2012 | Central | 1. Regional Education Office<br>2. Cape Coast MEO<br>3. Upper Denkyira West MEO | Night halt at Cape Coast |
| **7** | Saturday<br>1st September, 2012 | Report writing | | |
| **8** | Sunday<br>2nd September, 2012 | Report writing | | |
| **9** | Monday<br>3rd September, 2012 | Greater Accra | Report writing | |
| **10** | Tuesday<br>4th September, 2012 | Greater Accra | Presentation of preliminary observations to<br>- Chief Director of MOE<br>- Director General of GES<br>- Mr. Adu<br>- Dr. Pealore<br>- EMIS Team<br>- NITA<br>- USAID | |
| **11** | Wednesday<br>5th September, 2012 | Departure | | |

| Apparent survival rate upto grade V | 59.0 | Retention rate | | A & N ISLANDS |
|---|---|---|---|---|

| Enrolment* 2005-06 | | | | | Repe--tition rate | Drop out rate |
|---|---|---|---|---|---|---|
| Grade | Total | Girls enrolment | With disability | | | |
| | | | Boys | Girls | | |
| I | 905,290 | 447,400 | 3,200 | 2,447 | 16.3 | 11.7 |
| II | 705,309 | 346,047 | 2,354 | 1,839 | 11.5 | 3.6 |
| III | 661,741 | 318,436 | 2,322 | 1,707 | 12.2 | 7.0 |
| IV | 603,743 | 290,164 | 2,308 | 1,556 | 10.7 | 7.0 |
| V | 534,475 | 255,692 | 1,906 | 1,375 | 7.8 | 20.5 |
| VI | 515,072 | 240,093 | 1,890 | 1,099 | 9.3 | 18.7 |
| VII | 446,378 | 206,067 | 1,480 | 1,035 | 7.5 | 10.5 |
| VIII | 435,502 | 197,687 | 1,583 | 1,073 | 10.8 | |
| Pry (I-V) | 3,410,558 | 1,657,739 | 12,090 | 8,924 | **12.1** | **9.7** |
| U.Pry. | 1,396,952 | 643,847 | 4,953 | 3,207 | | |

| SC/ST/OBC enrolment | Primary | U. Pry. |
|---|---|---|
| % SC enrolment | 14.3 | 13.4 |
| % SC girls enr. | 48.9 | 46.0 |
| % ST enrolment | 34.1 | 28.9 |
| % ST girls enr. | 48.2 | 45.8 |
| % OBC enr. | 45.3 | 49.4 |
| % OBC girls enr. | 48.9 | 46.1 |

| School category | Average classrooms |
|---|---|
| Pry. only | 2.3 |
| Pry + U.Pry | 3.7 |
| P+UP+Sec | 9.2 |
| U. Pry. only | 2.4 |
| U.P. + Sec | 4.7 |
| All schools | 2.7 |

| Average number of days | |
|---|---|
| Number of instructional days | 201 |
| Days spent on non-teaching assignments | 16 |

| Enrolment ratio | |
|---|---|
| GER Primary | 131.48 |
| GER U. Pry. | 90.77 |
| NER Primary | |
| NER U. Pry. | 57.99 |

| Classrooms/Other rooms | | | | | Other rooms |
|---|---|---|---|---|---|
| School category | Total classrooms | % good condition | % minor repair | % major repair | |
| Pry. only | 82,317 | 64.1 | 22.5 | 13.3 | 27,125 |
| Pry + U.Pry | 11,983 | 79.8 | 14.2 | 6.0 | 3,077 |
| P+UP+Sec | 10,431 | 91.5 | 6.9 | 1.6 | 3,106 |
| U. Pry. only | 22,023 | 73.3 | 17.4 | 9.4 | 8,547 |
| U.P. + Sec | 9,499 | 71.6 | 17.9 | 10.5 | 3,985 |

| Number of schools by type of building* | | | | | |
|---|---|---|---|---|---|
| Pucca | Partially pucca | Kuchcha | Tent | Multiple type | No building |
| 19,488 | 5,508 | 591 | 48 | 3,157 | 4,566 |
| 1,580 | 396 | 77 | 9 | 317 | 495 |
| 733 | 121 | 14 | 0 | 81 | 52 |
| 5,077 | 780 | 68 | 7 | 573 | 2,383 |
| 1,091 | 234 | 22 | 2 | 220 | 300 |

| Teachers by educational qualification (other than para teachers) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| School category | Below secondary | Secondary | Higher secondary | Graduate | Post graduate | M. Phil. | Others | No response |
| Primary only | 1,843 | 3,258 | 28,189 | 15,279 | 16,169 | 129 | 36 | 1,588 |
| Primary with Upper Primary | 302 | 571 | 4,032 | 3,888 | 3,805 | 54 | 13 | 699 |
| Primary with Upper P. & Sec/Higher | 159 | 342 | 1,511 | 3,254 | 4,234 | 55 | 10 | 1,207 |
| Upper Primary only | 221 | 592 | 4,367 | 8,465 | 11,406 | 77 | 14 | 464 |
| Upper Primary with Sec./Higher Sec. | 123 | 230 | 1,108 | 2,825 | 5,139 | 67 | 9 | 362 |
| **Para teachers** | 804 | 1,192 | 16,563 | 12,431 | 11,513 | 137 | 29 | 164 |

| Teachers by gender & caste | | Regular teachers | | | Para teachers | | | SC teachers | | ST teachers | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| School category | Total | Male | Female | No res | Male | Female | No res | Male | Female | Male | Female |
| Primary only | 95,258 | 47,393 | 17,715 | 1,383 | 18,497 | 10,252 | 18 | 6,325 | 2,161 | 15,386 | 4,837 |
| Primary + U.Pry | 16,846 | 7,141 | 5,687 | 536 | 2,057 | 1,418 | 7 | 799 | 470 | 1,490 | 953 |
| P + UP+Sec/HS | 11,625 | 4,746 | 5,032 | 994 | 383 | 466 | 4 | 456 | 299 | 413 | 338 |
| Upper Pry. only | 33,498 | 20,055 | 5,182 | 369 | 5,136 | 2,752 | 4 | 2,777 | 594 | 5,858 | 1,641 |
| U.P. + Sec/HS | 11,583 | 6,955 | 2,580 | 328 | 1,249 | 471 | 0 | 851 | 273 | 1,275 | 385 |

| Enrolment by medium of instructions* | | | | | | % Schools received | |
|---|---|---|---|---|---|---|---|
| School category | Total enrolment* | Hindi | English | Others | Gujarati | TLM Grant | SD Grant |
| Primary only | 2951929 | 2901903 | 8997 | 36869 | 4160 | 76.3 | 75.1 |

## STATE ELEMENTARY EDUCATION REPORT CARD : 2005-06

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Total districts | 2 | Dist. covered | 2 | State code | 35 | A & N ISLANDS | | | |
| Primary cycle | 1 - 5 | Upper primary cycle | 6 - 8 | Ratio of P. to U.P. schools/sections | 2.20 | | | | |
| Initialised entities | | | | Number of schools | 287 | | | | |
| No. of blocks/taluks | 9 | Number of CRC's | 40 | Number of villages | 242 | | | | |
| Basic data : 2001 | | | | | | | | | |
| Total population in (000's) | 356 | % Urban population | 32.70 | % 0 - 6 Population | 12.57 | | | | |
| Decadal growth rate | 26.94 | Sex ratio | 846 | % SC population | 0.00 | % ST population | 8.30 | | |
| Overall literacy rate | 81.3 | Male literacy rate | 86.3 | Female literacy rate | 75.2 | | | | |


Area (Sq. Km) 8,249

**Key data: Elementary education**

| | Primary only | Primary with Upper Primary | Prim. with U. P. & Sec./H. | Upper Primary only | U. P. with Sec./H. Sec. | No response | Total |
|---|---|---|---|---|---|---|---|
| Government schools | 160 | 47 | 54 | 2 | 15 | 6 | 284 |
| Private schools | 1 | 1 | 1 | 0 | 0 | 0 | 3 |
| Govt. schools: Rural | 154 | 43 | 43 | 2 | 12 | 0 | 254 |
| Private schools: Rural | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| Enrolment in Govt. sch. | 11,726 | 9,955 | 21,713 | 400 | 3,167 | 0 | 46,961 |
| Enrolment in Pvt. sch. | 64 | 645 | 628 | 0 | 0 | 0 | 1,337 |
| Enr. in Govt. sch. : Rural | 9,933 | 8,897 | 13,570 | 400 | 1,843 | 0 | 34,643 |
| Enr. in Pvt. sch. : Rural | 64 | 645 | 0 | 0 | 0 | 0 | 709 |
| Government teachers | 669 | 644 | 1,383 | 28 | 183 | 0 | 2,907 |
| Private teachers | 8 | 24 | 28 | 0 | 0 | 0 | 60 |

| Performance indicators | Primary only | | Pry. with U.Pry | | P+UP+Sec/HS | | Upper P. only | | U.P. + Sec/HS | | All Schools | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 04-05 | 05-06 | 04-05 | 05-06 | 04-05 | 05-06 | 04-05 | 05-06 | 04-05 | 05-06 | 04-05 | 05-06 |
| % Single-classroom schools | | 5.0 | | 2.1 | | 0.0 | | 0.0 | | 0.0 | | 3.1 |
| % Single-teacher schools | | 9.9 | | 2.1 | | 0.0 | | 0.0 | | 0.0 | | 5.9 |
| % Schools with SCR > 60 | | 0.0 | | 4.2 | | 0.0 | | 0.0 | | 0.0 | | 0.7 |
| % Schools with pre-primary | | 22.4 | | 35.4 | | 38.2 | | 0.0 | | 0.0 | | 26.5 |
| % Schools with common toilets | | 37.9 | | 29.2 | | 40.0 | | 0.0 | | 40.0 | | 35.9 |
| % Schools with girls toilets | | 55.9 | | 62.5 | | 90.9 | | 50.0 | | 80.0 | | 63.8 |
| % Sch. with drinking water facility | | 79.5 | | 81.3 | | 98.2 | | 100.0 | | 80.0 | | 81.9 |
| % Schools with ramp | | 6.2 | | 2.1 | | 7.3 | | 0.0 | | 6.7 | | 5.6 |
| % Enr. in single-teacher schools | | 2.8 | | 0.1 | | 0.0 | | 0.0 | | 0.0 | | 0.7 |
| % No female tch. schools (tch>=2) | | 24.2 | | 6.3 | | 1.8 | | 0.0 | | 6.7 | | 15.3 |
| % Enr. in schools without building | | 0.6 | | 0.1 | | 0.0 | | 0.0 | | 1.9 | | 0.3 |
| %Enr. in sch. without blackboard | | 10.8 | | 20.4 | | 16.8 | | 0.0 | | 3.1 | | 15.1 |
| Avg. no. of teachers per school | | 4.2 | | 13.9 | | 25.7 | | 14.0 | | 12.2 | | 10.3 |
| % Enrolment in Govt. schools | | 99.5 | | 93.9 | | 97.2 | | 100.0 | | 100.0 | | 97.2 |
| % Girls enrolment | | 48.9 | | 48.2 | | 48.1 | | 49.5 | | 47.6 | | 48.3 |
| Pupil-teacher ratio (PTR) | | 17 | | 16 | | 16 | | 14 | | 17 | | 16 |
| Student-classroom ratio (SCR) | | 19 | | 25 | | 22 | | 31 | | 19 | | 22 |
| % Schools with <=50 students | | 53.4 | | 8.3 | | 0.0 | | 0.0 | | 20.0 | | 34.5 |
| % Schools with PTR > 100 | | 0.6 | | 0.0 | | 0.0 | | 0.0 | | 0.0 | | 0.3 |
| % Female teachers | | 52.2 | | 49.7 | | 54.0 | | 42.9 | | 51.4 | | 52.4 |
| % Schools established since 1994 | | 25.5 | | 8.3 | | 3.6 | | 0.0 | | 13.3 | | 17.1 |

**Incentives: Number of beneficiaries (Previous academic year)**

| Type of Incentive | Primary | | Upper Primary | |
|---|---|---|---|---|
| | Boys | Girls | Boys | Girls |
| Text books | 9657 | 10541 | 5625 | 6019 |
| Uniform | 1590 | 1417 | 1005 | 866 |
| Attendance | 428 | 374 | 351 | 280 |
| Stationery | 1036 | 954 | 799 | 653 |

**Examination results (Previous academic year)**

| | V Boys | V Girls | VIII Boys | VIII Girls |
|---|---|---|---|---|
| % Passed | 98.49 | 99.20 | 92.02 | 93.52 |
| % Passed with > 60% | 32.59 | 37.00 | 14.66 | 18.27 |

| | | | |
|---|---|---|---|
| Transition rate P. to U.P. | | Total grossness | |
| GPI : Primary grades | 0.97 | Primary | 21.81 |
| Enrolment in pre-primary | 2,030 | U. Primary | 33.57 |

# DISTRICT ELEMENTARY EDUCATION REPORT CARD : 2005-06

| District | ANDAMANS | State | ANDAMAN & NICOBAR ISLANDS | Primary cycle | 1 - 5 | U. primary cycle | 6 - 8 |
|---|---|---|---|---|---|---|---|

**Data reported from**

| Number of blocks/taluks | 6 | Number of Clusters | 32 | Number of villages | 195 | Number of schools | 243 |
|---|---|---|---|---|---|---|---|

**Basic Data, 2001**

| Total population (in 000's) | 314 | % 0 - 6 population | 12.5 | % Urban population | 37.0 | Sex ratio | 844 | Sex ratio 0-6 | 960 |
|---|---|---|---|---|---|---|---|---|---|
| Decadal growth rate | 30.1 | % SC population | na | % ST population | 0.9 | Overall literacy | 82.5 | Female literacy | 76.6 |

**Key data: Elementary Education**

| School category | Total schools* | | Rural schools* | | Total enrolment* | | Rural enrolment* | | Teachers* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Govt. | Private | Govt. | Private | Govt. | Private | Govt | Private | Govt. | Private |
| Primary only | 140 | 1 | 134 | 1 | 10,215 | 64 | 8,422 | 64 | 600 | 8 |
| Primary with upper primary | 37 | 1 | 33 | 1 | 8,634 | 645 | 7,576 | 645 | 538 | 24 |
| Primary with upper primary & sec/higher sec. | 47 | 1 | 36 | 0 | 20,247 | 628 | 12,104 | 0 | 1,297 | 28 |
| Upper primary only | 1 | 0 | 1 | 0 | 218 | 0 | 218 | 0 | 13 | 0 |
| Upper primary with sec./higher secondary | 11 | 0 | 8 | 0 | 2,725 | 0 | 1,401 | 0 | 152 | 0 |
| No response in school category | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Performance indicators | School category | | | | | Enrolment* | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | P. only | P + UP | P+sec/hs | U.P. only | UP+sec | Grade | 2001-02 | 2002-03 | 2003-04 | 2004-05 | 2005-06 |
| % Single classroom schools | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | I | | | | | 5,083 |
| % Single teacher schools | 9.2 | 2.6 | 0.0 | 0.0 | 0.0 | II | | | | | 5,033 |
| % Schools with SCR > 60 | 0.0 | 2.6 | 0.0 | 0.0 | 0.0 | III | | | | | 5,565 |
| % Schools with pre-primary sections | 22.7 | 42.1 | 37.5 | 0.0 | 9.1 | IV | | | | | 5,188 |
| % Schools with common toilets | 40.4 | 34.2 | 37.5 | 0.0 | 54.5 | V | | | | | 5,306 |
| % Schools with girls toilets | 60.3 | 78.9 | 97.9 | 100.0 | 100.0 | VI | | | | | 5,659 |
| % Schools with drinking water facility | 85.1 | 92.1 | 100.0 | 100.0 | 100.0 | VII | | | | | 5,966 |
| % Schools with blackboard | 87.2 | 86.8 | 85.4 | 100.0 | 100.0 | VIII | | | | | 5,576 |
| % Enrolment in Govt. schools | 99.4 | 93.0 | 97.0 | 100.0 | 100.0 | Total Pr. | | | | | 26,175 |
| % Enrolment in single-teacher schools | 2.7 | 0.1 | 0.0 | 0.0 | 0.0 | Total U.P | | | | | 17,201 |
| % No female teacher schools (tch>=2) | 23.4 | 5.3 | 0.0 | 0.0 | 0.0 | | | | | | |
| % Enrolment in schools without building | 0.4 | 0.1 | 0.0 | 0.0 | 0.0 | | | | | | |
| %Enrolment in schools without blackboard | 9.6 | 18.1 | 16.1 | 0.0 | 0.0 | | | | | | |

| Transition rate | | GER / NER | 2003-04 | 2004-05 | 2005-06 |
|---|---|---|---|---|---|
| Prim. to U. Prim | | | | | |
| **Primary Level** | | GER (Primary) | | | 71.4 |
| Retention rate | | NER (Primary) | | | 56.3 |
| | | GER(U.Prim) | | | 76.3 |
| GPI | 0.98 | NER(U.Prim) | | | 46.0 |

| SC/ST Enrolment | Primary | Upper primary | OBC Enrolment | Primary | U. Primary |
|---|---|---|---|---|---|
| % SC enrolment | 0.046 | 0.006 | % OBC Enrolment | 0.000 | 0.000 |
| % SC girls to SC enrolment | 58.3 | 0.0 | | | |
| % ST enrolment | 0.963 | 0.866 | % OBC girls to OBC Enrolment | 0.0 | 0.0 |
| % ST girls to ST enrolment | 53.6 | 47.0 | | | |

| Flow rates | | | |
|---|---|---|---|
| Grade | R.R. | D.O.R. | P.R. |
| I | | | |
| II | | | |
| III | | | |
| IV | | | |
| V | | | |
| I - V | | | |
| VI | | | |
| VII | | | |
| VIII | | # | # |

| Enrolment of children | All | With disability | |
|---|---|---|---|
| Grade | Girls | Boys | Girls |
| I | 2,514 | 25 | 21 |
| II | 2,515 | 29 | 17 |
| III | 2,774 | 34 | 33 |
| IV | 2,561 | 36 | 18 |
| V | 2,583 | 32 | 23 |
| VI | 2,666 | 44 | 22 |
| VII | 2,834 | 28 | 19 |
| VIII | 2,624 | 19 | 23 |
| Total | 21,071 | 247 | 176 |

| Indicators | School category | | | | |
|---|---|---|---|---|---|
| | P. only | P + UP | P+sec/hs | U.P. only | UP+sec |
| % Girls | 49.2 | 48.2 | 48.4 | 49.5 | 48.7 |
| Pupil-teacher ratio (PTR) | 17 | 17 | 16 | 17 | 18 |
| Student-classroom ratio (SCR) | 19 | 25 | 22 | 36 | 20 |
| % Schools with <= 50 students | 51.8 | 7.9 | 0.0 | 0.0 | 18.2 |
| % Schools with PTR > 100 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| % Female teachers | 52.8 | 51.4 | 51.1 | 46.2 | 53.3 |
| % Schools established since 1995 | 24.1 | 2.6 | 2.1 | 0.0 | 18.2 |

| Classrooms/Other rooms | Classrooms | | | | | No. of schools by type of building* | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| School category | Total classrooms | % good condition | % minor repairs | % major repairs | Other rooms | Pucca | Partially Pucca | Kuccha | Tent | Multiple Type | No Building |
| Primary only | 541 | 51.6 | 29.6 | 18.9 | 201 | 70 | 33 | 22 | 0 | 14 | 2 |
| Primary with upper primary | 377 | 38.5 | 40.2 | 21.3 | 113 | 10 | 0 | 2 | 0 | 22 | 2 |
| Primary with U.P. & sec/higher | 950 | 64.5 | 30.3 | 5.2 | 360 | 25 | 1 | 0 | 0 | 21 | 0 |
| Upper primary only | 6 | 100.0 | 0.0 | 0.0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Upper primary with sec./higher sec | 136 | 54.4 | 26.5 | 19.1 | 74 | 8 | 1 | 0 | 0 | 2 | 0 |

**Position of teachers by educational qualification (other than para teacher)**

| School category | Below secondary | Secondary | Higher secondary | Graduate | Post graduate | M. Phil. | Others | No response |
|---|---|---|---|---|---|---|---|---|
| Primary only | 12 | 56 | 389 | 114 | 28 | 1 | 1 | 5 |
| Primary with upper primary | 0 | 26 | 207 | 223 | 82 | 1 | 0 | 14 |
| Primary with Upper primary & sec/higher | 10 | 71 | 351 | 564 | 199 | 7 | 20 | 95 |
| Upper primary only | 0 | 0 | 0 | 8 | 1 | 0 | 0 | 0 |
| Upper primary with sec./higher secondary | 2 | 11 | 16 | 81 | 36 | 0 | 2 | 2 |
| Para-teachers | 1 | 0 | 7 | 8 | 8 | 0 | 0 | 0 |

| Examination results (Previous academic year) | | |
|---|---|---|
| Terminal grade | % Passed | % Passed with >60% |
| V boys | 98.7 | 34.5 |
| V girls | 99.6 | 38.2 |
| VIII boys | 92.4 | 14.7 |
| VIII girls | 93.6 | 17.9 |

| Gender and caste distribution of teachers* | | | Regular teachers | | | | Para-teachers | | | SC teachers | | ST teachers | | %Teachers recvd. in-service training | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| School category | Avg. No. of Tchs. | Total | Male | Female | No res | Male | Female | No res | Male | Female | Male | Female | Male | Female |
| Primary only | 4.3 | 608 | 283 | 319 | 4 | 0 | 2 | 0 | 0 | 2 | 3 | 7 | 41.7 | 32.7 |
| Primary with upper prim. | 14.8 | 562 | 258 | 285 | 10 | 5 | 4 | 0 | 0 | 2 | 3 | 2 | 24.0 | 24.6 |
| Prim.with U.P.&Sec/H.S | 27.6 | 1325 | 566 | 673 | 78 | 4 | 4 | 0 | 1 | 2 | 4 | 7 | 18.4 | 13.9 |
| Upper Primary only | 13.0 | 13 | 5 | 4 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 28.6 | 50.0 |
| U. Primary with Sec./H.S. | 13.8 | 152 | 69 | 79 | 2 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 18.8 | 4.9 |

| Enrolment by medium of instructions | % Total Grossness | Primary | Upper Primary |
|---|---|---|---|
| | | 21.1 | 39.7 |

| Category | Hindi | Bengali | English | Tamil | Telugu |
|---|---|---|---|---|---|
| P. only | 3026 | 3490 | 2774 | 530 | 384 |
| P + UP | 3311 | 4044 | 1341 | 298 | 284 |
| P+sec/hs | 8123 | 3627 | 5944 | 2340 | 841 |
| U.P. only | 137 | 81 | 0 | 0 | 0 |
| UP+sec | 1115 | 276 | 740 | 165 | 429 |

| % Schools recvd. (Previous year) | | Incentives : Number of beneficiaries (Previous academic year) | | | | |
|---|---|---|---|---|---|---|
| School dev. grant | T L M grant | Incentive Type | Primary | | Upper primary | |
| | | | Boys | Girls | Boys | Girls |
| 90.1 | 75.2 | Text books | 8961 | 9936 | 4985 | 5521 |
| 78.9 | 65.8 | Uniform | 928 | 847 | 457 | 419 |
| 85.4 | 60.4 | Attendance | 18 | 16 | 6 | 8 |
| 100.0 | 100.0 | Stationery | 278 | 292 | 165 | 165 |
| 72.7 | 45.5 | | | | | |

# = not applicable  na = not available  * Some totals may not match due to no response in classificatory data items