GRAIL PROJECT

Ghana School Report Card Findings
Including EMIS Support Assessment

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Introduction

Component 3 of the GRAIL project is to provide the MOESS/GES resources to develop a school report card (SRC) for all schools in the 168 districts. The SRC will allow districts, circuits and schools to increase accountability to its constituents. This component builds upon Ghana's existing national and district level EMIS, that focuses primarily on school inputs (e.g. teachers, textbooks, schools, and students attending); and adds to that data, via School Report Card data, more information about internal school processes (e.g. teacher attendance, instructional methods, pedagogical monitoring, and community involvement) as well as outcomes. The most important outcome expected is the ability to monitor improvements in early grade literacy. During the period July 22 to July 26 Chien-Li Chung, Senior EMIS Consultant for AED, examined the Ghana EMIS database and the EMIS process to determine the feasibility of extracting relevant school inputs for the SRC, and to use the process in a complementary fashion for SRC information needs.

MOESS/GES EMIS Situation

The MOESS EMIS system captures Annual Education Census (AEC) data for basic and secondary schools. The EMIS staff has installed an EMIS program at every computer in the 168 districts used for data entry. After the completed census forms are delivered to the district office, data entry clerks enter the form information into this EMIS program. When the clerks are finished entering all the data, they wait for EMIS staff from head office to come to their location to collect and consolidate their entered AEC data. At head office, EMIS staff will export the data from this EMIS system and use Excel and Access to produce the reports for the AEC Statistical Bulletin.

The MOESS/EMIS system (see Appendix B) captures the following data.

- School profile
- Infrastructure
- Management and Finance
- Buildings and Classrooms
- Materials and Equipment
- Textbooks
- Enrollment
- Teacher Particulars
- Staff Movement

According to interviews, the District EMIS team does not perform any data quality checks on their school data. The district heads are supposed to check all the forms for accuracy—but, according to interviews, this is seldom done. The regional offices are also supposed to check the forms as well, with apparently mixed results. At present, the response rate for the forms is around 95% nationwide—particularly for public school.

Currently, there is little information captured on actual school operations in the EMIS system. According to the EMIS instrument, and the extracted information historically, the following questions are the only ones that relate to internal school operations:

1. *Does your school have an elected School Management Committee (SMC)?*
2. *How often does the SMC meet?*
3. *Does your school have a School Performance Improvement Plan?*
4. *How often is your school visited by the Circuit Supervisor?*
5. *How often have teachers in your school received in-service training this past year?*
6. *Does your school organize School Based in-service Training (INSET)?*
7. *If your school has implemented INSET, which subject areas do you normally cover?*
8. *If your school organizes INSET regularly, how often?*

EMIS Software, Procedures, and Capacity

The current MOESS EMIS software is a web-based system using SQL Server 2000 MSDE, PHP and Apache. It was delivered by UNESCO Institute for Statistics (UIS) in 2007. Prior to that, EMIS used a Microsoft Access based system delivered by the former HIID at Harvard University. The primary reason the department moved away from the Microsoft Access system was that the system could not create a multiyear data set to allow for easy comparison of key educational indicators. As of the consultant visit, the software application from UIS is incomplete, and, at present, there are no plans to finish it. The missing component/module from UIS is the data analysis/reporting section. The lack of a reporting section is a major handicap for the existing MOESS EMIS system. Its absence translates into wasted time by a small EMIS staff, as staff must move EMIS data to Excel or separate Access reports to produce EMIS reports. In addition, end users cannot directly use the EMIS database, and therefore depend upon ad-hoc data queries developed by EMIS staff. This slows down information retrieval and seriously compromises rapid dissemination of data.

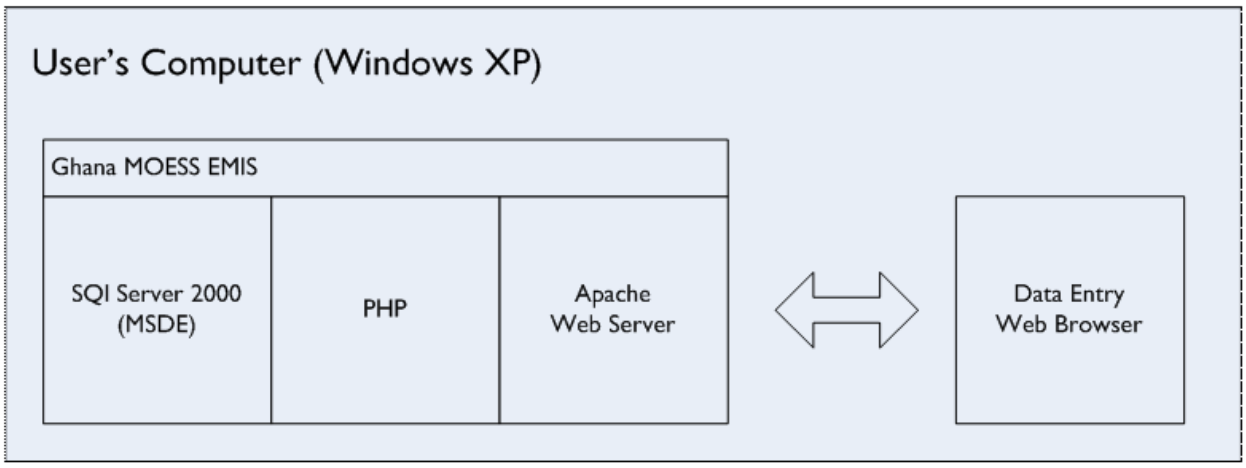


Figure 1. MOESS/GES EMIS Technical Architecture

The existing EMIS application does not run in a network mode. All components of the EMIS are installed on every computer used for data entry—even in Head Office or larger Districts where a computer network could be supported.. Merging all the data from each data entry computer is a complicated and time consuming process. The EMIS staff currently installs a copy of the MOESS EMIS on every desktop at the district level for data entry of the Annual Education Census. When the data entry process is completed, the data from all the desktops are merged. The EMIS staff alluded to the need to visit each district office to accomplish the merging of data. This would appear to take much time and effort as well as considerable travel.

There is no documentation for the UIS application and no database diagram. The MOESS staff is unfamiliar with PHP software and, consequently, they are unable to make changes to the application to capture data from a changed or new survey form. The temporary solution is to freeze any changes in the EMIS form which, in turn, is causing consternation in other parts of MOESS.

Given the issues noted above, actual data analysis occurs outside of the UIS application. The EMIS staff exports all EMIS data into Microsoft Access and performs independent data calculations on the data set. Since data are partitioned by years, and there is no linking program or queries, multiyear analysis is not easily accomplished. .

The EMIS software from UIS is in a fragile state, but it appears the census processes at MOESS are robust enough to support it. The EMIS department has been able to print out the survey forms, distribute the forms, train school-level education staff to fill in the forms and support the data entry clerks at the district offices to key in the data on the forms on an annual basis. At the end of the process, EMIS staff collects and processes the EMIS data and are able to produce an Annual Statistical Report on Education in Ghana.

The current mixed and incomplete MOESS/EMIS system in Ghana, without a concerted effort and investment, will probably collapse in two to three years. Since the staff does not know PHP, they cannot fix any “bugs” with the existing system, and they cannot modify the EMIS system to add or remove **AEC** questions. The lack of documentation on the system already hampers their ability to modify or correct any errors even if they understood PHP. There is a limited number of EMIS staff at Head Office who understand the operations of the existing EMIS system. If staff members leave, the collapse of the EMIS system will accelerate. At a minimum, and in order to reinforce both data and process standards, there is a need to document the existing EMIS system. As well, improvement in technical skills by existing staff in concert with some selected external assistance is very necessary.

School Report Card (SRC) Format and Data

The presently proposed SRC format (the result of several preliminary planning meetings completed before this Grail Project was developed) is composed of school inputs and

up to five indicators focused on school processes and standardized exams. The key school input information proposed by the SRC group is listed below.

Name	Male Student Enrollment	Student Teacher Ratio
School Code	Female Student Enrollment	Student Classroom Ratio
Location	Total Enrollment	

All the above school information can be extracted from the existing MOESS/GES 2008 EMIS database. However, this will require "extract routines" to be written and tested—approximately 5-7 days of work by an experienced programmer. Extract routines can be written in PHP/SQL, PERL/SQL or Visual Basic/SQL. More than likely, the Visual Basic/SQL is the best choice since the current MOESS EMIS programmers understand that language combination. The GRAIL project should use the EMIS database for as much SRC data as possible. As noted in the original GRAIL Proposal, basic data collection is expensive and time consuming.

For example, if the GRAIL Project wants to collect data outside of EMIS or the testing authorities, the project will need to perform the following tasks.

- Design and print questionnaires (3 weeks)
- Distribute the questionnaires (2 weeks)
- Train headmasters on the questionnaires (3 weeks)
- Develop a data entry program for the questionnaires (2 weeks)
- Install the data entry program at the district level (2-3 weeks)
- Train staff on how to use the data entry program at the district level (3-4 weeks)
- Collect the data from each district office (3-4 weeks)
- Process the data for the SRC (2-3 weeks)

While there should be opportunities to "piggyback" on EMIS staff training visits to the district offices—there are clearly additional costs to collect data "outside" of EMIS. The present state of the EMIS system also makes additional "burdens" on it more problematic.

According to the SRC Group, the list of possible indicators that focus on school processes and the results of standardized tests are below:

Column A	Column B
Teacher Attendance	SEA results
Coverage of Curriculum	ERA results
Number of PTA/SMC meetings	NEA results

Except for one part of the SMC questions, the data in column A do not exist in the current EMIS database and need to be obtained through a separate questionnaire. Column B information can be accessed from the appropriate testing authority and linking the exams data with the EMIS data using the unique school code. Within the

first two years of the project, it will be extremely difficult to include any but the SMC Meetings data in the SRC..

It is unlikely at this time that the existing EMIS database can be modified to accept the new indicators focused on school processes without a good amount of additional resources. In addition to the EMIS System issues noted above, the EMIS database design has not changed in the past 2 years, and there is no indication, according to interviews, that it will be modified in the near future to handle additional data elements.

School Report Card Design and Presentation

Based on interviews and reviewing how an SRC could be developed and presented, the following options should be considered as part of the design effort.

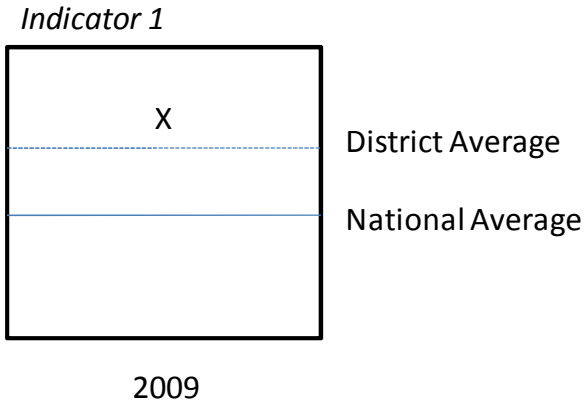


Figure 2. Sample Indicator

A key goal of the SRC needs to be not only creating a “snapshot” of a School’s activities and outcomes, but as well show how the School ranks in terms of a comparison group. One approach is to display individual indicators, such as exams scores, in a graphical box such as in figure 2. Each indicator would have one line denoting the national average for the indicator and another line for the district average. The school’s result is denoted with an X along with the year it was collected.

Overall Index Value

Appendix C describes an approach to create an overall index value with supplied indicators that may be useful for the SRC. One could create an index value that synthesizes 4-5 underlying indicators centered around school inputs and processes and another index value that summarizes the testing outcome for a given school. The index values allow quick comparison of the school with other schools at a circuit, district or national level.

Comparative Reporting By Indicator

Another reporting technique is a refinement of the individual indicator described earlier. The indicator would be compared to more outside variables. In figure 3, one indicator Secondary Pupil Teacher Ratio is framed in a larger question of whether enough secondary teachers exist in the district. The district information for this indicator is presented for 4 years, along with the national norm and district, provincial and national averages for the indicator.

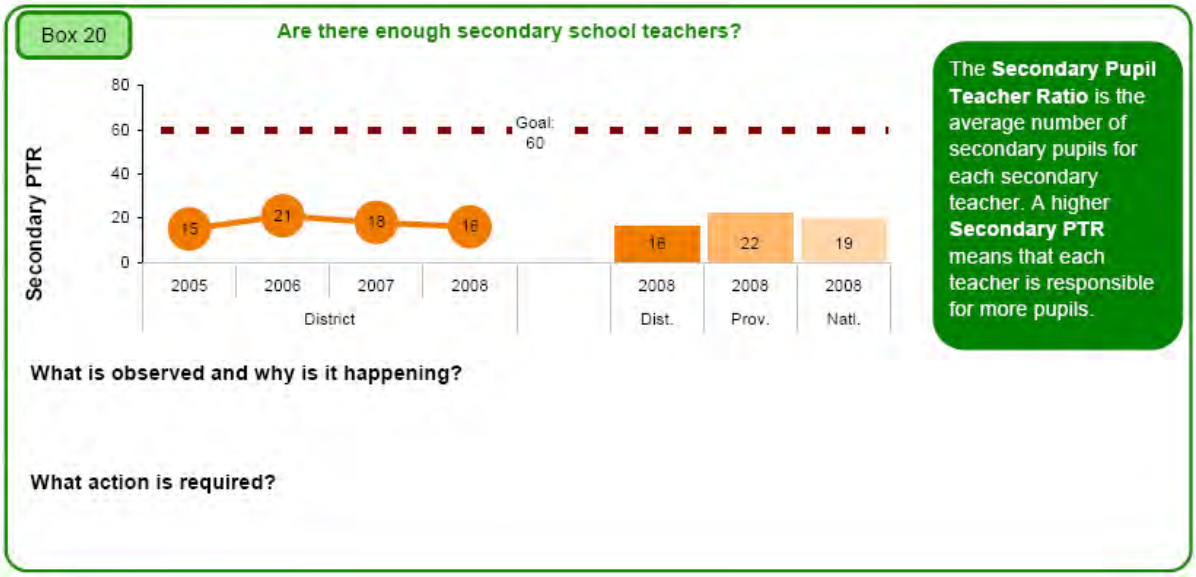


Figure 3. Sample comparative indicator format

The graph for this indicator comes from a Zambian District education profile derived from the EMIS system for the country. A complete view of the profile is in Appendix D.

Conclusion

The real benefit of School Report Cards comes when they are critically analyzed, explained, and trigger GES officials, headteachers, teachers and/or parents into action. At this point in time, the SRC can be produced with data from the EMIS database and the testing authorities. Some data collection will need to occur for the indicators focused on school processes. However, the emphasis of this data collection effort should "piggyback" on existing EMIS processes.

The EMIS software has been characterized as being in a fragile state with a short-term trajectory pointing towards collapse in a few years. External resources will be needed before the end of 2010 to avert this situation. The SRC can be isolated somewhat because the underlying processes for survey dissemination, collection, processing and reporting are viable, but in 2011 and subsequent years there will not be any EMIS data for the school input indicators.

The SRC needs immediate focus on defining the indicators for school processes, so that a data collection form can be developed. In addition, the testing authorities' use of the EMIS school code needs to be verified. EMIS Director Thomas Hutton Coleman indicated that the testing authorities used the EMIS school code but no independent verification has occurred. Also, one should confirm that the testing authority use the EMIS school code for where the student is enrolled and not where the student took the test.

There are many formats for displaying the SRC data. The comparative reporting of each indicator has shown much success in Zambia. The single index that ties many indicators together has shown less success in Nigeria because of its computational complexity. However, in the Ghanaian context it may see more use.

Appendix A

Automated Grant Application Program

Component 2 of the GRAIL project focuses on an Excel based Grant Application Program (GAP). AED provided the stakeholders with a model program mock-up in EXCEL. This contains various elements of a grant request and allows individual Districts, without a great deal of training or "written work" to make a request for assistance in implementing Early Literacy activities. There is a need for additional meetings with Charles Otoo who is the financial controller of GES to discuss the development of GAP, and more detailed costing information for the budget component of GAP. In addition, Charles Otoo and GRAIL team will need to review and proof the exact elements of the GAP that the Districts are expected to complete.

These data elements should be defined soon before further development of the application. The following items need further clarification:

- List of stakeholders and consultative groups
- List of interventions
- Success conditions for each intervention—measurable criteria
- Cost items for each intervention

With an extract from the 2008 EMIS database, the GAP developer can incorporate the district level information such as number of schools, students and teachers in the application, automatically, without user input.

The next steps to move this item forward include:

- To develop a functional specifications document for GAP with the supplied information from Charles Otoo
- Describe the data elements of GAP, and how the user will interact with GAP
- Create a sample budget and work backwards from it to determine the variables required for the data input screen.

Once the functional specifications document has been developed and signed off from the steering committee, a GAP developer can write the application. The 10 days estimate for the application writing (submitted in the AED proposal) seems reasonable and includes time for testing. The developer and one other person should also write the user instructions and create a technical program description document. This document will describe the EXCEL/VBA code used in GAP and the main program modules in GAP.

Once development is done, GRAIL and GES staff should be trained. The training should be designed as a "training of trainers." During this period, the GAP programmer should identify any program bugs and fix them. Once the training is completed and program errors have been fixed, GAP should be readied for deployment to the districts. The GES

and GRAIL staff should pay attention to how GAP is used by district officials and be prepared to convey their findings to the GAP programmer to make changes to the application based on district user feedback.

Appendix B

Annual School Census for Basic Schools form (2008/2009)

ANNUAL SCHOOL CENSUS
2008/2009 ACADEMIC YEAR

BASIC SCHOOLS

REPUBLIC OF GHANA

MINISTRY OF EDUCATION, SCIENCE AND SPORTS

The Annual School Census is the most important source of information regarding the situation at your school. The information collected will contribute to the Education Management Information System (EMIS) of the region and will be of value to the management, administration, supply of school resources and governing of schools.

Please read the headings and instructions carefully when completing the questionnaire.

I , the Head of .....
fully understand the provision made in the GES Act No 506, 1995 regarding the duty of schools to provide information. This Act requires that every school must provide such information about the school as is reasonably required.

By signing, I certify that the information provided on this form is correct and completed to the best of my knowledge.

Head of School [ ] [ ] [ ] _____ _____
Mr/Mrs/Miss *Initials* *Surname* *Signature* *Date*

Checked by District Statistics Officer

By signing, I certify that the information provided on this form is correct and completed to the best of my knowledge

Dist. Stats Officer: [ ] [ ] [ ] _____ _____
Mr/Mrs/Miss *Initials* *Surname* *Signature* *Date*

I. SCHOOL IDENTIFICATION

1.1 **School Name** (full name covering all levels offered) [ ]

1.2 **Year Established** [ ][ ][ ][ ]

1.3 **School Code** [ ]

1.4 **School Status** (mark with a tick) **Public** ☐ **Private registered** ☐ **Private, not registered** ☐

1.5 **If private registered, what is your GES registration number?** [ ]

1.6 **Tick which levels are found in the school.**

Nursery/Creche ☐ **Primary** ☐
Kindergarten ☐ **Junior secondary** ☐

1.7 **Location of School** (in full)

Region [ ]
District [ ]
Circuit [ ] Enter Code [ ]
Political Constituency [ ]
Locality [ ]

1.8 **Type of Locality** **Rural** (less than 5000 people in community/locality) ☐ **Urban** (more than 5000 people living in your community) ☐

1.9 **School Address for Correspondence**

Telephone:
Fax:
Email:

1.10 **Education Management Unit of the School** (Refer to Code Page at back of Survey) [ ]

1.11 **Summary Count**

	Nursery/Creche	Kindergarten	Primary	Junior Secondary
Pupils				
Teachers				
Classrooms				

Ensure that the totals for these summary counts correspond with the totals for tables 5.1, 9, and 11

SCHOOL NAME _____ EMIS School Code _____

2 SCHOOL PROFILE AND ORGANISATION

2.1 Indicate NUMBER of classes which are Multigrade by level

KG [___ ___ ___]
PRIM [___ ___ ___]
JSS [___ ___ ___]

Multigrade = These are classes where the same teacher teaches pupils in different grades in one classroom. eg. pupils in grade 1 and grade 2 are taught in the same classroom.

2.2 Which of these levels run shift system in your school?

KG ☐
PRIM ☐
JSS ☐

*These are schools where there are not enough classrooms to accommodate all pupils. The school day is divided into two sessions where the two groups of pupils are under **same** head*

2.3 Is your school one of two DIFFERENT schools making use of the same building? Yes ☐ No ☐

2.4 If YES, what is the name of the other school you are sharing with?

[ ]

2.5 Is your school ? Boys only ☐ Girls only ☐ Co-educational/mixed ☐

2.6 Is your school a Special Education School? (see definition in manual) Yes ☐ No ☐

2.7 Indicate NUMBER of disabled pupils by level whether or not your school is a Special School.

	Impairement			Disability	
	Blind/ Visual	Hearing & Speech	Blind & Hearing	Physically Disabled	Intellectually Disabled
KG					
Primary					
JSS					

2.8 Does your school have Ramps for disabled pupils? Yes ☐ No ☐

2.9 What type of Support do you need for your disabled pupils? (Tick as applicable)

None ☐ Hearing Aids ☐ Glasses ☐ Wheel Chairs ☐ Braille ☐ Other ☐

2.10 What Ghanaian language(s) are taught in your school? (Mark with a tick)

Asante ☐ Dagbani ☐ Ewe ☐ Ga ☐ Kasem ☐ Wale/Dagaare ☐
Akwapem ☐ Dangme ☐ Fante ☐ Gonja ☐ Nzema ☐ Other ☐

2.11 How far away from the school is ..... ?

A. the district education office — Less than 5kms ☐ 5 - 10kms ☐ 10 -15kms ☐ More than 15kms ☐

B. the Head's house — 0 - 1kms ☐ 1 - 5kms ☐ 6 -10kms ☐ More than 11kms ☐

C. the next primary school — Less than 5kms ☐ 5 - 10kms ☐ 10 -15kms ☐ More than 15kms ☐

3 SCHOOL INFRASTRUCTURE

3.1 Can a vehicle access your school? Yes ☐ No ☐

3.2 If YES, what is the road made of? (Tick one box) Tar ☐ Earth ☐ Gravel ☐

3.3 Is drinkable water available in your school? Yes ☐ No ☐

3.4 If YES, is the water provided by: (Tick one box) Pipe borne water ☐ Borehole ☐ Well ☐ Other ☐

3.5 What is the MAIN water storage facility available in the school? (Tick one) Tank ☐ Buckets/Pots ☐ None ☐ Other ☐

3.6 Is your school wired for electricity ? Yes ☐ No ☐

3.7 If YES, is it functional? Yes ☐ No ☐ N/A ☐

3.8 If YES, please specify. National Grid ☐ Local Generator ☐ Other ☐ N/A ☐

3.9 Is your surrounding community on the national electricity grid? Yes ☐ No ☐

3.10 How MANY individual toilets seats are available? Boys [___ ___ ___] Girls [___ ___ ___]

3.11 How MANY individual toilets seats are functional? Boys [___ ___ ___] Girls [___ ___ ___]

3.12 Are urinals available and functional? Yes ☐ No ☐

3.13 Which of these problems are experienced in your school?. (Tick box only if answer is yes)

Drainage blockages ☐ Soil erosion ☐ Waste water and sewage ☐ Garbage disposal ☐

SCHOOL NAME _____ EMIS School Code _____

3.14 Is your school 's land properly documented? Don't know ☐ Yes ☐ No ☐

3.15 Are there boarding facilities at the school? Yes ☐ No ☐

3.16 If YES, how many pupils are BOARDERS? Boys ☐ Girls ☐

4 SCHOOL MANAGEMENT AND FINANCE

4.1 Does your school have an elected School Management Committee? Yes ☐ No ☐

4.2 How often does the School Management Committee meet?

Does not meet ☐ Once a year ☐ Once a term ☐ Twice a term or more ☐

4.3 Does your school have a School Performance Improvement Plan? Yes ☐ No ☐

4.4 Did your school receive its capitation grant for the previous year?

Don't know ☐ Yes ☐ No ☐ Only Partially ☐ N/A ☐

4.5 Does your school have a bank account? Yes ☐ No ☐

4.6 How often is your school visited by the Circuit Supervisor?

Hardly ever ☐ Once a year ☐ Once a term ☐ Twice a term or more ☐

4.7 How often have teachers in your school received in-service training this past year?

Hardly ever ☐ Once a year ☐ Once a term ☐ Twice a term or more ☐

4.8 Has your school had any in-service training on HIV/AIDs? Yes ☐ No ☐

4.9 Does your school teach HIV/AIDS issues as integrated in the school currculum? Yes ☐ No ☐

4.10 Does your school have a School Free Meals scheme? Yes ☐ No ☐

4.11 Was the school able to raise funds from other sources last year? Yes ☐ No ☐

4.12 Does your school organize School Based In-service Training (INSET)

Never ☐ Have implemented before ☐ Regularly ☐

4.13 If your school has implemented INSET, which subject areas do you normally cover?

Science ☐ Maths ☐ English ☐ Others ☐

4.14 If your school organizes INSET regularly, how often?

Once a year ☐ Once a term ☐ Twice a term or more ☐

4.15 Indicate with a tick any groups active in supporting your school in the following activities.

Active Group	Enrolment Drive	Building Classrooms	Supplying Furniture	Maintenance & repairs	Sports equipment	Textbooks	Staff housing	Vehicles	Teaching
PTA	☐	☐	☐	☐	☐	☐	☐	☐	☐
School Management	☐	☐	☐	☐	☐	☐	☐	☐	☐
District Assembly	☐	☐	☐	☐	☐	☐	☐	☐	☐
Town Development	☐	☐	☐	☐	☐	☐	☐	☐	☐
GETFUND	☐	☐	☐	☐	☐	☐	☐	☐	☐
NGOs Donors	☐	☐	☐	☐	☐	☐	☐	☐	☐
Others	☐	☐	☐	☐	☐	☐	☐	☐	☐

SCHOOL NAME _____ EMIS School Code _____

5 SCHOOL BUILDING

5.1 **Specify the GENERAL construction of the school building by indicating the NUMBER of rooms with the appropriate description**

Condition of the Building	Creche Classrooms	KG Classrooms	Primary Classrooms	JSS Classrooms
Wall Type				
Mud/Clay				
Cement/Brick/Wood				
Aluminium/Zinc				
Other				
No Walls				

Roof Type				
Thatch / Grass				
Aluminium/slate sheets				
Tile / Concrete				
Other				
No Roof				

Floor Type				
Earth				
Cement / Tile/Wood				
Other				

5.2 **How many rooms in each level does the school have? How many are temporary?**

Rooms	Creche	KG	Primary	JSS
Total No.of Rooms Available				
Number that are Temporary Structures				

5.3 **How many of the above rooms need REPAIR ?** **(Indicate NIL where none)**

Number Needing Minor Repair				
Number Needing Major Repair				

5.4 **What is the number and the state of repairs of the following structures?** (Indicate NIL if none)

Facilities	Number of Permanent Structures	Number of Temporary Structures	Number Needed	No. Needing Major Repair	No. Needing Minor Repair
Office (Room)					
Library (Room)					
Staff Room					
Storeroom					
Sick Bay					
Dormitory Block					
Workshop					
Laboratory					
Teachers Quarters /Bedrooms					
Other Staff Quarters					

SCHOOL NAME _____ EMIS School Code _____

6 CHARACTERISTICS OF SCHOOL'S MATERIALS AND EQUIPMENT

	General Class Furniture				Pupil Seating place by number of seats				Pupil Writing place by number of places			
	Teacher desk	Teacher chair	Blackboard	Cupboard	1 place (Mono)	2 places (Dual)	3 places (bench)	4 or more places (bench)	1 place	2 places	3 places	4 or more places table
6.1 Creche/Nursery Classroom Furniture												
Number. Available												
Additional Required												
6.2 Kindergarten Classroom Furniture												
Number. Available												
Additional Required												
6.3 Primary Classroom Furniture												
Number. Available												
Additional Required												
6.4 Junior Secondary Classroom Furniture												
Number. Available												
Additional Required												

6.5 **Does your school have the following record books?** Indicate the number or NIL if none

Admission Register		Inventory		Teacher Attendance	
Class Register		Logbook		Visitors Book	

6.6 **Does your school have the following functional equipment/materials?** Indicate the number or NIL

Computers		Printers		Library Books	

6.7 Indicate the availability of **Technical** equipment in your school. (Tick one)

Adequate ☐ Inadequate ☐ None ☐

6.8 Indicate the availability of **Laboratory Equipment** in your school? (Tick one)

Adequate ☐ Inadequate ☐ None ☐

6.9 Indicate the extent of availability of **Audio/Visual Aids** in your school. (Tick one)

Adequate ☐ Inadequate ☐ None ☐

SCHOOL NAME _____ EMIS School Code _____

7 PUPILS AND TEACHER TEXTBOOKS

7.1 **Indicate the NUMBER of Teaching Guides / HandBooks available by grade**

	KG 1	KG 2	P1	P2	P3	P4	P5	P6	JS1	JS2	JS3
Agriculture											
English											
Environmental Studies											
French											
General Science											
Ghanaian Lanuage and Culture											
Integrated Science											
Life Skills											
Mathematics											
Music & Dance											
Pre-Technical Skills											
Pre-Vocational Skills											
Religious & Moral Education											
Social Studies											
Special Educ Only*											
Audio Therapy*											
Speech Therapy*											

7.2 **How MANY Pupil Textbooks for each subject and grade is available** (Indicate NIL if none are available)

	KG 1	KG 2	P1	P2	P3	P4	P5	P6	JS1	JS2	JS3
Agriculture											
English											
Environmental Studies											
French											
General Science											
Ghanaian Lanuage and Culture											
Integrated Science											
Life Skills											
Mathematics											
Music & Dance											
Pre-Technical Skills											
Pre-Vocational Skills											
Religious & Moral Education											
Social Studies											
Special Educ Only*											
Audio Therapy*											
Speech Therapy*											

SCHOOL NAME _____ EMIS School Code _____

7 PUPILS AND TEACHER TEXTBOOKS

7.3 **Does your school offer these subjects and is a syllabus AVAILABLE?** (Mark with a tick)

Core Subjects	Kindergarten		Primary		Junior Secondary	
	Available	Being Taught	Available	Being Taught	Available	Being Taught
English	☐	☐	☐	☐	☐	☐
Environmental Study	☐	☐	☐	☐	☐	☐
Ghanaian Language & Culture	☐	☐	☐	☐	☐	☐
Integrated Science	☐	☐	☐	☐	☐	☐
Mathematics	☐	☐	☐	☐	☐	☐
Music & Dance	☐	☐	☐	☐	☐	☐
French	■	■	☐	☐	☐	☐
General Science	■	■	☐	☐	☐	☐
Life Skills	■	■	☐	☐	☐	☐
Religious & Moral Education	■	■	☐	☐	☐	☐
Social Studies	■	■	☐	☐	☐	☐
Agriculture	■	■	■	■	☐	☐
Pre-Technical Skills	■	■	■	■	☐	☐
Pre-Vocational Skills	■	■	■	■	☐	☐
Special Educ Only*						
Audio Therapy*	■	■	☐	☐	☐	☐
Speech Therapy*	■	■	☐	☐	☐	☐

8 NON TEACHING STAFF INFORMATION

8.1 **How MANY non-teaching staff does the school have?**

Staff	Male	Female	Staff	Male	Female
Accounting Staff	____	____	Library Assistant	____	____
Admin Staff	____	____	Security/Groundsman	____	____
Lab Assistant	____	____	Other	____	____

9 PRIMARY GRADE ONE FIRST-TIME ENROLMENT

9.1 **How MANY New entrants are enrolled in Grade 1? (for the first time)**

Age	Boys	Girls
Less than 6 years	____	____
6 years	____	____
7 years	____	____
8 years	____	____
9 years	____	____
10 years	____	____
older than 10 years	____	____
Total		

9.2 **Of the NEW entrants to Grade 1, how many of them have attended some form of pre-primary education?**

Age	Boys	Girls
Less than 6 years	____	____
6 years	____	____
7 years	____	____
8 years	____	____
9 years	____	____
10 years	____	____
older than 10 years	____	____
Total		

SCHOOL NAME _____ EMIS School Code _____

9 ENROLMENT BY GRADE, BY SEX AND BY AGE

Grade	Creche/ Nursery	KG 1	KG 2	P1	P2	P3	P4	P5	P6	JSI	Js2	Js3
9.3 No. of streams per grade												

9.4 How MANY Streams have classes in the open air?

No. of classes held in open air												

9.5 Grade	Creche/ Nursery		KG 1		KG 2		P1		P2		P3		P4		P5		P6		JS1		JS2		JS3	
Age	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
1 year or less																								
2 years																								
3 years																								
4 years																								
5 years																								
6 years																								
7 years																								
8 years																								
9 years																								
10 years																								
11 years																								
12 years																								
13 years																								
14 years																								
15 years																								
16 years																								
17 years or more																								
Total																								

HOOL NAME _____ EMIS School Code _____

0 PUPIL ATTENDANCE AND MOVEMENT

0 Indicate Pupil NUMBERS by Grade and by Sex

	Creche		KG 1		KG 2		P1		P2		P3		P4		P5		P6		JSS1		JSS2		JSS3	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
.1 How many pupils Transferred FROM other schools to your school this school year?																								
2 How many of your pupils transferred TO other schools at the beginning of this school year?																								
.3 How many of your pupils were not PROMOTED to the next grade last year? (Please include all learners who were not promoted to the following grade at the end of the previous academic year even if they have since left the school.)																								
.4 How many Pupils DROPPED out of the school last year (in the previous academic year)?																								
5 How many Pupils are REPEATING a grade this year ? (Do a headcount of number of pupils who are in the same grade as last year. Make sure you include those who were in the same grade but in a different school last year)																								
6 What was the total pupil attendance for the month of November? (Refer to your class registers)																								

7 How many days was your school opened in the month of November? _____

SCHOOL NAME

EMIS School Code

11 TECHER PROFILES

N°	Surname / Family Name	First Name & Initials	Staff number (IPPD) (if govt employee) GOV.....	SSF Number	Level	Year of Birth	Sex	Service	Rank		Type of Teacher	Status	Function	Academic Qualification	Professional Qualification	Professional teaching qualification (Indicate code otherwise leave blank if not applicable)		Who pays the salary? (tick box)			
					N=Nursery K=Kindergarten P=Primary J=JSS	Provide last two digits 19__	Indicate M=Male F=Female	Year posted to present station (last 2 digits)	Current Rank (Enter Code : Refer to back page)	Year Appointted to Rank (last 2 digits)	C=Class Teacher S=Subject H=Head	F=Fulltime P=Parttime N=National Service	T= Teaching A=Administration O=Other	Enter Code (Refer to back page)	Enter Code (Refer to back page)	Year completed (last 2 digits)	Passed =1 Awaiting results=2 Referred=3 Failed=4	Ministry of Education	District Assembly	Private	Other
1																		☐	☐	☐	☐
2																		☐	☐	☐	☐
3																		☐	☐	☐	☐
4																		☐	☐	☐	☐
5																		☐	☐	☐	☐
6																		☐	☐	☐	☐
7																		☐	☐	☐	☐
8																		☐	☐	☐	☐
9																		☐	☐	☐	☐
10																		☐	☐	☐	☐
11																		☐	☐	☐	☐
12																		☐	☐	☐	☐

SCHOOL NAME_____ EMIS School Code_____

TEACHER PERIODS AND SUBJECTS TAUGHT

(State actual periods of teaching PER WEEK for each teacher)

Surname / Family Name (list teachers in same order with exact spelling of name as previous page)	First Name or Initial	Creche/Nursery	Number of Periods taught per week																					
			KG		PRIMARY						JUNIOR SECONDARY													
			KG1	KG2	P1	P2	P3	P4	P5	P6	English	Mathematics	Ghanaian Language	Science	Agriculture	Social Studies	Pre-Technical Skills	Pre-Voc. Skills	French	Religious & Moral Ed.	Life Skills	Physical Education	Other

SCHOOL NAME _____ EMIS School Code _____

13 PUPIL AND TEACHER INFORMATION

13.1 How many pupils died in the previous year?

(GES needs to monitor changes in overall mortality trends for planning purposes. Information is needed on the number of deaths amongst pupils according to cause of death, age group and gender).

Cause of death	Protracted illness		Other	
Age Group	Boys	Girls	Boys	Girls
1 – 3				
4 – 5				
6 – 11				
12 – 14				
15 – 19				
20 & Older				
Total				

13.2 How many pupils have parent(s) who are deceased?

	Boys			Girls		
Level	Only Mother died	Only Father died	Both Parents	Only Mother died	Only Father died	Both Parents
Creche						
KG						
Primary						
JSS						
Total						

13.3 How many teachers died in the previous year?

(GES needs to monitor changes in overall mortality trends for planning purposes. Information is needed on the number of deaths amongst teachers according to cause of death, age group and gender).

Cause of death	Protracted illness		Other	
Age Group	Males	Female	Males	Female
24 or less				
25 – 29				
30 – 34				
35 – 39				
40 – 44				
45 – 49				
50 – 54				
55 & Older				
Total				

SCHOOL NAME _____ EMIS School Code

14 STAFF MOVEMENT

14.1 **How Many Staff have taken leave in the past school year? What kind of leave and for a total number of days?**

Type of Leave	Creche/Nursery		Kindergarten		Primary		JSS		Administration	
	Total Number of teachers who have taken leave to date		Total Number of teachers who have taken leave to date		Total Number of teachers who have taken leave to date		Total Number of teachers who have taken leave to date		Total Number of staff who have taken leave to date	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Sick Leave										
Extended Sick Leave										
Annual leave										
Maternity leave										
Bereavement leave										
Study leave with pay										
Study leave without pay										
Casual leave										
Leave of absence										
Other										

14.2 **How Many Staff have left your school for the following reasons in the past school year?**

Reasons for leaving	Creche/ Nursery		Kindergarten		Primary		JSS		Administration	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Retirement										
Illness										
Transferred										
Dismissed										
Vacation of Post										
Death										
Other										

	Male	Female
14.3 **Number of teachers who have been trained in Life-Skills based HIV/AIDS education**		
14.4 **Number of teachers teaching Life-Skills based HIV/AIDS education this year**		
14.5 **Of those teaching this subject, how many received INSET in this subject?**		

ACADEMIC Qualifications	CODE
MSLC	01
BECE	02
GCE O'LEVEL	03
SSCE	04
GCE A'LEVEL	05
DIPLOMA	06
DEGREE	07
POST GRADUATE CERTIFICATE	08
POST GRADUATE DIPLOMA	09
MASTERS DEGREE	10
PHD	11
OTHER	99

PROFESSIONAL Qualifications	CODE
CERT 'A'	01
DIPLOMA	02
DEGREE	03
POST GRADUATE CERTIFICATE	04
POST GRADUATE DIPLOMA	05
MASTERS DEGREE	06
PHD	07
OTHER	08
NO DATA	99

MANAGEMENT Unit	CODE
A.M.E. ZION	01
ANGLICAN	02
ROMAN CATHOLIC	03
EVANGELICAL PRESBYTERIAN	04
GARRISON	05
ISLAMIC	06
L.A/D.A/M.A/BODY CORPORATE	07
METHODIST	08
PRESBYTERIAN	09
SALVATION ARMY	10
SEVENTH DAY ADVENTIST	11
T.I. AHMADIYYA	12
BAPTIST	13
PRIVATE	14
L.A/R.C	15
ASSEMBLIES OF GOD	16
L.A/SALVATION ARMY	17
L.A/ANGLICAN	18
L.A/SDA	19
POLICE	20
L.A/PRESBY	21
L.A/METHODIST	22
L.A/E.P	23
PENTECOST	24
OTHER MANAGEMENT TYPE	25
NO DATA	99

RANKS	CODE
MSLC/BECE	01
GCE 'O' LEVEL	02
SSCE	03
GCE 'A' LEVEL	04
CLASS TEACHER (Unconfirmed)	05
SNR. SUPERVISOR INSTRUCTOR	06
SUPERVISOR INSTRUCTOR	07
PRIN. TECHNICAL INSTRUCTOR	08
SRN. TECHNICAL INSTRUCTOR	09
SENIOR INSTRUCTOR	10
TECHNICAL INSTRUCTOR GD. I	11
TECHNICAL INSTRUCTOR GD. II	12
SUPT. II	13
SUPT. I	14
SNR. SUPT. II	15
SNR. SUPT. I	16
PRINCIPAL SUPT.	17
ASST. DIRECTOR	18
DIRECTOR II	19
DIRECTOR I	20
OTHER	99

2008/2009 Education Census Finance Questionnaire

BASIC SCHOOLS

Name of School: _____ **School Code:** _____

Region: _____

District: _____

School Status(mark with a tick): **Public ( )** **Private Registered ( )** **Private, Not Registered ( )**

Part 1: Income and Expenditures of the school in 2007-2008

Type	Description	Amount In Ghana Cedis
Income	Capitation Grant	
	Examination Fees	
	Internally generated Fund	
	Total Income	
Expenditures	Recurrent expenditure for the school	
	Purchase of equipment	
	Total Expenditure	

Part 2: Activities of PTAs in 2007/2008

Type	Description	Amount In Ghana Cedis
Income	Contribution from Parents	
	Other Income	
	Total Income	
Expenditures	Recurrent expenditure for the school	
	Purchase of equipment	
	Total Expenditure	

Part 3: Resources received in kind in 2007/2008

Source	Type of Work/Donation	Estimated costs in Ghana Cedis
Example: NGO	*Construction of a fence*	*150*

Appendix C

Single Index Creation

The SRC will describe each indicator separately but it can also display an overall index value that combines all the indicators in a single value that can be used for comparison purposes on a circuit, district or even national level. The value of this single index value is that it allows a casual reader to immediately see how well or poorly his school is performing against other schools across the country.

Although in the Ghanaian SRC, one would choose a single index value for school inputs and school processes and another index value for exam results. For example, if a school received a -40 on school inputs and processes (on a -100 to 100 scale) and an 85 on exam results (on a -100 to 100 scale), the school appears to be performing well with a limited set of resources. In another example, if another school received a 75 on school inputs and processes, and a 35 on exam results, the school is performing poorly based on the amount of resources it has received. If a single index value is used only, such variation between school inputs and processes and exam results will be more difficult to identify.

Developing a single index for school inputs/processes and another index for exam results for each school in the country can cause political difficulties for the local and national government. When parents see a single index value for school inputs and processes and compare that number with the national norm, they may protest and attract the attention of the media if their school is located at the bottom of the index scale. Also, parents in schools that are consistently in the bottom of the index for exam performance will complain too. The single index value for indicators distills the complexity of the underlying indicators, and allows individuals who have low comfort with quantitative information to grasp the meaning of the data presented.

Since the index calculation includes a national norm component, the single index can help educational planners and managers differentiate between schools or groups of schools that are closer to the educational norm/standard than other schools so that intervention strategies can be tailored accordingly. Those schools that are significantly further from educational norms/standards will require more systemic intervention to ensure that their progress is addressed appropriately. Analyzing the index for each school in an entire district can quantify the magnitude of change required to ensure that all schools can reach the nationally mandated education norms/standards.

The following paper describes index creation for the Republic of Nigeria. The Education Data Bank which is one agency in the Nigerian Federal Government that runs an EMIS never chose to implement a single quality index. In addition, the section describes a process of adjusting the indicator value to reflect its position on a normal curve distribution.

Nigerian School Input Quality Index

A proxy statistic designed to measure input quality across all schools in Nigeria

Chien-Li Chung (cchung98@gsb.columbia.edu)
September 26, 2006
ENHANSE/Academy for Educational Development

BACKGROUND

The *Basic Education and Senior Secondary Educational Statistics For Nigeria* report provides a list of basic indicators that describe state of education in the country. Educational administrators and the public use these indicators to gain a better understanding of successes and deficiencies within schools. To facilitate this understanding, the report needs to provide a way to measure relative proximity to agreed upon educational standards. In addition, this measurement should enable to the reader to measure change in growth over time.

STATISTICAL MODEL

The Nigerian School Input Quality Index (NSIQI) offers a proxy measure to permit relative comparisons across schools, LGAs and states using educational basic indicators. The NSIQI provides a statistical means for comparing school characteristics against the national educational norm. A NSIQI score of zero (0) always equal the minimum level as set forth by educational policy. A NSIQI score greater than zero (positive) indicates that a minimum level has been surpassed. A NSIQI score less than zero means that the basic minimum level has not been reached. By comparing the NSIQI values of an individual school or a group of schools at a LGA or state levels, educational planners and the public can determine which school(s) are furthest from the national education norms.

CALCULATION

Using the model in Equation 1 below, one can determine a school's or a group of schools relative distance from the educational norm for a particular basic indicator.

$$NSIQI = \left[\frac{y_{im} - \delta_{im}}{\sigma_{im}} \right] * 100 * k_{im} \qquad (1)$$

Where:

y_{im} = the observed value of the educational basic indicator i in year m
δ_{im} = the national/state norm for the educational basic indicator i in year m
σ_{im} = the standard deviation for the educational basic indicator i in year m
k_{im} = coefficient equals 1 if educational basic indicator i in year m reflects a more positive situation as value increases, equal -1 if the opposite occurs.

Formally, Equation 1 expresses the distance of the basic indicator from the minimum norm in standard deviation units. Standard deviation units can be difficult to interpret for some individuals. To facilitate understanding, the equation transforms NSIQI standard deviation units to one that does not include decimals by multiplying the result by 100. The product is a standardized metric that will allow for direct comparisons across different basic indicators.

The NSIQI metric can be used to compare how far School A is from the educational norm on basic indicator X and how far School B is from the educational norm on basic indicator Y.

The metric can combine several basic indicators using a weighted average approach to create an overall index of distance from several educational norms.

LIMITATIONS

The NSIQI metric provides the basis for relative comparisons across different education basic indicators. However, it does not imply an equal amount effort across all the indicators will translate into an equal amount of change in the NSIQI metric values. That is, it may be easier to make progress on Indicator A than it is on Indicator B. As a result, schools measured on Indicator A may make progress towards the education norm/standard faster than other schools on Indicator B. In this scenario, one may incorrectly infer that LGA 1 (based on Indicator A) is more effective than LGA 2 (based on Indicator B) because schools have made more progress towards the education norm/standard. But, this may be a function of how difficult or easy it is to change the value of the basic indicator and not solely a function of administrative effectiveness.

One needs to mention that the NSIQI metric is not a traditional *z score,* and the value indicated has no relationship to distance from the mean. Rather, this is a dimensionless value that marks distance from a defined educational norm.

CALCULATION EXAMPLE

Assume that one needs to calculate the NSIQI value for *Qualified Teacher to Student Ratio* for Senior Secondary School X in year 2004. The education norm is 45, and the standard deviation is 25. The school has a *Qualified Teacher to Student Ratio* of 75.

Table 1. Sample data for NSIQI calculation

	Formula	Senior School X	Senior School Y
Basic Indicator$_{\text{Pupil Qualified Teacher Ratio}}$	y_{im}	75	50
Education Norm$_{\text{Pupil Qualified Teacher Ratio}}$	δ_{im}	45	45
Standard Deviation$_{\text{Pupil Qualified Teacher Ratio}}$	σ_{im}	25	25

where i = Pupil Qualified Teacher Ratio and m = 2004

One would put the values for Senior School X into equation 1.

$$NSIQI = \left[\frac{75 - 45}{25} \right] * 100 * (-1)$$

$$NSIQI = \left[\frac{30}{25} \right] * (-100)$$

$$NSIQI = -120$$

Putting the values for Senior School Y into equation 1 yields the following value.

$$NSIQI = \left[\frac{50 - 45}{25} \right] * 100 * (-1)$$

$$NSIQI = \frac{5}{25} * (-100)$$

$$NSIQI = -20$$

The two NSIQI values show that Senior School Y (NISQI = -20) is closer to the educational norm than Senior School X (NISQI = -120). The NSIQI metric can help

educational planners and managers differentiate between schools or groups of schools that are closer to the educational norm/standard than others schools so that intervention strategies can be tailored accordingly. Those schools that are significantly further from educational norms/standards will require more systemic intervention to ensure that their progress is addressed appropriately. Analyzing the NISQI for each school in an entire LGA or state can quantify the magnitude of change required to ensure that all schools can reach the nationally mandated education norms/standards.

NSIQI COMPOSITE INDEX

Building a composite index consisting of multiple NSIQI metrics is a straightforward operation that can allow users of educational data to quickly home in on schools or groups of schools that are below or above educational norms/standards. This is a coarse tool that allows users to focus on specific schools, but further examination of each school's NSIQI's metric is **recommended** before any decisions are made to allocate resources or intervene on a management basis.

NSIQI COMPOSITE STATISTICAL MODEL

Calculating the NSIQI composite index requires the weighted average equation as described below.

$$\bar{x} = \frac{\sum_{i=1}^{n} w_i x_i}{\sum_{i=1}^{n} w_i},$$

where x = the set of i individual NSIQI metrics
w = the set of i individual NSIQI metric weights
$\overline{x}$ = the NSIQI composite index

The set of individual NSIQI metrics is based on this available list of basic indicators. The value in parentheses indicates what k value to use in Equation 1. D means k = -1, and I means k = 1.

Gross Gender Gap (D)	*Male GER less female GER*
Net Gender Ratio (I)	*Ratio of female to male values of Net Enrolment Rate*
Pupil Teacher Ratio (D)	*Ratio of pupils to teachers*
Pupil Qualified Teacher Ratio (D)	*Ratio of pupils to qualified teachers*
Pupil Classroom Ratio (D)	*Ratio of pupils to classrooms in a given school-year*
Teacher To Classroom Ratio (I)	*Ratio of teachers to classrooms in a given school-year*
Pupil To Core Textbook Ratio (D)	*Ratio of pupils to number of core textbooks in a given school-year*

Survival Rate (I)	*Percentage of a cohort of pupils enrolled in the first grade of a given level or cycle of education in a given school-year who are expected to reach the last grade of the given level or cycle of education.*
Gross Enrollment Ratio (I)	*Enrollment at a given level of education, regardless of age, expressed as a percentage of the population in the theoretical school-age group corresponding to this level of education. For the tertiary level, the population used is the five-year age group following on from the secondary school theoretical leaving age.*
Gross Intake Ratio (Primary only) (I)	*Total number of new entrants in the first grade of primary education, regardless of age, expressed as a percentage of the population at the official entrance age to primary education.*
Net Enrollment Rate (I)	*Enrollment of the theoretical school-age group for a given level of education, expressed as a percentage of the total population in that age-group.*
Percentage of Repeaters (D)	*Total number of pupils who are enrolled in the same grade (or level) as the previous year, expressed as a percentage of the total enrolment in that grade (or level) of education.*
Percentage of Withdrawals (D)	*Total number of pupils who withdrew from a grade (or level) expressed as a percentage of the total enrollment in that grade (or level) of education.*
Percentage of Qualified Teachers (I)	*The number of qualified teachers at a given level of education expressed as a percentage of total number of teachers (male and female) at the same level in a given school year. Teachers are defined as persons whose professional activity involves the transmitting of knowledge, attitudes and skills that are stipulated in a formal curriculum programme to students enrolled in a formal educational institution. Qualified means having at least a NCE qualification*
Repetition Rate (D)	*Proportion of pupils enrolled in a given grade at a given school-year who study in the same grade in the following school-year in the specific level or type of education.*
Teacher to Non-Teacher Ratio (I)	*The proportion of teachers at a given level of education expressed as a ratio of total number of non-teaching staff at the same level in a given school-year.*
Transition Rate (I)	*The number of students studying in a given year and grade level as a percentage of the number of students studying in the previous year and previous grade level.*

LIMITATIONS

Please note that w or the set of i individual NSIQI metric weights needs **to reflect state and/or national educational priorities**. One cannot use equal weights and produce a meaningful index. In addition, the number of basic indicators that make up the index should be kept to 10 or less. Any number greater than 10 will lessen the impact of the other indicators in the index.

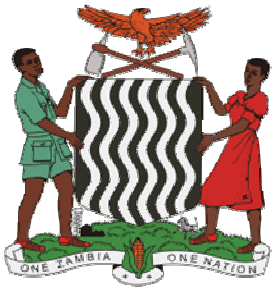
Appendix D

Zambian District Education Profile

Zambia 2008 District Profile for "District Name"

At a glance

	Grades 1-9	Grades 10-12
Female Pupils		
Male Pupils		
Teachers		
Schools		
Classrooms		
Textbooks		



Goal Setting

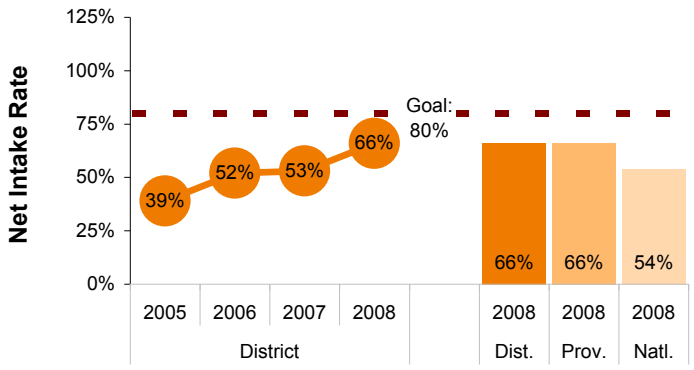
	Goal	Actual Value
NIR	80%	
NER	110%	
Survival to G7	110%	
Pupil-Teacher Ratio	70	
Teacher Attrition Rate	5%	
% Teachers Qualified	80%	
Pupil-Book Ratio	3	

ANALYSIS

Issue #1: Progress in primary school enrolment in "District Name"

Box 1

Are children entering basic school on time?



The **Net Intake Rate** is the percentage of seven-year olds who enter school for the first time. It gives us an idea of how many 7-year olds are entering school and how many are not. A higher **NIR** means more seven year olds are entering school on time.

The Net Intake Rate in "District Name":

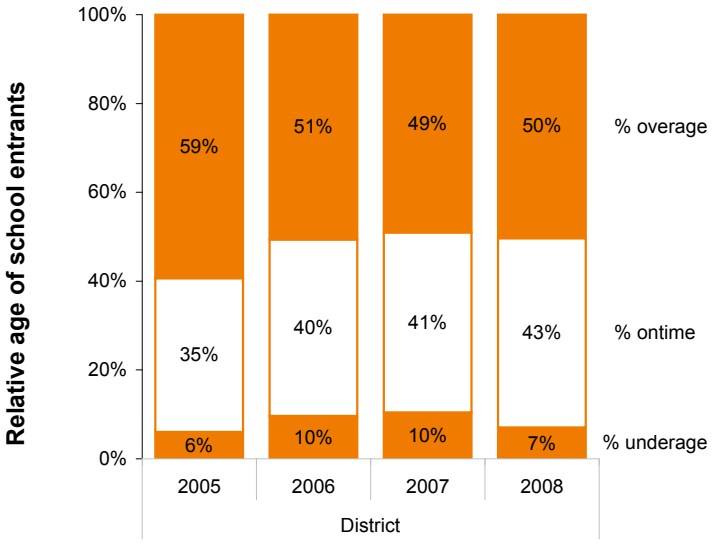
- Has increased by 27 percentage points since 2005
- Is 12 percentage points above the national value.
- Is 14 percentage points below the goal of 80%.

What is observed and why is it happening?

What action is required?

Box 2

Of all the children who enter school for the first time, how many are the correct age?



Since 2005 in "District Name":

- Overage entrants have decreased by 9 percentage points.
- Properly aged entrants have increased by 8 percentage points.
- Underage entrants have increased by 1 percentage points.

What is observed and why is it happening?

This graph shows the **percentage of new school entrants who are on-time** (age 7), **overage** (older than 7) **and underage** (younger than 7). A high percentage of overage entrants means a lower NIR, but is acceptable because it means that older children are receiving an education. Once all the older children have been cycled through school, the percentage of overage entrants should decrease and the percentage of on time entrants should increase. If underage pupils are entering in large percentages, they are taking spaces needed for older pupils.

What action is required?

Box 3

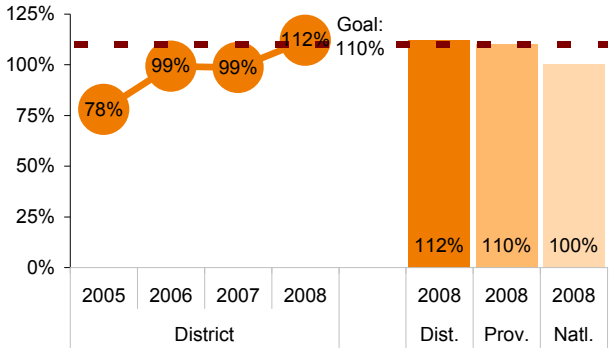
Are all basic school age children enrolled in basic school?

Basic NER

The **Basic Net Enrollment Rate** is the percentage of basic-aged (ages 7-15) children who are enrolled in basic school (grades 1-9). A higher **Basic NER** means more children are attending school at the correct age.

The Net Enrollment Rate in "District Name":

- Has increased by 34 percentage points since 2005
- Is 12 percentage points above the national average.
- Is 2 percentage points above the goal of 110%.



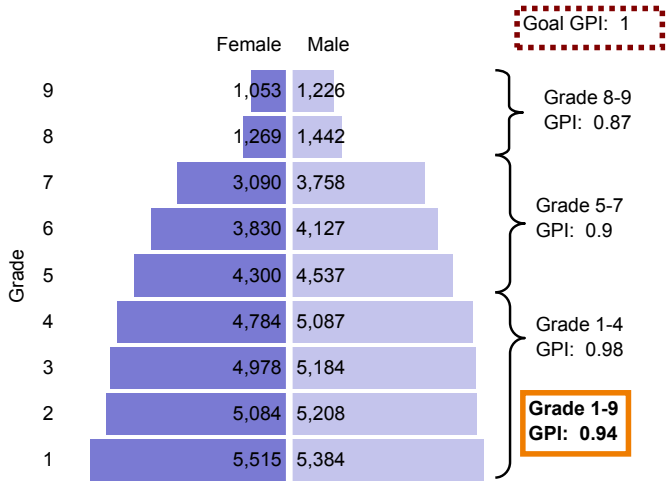
What is observed and why is it happening?

What action is required?

Box 4

Are girls and boys enrolled in equal numbers?

Gender Parity Index



The **Gender Parity Index** is the ratio of female to male pupils. A **GPI** larger than one mean there are more females than males in school. A **GPI** smaller than one means there are less females per male in school. A **GPI** of 1 is desirable because it means there is an equal number of males and females in school.

The Gender Parity Index in "District Name":

- Is within 0.06 of the national goal of 1 for grades 1-9.
- Is highest in grades 1-4, with 0.98 girls per boy.
- Is lowest in grades 8-9, with 0.87 girls per boy.

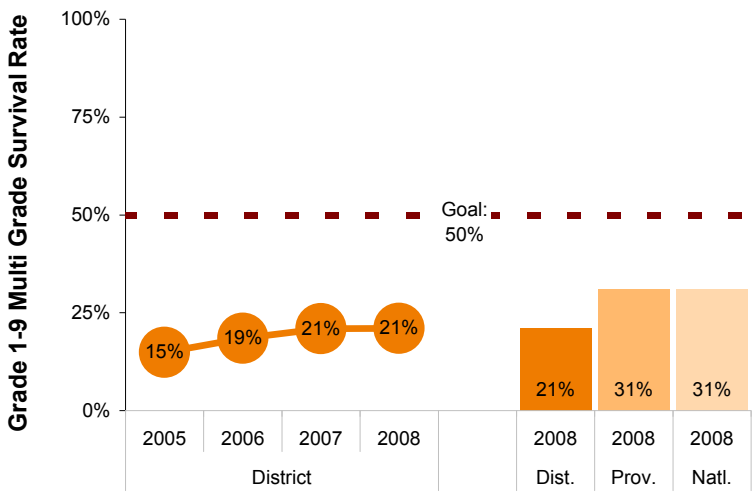
What is observed and why is it happening?

What action is required?

ISSUE #2: Efficiency in "District Name"

Box 5

How many first-grade pupils will reach grade 9?



The **Grade 1-9 Multi Grade Survival Rate** is the percentage of pupils enrolled in grade 1 during the current school year who are expected to reach grade 9, no matter how many years it takes them to get there. It is estimated using data from a single year. A higher survival rate means more pupils are expected to reach grade 9 and that dropout rates are lower.

The Grade 1-9 Multi Grade Survival Rate in "District Name":

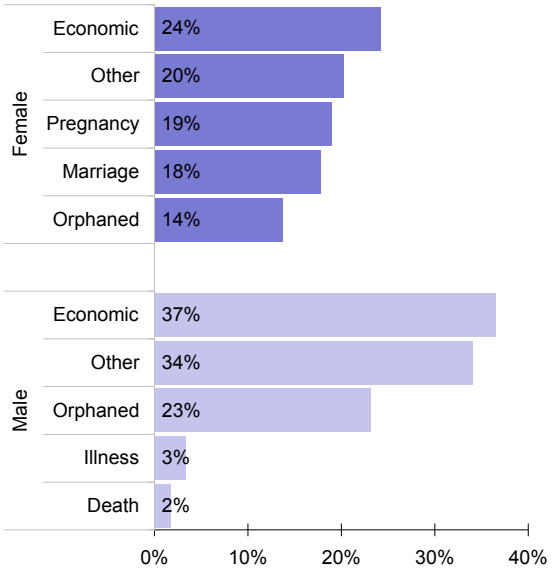
- Has increased by 6 percentage points since 2005
- Is 10 percentage points below the national average.
- Is 29 percentage points below the goal of 50%.

What is observed and why is it happening?

What action is required?

Box 6

Why do children in grades 5-9 drop out before completing basic school?



The top reasons that students in grades 5-9 left school as reported by school headmasters. Headmasters may not always know the exact reason.

What is observed and why is it happening?

What action is required?

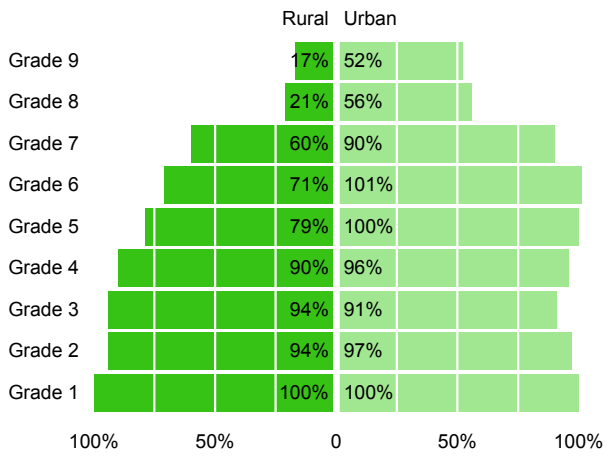
Are some Grade 1 students less likely than others to reach higher grades of Basic School?

Box 7

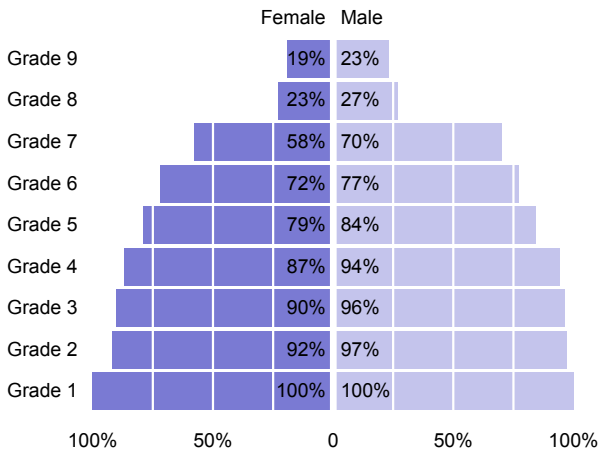
These pyramids compare the multi-grade survival rates for a grade 1 pupil from different education situations. When one group has a lower survival rate to a particular grade, pupils from that group are less likely to reach that grade.

In "District Name", students are less likely to stay in school through grade 9 if they are female or if they attend a rural or community school.

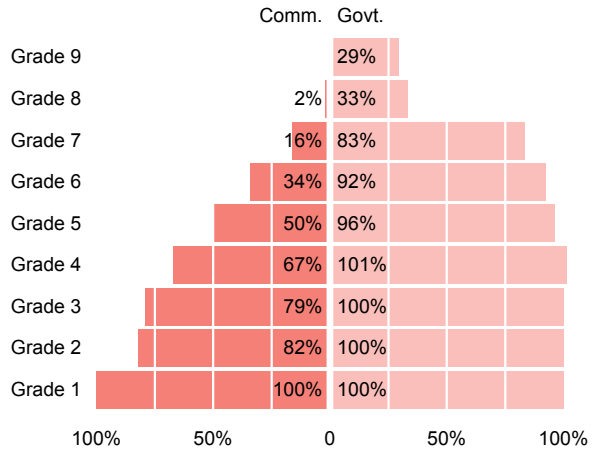
- 17% of rural school entrants will reach grade 9 as compared with 52% of urban entrants.
- 19% of female school entrants will reach grade 9 as compared with 23% of male entrants.
- 0% of community school entrants will reach grade 9 as compared with 29% of government school entrants.



What is observed and why is it happening?

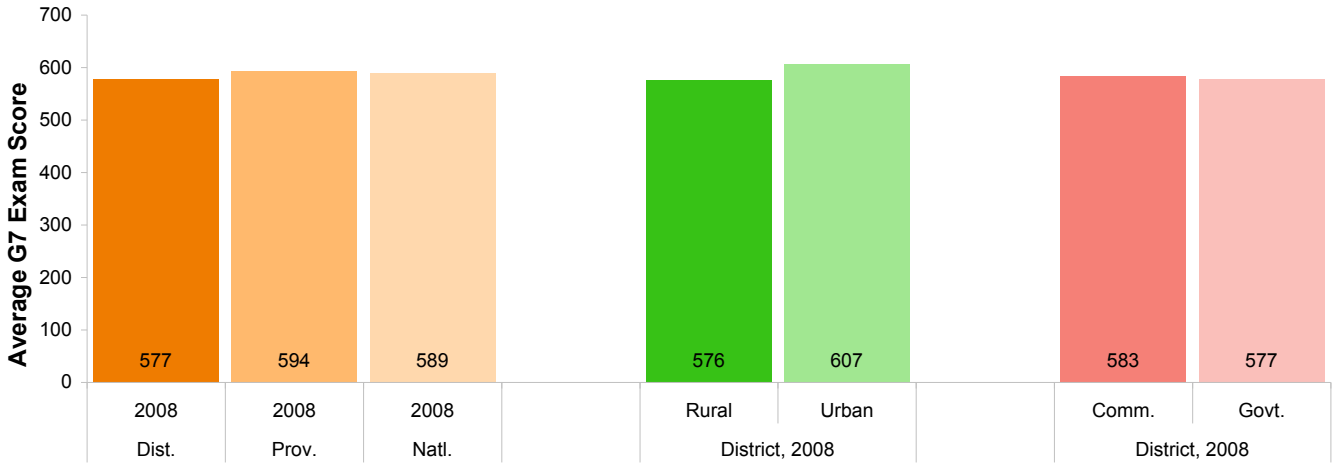


What action is required?



ISSUE #3: Are children learning?

Box 8 **How do children perform on the Grade 7 exam?**



The **Grade 7 Exam** is designed to measure individual students' learning levels at the end of grade 7. Exams are a common measure of learning, though critics argue that students with a high knowledge level could perform poorly if they are not good at taking tests.

Exam scores are tabulated according to where the test is taken rather than where a pupil attends school. For example, if a community school pupil travels to a government school to take the exam, then their score is recorded as a government school score. Because of this, the Urb./Rur. and Comm./Govt.. scores in the graph may not reflect learning levels properly.

Not all grade 7 pupils sit for the exam, which means that exam scores may not be representative of the learning level of all grade 7 pupils. If high achieving pupils take the exam and low achieving pupils avoid it, then the average scores represent the learning level of high achievers more than that of low achievers.

The average Grade 7 exam score in "District Name" :

- Is 12 points lower than the national average.
- Is 31 points lower in rural schools than in urban schools.
- Is 6 points longer in community schools than in government schools.

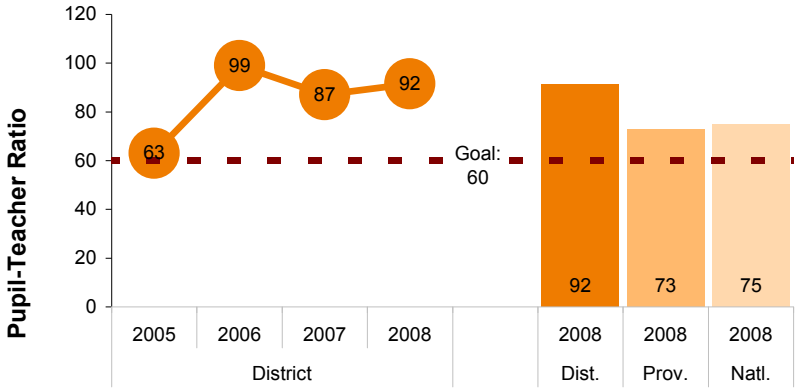
What is observed and why is it happening?

What action is required?

Issue #4: How are school resources distributed in "District Name" ?

Box 9

Are there enough basic school teachers for all pupils?



The **Basic Pupil-Teacher Ratio** is the average number of basic pupils to each basic teacher. A higher **PTR** means that each teacher is responsible for more pupils.

The Pupil-Teacher Ratio in "District Name":

- Has increased by 29 pupils since 2005.
- Is 17 pupils higher than the national average.
- Is 32 pupils higher than the national goal

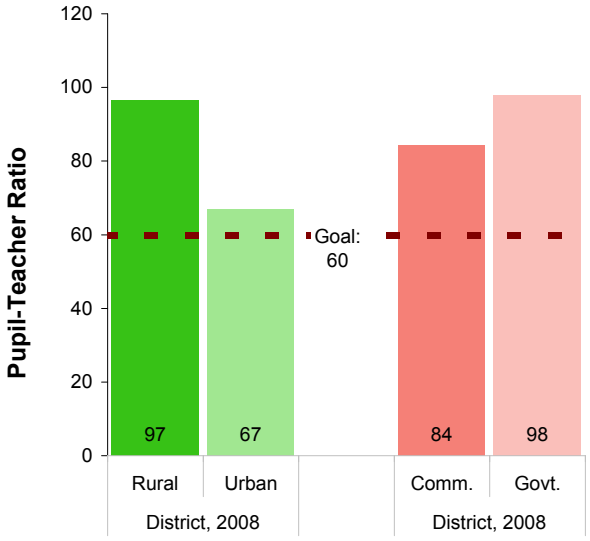
What is observed and why is it happening?

What action is required?

Box 10

How are basic school teachers distributed by school type?

What is observed and why is it happening?



What action is required?

Basic Pupil-Teacher Ratio by School Type:

- PTR in rural schools is 30 pupils higher than PTR in urban schools.
- PTR in community schools is 14 pupils lower than PTR in government schools.

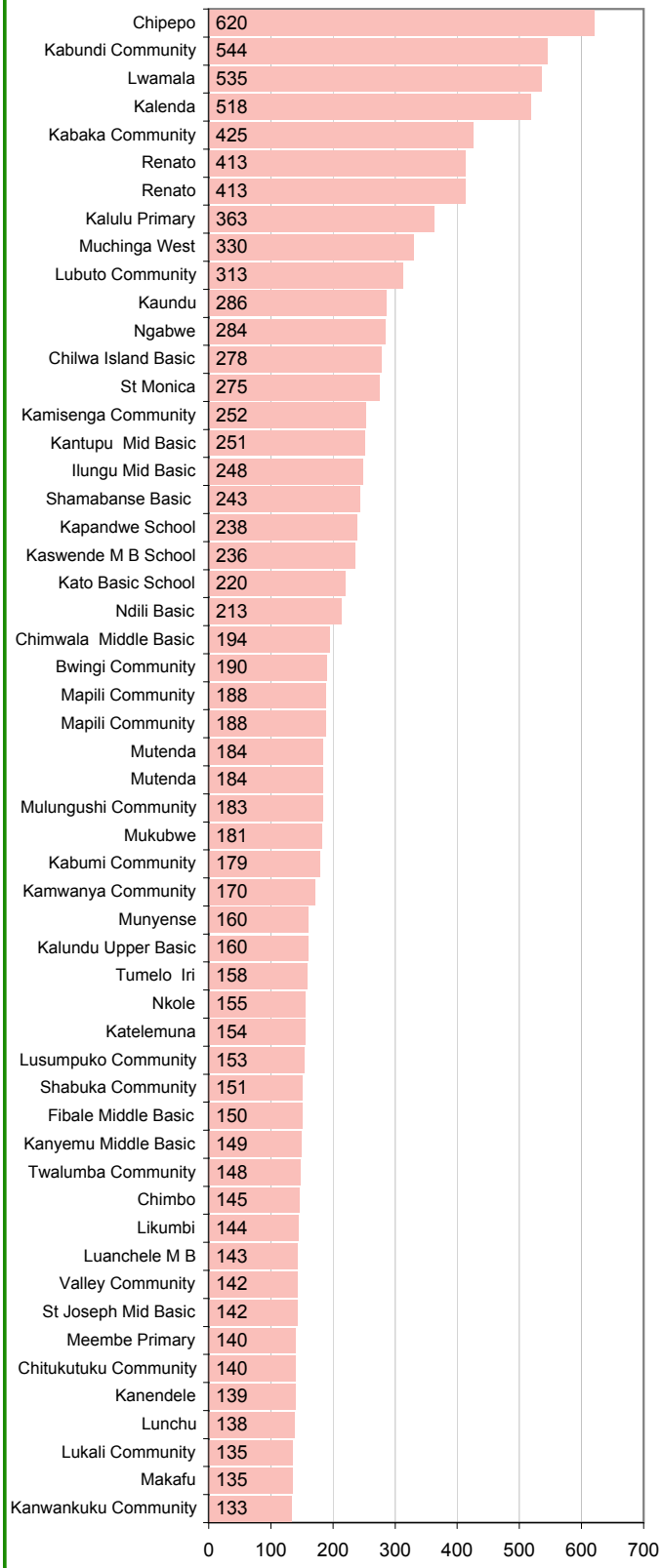
Box 11

In which basic schools are pupil-teacher ratios the largest?

This page lists the 50 basic schools with the highest G1-G9 **pupil-teacher ratios**. The schools with the highest ratios are listed first and have the greatest need for assistance. In a school with a PTR of 60 or less, learning is possible. In a school with a PTR of more than 60, learning is difficult. In a school with a PTR of 120 or more, learning is nearly impossible. Schools with high PTR's may be in need of additional classrooms and other resources as well as teachers.

Schools with the highest Grade 1-9 PTR's

PTR	< 40	40-59	60-119	>= 120	Total
# Schools	16	23	80	61	180

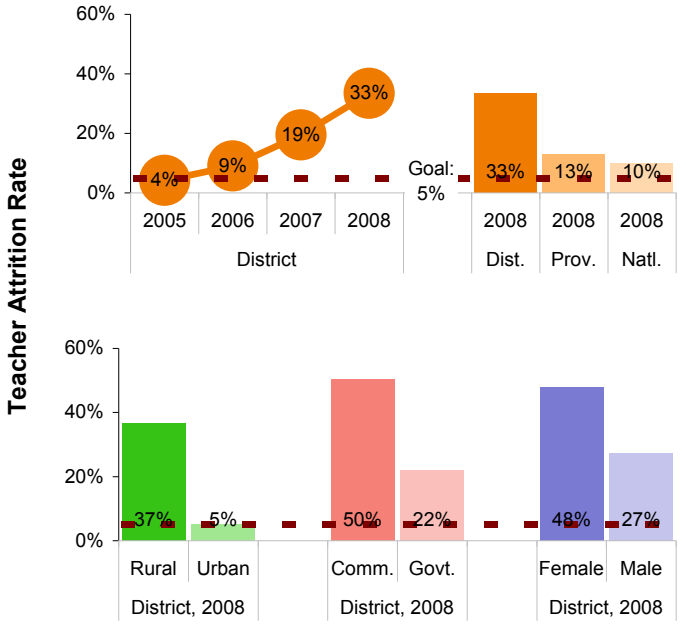


What is observed and why is it happening?

What action is required?

Box 12

How many basic school teachers leave their posts every year?



The Teacher Attrition Rate in "District Name":

- Has increased by 29 percentage points since 2005.
- Is 24 percentage points above the national average.
- Is 28 percentage points above the goal of 5%.

- Is 32 percentage points higher for rural teachers.
- Is 28 percentage points higher for community school teachers.
- Is 21 percentage points higher for female teachers.

The **Teacher Attrition Rate** is the percentage of teachers reported to have left their position in the past year. Teachers may have left for another teaching post, or left teaching altogether.

A lower **Teacher Attrition Rate** means that less teachers have left their positions each year.

What is observed and why is it happening?

What action is required?

Box 13

Are basic school teachers qualified to teach?

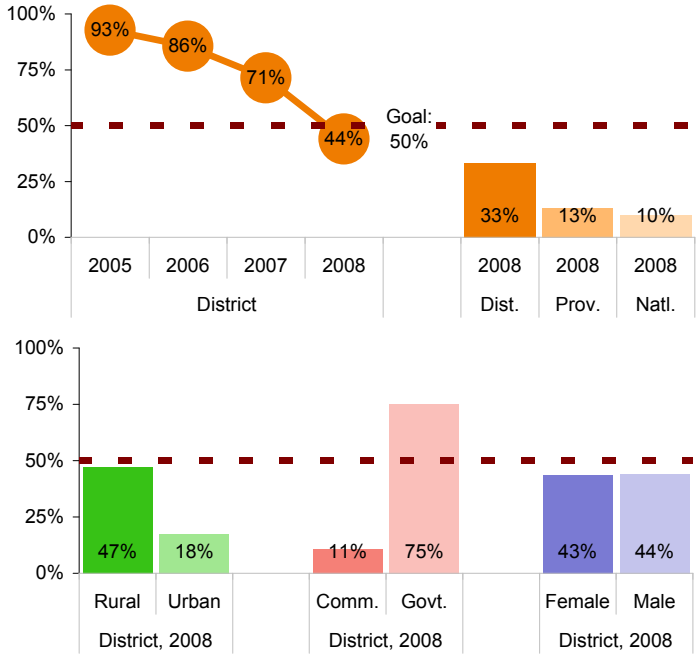
The **Teacher Qualification Rate** is the percentage of teachers who are known to have a teaching degree, diploma, or certificate. If a teacher's qualification is unknown, they are counted as unqualified.

A higher **Teacher Qualification Rate** means more teachers are qualified to teach.

The Teacher Qualification Rate in "District Name":

- Has decreased by 49 percentage points since 2005.
- Is 37 percentage points below the national average.
- Is 17 percentage points below the goal of 50%.

- Is 30 percentage points higher for rural teachers.
- Is 64 percentage points lower for community school teachers.
- Is similar for male and female teachers.

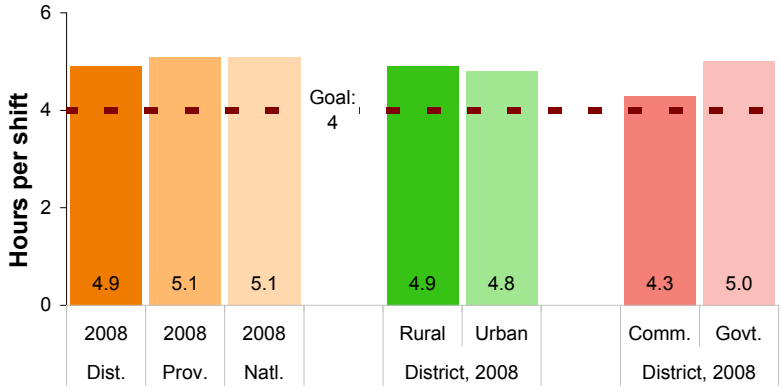


What is observed and why is it happening?

What action is required?

Box 14

Are basic school pupils' shifts long enough?



The average shift duration in "District Name":

- Is 0.2 hours shorter than the national average.
- Is 0.9 hours longer than the goal of 4 hours.
- Is 0.1 hours longer in rural schools than in urban schools.
- Is 0.7 hours shorter in community schools than in government schools.
- Is 0.6 hours shorter than the goal of 4 hours in grades 1-4.

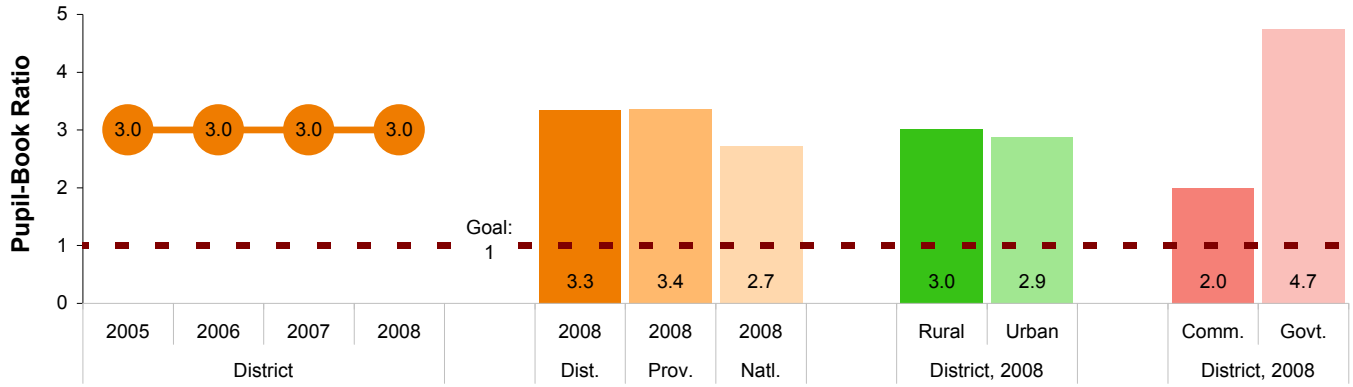
Shift duration is the average number of hours out of a school day that a pupil attends school. Higher values mean pupils spend more time learning. 4-6 hours per day is recommended by the Ministry of Education. Shift duration is lower when schools use multiple shifting.

What is observed and why is it happening?

What action is required?

Box 15

Are there enough math books for basic school pupils?



The **Basic Pupil-Book Ratio** is the number of primary pupils for each book. A higher **Basic PBR** means more pupils share each book. This graph uses the PBR for Math books as an indication of the PBR across all subjects. Other subjects are equally important and BPR's for these subjects are available in Ed*Assist.

What is observed and why is it happening?

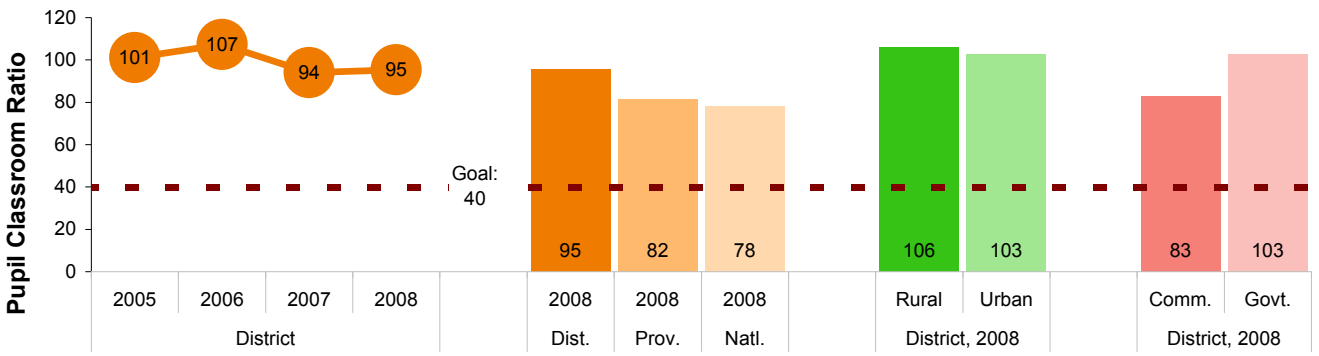
What action is required?

The pupil book ratio in "District Name":

- Is 0.6 pupils higher than the national average.
- Is 2.3 pupils higher than the goal of 1.
- Is 0.1 pupils higher in rural schools.
- is 3 pupils lower in community schools.

Box 16

Are there enough classrooms for basic school pupils?



What is observed and why is it happening?

The **Basic Pupil Classroom Ratio** is the average number of basic pupils for each classroom. A higher **Pupil Classroom Ratio** means a larger number of pupils in each classroom. In schools that practice multiple shifting, the pupil-classroom ratio is not the same as the pupil class ratio.

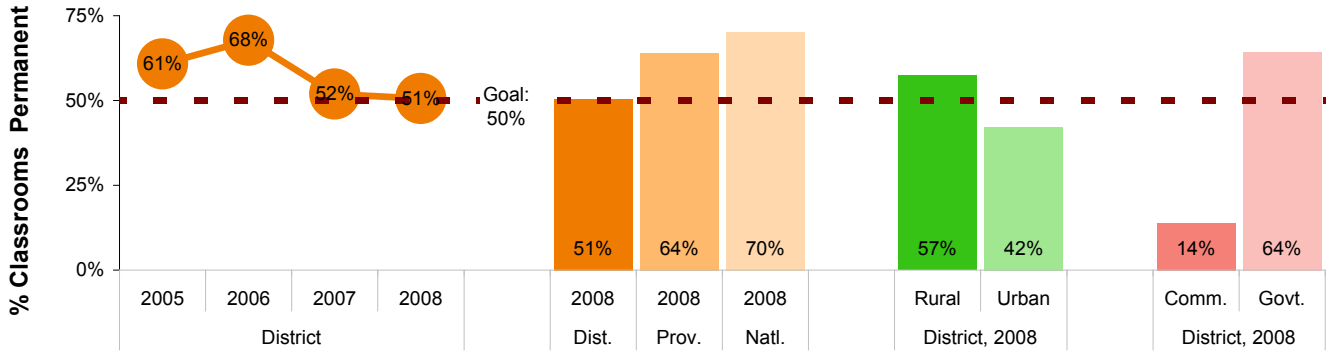
What action is required?

The number of pupils sharing each classroom in "District Name":

- Is 18 pupils above the national average.
- Is 55 pupils above the goal of 40.
- 4 pupils worse in rural schools than in urban schools.
- 20 pupils better in community schools than in government schools.

Box 17

Are basic school classrooms in permanent condition?



What is observed and why is it happening?

The **Percentage of Classrooms in Permanent Condition** is the percentage of classrooms that are reported to be permanent rather than temporary or incomplete.

What action is required?

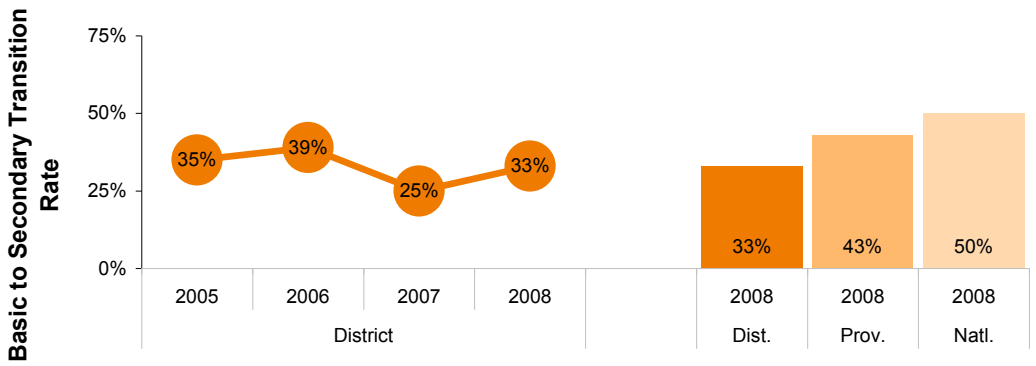
The Percentage of classrooms in permanent condition in "District Name":

- Is 20 percentage points below the national average
- Is 1 percentage points avove the goal of 50%
- 15 percentage points higher for rural schools.
- 50 percentage points lower for community

Issue #5: Overview of secondary schools in "District Name"

Box 18

Are students reaching secondary school?



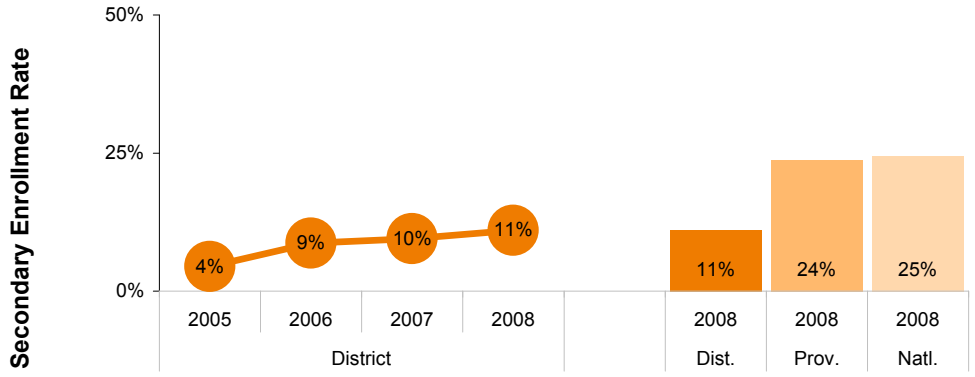
The **Basic to Secondary Transition Rate** is the percentage of students in the last grade of basic school (grade 9) who reach the first grade of secondary (grade 10). A higher rate means more pupils are being promoted to secondary school.

What is observed and why is it happening?

What action is required?

Box 19

Are all secondary aged children enrolled in secondary school?



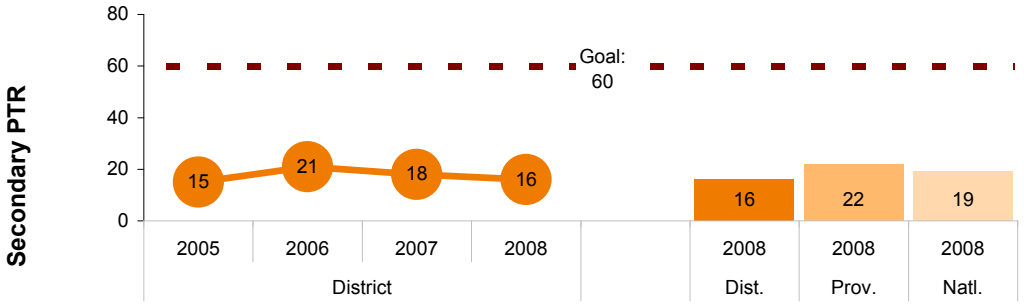
The **Secondary Net Enrollment Rate** is the percentage of secondary-aged children who are enrolled in secondary school. A higher **Secondary NER** means more children are attending school at the correct age.

What is observed and why is it happening?

What action is required?

Box 20

Are there enough secondary school teachers?



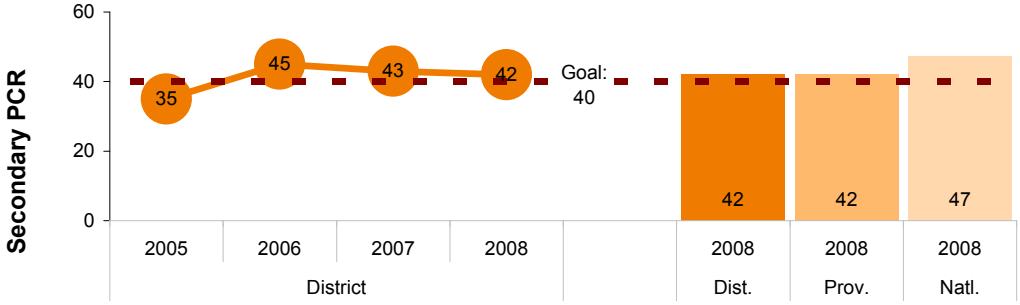
The **Secondary Pupil Teacher Ratio** is the average number of secondary pupils for each secondary teacher. A higher **Secondary PTR** means that each teacher is responsible for more pupils.

What is observed and why is it happening?

What action is required?

Box 21

Are there enough secondary school classrooms?



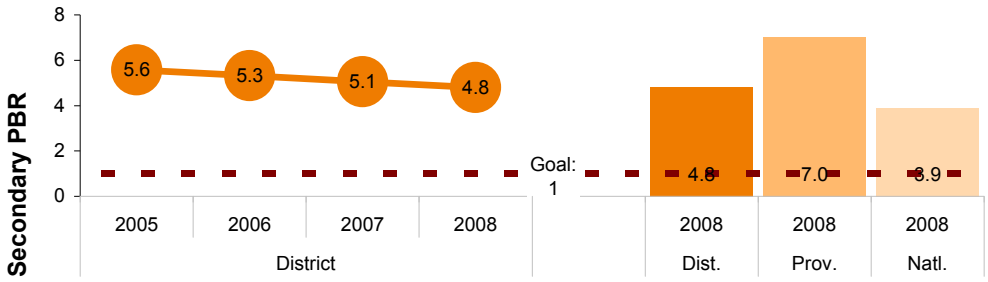
The **Secondary Pupil Classroom Ratio** is the average number of secondary pupils for each classroom. A higher **Pupil Classroom Ratio** means a larger number of pupils in each classroom.

What is observed and why is it happening?

What action is required?

Box 22

Are there enough secondary school math books?



The **Secondary Pupil-Book Ratio** is the number of primary pupils for each book. A higher **Secondary BPR** means more pupils share each book. This graph gives the BPR for Math books, but ratios for the other subjects are equally important.

What is observed and why is it happening?

What action is required?

Appendix E

People who were interviewed

- EMIS Director Thomas Hutton Coleman (thomashuttoncoleman@yahoo.com)
- EMIS Programmer Herbert Gorman (herbgor@yahoo.com)
- EMIS Programmer Samuel Okang (samuel_okang@yahoo.com)
- PBME Director Charles Aheto-Tsegah
- Financial Controller GES Charles Otoo