

The SACMEQ IV project in

INTERNATIONAL

*A study of the conditions of schooling
and the quality of education*



SACMEQ 

Southern and Eastern Africa Consortium for Monitoring Educational Quality



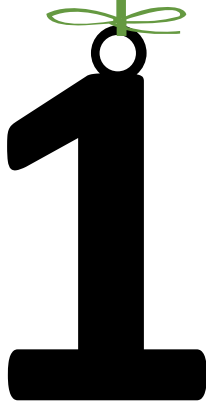


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Chapter



1.0 INTRODUCTION

The Southern and Eastern Africa Consortium for Monitoring Educational Quality (SEACMEQ – formerly SACMEQ) was established as a capacity-building programme in the field of educational assessment. However, SEACMEQ has transformed over time into a collective developmental sub-continental organization with three main objectives to: **(a)** Provide training opportunities to build technical skills in research, monitoring and evaluation for Ministry of Education technocrats; **(b)** conduct co-operative policy research on condition of schooling and quality of basic education; and **(d)** disseminate research data and information to facilitate policy-dialogues among decision-makers and stakeholders. SEACMEQ

strategizes to achieve its objectives by conducting large-scale international studies on the provision of basic education by the education systems of its member states.

Since the inaugural cycle in 1995, SEACMEQ (formerly SACMEQ) studies have provided the agenda for government actions related to quality of basic education and covering areas such as: educational inputs in schools; benchmark standards for educational provision; equity in allocation of resources; and achievement in literacy, numeracy, and health knowledge of Grade 6 pupils and their teachers. The fourth cycle; SACMEQ IV; for which this technical report is prepared commenced in 2012 and typically involved multiple activities of varying magnitude and complexity. The highlights of these activities are the following:

Project proposals – written to solicit international and national funding from development partners and member governments respectively; **Project steering committees** – established at country level to oversee implementation of the study;

Policy concerns/questions – formulated to crystalize the problems to be addressed in the provision of basic education by the different systems; **Cross-national curriculum analysis** – conducted to identify

the different characteristics of test items and to synchronize curricular contents of participating education systems;

Test blueprint – developed as a result of curricular analysis and to ensure content validity of the tests;

Test and questionnaire item construction – aided by existing test papers, text books, syllabi, and SEACMEQ draft test and questionnaire items;

Manual for data collection – developed to ensure uniform and scientific data collection procedure in all education systems;

Pilot testing – of test instruments and questionnaires, including testing of *DataEntryManager* (DEM) system for data entry, entering and cleaning pilot test data, scaling tests, and producing and populating dummy tables;

Main data collection – preceded by finalizing data collection instruments and manuals, translating survey instruments to accommodate the languages of instruction in all participating education systems, drawing of final representative country samples, and train data collectors.

This report addresses technical issues that, in the field of research, have been accepted to be pivotal in assessing the robustness and credibility of a study. These issues are: aims, objectives and questions; target population; sampling; instrument construction and their pre-tests; translation

of instruments into different languages; data collection; and data management. Although the issues mentioned will be

discussed in this report, they will not necessarily be presented

under individual headings, but rather under broader headers such as design, instrument development, data collection

1.1 SACMEQ IV GENERAL POLIC CONCERNS/QUESTIONS

Due to its collaborative networking and emphasis on capacity building through comprehensive and intensive-training programmes, SEACMEQ has uniquely nurtured a systematic approach of consulting with member governments and policy makers in order to identify and agree on the policy concerns and questions that need to be addressed through its research. The following are SACMEQ IV general policy concerns:

i. What are the personal characteristics (for example, age and gender) and home background characteristics (for example, parent education, regularity of meals, home language, etc.) of standard 6 pupils that may have implications for monitoring equity, and/or that may impact upon teaching and learning?
ii. What are the school context factors experienced by standard 6 pupils (such as location, absenteeism (regularity and reasons), standard repetition, and homework (frequency, amount, correction, and family involvement)) that may impact upon teaching/learning and the general functioning of schools?

iii. Do standard 6 pupils have sufficient access to classroom materials (for example, text books, readers, and stationery) in order to participate fully in their lessons?

iv. Do standard 6 pupils have access to library books and other technology related sources of information within their schools, and (if they do have access) is the use of these books and other technology related sources of information being maximized by allowing pupils to borrow the books?

v. Has the practice of standard 6 pupils receiving extra lessons in school subjects outside school hours become widespread, and have these been paid lessons?

vi. What are the personal characteristics of standard 6 teachers?

vii. What are the professional characteristics of standard 6 teachers (in terms of academic, professional, and in-service training), and do they consider in-service training to be effective in improving their teaching?

viii. How do standard 6 teachers allocate their time among responsibilities concerned with teaching, preparing lessons, and marking?

ix. What are standard 6 teachers' viewpoints on frequency of assessment, and meeting and communicating with parents?

x. What is the availability of classroom furniture (for example, sitting/writing places, teacher table, teacher chair, and bookshelves) and classroom equipment (for example, chalkboard, dictionary, maps, book corner, and teacher guides) in standard 6 classrooms?

xi. What professional support (in terms of education resource centers, inspections, advisory visits, and school head inputs) is given to standard 6 teachers?

xii. What are the personal characteristics of school heads (for example, age and gender)?

xiii. What are the professional characteristics of school heads (in terms of academic, professional, experience, and specialized training)?

xiv. What are the school heads' viewpoints on general school infrastructure (for example, electrical and other equipment, water, and basic sanitation) and the condition of school buildings?

xv. What are the school heads' views on inspections, community input, problems with pupils and teachers?

xvi. Have material and human resources (for example, classroom teaching materials, school facilities and qualified teachers) been allocated in an equitable fashion among the strata?

xvii. What are the achievement levels and variations (among strata) of standard 6 pupils and their teachers in Reading and Mathematics?

xviii. What are the Reading and Mathematics achievement levels of important sub-groups of standard 6 pupils (for example, gender, socio-

economic status and location)?

xix. What are the HIV and AIDS knowledge levels (for example, minimum levels, and desirable levels) of pupils and their teachers?

xx. Do pupils, teachers and school heads have positive attitudes towards people infected with HIV and AIDS?

1.2 THE AIMS OF SACMEQ IV PROJECT

SACMEQ IV project represents a major increase in the scale and complexity of SEACMEQ's research and training programmes. The focus of the project was on conditions of schooling and the quality of education in fourteen school systems. Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa

, Swaziland, Tanzania (Zanzibar), Uganda, Zambia, and Zimbabwe. Premised around the policy concerns listed in the preceding section, the consortium determined that the purpose of the project was to gather data and rigorously analyze them to generate information on a) the general conditions of schooling,

b) the reading and mathematics achievement levels of Grade 6 learners and their teachers, and c) the knowledge that learners and their teachers have about HIV and AIDS. The reader is advised that further information about SACMEQ IV study can be obtained from the technical report which is a separate document.



Chapter

2

The Conduct of the study

Over the years since its first project in 1995, SACMEQ has developed research instruments and collected useful information using advanced research methods. An important principle in the studies is to ensure that SACMEQ is able to generate valid measures of levels and changes in achievement: (a) across countries at single time points, and (b) across time points for individual countries. To achieve this goal SACMEQ follows virtually the same methodologies across studies and uses the same instruments which must be kept confidential to remain valid. The methodology and instruments that were used in the SACMEQ IV project in 2013 were, therefore, the same as in SACMEQ II, and III. For a detailed

account of the study design, sampling techniques and the development of the instruments reference should be made to the second chapter of the SACMEQ II report. SACMEQ IV research project also includes HIV and AIDS knowledge test (HAKT) for Grade 6 pupils and their teachers.

SACMEQ IV project represents a major increase in the scale and complexity of SACMEQ's research and training programmes. The focus of the project was on conditions of schooling and the quality of education in fourteen school systems: Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania (Zanzibar), Uganda, Zambia, and Zimbabwe. The purpose of the project was to gather information on a) the general conditions of schooling, b) the reading and mathematics achievement levels of Grade 6 learners and their teachers, and c) the knowledge that learners and their teachers have about HIV and AIDS. The main data collection for the project covered a total of around **62, 218** pupils, **6, 667** teachers, and **2, 507** School Heads.

In this chapter specific aspects of the methodology followed in SACMEQ IV project are outlined and these include a description of the sample used, data collection, cleaning and analysis.

2.1 The Study Population

(a) Desired Target Population

The desired target population definition for SACMEQ IV Project was exactly the same (except for the year) as was employed for the SACMEQ II and III Projects. This consistency was maintained in order to be able to make valid cross-national and cross-time estimates of "change" in the conditions of schooling and the quality of education. The desired target population definition for SACMEQ IV Project is as follows: *"All learners at Grade 6 level in 2013 (at the first week of the eighth month of the school year) who were attending registered mainstream (primary) schools."*

(b) Excluded Target Population

One of the rules followed by SACMEQ for ensuring valid data in large-scale studies is that no more than 5 percent of the learners in the desired target population may be excluded from the defined target population. Like in SACMEQ II and III, special schools which provide education to learners with severe educational needs were excluded from SACMEQ IV sample. "Small" mainstream schools which had less than 15 learners enrolled in Grade 6 in 2013 were also allocated to the excluded population to reduce data collection costs – without the risk of leading to major distortions in the study population. From the last column of **Table 2.1** it can

be observed that the excluded population of learners was less than the stipulated 5 percent to meet the SACMEQ criteria for accuracy in large-scale assessment data.

(c) Defined Target Population

The “defined target population” was constructed by removing the “excluded target population” from

the “desired target population”. In **Table 2.1** the numbers of schools and learners in the desired, defined and excluded populations have been presented.

Table 2.1: Desired, Defined, and Excluded Populations

	Desired		Defined		Excluded		Pupils % Excluded
	Schools	Pupils	Schools	Pupils	Pupils	Schools	
Botswana	802	45,556	676	43,414	126	2,142	4.70
Kenya	22,505	790,111	18,947	757,705	3,558	2,622	4.10
Lesotho	1,385	52,212	1,072	49,590	313	32,406	5.02
Malawi	5,561	380,539	4,513	378,396	1,048	15,720	4.13
Mauritius	308	22,630	298	22,249	10	381	1.68
Mozambique	4,185	406,777	3,841	400,607	344	6,170	1.52
Namibia	1,145	55,727	948	53,108	197	2,619	4.70
Seychelles	26	1,365	25	1,364	1	1	0.07
South Africa	17,280	929,341	13,156	886,073	4,124	43,268	4.70
Swaziland	571	32,134	498	30,913	73	1,221	3.80
Tanzania	-	-	-	-	-	-	-
Uganda	15,428	888,655	12,585	846,662	2,843	41,993	4.73
Zambia	7,253	370,800	5,971	353,413	1,282	17,387	4.69
Zanzibar	285	32,444	261	32,176	24	268	0.83
Zimbabwe	5,638	349,816	4,836	337,367	802	12,449	3.56
SACMEQ IV	82,372	4,358,107	67,627	4,193,037	14,745	178,647	4.10

2.2 Data Collection

In this report “Data Collection” includes preparations before the field work, the actual field work and activities that followed field work.

Preparations for the main data review focused on instrument review, communication to schools, printing and distribution of instruments and training of data collectors.

(a) Instrument review

As soon as the 2011 SACMEQ Assembly of Ministers took a decision to conduct SACMEQ IV project in 2013, the National Research Teams (NRTs) under the auspices of the SACMEQ Coordinating Centre in Paris, set out to prepare and update the instruments (tests and questionnaires). Between 2012 and 2013 the SACMEQ Coordinating Centre hosted at

least three working sessions for the NRTs in Nairobi (Kenya), Lusaka (Zambia), and Pretoria (South Africa) that were focused on reviewing existing test items and ensuring that, where there had been curriculum changes, the items were still relevant. Invariably, there were no significant changes on the Reading, Mathematics and Health Knowledge test items.

SACMEQ IV test items were piloted, first, in a few primary schools in South Africa, and then in individual member countries. The pilot study was intended to ensure that the language in SACMEQ IV tests was accessible to learners, that there were no cultural biases in the items and learners comprehended how to write their responses.

In some countries the tests were subsequently translated into respective language(s) of

instruction (Kiswahili, Portuguese). Care was taken to ensure that the English and other languages used for the tests were equivalent to avoid unfair advantage in any of the language(s).

The final statistical and content validity and reliability checks of the instruments were carried out by NRTs and specialists at the SACMEQ Coordinating Centre who then declared the instruments ready to print and take to the field.

(c) Printing and distribution of data collection instruments

Data collection instruments included a) School Head Booklets, b) School Information Booklets, c) Teacher Booklets, d) Pupil Booklets e) Pupil Name Forms and f) School Forms. Each participating country received print-ready copies from the Coordinating Centre and was responsible for printing correct numbers of copies for their respective schools.

(d) Training of data collectors

On the first day of training the NRT presented a “simulated” data collection exercise in which they acted as a data collector and the trainees took the roles of learners, teachers, and School Heads. The second day involved an intensive study of the Manual for Data Collectors. This document sets out, in sequential order, all of the actions to be taken by the data

When all instruments were printed, the NRTs conducted a “hand check” of all materials so as to verify that there were no missing/extra pages, misprints or omissions. All work related to the printing and packaging of the data collection instruments was undertaken under strict security arrangements – so that there was no possibility of “leakage” of information about the content of the learner and teacher Reading, Mathematics, and Health Knowledge tests.

collector from the time of receiving packages of data collection instruments from the Ministry of Education to the time when the data collector had completed the data collection and was preparing all materials for return. The third day involved a second “simulated” data collection whereby the trainees supervised a full-fledged data collection in several schools that were not involved in the main data collection. The experiences gathered during these exercises

(b) Communication to schools

Officials in the respective Ministries of Education informed the sampled schools through the Regional offices during mid-2013. The National Research Teams were responsible for distributing the data collection schedules, intensifying and monitoring communication to schools and among data collectors.

The printed materials were distributed to leaders of research teams that were assigned to collect data in each school. The Team Leaders were responsible for checking the accuracy of the instruments in terms of correctness of numbers and languages before carrying the instruments to the schools. The first level of checking was done during data collection training sessions. The data collectors were charged with further and final checks a day before the data collection.

were shared and discussed during a meeting so that all data collectors understood the procedures to be completed within schools.

2.3 Main Data Collection

“Main Data Collection” in this report refers to the actual field work. Three data collectors were assigned three sampled schools to carry out the data collection exercise. Special effort was made to ensure that data collection was

conducted according to explicit and fully-scripted steps so that the same verbal instructions were used (for learners, teachers, and School Heads) by the data collectors in all sample schools, in all countries, and for each aspect of the data collection. This was a very important feature of the study because the validity of cross-national comparisons arising from the data analyses depended, in large part, on achieving carefully structured and standardized data collection environments.

The data collectors were provided with a 40-point checklist in order to ensure that they completed all important tasks that were required before, during, and after their visits to schools. Each task was cross-referenced to specific pages of instructions in the data collectors' manual.

The main SACMEQ IV data collection occurred for most SACMEQ Ministries of Education in the period September to December 2013.

Two days of data collection were required for each sampled school. On the first day the data collectors had to sample learners from all the Grade 6 classes in the sampled schools, using a list of provided random numbers. The sampled learners were then given the Pupil Questionnaire, the

The data collectors also checked all completed questionnaires (Pupil, Teacher, and School Head) and, if necessary, obtained any missing or incomplete

HAKT and the Reading test. On the second day they were given the Mathematics test. Part of the Pupil Questionnaire required learners to get confirmation of the accuracy of the information from their parents; therefore the questionnaires were taken home by the pupils and returned the following day. In addition to completing a questionnaire, one teacher who taught the majority of the sampled learners for each of Reading, Mathematics and Life skills\Health also completed the relevant tests.

information on the second day before they left the school. The materials were then handed over to the Regional Coordinator for safekeeping, "hand editing" and dispatching to the National Research Coordinator (NRC) at the Ministry of Education as soon as all data collection was completed.

2.4 Sampling and Sample Characteristics

A two-stage sampling design was employed. In the first stage schools in the defined target population were sampled on a "Probability-Proportional-to-Size" (PPS) basis from sampling frames that individual countries submitted to the SACMEQ Coordinating Centre. In the second stage of sampling learners were sampled from all the Grade 6 classes in each of the sampled schools

using Simple Random Sampling. Computer-generated random numbers were used to facilitate the sampling of pupils. Twenty five (25) learners (minimum cluster size) were sampled where the total number of all enrolled Grade 6 learners at the time of data collection was greater than 25. Where the number of Grade 6 learners was 25 or less than 25 in

a school, all the Grade 6 learners were included in the sample. For a detailed account of how the sampling of schools and learners was carried out, including the software that was used in the SACMEQ IV project the reader may refer to Ross and Saito (in press). The numbers of schools and learners in the planned and actually achieved sample have been presented in **Table 2.2.**

Table 2.2: Planned and Achieved Samples for SACMEQ IV

	Schools		Learners	
	Planned	Achieved	Planned	Achieved
Botswana	188	188	4,700	4,562
Kenya	230	224	5,750	5,325
Lesotho	185	182	4,426	4,378
Malawi	126	126	3,400	3,223
Mauritius	153	133	3,825	3,321
Mozambique	200	189	5,000	4,820
Namibia	292	285	7,300	7,261
Seychelles	25	25	1,364	1,303
South Africa	305	295	7,625	7,117
Swaziland	145	145	3,625	3,592
Tanzania	-	-	-	-
Uganda	245	245	6,125	5,261
Zambia	160	154	4,000	3,816
Zanzibar	126	126	3,150	3,150
Zimbabwe	213	190	5,250	5,089
SACMEQ IV	2,593	2,507	65,540	62,218

2.5 Response rates, design effects, effective sample sizes

The size and the quality of the sample are critical to the accuracy of the research. The response rate, the design effect and the effective sample size are some of the characteristics that SACMEQ monitors in all the projects. The response rates, design effects and effective sample sizes for SACMEQ IV project have been presented in Table 2.3.

Figures in the first two columns under the heading “Response Rate (%)” in Table 2.3 are the response rates for schools and learners, respectively. The third, fourth and fifth columns under the heading “Design Effects” are numbers (ratios) that indicate the amount of “sampling error” associated with

the two-stage sample for each of Reading, Mathematics and HAKT estimates. Columns six, seven and eight under the heading “Effective Sample Sizes” are numbers of sample units (learners) in a simple random sample that would give the same level of accuracy as the two-stage sample that was used in the study for each of Reading, Mathematics and HAKT.

Table 2.3: Response Rates, Design Effects, Effective Sample Sizes for SACMEQ IV

	Response Rate (%)		Design Effect			Effective Sample Size		
	Schools	Pupils	Reading	Maths	HAKT	Reading	Maths	HAKT
Botswana	100.0	97.1	8.83	8.41	7.84	423	444	476
Kenya	97.4	92.6	10.67	9.63	9.56	286	317	319
Lesotho	98.4	98.9	10.89	8.14	6.60	368	493	608
Malawi	100.0	94.8	6.99	3.63	6.03	180	347	209
Mauritius	86.9	86.8	4.56	5.24	5.48	370	322	307
Mozambique	94.5	96.4	10.20	14.33	8.97	339	241	386
Namibia	97.6	99.5	4.82	5.46	5.71	1114	983	940
Seychelles	100.0	95.5	11.95	8.34	9.25	92	132	119
South Africa	96.7	93.3	7.53	7.36	6.43	510	525	602
Swaziland	100.0	99.1	5.33	4.64	6.14	427	491	371
Tanzania	-	-	-	-	-	-	-	-
Uganda	100.0	85.9	5.02	4.48	4.37	210	235	241
Zambia	96.3	95.4	7.80	5.30	6.54	359	528	429
Zanzibar	100.0	100.0	3.25	2.52	3.21	630	814	639
Zimbabwe	89.2	96.9	7.97	7.56	5.86	364	384	495
SACMEQ IV	96.7	94.9	7.56	6.79	6.57	405	447	439

The following observations can be made from **Table 2.3**.

Response rate in surveys refers to the percentage of the total sample units that were planned who actually participate in the study. The SACMEQ rule is that the overall response rate for both the schools and the learners should not be less than 90%.

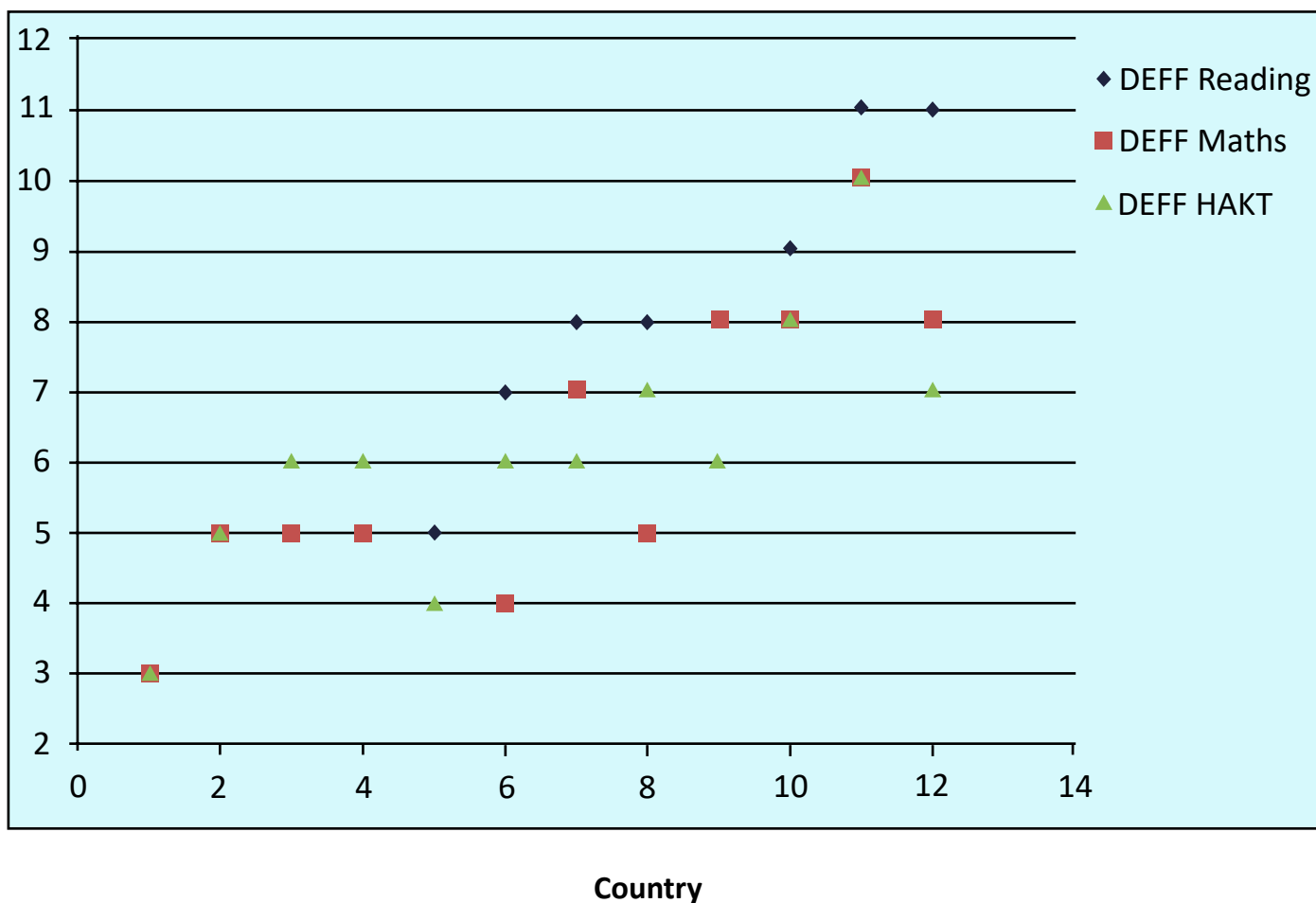
The statistics at the bottom of

the response rate columns in Table 2.3 confirm that this rule was obeyed in SACMEQ IV study.

Design effect is a number (ratio) which indicates the amount of “sampling error” that is introduced by the use of a clustered (two-stage) sampling method in relation to the “sampling error” that would

result if a simple random sample of the same size had been used. Alternatively, the “design effect” is the ratio of the variance (of the sample mean) for a multi-stage sample to the variance for a simple random sample of the same size. Generally, the inaccuracy associated with a multi-stage sample is many times greater than the inaccuracy associated with a simple random sample of the same size.

Figure 2.1: Design effect for reading, mathematics and health for SACMEQ IV



As shown in Figure 2.1, the design effect for all tests, in all SACMEQ IV countries, lie between 2 and 12. This communicates that the error due to the multi-stage sampling was relatively low, given that values of design effect as high as 30 are acceptable in large scale studies.

Effective sample size is calculated from the design effect. It is the size of a simple random sample that would be required to give

the same level of accuracy as the given multi-stage sample. Generally, the “Effective Sample Size” will be smaller than the given actual multi-stage sample. The sample designs used in SACMEQ IV Project were selected so as to meet the standards set by the International

Association for the Evaluation of Educational Achievement (IEA). These standards require that sample estimates of important learner population parameters in multi-stage designs should have sampling accuracy that is at least equivalent to a simple random sample of 400 learners (thereby guaranteeing 95 percent confidence limits for sample means of plus or minus one tenth of a learner standard deviation unit).

2.6 Data entry, Data checking and Data cleaning

In this section the processes that were followed at national level to check, enter and clean the data have been described.

Data preparation started soon after data collection was completed. The NRCs organized safe return of all materials to the Ministry of Education where data collection instruments could be checked, entered into computers, and then “cleaned” to remove errors prior to data analyses. Data-checking involved “hand editing” of data collection instruments by a team of trained staff. They were required to check that: (i) all questionnaires, tests, and forms had arrived back from the sampled schools, (ii) the identification numbers on all instruments were complete and accurate, and (iii) certain logical linkages between questions made sense (for example, the two questions to School Heads concerning “Do you have a school library?” and “How many books do you have in your school library?”)

The next step was the entry of data into computers using the Data Management Expert (DME) software. A team of 5-10 staff members normally undertake this exercise. At individual country level, NRTs followed a “cyclical” process whereby data files were cleaned by the NRT and then emailed to the Coordinating Centre for checking and then emailed back to the NRC for further cleaning.

To clean the data, using the Data Management Expert (DME) software, the NRTs followed specific directions to (i) identify major errors in the sequence of identification numbers, (ii) cross-check identification numbers across files (for example, to ensure that all learners were linked with their own Reading and Mathematics teachers), (iii) ensure that all schools listed on the original sampling frame also had valid data collection instruments and vice-versa, (iv) check for “wild codes” that occurred when some variables had values that fell outside pre-specified reasonable limits, and (v) validate that variables used as linkage devices in later file merges were available and accurate.

2.7 Merging and Weighting

When data cleaning was complete, the NRT merged the data from all the sources and submitted to SACMEQ Coordinating Centre for further processing. At the Coordinating Centre, a further merging process required the construction of a single data file in which learners were the units of analysis and the rest of the data from the other respondents were linked to the learner data. That is, each record of the final data file for the country consisted of the following four components: (a) the questionnaire and test data for an individual learner, (b) the questionnaire and test data for his/her

Mathematics, Reading, and Health teacher, (c) the questionnaire data for his/her School Head, and (d) school and learner forms. To illustrate, with the merged file it was possible to examine questions of the following kind: “What are the average Reading and Mathematics test scores (based on information taken from the learner tests) for groups of learners who attend urban or rural schools (based on information taken from the School Head questionnaire), and who are taught by male or female teachers (based on information taken from the teacher questionnaire)?”

The calculation of sampling weights could only be conducted after all files had been cleaned and merged. Sampling weights were used to adjust for missing data and for variations in probabilities of selection that arose from the application of stratified multi-stage sample designs. There were also certain country-specific aspects of the sampling procedures, and these had to be reflected in the calculation of sampling weights.

Two forms of sampling weights were prepared for SACMEQ IV Project. The first sampling weight (RF2) was the inverse of the probability of selecting a learner into the sample. These “raising factors” were equal to the number of learners in the defined target population that were “represented by a single learner”

in the sample. The second sampling weight (pweight2) was obtained by multiplying the raising factors by a constant so that the sum of the sampling weights was equal to the achieved sample size. A detailed account of weighting procedures can be found in Ross et al (2004).

2.8 Analyzing the data

The data analyses for SACMEQ IV Project were very clearly defined because they were focused specifically on generating results that could be used to “fill in the blank entries” in given Dummy Tables. There were two main tasks in this area. First, SPSS software was used to construct new variables (often referred to as “indices”) or to re-code existing variables. For example, an index of “socioeconomic level” was constructed by combining re-coded variables related to learners’ homes, and the number of possessions in learners’ homes. Second, the Coordinating Centre used SPSS tools to populate Dummy Tables with appropriate estimates and corresponding sampling errors.

2.9 Writing the SACMEQ IV National Reports

The NRT commenced the process of drafting their national reports during 2015. A working meeting held in Mbabane Swaziland during February 2015 was organized to support the NRT in this work. This working meeting permitted the NRT to work together and exchange ideas concerning the policy implications of the research results.

2.10 Conclusion

The aim of this Chapter was to describe the research procedures that were applied for the execution of SACMEQ IV project. The Chapter was prepared to give an overview of how the study was conducted in individual countries. The sample design procedures and the construction of the Reading, Mathematics and HAKT tests for learners and their teachers were to a large extent modeled on the SACMEQ II and III projects. Following the trend started in SACMEQ II project, the fourth SACMEQ project moved away from traditional approaches of

calculating test scores (based on numbers of correct responses to test items) to the use of Modern Item Response Theory to generate descriptions of “levels of increasing learner competence”. This approach to describing learner Reading, Mathematics and HAKT achievements offered a mechanism for describing the performance of learners in a manner that was more meaningful within a teaching and learning context. One of the important messages that emerged from this part of the Project was that the speed at which a cross-national research project proceeds is strongly influenced by the speed with which the slowest country can complete all aspects of its data collection and data preparation.



Chapter

3

Grade 6 Pupil Characteristics

SACMEQ IV study revealed that the participating countries as a collective have achieved gender parity in access to schooling at Grade 6 level. This seems to be in conformity with the United Nations Millennium Development Goals (MDGs) and UNESCO's Education for All (EFA) initiative which do not only target the completion of primary school by all school-age children by 2015, but also advocate for equal access to schooling for both boys and girls. **Fig. 3.1** depicts this finding. Note that the scale of the vertical axis starts from 40 in order to show the subtle differences among the data points. Fifty percent (50%) of pupils enrolled in Grade 6 at the time of the study were female.

However, the percentages for Lesotho (56%) and Zanzibar (55%) indicate that boys were somewhat outnumbered by girls in Grade 6.

These differences in terms of the actual number of Grade 6 male and female pupils in the two countries could raise a policy debate.

Fig. 3.1 Female Grade 6 enrolment by country

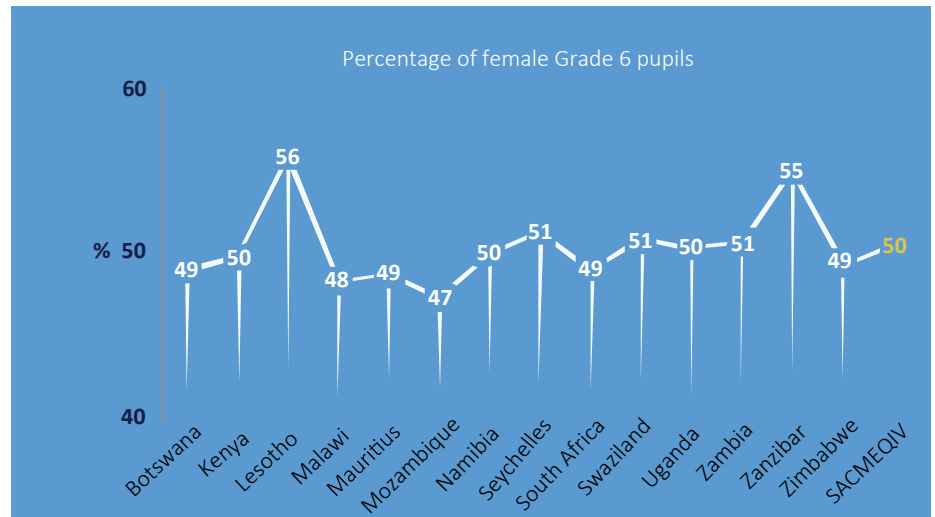


Fig. 3.1 also shows that the enrolment situation is reversed to a lesser extent in Mozambique because Grade 6 boys slightly outnumbered girls (47%) by approximately 3%. The ideal primary schooling entry age is an ongoing debate that places stakeholders in opposite corners depending on their beliefs, status, location, experiences, and research evidence they came across.

Individual countries have struck a balance and put in place entry age policies which still allow for discretion of the admitting primary schools. For example, Botswana entry age policy states that “the minimum entry age should be retained at 6 years for public schools and 5 years for private schools” while “the maximum

entry age should be kept flexible in order to allow children in remote areas the opportunity to have access to primary education” (Revise National Policy on Education, 1994). In Kenya, the official primary school entry age is six years.

However, there are other permitted cases such as private and informal schools accepting children who are five years old into Grade 1, and the celebrated 84 year old enrolling in Grade 1 in 2004 (Daily Nation, cited in Ngware et al., 2013). The age requirements for admission to an ordinary public school in South Africa is guided by a statutory statistical formula: “the grade number plus 6”. This translates into the official entry age to Grade 1 being seven years. In the same country, the admission age to an

independent school for Grade 1 is age five turning six by 30 June in the year of admission, and yet

some independent schools believe that it is in the best interests of

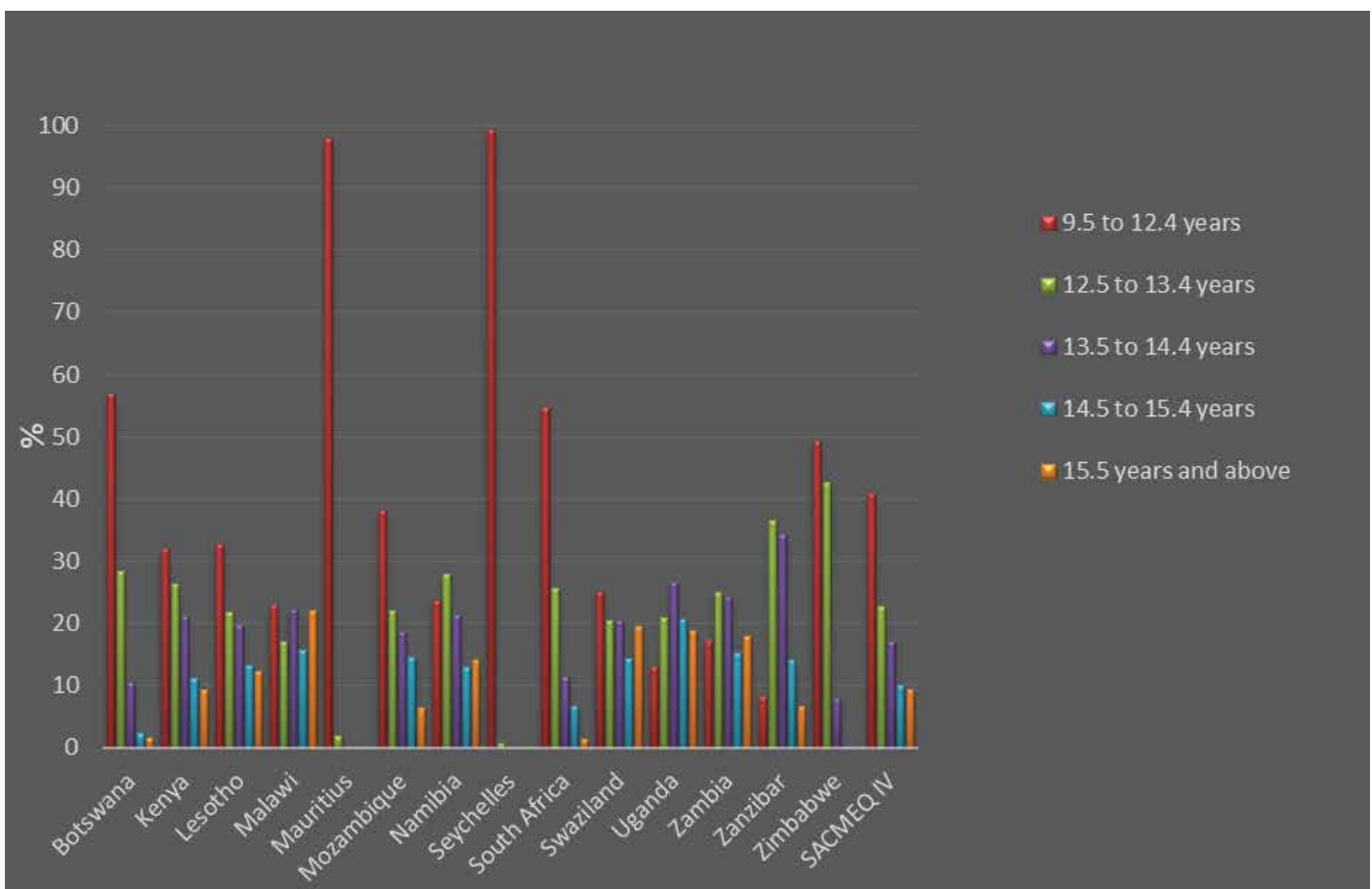
the children to start in Grade 1 in the year in which they turn seven (ISASA Policy FAQs, 2017)

In consideration of the above diversity, SEACMEQ has taken a range of 5.5 to 7.4 years to be the ideal entry age range into Grade 1

for all participating countries. This means that the estimated ideal age of a Grade 6 pupil who participated

in SACMEQ IV study should range from 9.5 years to 12.4 years. **Fig. 3.2** shows SACMEQ IV age distribution of Grade 6 pupils by country.

Fig. 3.2 Age distribution of Grade 6 pupils by country



Nearly 98% of Grade 6 pupils in Mauritius and 99% in Seychelles are in the desired Grade 6 age bracket of 9.5 to 12.4 years. However, only two other countries have more than fifty percent of Grade 6

pupils in the desired age bracket namely: Botswana (57%) and South Africa (55%). Zanzibar has the lowest proportion (8%) of Grade 6 in the desired age bracket.

The findings presented in Fig. 3.2 also suggest that, except for Mauritius and Seychelles, there are notable percentages of Grade 6 pupils in the age brackets older than the desired age. It can therefore be concluded

that the progression of a substantial proportion of Grade 6 pupils through primary schooling is delayed by varying extents in most of SACMEQ IV countries.

For the purpose of this report, a simple categorization of the age ranges into primary schooling progression status of Grade 6 pupils is done as shown in **Table 3.1**.

Table 3.1. Categorization of Grade 6 pupils' primary school progression status based on their age groups

Age group (Years)	Progression status
9.5-12.4	No delay
12.5-13.4	One year delayed
13.5-14.4	Two years delayed
14.5-15.4	Three years delayed
15.5-20.4	More than three years delayed

Based on the categorization in **Table 3.1**, SACMEQ IV study reveals that, except for Mauritius and Seychelles, delayed progression through primary schooling seem to be common among Grade 6 pupils in all participating countries. Reasons for this delay could be late entry to primary schooling, repeating a grade, and temporary withdrawal from school for different reasons.

A correlation test indicates that the age of Grade 6 pupils in all countries is found to have very strong positive relationship with the pupils' primary

school entry age, but a much weaker or no correlation with their grade repetition status. Countries with very high correlation coefficients, especially on the entry age variable are: Uganda ($r = .99$), Zambia ($r = .96$), Malawi ($r = .89$), Mozambique ($r = .89$), Zanzibar ($r = .89$), Swaziland ($r = .88$), Kenya ($r = .87$), Namibia ($r = .86$), Lesotho ($r = .84$), Botswana ($r = .78$),

Seychelles ($r = .74$), and South Africa ($r = .73$). Therefore, in all countries, Grade 6 pupils who were older than they are stipulated to be tend to have had late entry into primary schooling. Furthermore, findings from various other studies suggest that late entry to primary schooling is contextual with respect to gender (Weir, 2000), location (Zhang, 2006), and socio-economic status (Nonoyama-Tarumi et al., 2010). **Fig. 3.3a**, **b**, and **c** show the entry status of Grade 6 pupils to primary schooling by respective sub-populations and country based on SACMEQ IV study results.

It is clear from **Fig. 3.3a** that the proportion of girls who start primary schooling at the desired entry age tend to be higher than that of boys in all countries (except in Mauritius and Seychelles). The finding also suggests that in some countries the gap is never closed and even grows in favor of girls if we examine the number

of years by which pupils are late to begin primary schooling. For example, in Swaziland 14% more girls start primary schooling at the desired age than boys and 15% more boys than girls start primary schooling two or more years late. This scenario is the same for Malawi (7% and 10%), Lesotho (12% and 13%), and Namibia (10%

and 11%). However, in Zimbabwe the disparity is seemingly reduced from 3% to 0% indicating that the proportion of boys who start primary schooling two or more years late is the same as that of girls (at just 3% each). It is interesting to note that all countries have a small percentage of Grade 6 pupils who started primary schooling at ages below

the ideal entry age. Examples of countries with slightly higher percentages than others are: Kenya (6% boys and 8% girls), Malawi (5% boys and 8% girls), Mauritius (7% boys and 5% girls), and Zimbabwe (7% boys and 5% girls).

Fig. 3.3a Distribution of Grade 6 pupils' primary school entry status by gender and country

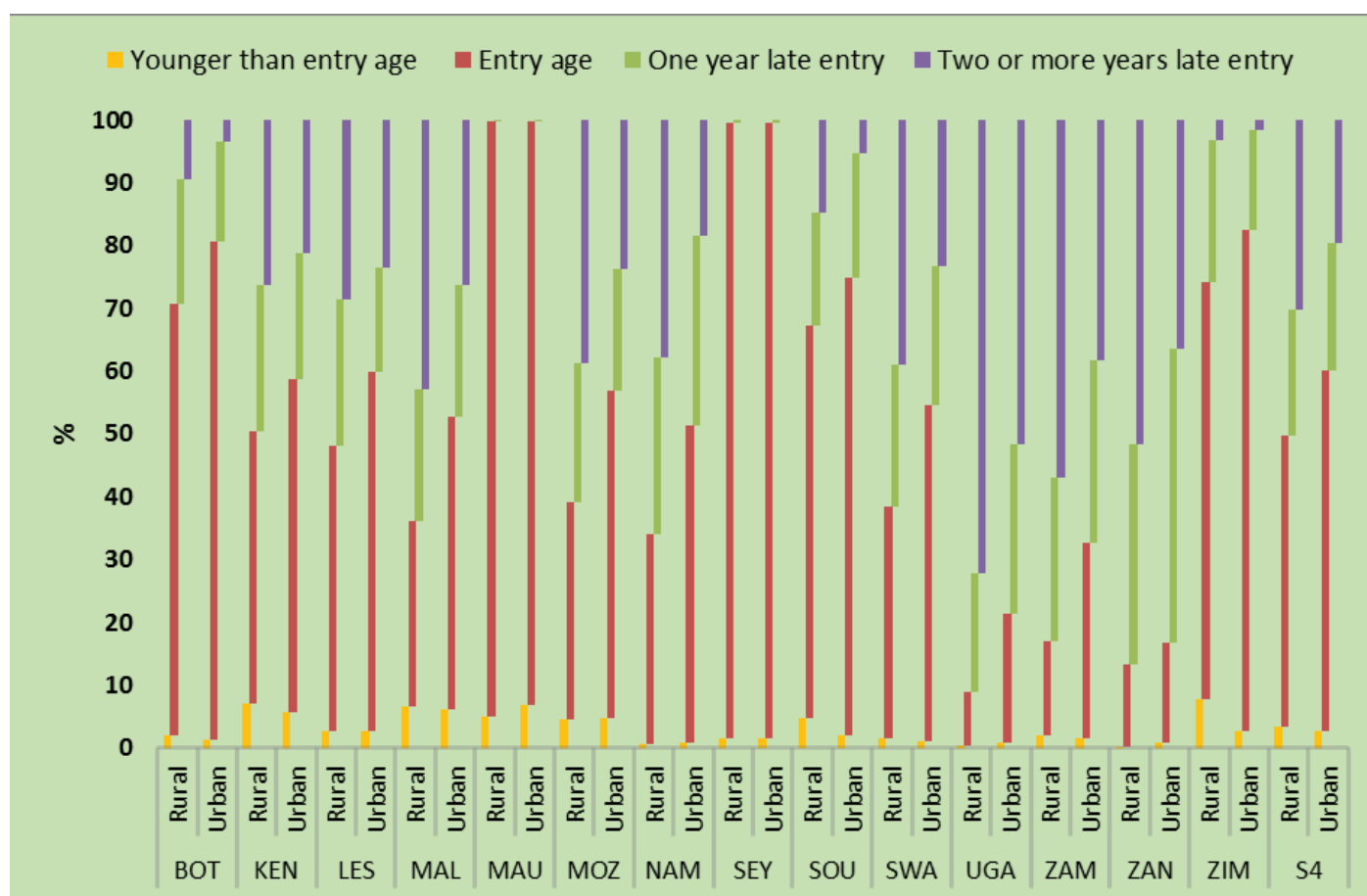


With the exception of Mauritius and Seychelles, the proportion of Grade 6 pupils who enrolled in primary schooling at the desired age range is higher for schools located in urban areas than

in the rural areas for all countries (Fig. 3.3b). Countries with notably widened gaps between rural and urban schools in the proportion

of Grade 6 pupils who enrolled late into primary schooling by two or more years are: Uganda (20%), Namibia (20%), Zambia (19%), and Zanzibar (15%). The gap in Zimbabwe remains small at 1%.

Fig. 3.3b Distribution of Grade 6 pupils' primary school entry status by location and country



UNESCO's Education for All Global Monitoring Report 2005 (UNESCO 2004) states that

while high- and middle-income countries had fewer late entrants into primary schooling, developing

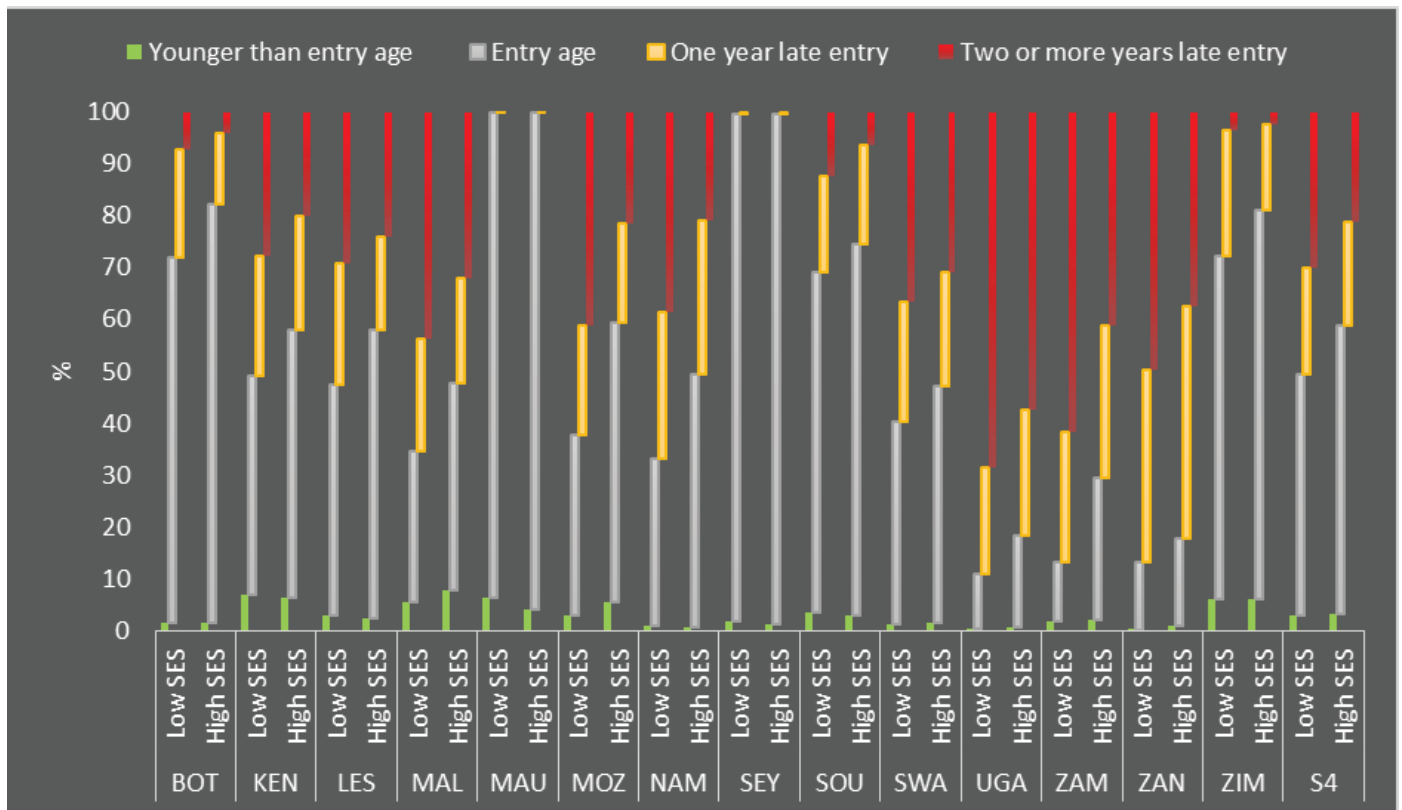
countries have high proportions. This observation is also true at individual country level.

Fig. 3.3c presents results confirming that during SACMEQ IV Uganda, for example, had 69% of Grade 6 pupils with low

Socio-economic status (SES) who commenced primary schooling two or more years late, as compared

to 57% with high SES. Similar situation is observed in Zambia (62% and 41%), Zanzibar (50% and 38%), and Malawi (44% and 32%).

Fig. 3.3c Distribution of Grade 6 pupils' primary school entry status by SES and country



The other main reason for the delay in progression of pupils through primary schooling is grade/class repetition. Unacceptable rate of repetition among pupils is problematic in many education systems because it inherently prevents other pupils from being admitted, may cause class overcrowding, may increase the running cost of a school, and reduce the overall quality of education offered. Studies by Behrman and Knowles (1999) in Vietnam;

Glewwe and Jacoby (1994, 1995) in Ghana; Nishimura et al. (2008) in Uganda; and Patrinos and Psacharopoulos (1992) in Bolivia and Guatemala have all corroborated this. SACMEQ IV study reveals that at country level the age of Grade 6 pupils has medium to weak positive correlation with their grade repetition. Countries in which the older Grade 6 pupils tend to have repeated a grade more times are:

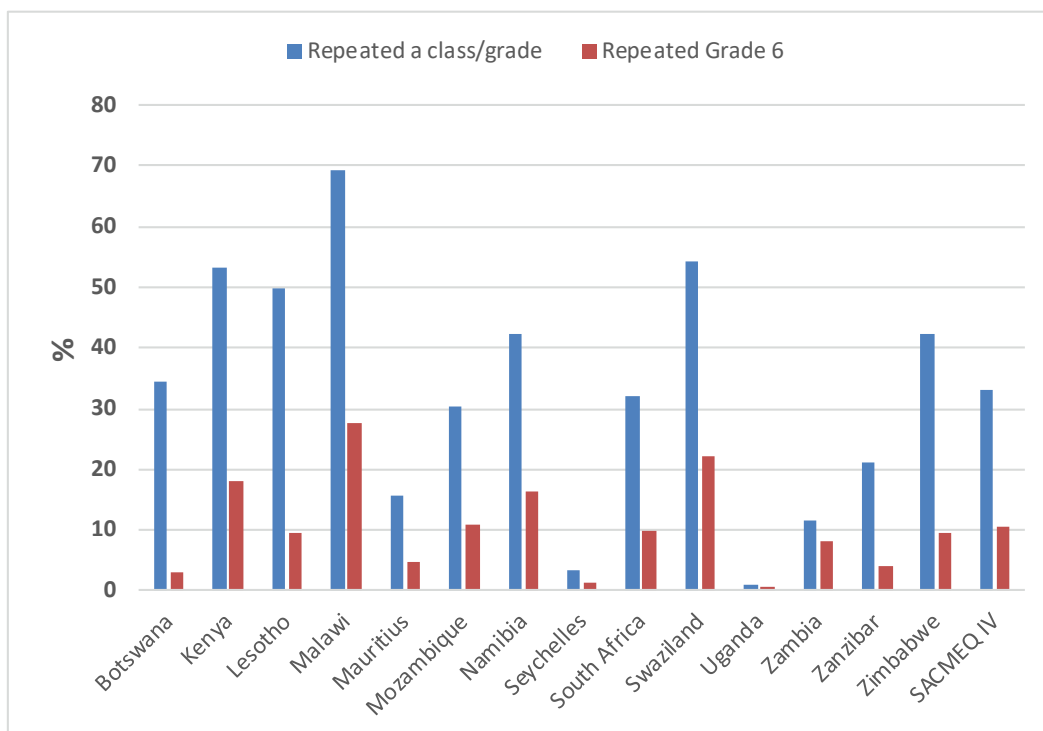
Botswana ($r = .49$), Mauritius ($r = .43$), Namibia ($r = .43$), South Africa ($r = .43$), Swaziland ($r = .43$), and Lesotho ($r = .42$). As expected, the relationship between age and grade repetition is very weak for Grade 6 pupils in countries where the rate of grade repetition is negligible. While this scenario is observed in Uganda ($r = .05$), and Zambia ($r = .08$), it is found that there is no relationship between the age of Grade 6 pupils and their grade repetition in Seychelles ($r = .02$).

The descriptive presentation in Fig. 3.4 confirms that grade repetition is notable in most participating countries. Countries with substantial proportion of Grade 6 pupils

who had repeated a grade at least once are: Malawi (69%), Swaziland (54%), Kenya (53%), Lesotho (50%), Namibia (43%),

and Zimbabwe (42%). To the contrary, countries which had low proportion of grade repeaters are Uganda (1%), Seychelles (3%), Zambia (12%), Mauritius (16%), and Zanzibar (21%).

Fig. 3.4 Distribution of Grade 6 pupils by grade repetition and country

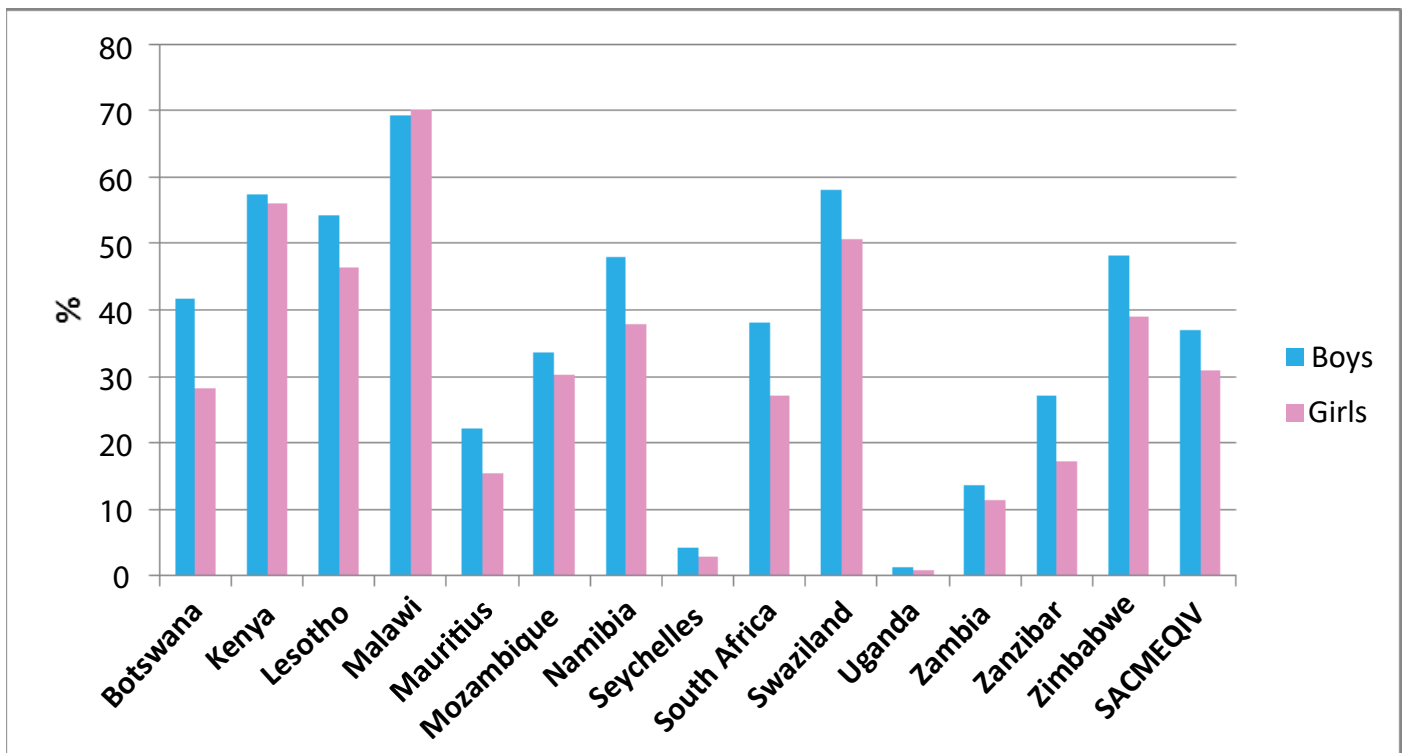


Previous studies such as those by Gomes-Neto and Hanushek (1994); Glewwe and Jacoby (1994); and Patrinos and Psacharopoulos (1992) found that boys are

more likely to repeat a grade. A higher proportion of Grade 6 boys than girls in all but one SACMEQ IV countries repeated a grade

(Fig. 3.5a). As the exception, in Malawi, the proportion of Grade 6 pupils who repeated a grade at least once is slightly higher for girls than boys by just 1%.

Fig. 3.5a Distribution of Grade 6 pupils who repeated a grade at least once by gender and country



Socio-economic status has mixed influence on grade repetition depending on the country. For example, while Behrman and Knowles (1999) and

Nishimura et al. (2008) found that income has a positive effect on grades passed per year of school in Vietnam and Uganda

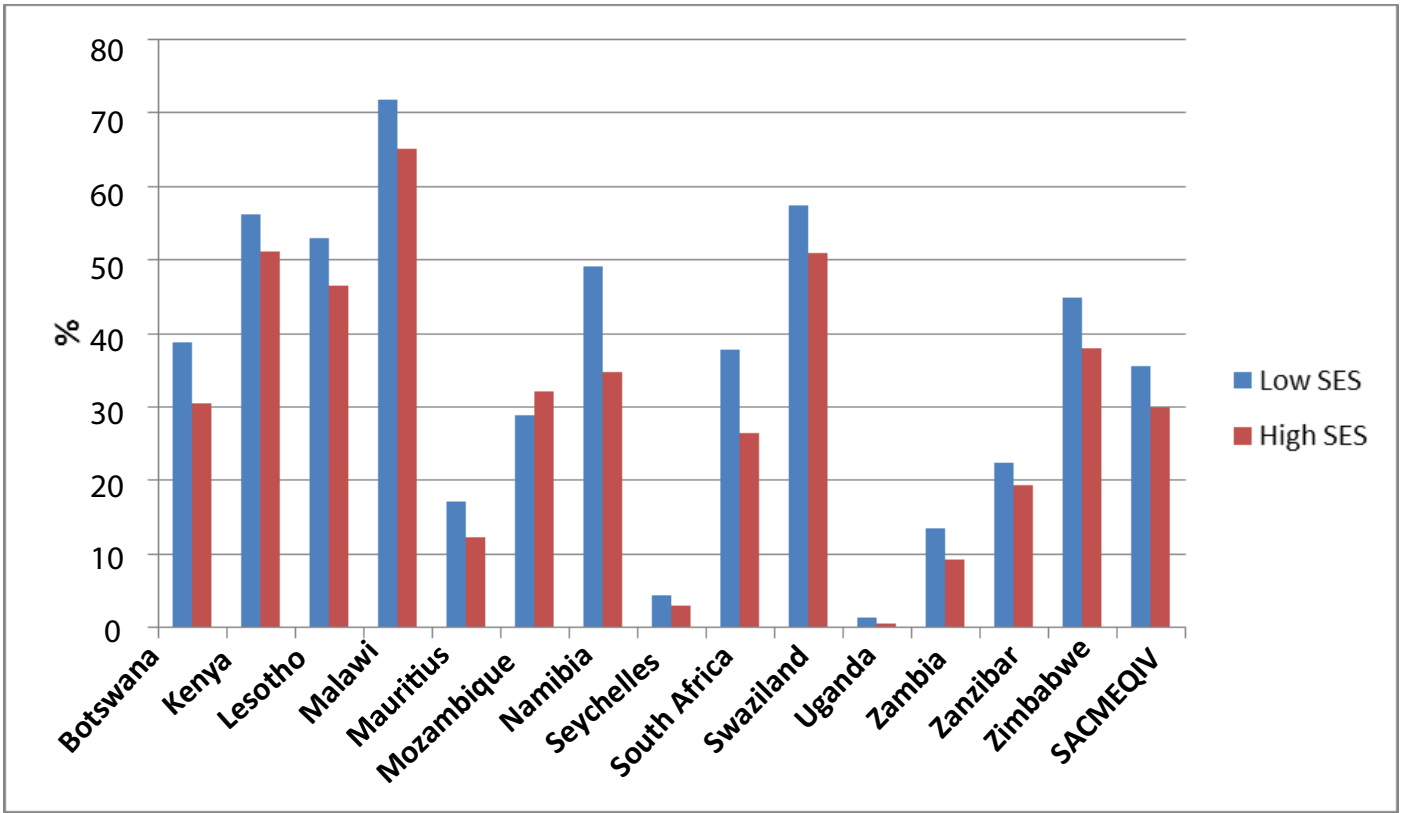
respectively, Glewwe and Jacoby (1994) concluded that children from wealthier households in Ghana are more likely to repeat a grade.

Interestingly, findings from SACMEQ IV study seem to support both (Fig. 3.5b). While the former finding is also observed in thirteen

SACMEQ IV countries, the latter is true for Mozambique

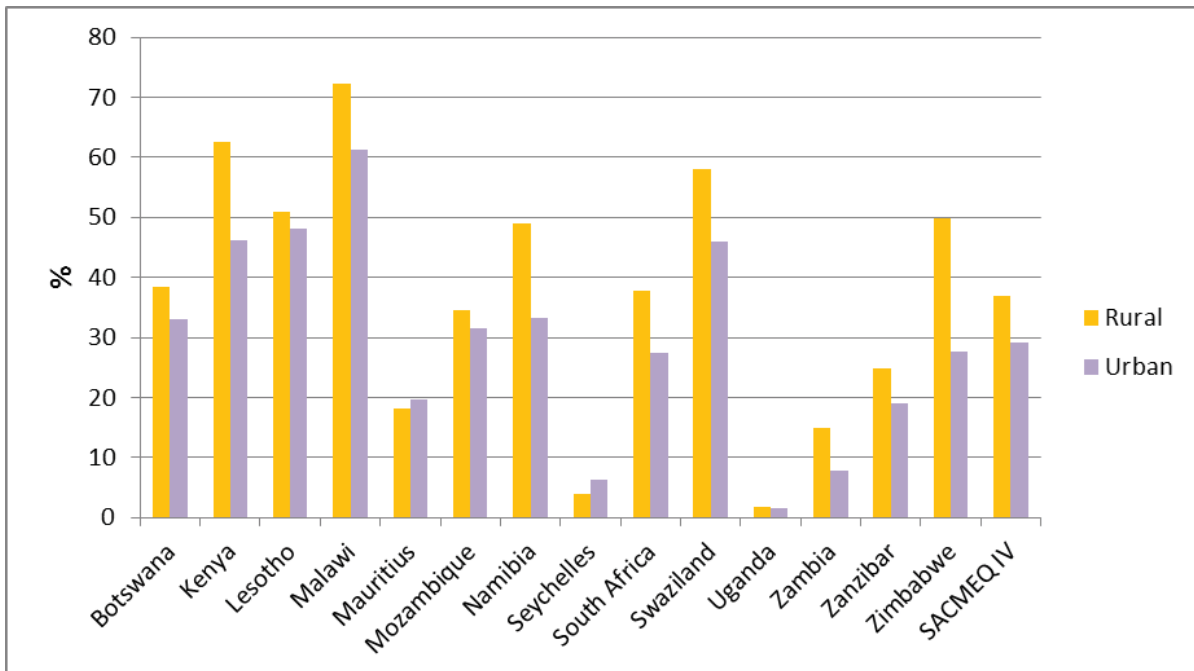
where the proportion of Grade 6 pupils who repeated a grade at least once is greater for those with high SES than low SES

Fig. 3.5b Distribution of Grade 6 pupils who repeated a grade at least once by SES and country



Another important observation from SACMEQ IV study is that a greater proportion of Grade 6 pupils attending schools located in rural areas tends to repeat a grade than those in urban areas (Fig. 3.5c). However, for Mauritius and Seychelles where grade repetition seems to be more among Grade 6 pupils attending schools in urban areas. the reverse is found to be true attending schools in urban areas.

Fig. 3.5c Distribution of Grade 6 pupils who repeated a grade at least once by location and country



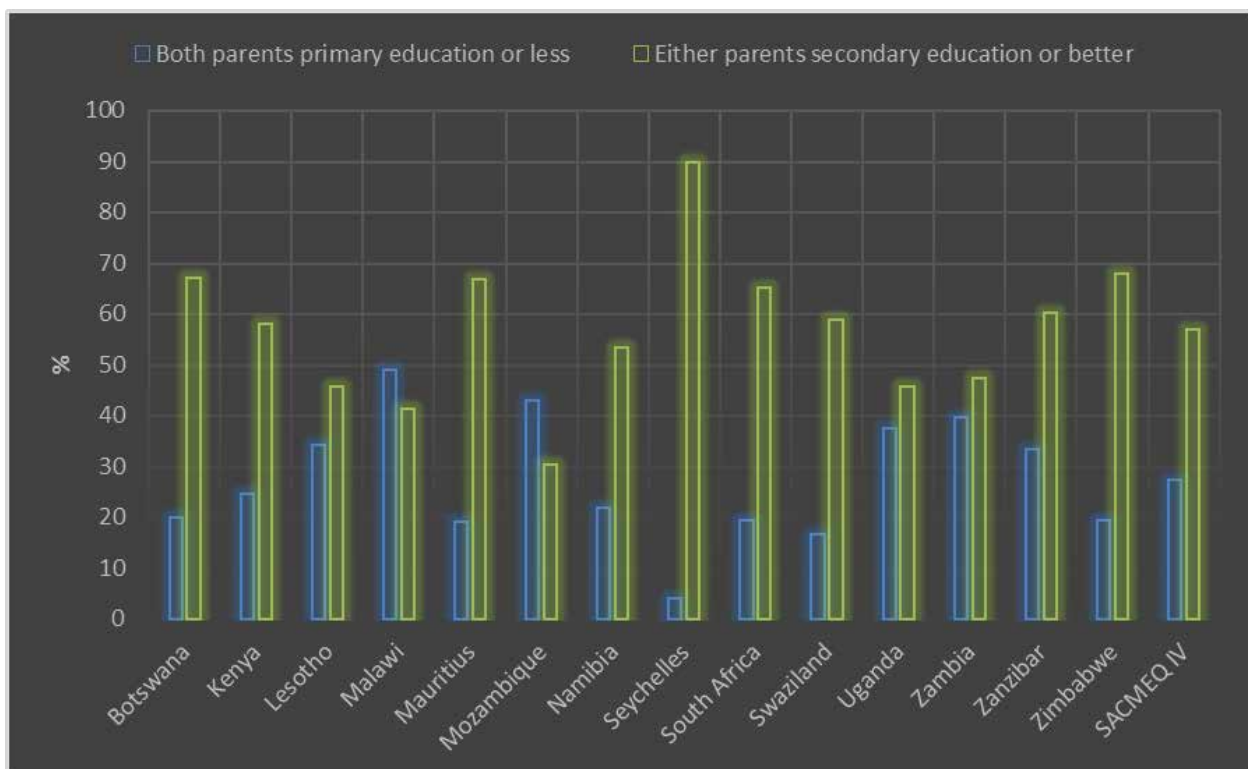
It is well known that family background plays an important role in a child's education in terms

of entry age, behaviour, decision-making, and achievement.

Sharada Weir (2000), for example, found that several years of schooling of both mother and father

Fig. 3.6 presents the distribution of Grade 6 pupils by their parents' education and country for SACMEQ IV study.

Fig. 3.6 Distribution of Grade 6 pupils by parents' education and country



The highlight of the findings in Fig. 3.6 is that there are greater proportions of Grade 6 pupils having both parents with primary school education or less, than those with either parents having secondary education or better in Malawi (49% vs 42%) and Mozambique (43% vs 30%). Seychelles has the

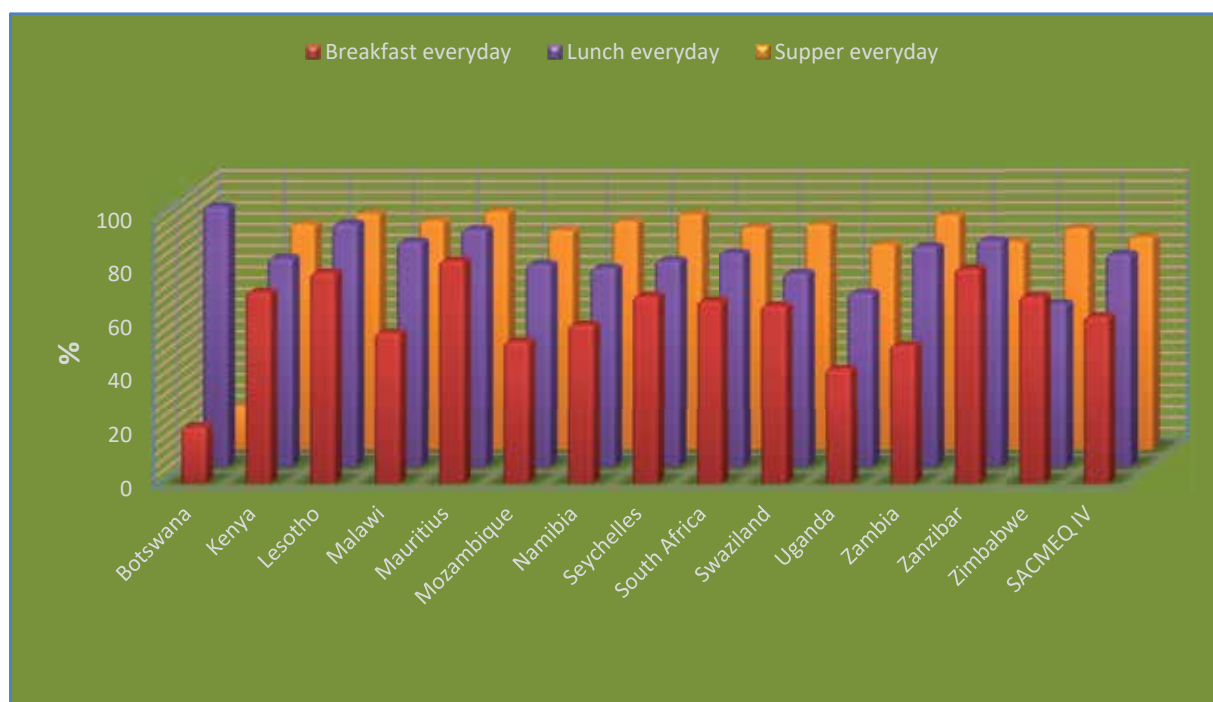
highest percentage of Grade 6 pupils (90%) with either parents having secondary education or better, while Mozambique has the lowest (30%).

Studies have shown that malnutrition from habitual undereating and/or skipping

meals can interfere with a child's normal physical and mental development. Specifically, it was observed that children who skipped meals are more likely to eat junk food during the day and be overweight. SEACMEQ studies therefore track meal eating patterns of Grade 6 pupils across participating countries.

Fig. 3.7 shows the results obtained from SACMEQ IV study.

Fig. 3.7 Meal eating patterns of Grade 6 pupils by country



Except for Uganda and Zimbabwe, over 70% of Grade 6 pupils in each participating country have lunch every day. Even greater proportions of over 80% of Grade 6 pupils in each country, except Botswana (16%), eat supper every day. Although these findings paint a positive general picture of meal eating, some experts caution that most children don't get all the vitamins and minerals they need from just lunch and dinner. Nutritionists advise that it

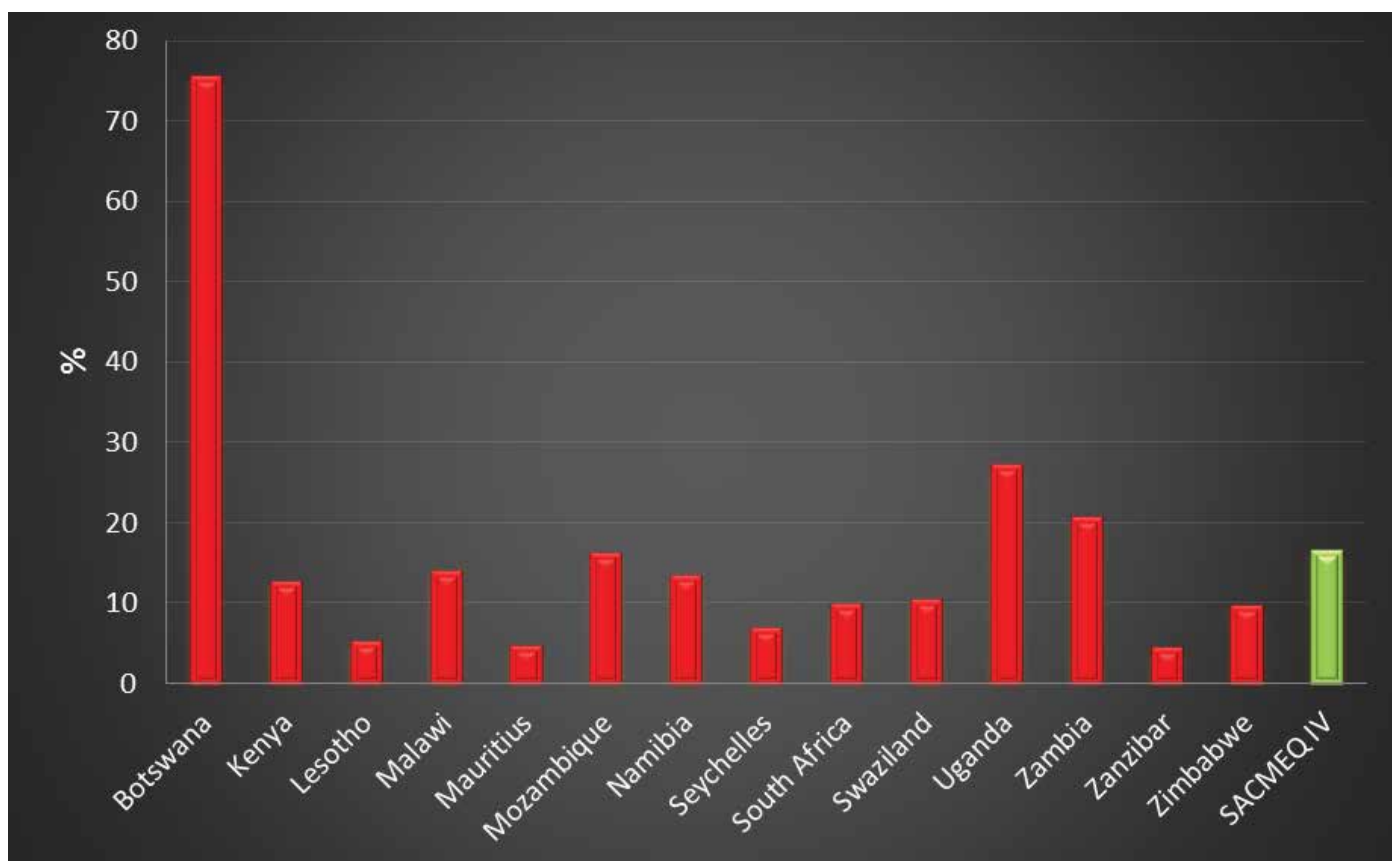
is important for children to have daily breakfast foods that are rich in whole grains, fibre, and protein while low in added sugar to boost their attention span, concentration, and memory. One study showed that children who ate breakfast regularly had higher test scores than those who didn't (Pucher et al., 2012). Other research findings suggest that children who eat daily breakfast also tend to keep their weight under control, have lower

blood cholesterol levels and fewer absences from school (Gavin, 2015).

However, the findings of SACMEQ IV study shown in Fig. 3.7 show that, except for Zimbabwe, lower proportions of Grade 6 pupils in each participating country have breakfast as compared to lunch and supper. Notably, only 43% of Grade 6 pupils in Uganda have breakfast every day, while in Botswana the proportion is critically low at just 21%.

Given the foregoing finding and the importance of breakfast, it is important to present in **Fig. 3.8** the distribution of Grade 6 pupils who do not eat breakfast at all across the participating countries.

Fig. 3.8 Distribution of Grade 6 pupils who never eat breakfast by country



It is clear from **Fig. 3.8** that over **75%** of Grade 6 pupils in Botswana never eat breakfast, followed by Uganda (**27%**), and Zambia (**21%**). These findings are significant and should initiate further investigations. Perhaps greater interest is aroused in the case of Botswana, given that the proportion of Grade 6 pupils who eat supper every day is very low at just **16%** (see **Fig. 3.7**).

The outcome of studies which investigated the impact of residence of learners on their academic performance is somewhat surprising or unexpected because it is dependent on other extraneous

variables such as the level of schooling, age, religion, ethnicity, socio-economic status, gender, and even country of origin. Studies conducted on college students showed that students who live on campus are more academically advantaged than those who lived with their families (Turley and Wodtke, 2010), and that the relationship that African American and Caucasian students have with their families is not a significant factor in determining their academic performance (Walker and Satterwhite, 2002). However, for much younger primary school pupils, one would expect to find opposite results.

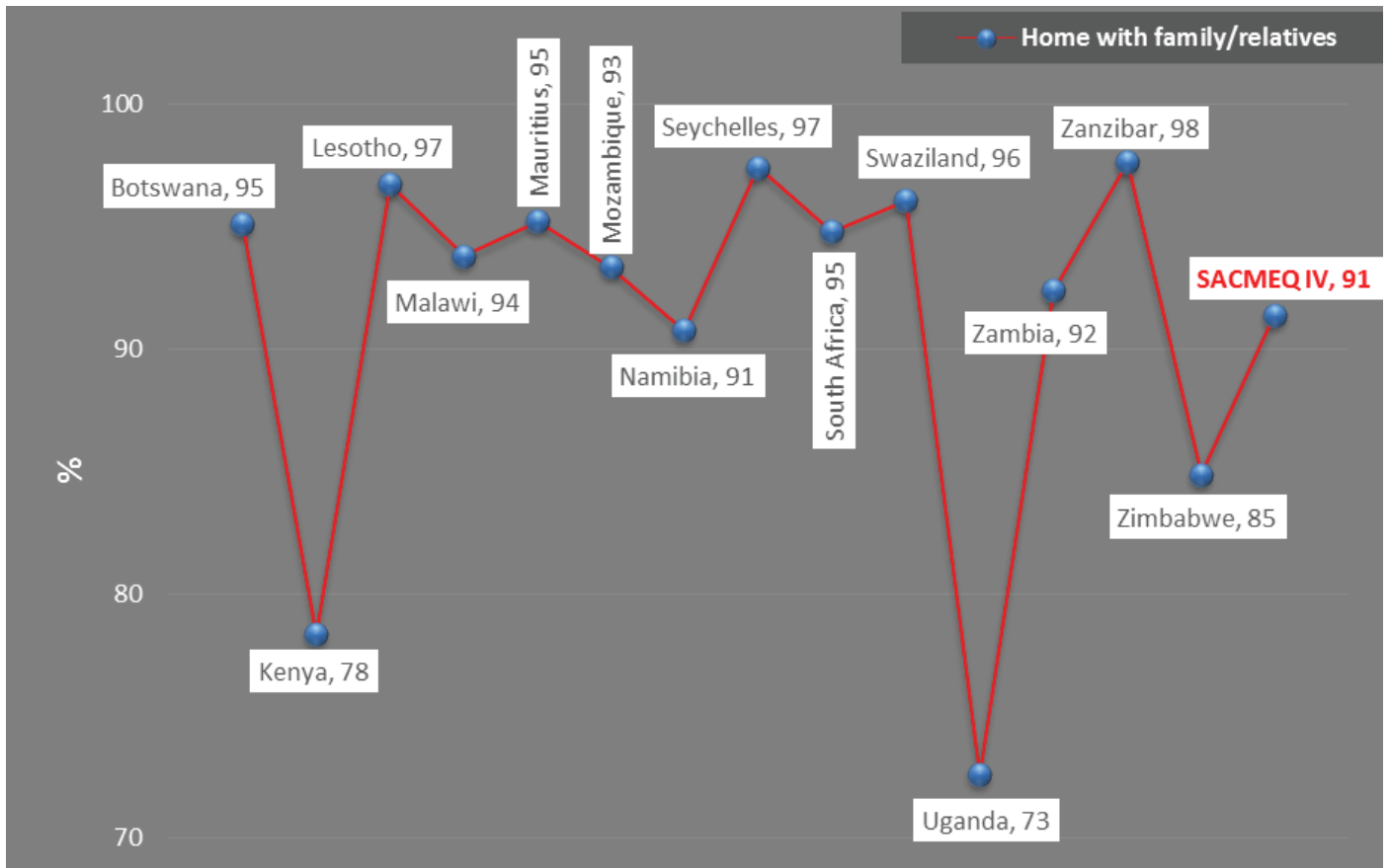
This is because the children are largely dependent on the family for decision making, well-being, and academic achievement. For example, a study by Etsey (2005) in Ghana showed a significant positive relationship between help with studies/homework at home and academic achievement. Egalite (2016) also pointed out that family education, family income, and family structure have been identified as strong correlates of children's success in school. It therefore follows that for these family variables to have noticeable effects, the children should ordinarily be staying at home with the family.

According to SACMEQ IV study, very large proportions of Grade 6 pupils stay at home with family or relatives during their school days.

Fig. 3.9 presents this finding; the vertical scale is truncated at 70 for emphasis purpose. Only

Uganda (**73%**) and Kenya (**78%**) have relatively low percentage of Grade 6 six pupils who stay at home with family or relatives.

Fig. 3.9 Distribution of Grade 6 pupils staying home with family/relatives by country



The map chart in **Fig. 3.10a** is a proportionate representation of Grade 6 pupils who completed pre-school by country. As flagged, the highest proportions of Grade 6 pupils who attended pre-school are in Seychelles (**84%**) and Mauritius (**81%**), while the lowest are in Mozambique (**14%**) and Zambia (**18%**). However, examining the statistics for all other SACMEQ IV countries draws attention to the fact that, except for Kenya (**58%**), only

twenty four to forty four percent of Grade 6 pupils in these countries completed pre-school (**Fig. 3.10b**). Could this have an influence on the academic achievement of the pupils, even at Grade 6 level?

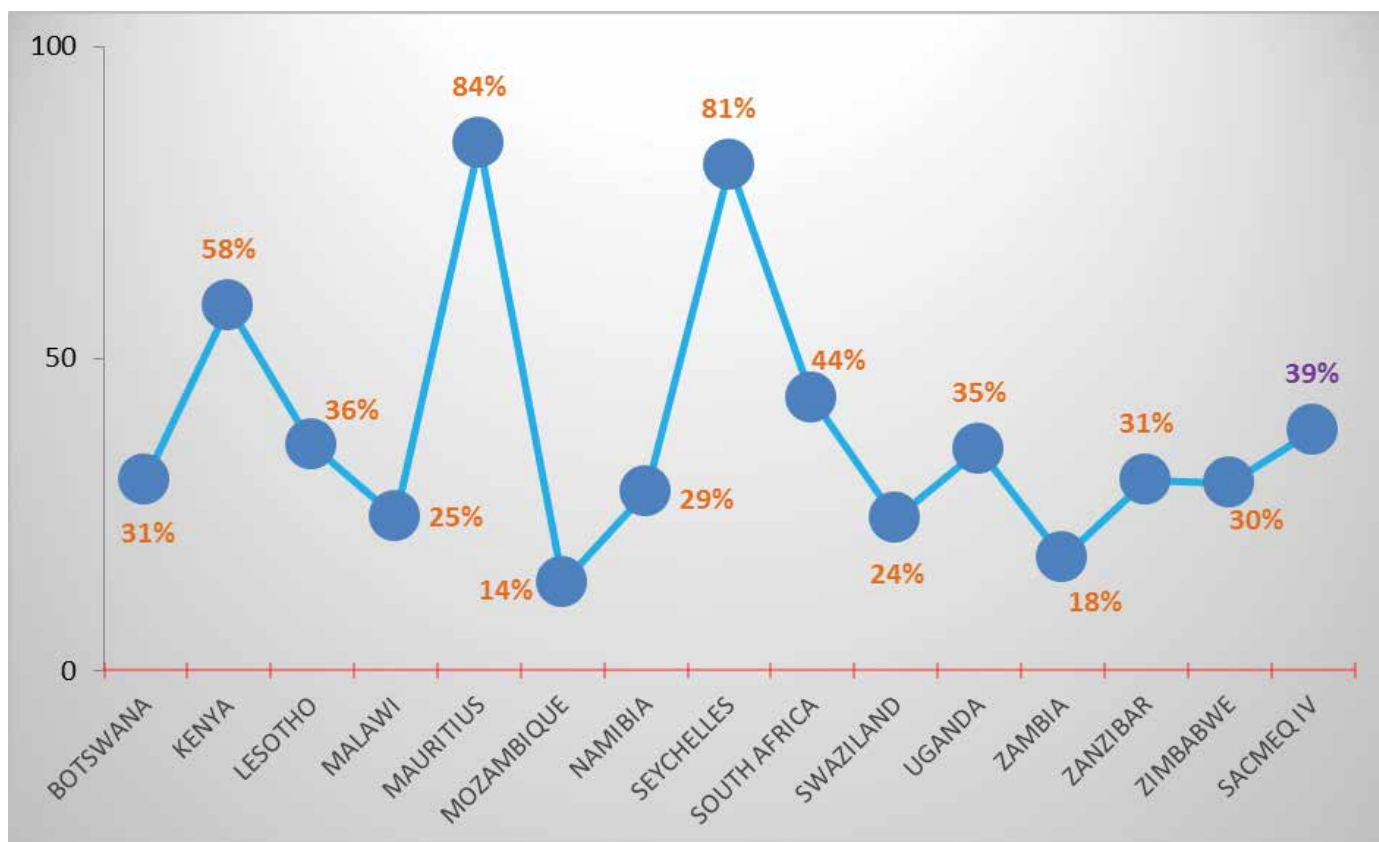
Aguilar and Tansini (2011) found fairly strong empirical evidence in Uruguay to suggest that having pre-school education has a short term positive effect on children's results in the first year at school, and a long-term positive effect,

though somewhat weaker, after six years. Earlier, Abouda and Hossain (2008) had completed a study in Bangladesh which concluded that the speaking, writing, reading, and mathematics achievements of first graders who attended pre-primary schools were significantly better than of those who didn't. However, they also found out that second graders who attended pre-primary schools performed significantly better than comparisons on all but reading.

Fig. 3.10a Proportion of Grade 6 pupils who attended pre-school by country



Fig. 3.10b Distribution of Grade 6 pupils who attended pre-school by country



In all SACMEQ IV countries languages were adopted through long historical past such as colonization and/or cross cultural cohabitation. In few instances, languages such as English, Portuguese, and French were so overly imposed upon the local populations that they became the home and/or language of instruction at school. In the majority other countries, there is the challenge of finding an appropriate balance between supporting and valuing

indigenous languages, while continuing to implement policies that are underpinned by beliefs that the colonizing language(s) are of greater value (IEA, 2017). Accordingly, each country's language situation is unique in terms of its colonial history, post-colonial context and the experiences of its indigenous populations. Whatever the case may be, global organizations such as UNESCO (2015) promoted

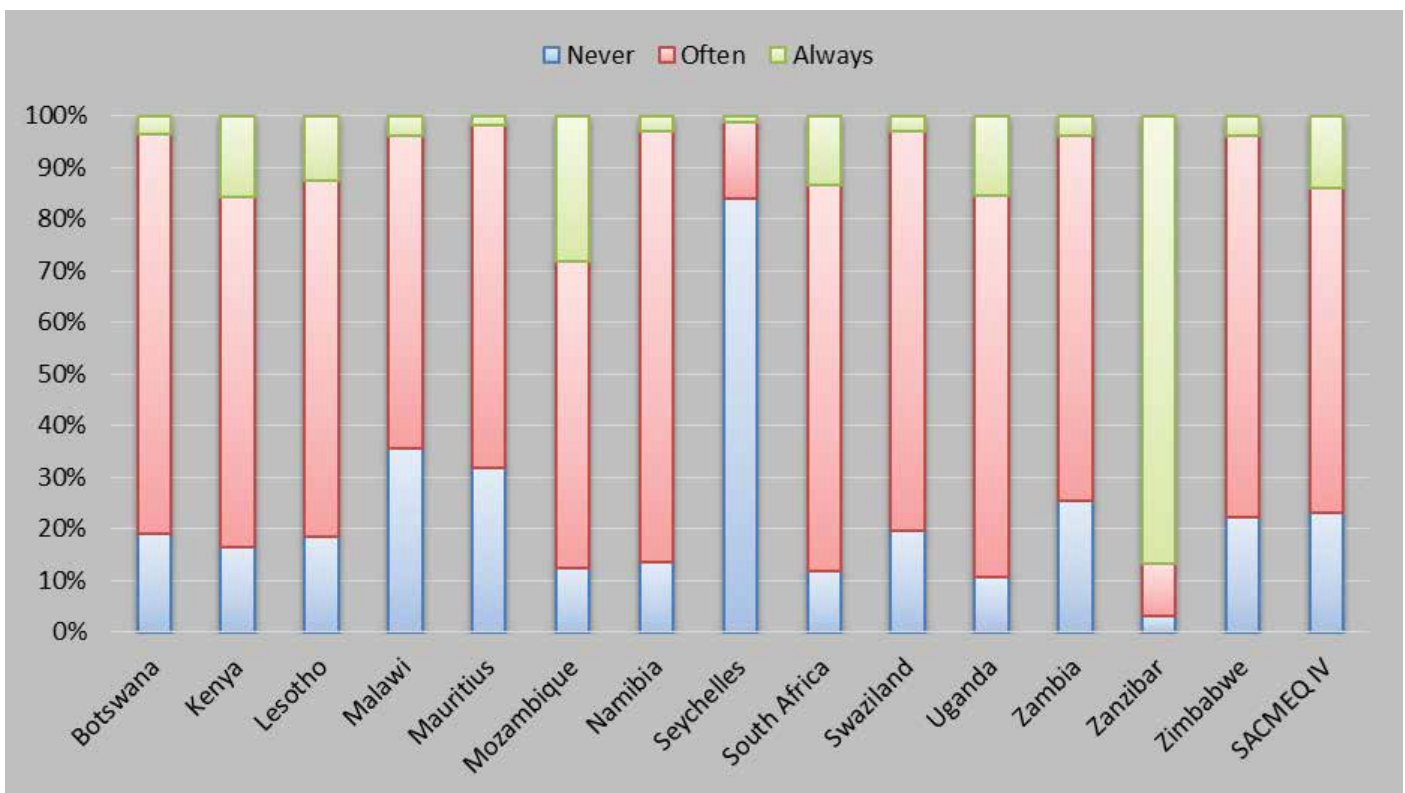
the use of the home language as the language of learning instruction via its Education for All initiative. UNESCO's advocacy is supported by research conducted by Heugh (2009); Chimbutane (2011); Makgamatha et al. (2013); and Marky (2011) which all noted the generally positive difference in achievement in school subjects between those fortunate enough to learn in their home language and those unable or denied the possibility to do so (cited in IEA, 2017).

Therefore, SACMEQ IV findings on Grade 6 pupils' frequency of speaking the language

of instruction (and testing) outside school, serves to further

establish the relationship with test achievement rather than promoting the use of a particular language.

Fig. 3.11 Frequency of speaking language of instruction outside school by Grade 6 pupils



Across twelve countries, **59%** to **83%** of Grade 6 pupils reported that they “often” speak the respective language of instruction outside school. These were also the languages that SACMEQ IV used to administer tests to the pupils. The islands of Seychelles and Zanzibar, however, present very interesting scenarios. In Seychelles, **84%** of Grade 6 pupils “never” speak the language of instruction outside school and **1%** “always” speak it. The reverse is observed in Zanzibar, where **3%** of Grade 6 pupils said they “never” speak the language of instruction outside school and **87%** “always” speak it. These two scenarios would provide a very good contrast

to compare Grade 6 pupils’ achievement in reading, mathematics and health that were administered during SACMEQ IV study. Despite the growing use of digital and remote platforms for obtaining information, print books still remain major sources in most SACMEQ IV countries because of economic, social, political, and logistical challenges. Putting these challenges aside, numerous research assert that books still offer far greater advantages in personal development. It is understood that children from literature-rich home environments enter school with more knowledge about reading than children without access to books.

Bus, van Ijzendoorn & Pellegrini (1995) explained that parental involvement in their children’s reading has been found to be the most important determinant of language and emergent literacy. Therefore, the homes where the children reside should have books that allow for early reading experiences with their parents to prepare the children for the benefits of formal literacy instruction. A study conducted over 20 years by Evans, Kelley, Sikorac, and Treimand (2010) on more than 70,000 people across 27 countries found that growing up in a household with 500 or more books is “as great an advantage as having university-educated rather

than unschooled parents, and twice the advantage of having a professional rather than an unskilled father.” According to Evans et al. (2010), the

books help establish a reading or “scholarly culture” in the home that persists from generation to generation, and this creates a

“taste for books” and promotes the skills and knowledge that fosters both literacy and numeracy and, thus, leads to lifelong academic advantages.

In the context of the SACMEQ IV region, the overall mean number of books at Grade 6 pupils’ homes was found to be quite low at just 15 (Fig. 3.12). The highest mean number of books in Grade 6

pupils’ homes is 39 in Mauritius, followed closely by Seychelles at 38. Grade 6 pupils barely have print

books at the homes where they stay in Zanzibar (3) and Malawi (5). The average number of books at home for the rest of the countries is still very low; ranging from 8 in Zambia to 20 in South Africa.

Fig. 3.12 Country comparison of the mean number of books at Grade 6 pupils’ homes



Given these low average numbers of books at pupils’ places of stay across all countries, one can only hope that their schools and other libraries provide sufficient quantity of the needed books. However, some quarters would successfully argue that having quantity without quality and greater access to the books

would not serve the interest of the learners. McQuillan (1998) reported that an analysis of a national data set of nearly 100,000 United States school children found that access to printed materials—and not poverty—is the “critical variable affecting reading acquisition”. The study called Children’s Access to

Print Materials and Education-Related Outcomes commissioned by Reading Is Fundamental (RIF) came to the conclusions that providing children access to print materials improves reading performance, prompts them to read more frequently and for greater amounts of time,

and improves their attitudes toward reading and learning (Lindsay, 2010). More importantly, research later established that children

thrive as readers when they are allowed to choose their own reading materials (Allington 2012). For the older children

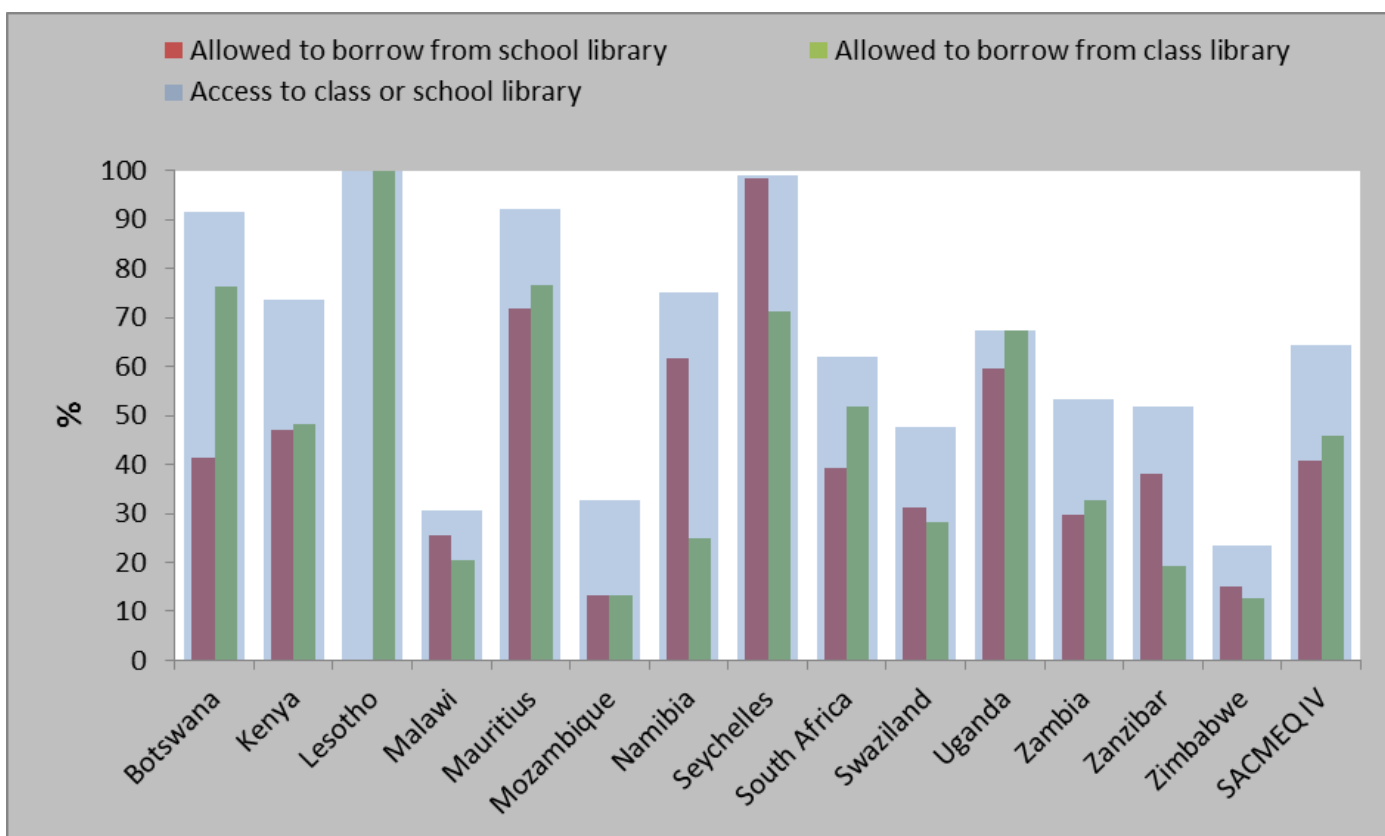
such as the sixth graders, this freedom to choose would bear more fruit if they are allowed to borrow and take the books home if they so wish.

As shown in Fig. 3.13, the proportion of Grade 6 pupils in the SACMEQ IV region who have access to class and/or school library books is 64%. At country level, the access to library books by sixth graders is very low in Zimbabwe (23%), Malawi (31%), and Mozambique (33%). Further, it is a concern that the proportions of Grade 6 pupils who disclosed that they are permitted to borrow library books to take home in these three countries library or class library/book corner

are even lower. For example, in Mozambique only 13% of Grade 6 pupils said they are allowed to borrow books from either school library or class library (Fig. 3.13). In contrast, high proportions of Grade 6 pupils have access to library books in Lesotho (100%), Seychelles (99%), Mauritius (92%), and Botswana (92%). Nevertheless, while 100% of Grade 6 pupils in Lesotho are allowed to borrow books from the class library none

is allowed to borrow from the school library. In the other three countries, 98% borrow from school library and 71% from class library in Seychelles; 72% borrow from school library and 77% from class library in Mauritius; and 41% borrow from school library and 76% from class library in Botswana (Fig. 3.13). The collective observation in the SACMEQ IV region suggests that each country need to interrogate the library policies in their primary schools in terms of implementation and awareness.

Fig. 3.13 Grade 6 pupils' access to library and borrowing books by country



The psychologist and learning theorist Ausubel (1973) postulated that young children are capable of understanding abstract ideas if they are provided with sufficient materials and concrete experiences with the phenomenon that they are to understand. In agreement, research has shown that out of school activities such as homework bore a positive relationship with learning outcomes when it is relevant to learning objectives, assigned regularly in reasonable amounts, well explained, motivational and collected and reviewed during class time and the above, Policy Paper 23 of Global Education Monitoring used as an occasion for feedback

to students (Butler, 1987). Most SACMEQ IV countries are reliant on text books to assign reading and problem solving as part of these learning experiences to pupils. In recognition of the above, Policy Paper 23 of Global Education Monitoring Report (2016) reiterated that textbooks are recognized as core for the new Sustainable Development Goal on education. The report notes that textbooks are problem solving as part of these learning experiences to pupils. In recognition of Report (2016) reiterated that textbooks are recognized as core for the new Sustainable Development Goal on education. The report notes that textbooks are especially relevant to improving

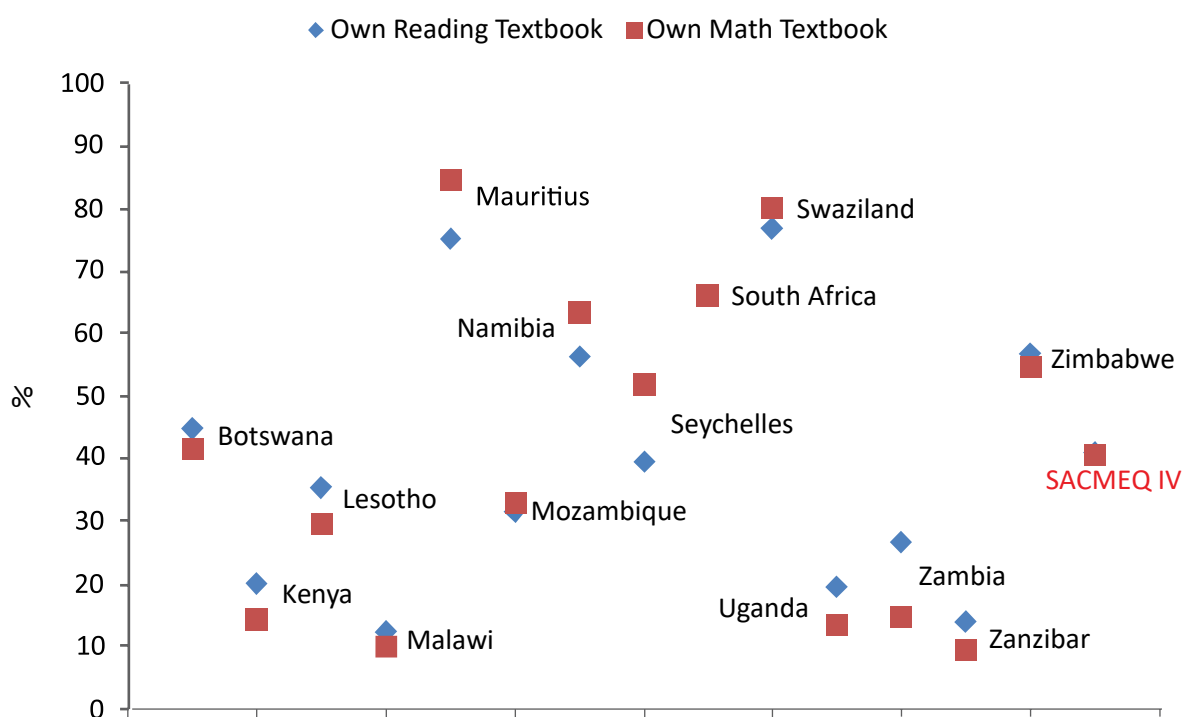
learning outcomes in low income countries with large class sizes, a high proportion of unqualified teachers and a shortage of instructional time. Without textbooks, children can spend many of their school hours copying content from the chalkboard/whiteboard, which severely reduces time for engaged learning. especially relevant to improving learning outcomes in low income countries with large class sizes, a high proportion of unqualified teachers and a shortage of instructional time. Without textbooks, children can spend many of their school hours copying content from the chalkboard/whiteboard, which severely reduces time for engaged learning.

In five of the fourteen SACMEQ IV countries, at least 50% of Grade 6 pupils responded that they own both reading and mathematics textbooks (Fig. 3.14). These countries are Mauritius, Swaziland, South Africa,

Namibia, and Zimbabwe. Notable percentages of these pupils are in Mauritius (75% and 85% respectively) and Swaziland (77% and 80%). Very low

proportions of Grade 6 pupils who have their own reading and mathematics textbooks are in Malawi (12% and 10%); Zanzibar (14% and 9%); Uganda (19% and 13%); Kenya (20% and 14%); and Zambia (27% and 15%).

Fig. 3.14 Grade 6 pupils' ownership of reading and mathematics text books by country



The notion of what distance is acceptable to travel to school on daily basis by primary school children does not only vary among countries but among researchers as well. In their study to examine the relationship between school distance and academic achievement of primary school pupils in Edo State, Nigeria, Ebinum et al. (2017) concluded that “most pupils ... cover an

average distance between 2 – 5 kilometers which according to this study is considered far”. In most of SACMEQ IV countries, the maximum acceptable walking distance from a pupil’s home to school is 3km. Whatever the consensus may be regarding the distance, the general worry is that distance travelled to school has some measure of relationship to

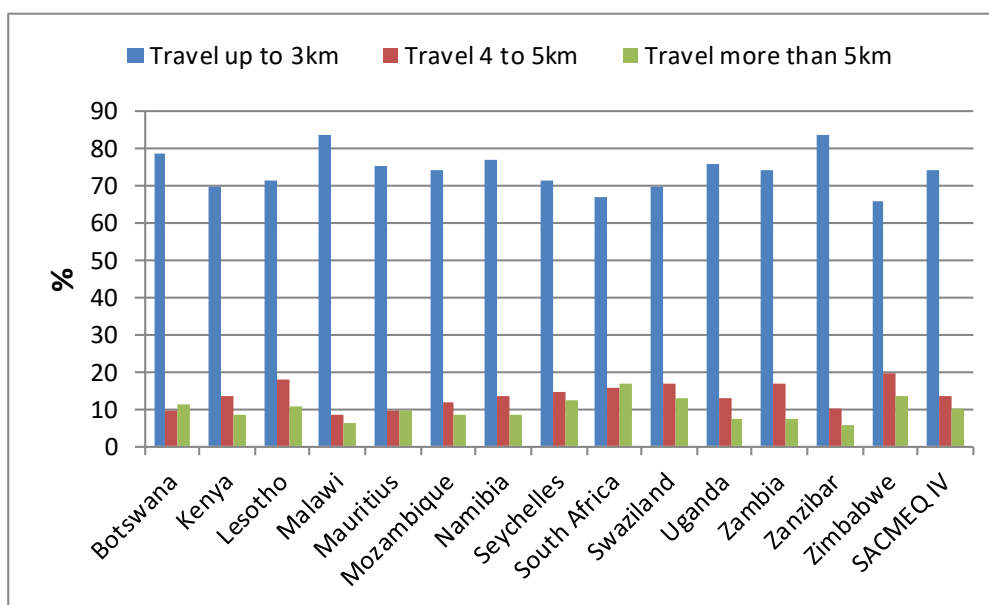
ills like absenteeism, delinquency, truancy, lateness, indiscipline, and ill-health. Also, when the distances travelled to school is too far for the child, besides fatigue, there is the tendency for the child to lose interest at school and begin to be truant, and may drop out of school completely (Arubayi, 2005; Duze, 2005). These ills, either single or combined ultimately affect achievement at school.

On average, **74%** of Grade 6 pupil in the SACMEQ IV region travel within the acceptable one-way distance of 3km to attend their school (Fig. 3.15a). However, the finding

illustrated in Fig. 3.15b suggests that more than **60%** of the pupils in each country; except Seychelles (**34%**), Mauritius (**35%**), and

South Africa (**52%**); walk this distance to school. As indicated before, 3km is arguably still too far for a Grade 6 pupil to walk each day to school.

Fig. 3.15a Distribution of Grade 6 pupils by distance travelled to school and country



It is every education systems' wish to provide schools within the shortest travelling distance possible from all learners, let alone within walking distance. Therefore, the presence of any proportion of pupils who walk to school over

distances greater than that which is tolerable to the education system is a concern. As presented in Fig. 3.15c to highlight this problem, more than **10%** of Grade 6 pupils in each country, except Mauritius and Seychelles, walk

4km or more to school. Specifically, Zimbabwe (**28%** (18% + 10%)) has the highest combined proportion of Grade 6 pupils who walk at least 4km to school followed by Lesotho (**24%**), Zambia (**21%**), and Swaziland (**20%**).

Fig. 3.15b Distribution of Grade 6 pupils by distance walked to school and country

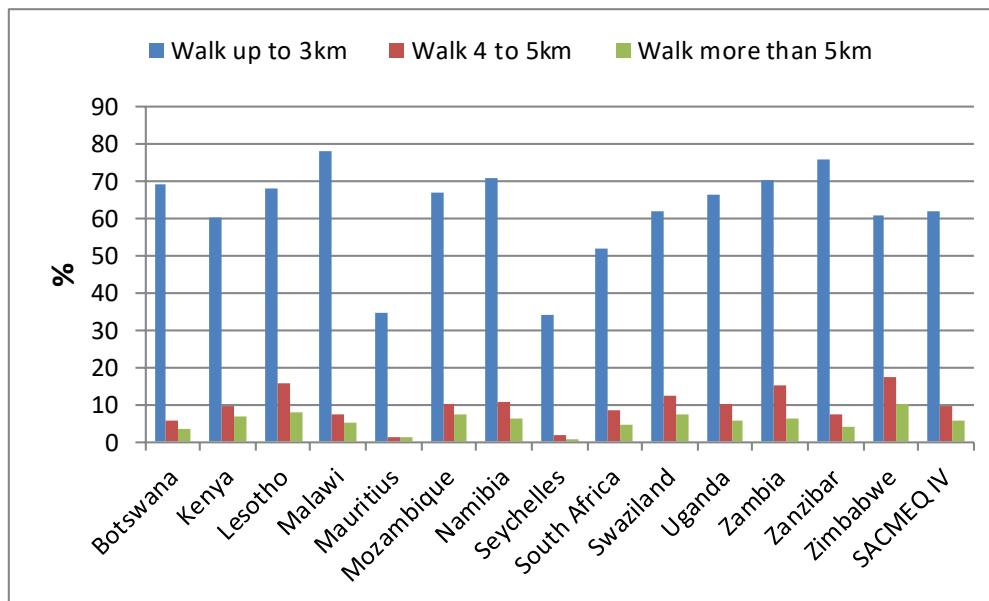
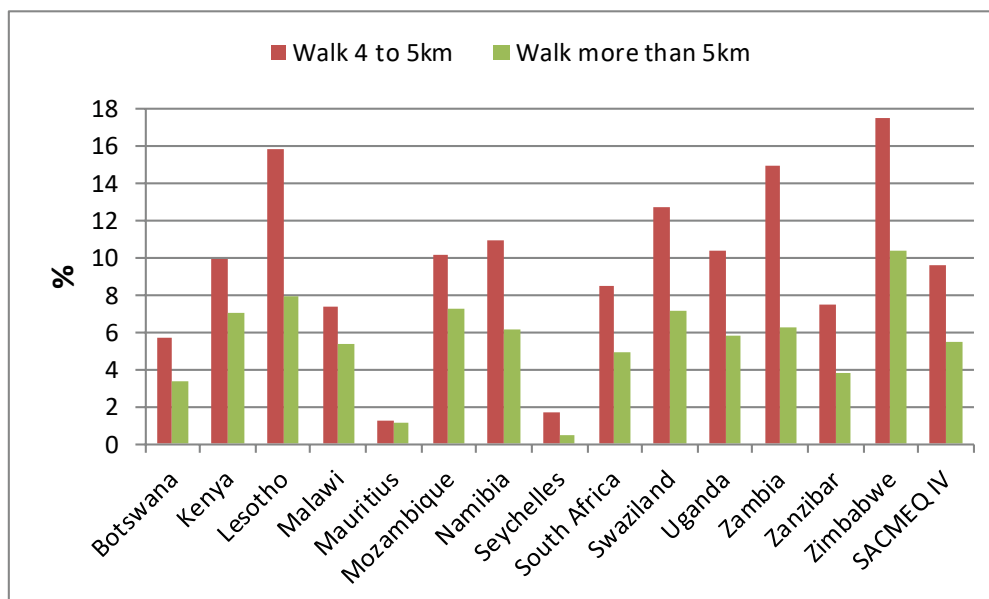


Fig. 3.15c Distribution of Grade 6 pupils who walk 4km or more to school by country



There is credible evidence that the quality of lighting in the environment affects the health of a person. In a school set up, good health would translate to better academic performance by pupils who are exposed to good lighting. A study conducted by Mirrahimi et al. (2013) concluded that natural light considerably influences the health, psychology,

and cognitive abilities of students. Nicklas and Bailey (1996) had compared test scores of students in North Carolina Johnston County schools and declared that the reading and mathematics test scores of students in day-lit schools were better than those in artificially lit schools. While the studies point to the undisputed preference of the highest

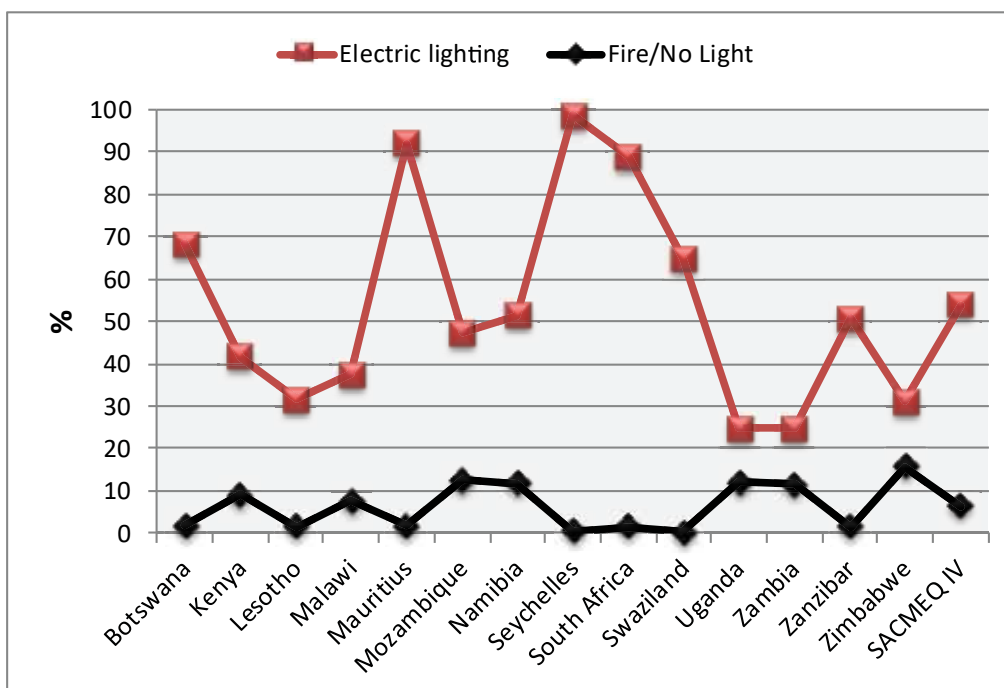
quality in natural daylight, pupils are often compelled, for various reasons, to study or do homework using artificial lighting. For these affected pupils, the issue to contend with is the quality of the artificial lighting. The research results published by Samani and Samani (2012), and Choi and Suk (2016) show that the highest quality of electrical lighting

condition led to stimulation of higher alertness states in students – and the greatest enhancement of academic performance. The distribution of Grade 6 pupils by the two extreme sources of lighting for SACMEQ IV region is shown in Fig 3.16. Electric lighting could be provided through the main grid line, solar panels, wet and dry cells, and

different forms of generators. The result indicates that in seven of the participating education systems, at least half of Grade 6 pupils have access to electric lighting. These education systems are: Seychelles (99%), Mauritius (92%), South Africa (89%), Botswana (68%), Swaziland (65%), Namibia (52%), and Zanzibar (51%). Uganda and

Zambia have the lowest proportion of Grade 6 pupils who have access to electric lighting at just 25% each. Although low in percentages, there are Grade 6 pupils in some countries who use fire or have no source of good lighting at their homes. These pupils are in Zimbabwe (16%), Mozambique (13%), Namibia (12%), Uganda (12%), and Zambia (12%).

Fig. 3.16 Distribution of Grade 6 pupils by source of lighting at home and country



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Chapter

4

Grade 6 Teachers' Characteristics

The reader should note that in all SEACMEQ studies, grade six teachers are not selected through probability sampling. A teacher becomes included in the study by virtue of his or her pupils being randomly picked to partake in the study. Data collected to describe teacher characteristics are therefore captured against the teachers' respective pupils. In other words, data are collected and recorded about pupils; hence data that describe teacher characteristics are captured as variables in the pupils' records. This implies that the interpretation of all analysis results concerning teachers are about 'Grade 6 pupils taught by teachers with' the characteristic being analyzed, rather than about grade six teachers in general. Following are therefore the

spread of sixth graders according to some teacher characteristics. In total, over 6,600 teachers from the different SEACMEQ countries participated in *SACMEQ IV* study. For each of the three subject areas, about fifty percent

(*SACMEQ IV* average) of Grade 6 pupils were taught by female teachers (**Fig. 4.1**). The teachers seem to be relatively young with an average age (*SACMEQ IV*) of approximately 38 years (**Fig 4.2**).

Fig 4.1 Proportion of Grade 6 pupils taught by female teachers by subject and country

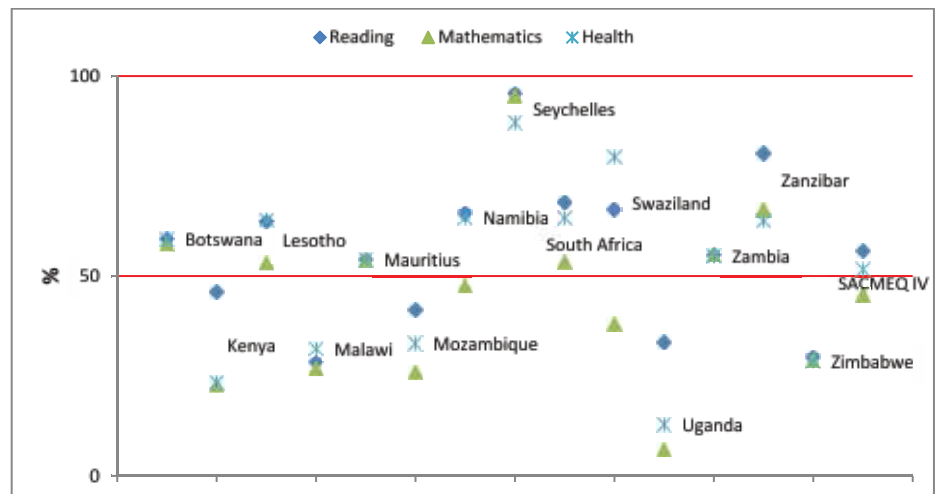
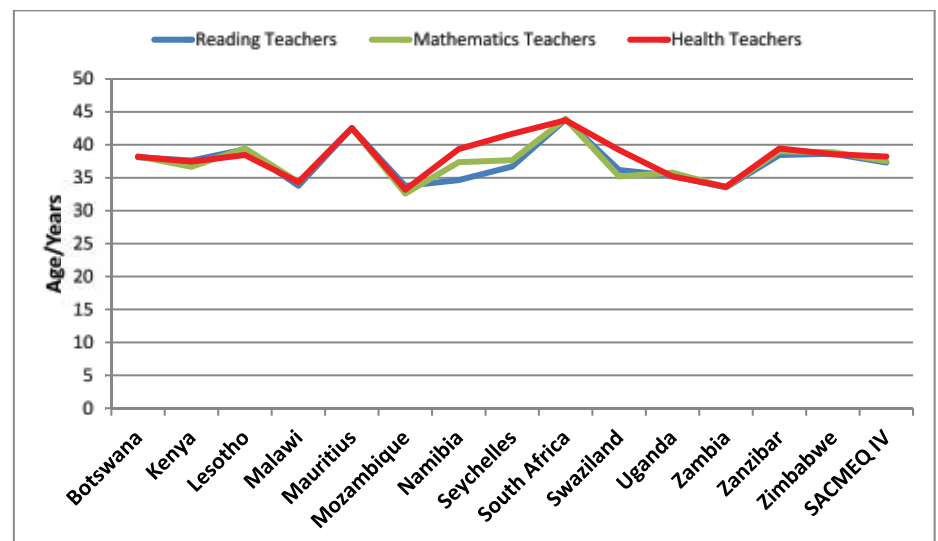


Fig 4.2 Mean age of Grade 6 teachers by subject and country



Attempts to quantify the relationships between pupil achievement and the gender of their teachers have yielded both contradiction and uncertainty. For example, Dee (2006) found that

among Grade 8 in the USA girls do better when taught by a female and boys do better when taught by a male. However, this is subject-dependent because girls displayed this advantage in History only.

While Chudgar and Sankar (2008) found no same-gender relationships in mathematics and language achievement of grades 4 and 6 pupils in India, they, however, established that pupils (boys and girls) tend to perform better in language when taught by a female teacher. In stark contrast, Driessen (2007) concluded in his study that teacher gender has no effect on student achievement, attitudes, or behavior, regardless of student gender, ethnic background, or socioeconomic status. Notably, almost all the studies which found some relationships between

gender of the teacher and pupil achievement acknowledged the existence and/or the difficulty in controlling for other extraneous variables inherent in the pupils, teachers, schools, cultures, etc.

Therefore, to serve policy redress on gender imbalances among teachers, the argument could

be presented from an advocacy perspective. For example, UNESCO (2000 and 2006) argues that the presence and increased recruitment of female teachers may assure parents of the safety and well-being of their daughters and consequently improve achievement and enrolment of girls in schools. For this reason, SACMEQ IV study shows that countries such as Kenya, Malawi, Mozambique, Uganda, and Zimbabwe still have teacher gender bias to address since just about 30% of Grade 6 pupils are taught by female teachers in all the three subject areas (**Fig. 4.1**).

The findings in **Fig. 4.2** show that, on average, a sixth grader was taught by a teacher of age between 33 and 44 years across the SEACMEQ countries. Grade 6 pupils in Mozambique were taught by the youngest group of teachers while South African sixth graders had the oldest teachers. Similar to the research findings on gender, contrasting conclusions have been made regarding the relationship between teacher age and pupil achievement. For instance, Abuseji (2007) discovered that teacher's age has significant causal effect on students' achievement in chemistry, while Adeniji and Okoruwa (cited in Abuseji, 2007) both reported that age of the teacher alone cannot influence pupils' academic achievement. Whatever the case may be, the study results presented in **Fig. 4.2**

seem to suggest that grade six pupils in the SACMEQ IV countries are taught by fairly young teachers.

Perhaps one of the most surprising research findings is about the relationship between teacher academic qualification and pupil achievement. According to Hanushek (cited in Adams, 2012), while researchers seem to agree that teachers are important, there is less agreement about what teacher characteristics matter. Having investigated one of the teacher characteristics, Jepsen and Rivkin (2002) found that there is little or no evidence that teacher education or certification is significantly related to student achievement in third grade. In Los Angeles public elementary, middle, and high schools where teacher effectiveness is typically measured by traditional

teacher qualification standards, such as experience, education, and scores on licensure examinations, Buddin and Zamarro (2009) found no evidence that these standards have a substantial effect on student achievement. Specifically, Kingdon (2006) had concludes that a teacher's possession of Masters level qualification and pre-service training have well identified but small effects on student achievement.

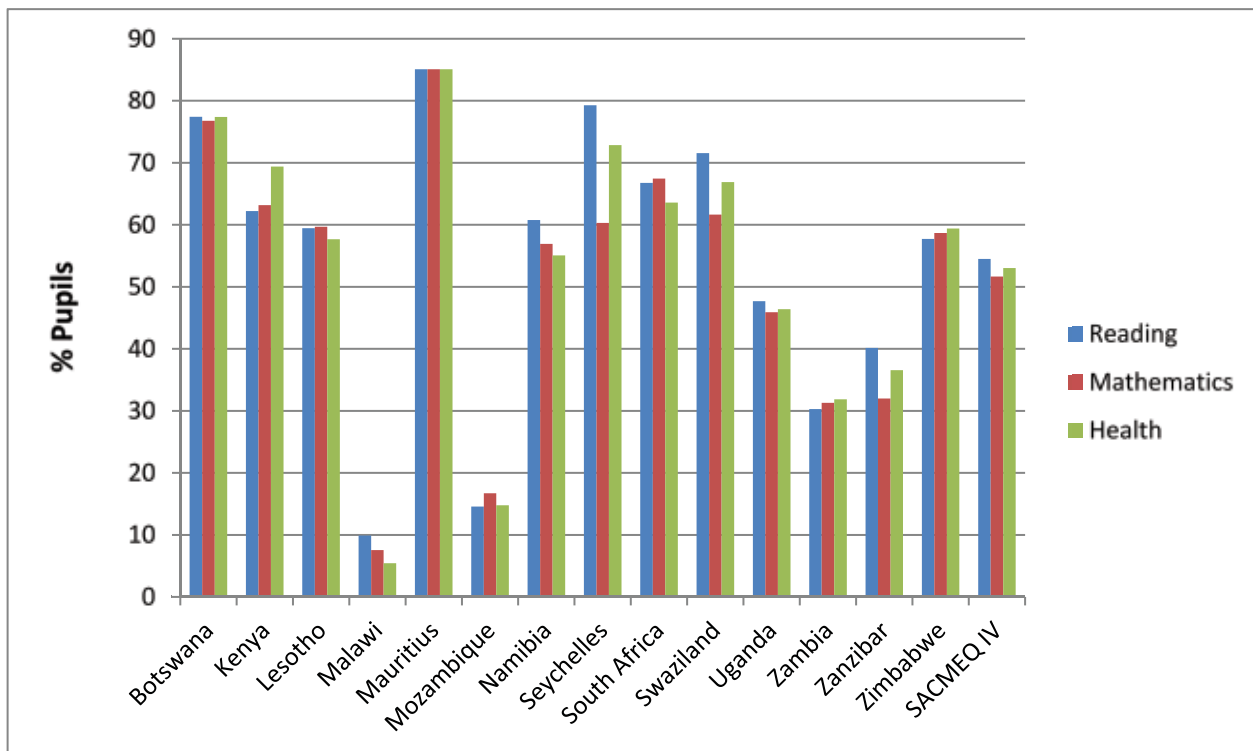
As observed by Adams (2012), one particular problem is that student achievement results not only from the experience students have with their current teachers, but also from experiences with previous teachers, school characteristics, and factors in the home. Nevertheless, there is consensus among researchers that the overall quality of teachers

affects their pupils' achievement. Goldhaber et al., Rivkin et al., and Rockoff (cited in Adams, 2012) all reported that some research suggests that differences in teacher quality account for more variation in student achievement than any other school-related influence. Teacher academic qualification

is one of the components considered when evaluating overall teacher quality. It is therefore understandable to continue generating information on the relationship between teacher qualification and pupils'

achievement. In the context of this report it is believed that a high academic qualification of at least A-Level contributes to a better quality of teachers. Fig. 4.3 presents the proportions of Grade 6 pupils who were taught by teachers with A-Level or better qualification across the SACMEQ IV countries.

Fig. 4.3 Distribution of Grade 6 pupils taught by teachers with at least A-Level qualification by subject and country



For all the three subjects, considerably low percentages of Grade 6 pupils in Malawi, Mozambique, Zambia, and Uganda were taught by teachers having at least A-Level certificates. On the other hand, countries such as Mauritius, Botswana, Seychelles, Swaziland, and South Africa have significantly high

proportion of Grade 6 pupils taught by such teachers. It should, however, be noted that some countries in the region have special secondary schools or colleges dedicated for training primary school teachers and do not necessarily award A-Level

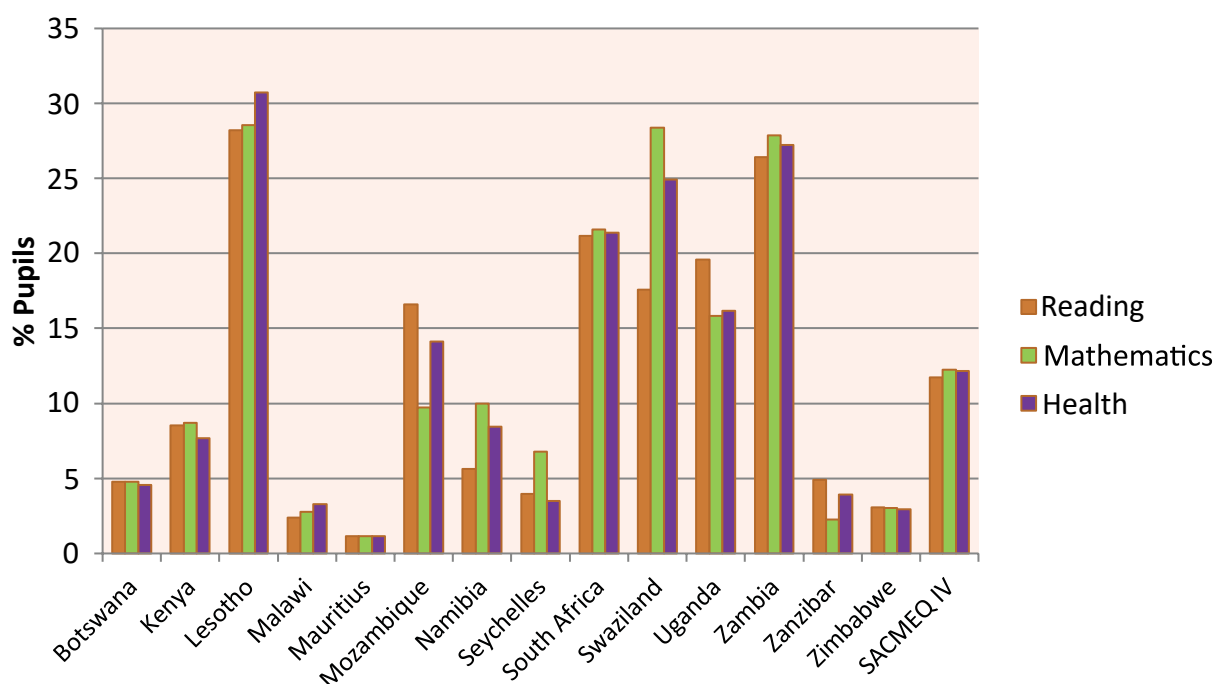
qualifications. It is thus advised that each country's context should be considered when linking the teachers' academic qualification to their pupils' achievement. The information on the distribution of Grade 6 pupils by country for all levels of teacher academic qualification is available in the appendix of this report.

Looking at the other end of qualifications scale, the study reveals that notable proportions of Grade 6 pupils in some countries were taught by teachers with primary education qualification. Countries concerned are Lesotho, South

Africa, Swaziland, and Zambia. In these countries, between 20% and 30% of Grade 6 pupils were taught the three subjects by teachers who indicated that the highest level of academic education they

attained was primary schooling (**Fig. 4.4**). The vertical axis of the chart in **Fig. 4.4** was truncated in order to show even the very small percentages clearly and make it easy to determine the differences among countries.

Fig. 4.4 Distribution of Grade 6 pupils taught by teachers with primary education qualification by subject and country



Bilesanmi, Okoruwa, and Fetler (cited in Abuseji, 2007) concluded in their independent studies that teacher experience has the second most effective causal effect on students' achievement, that teachers' experience had significant effect on students' achievement in science, and that teaching experience as measured by years of service correlated positively with student achievement in mathematics, respectively. However, there is a limitation to this positive correlation which is supported by previous research that suggests any gains from experience are made in the first

few years of teaching (Rivkin et al., 2001). As examples, Darling-Hammond, Kain, and established that the benefits of teacher experience accrue during the first five to seven years of teaching. Specifically, a study by Adams (2012) in Northwest China showed that students who are taught by teachers with 3-5 years of teaching experience have the highest performance in mathematics, on average, controlling for other student, family, and community characteristics. Furthermore, the study indicated that the benefit to pupils of a teacher

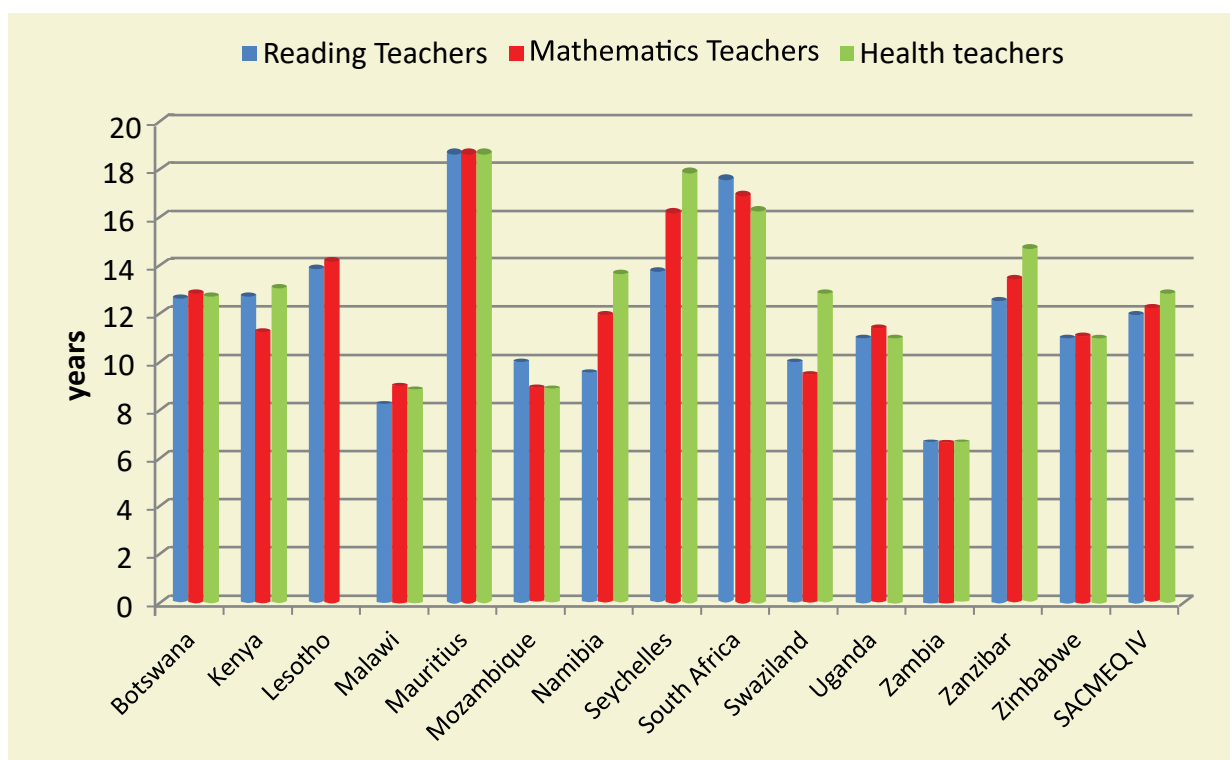
with 0-2 year experience is not significantly different for mathematics achievement from those having a teacher with more than 10 years of experience. Interesting, Murnane & Phillips (cited in Adams, 2012) had, in fact, found a weak negative relationship between experience and achievement among teachers with 8 to 14 years of experience. For teachers, suggested explanation for the early effect of experience includes "learning by doing" while the apparent decrease or stagnation observed after the early years of teaching can be partially attributed to teachers leaving the profession (selection effects).

Looking at the results shown in Fig. 4.5, it would be interesting to correlate pupils' achievement in reading, mathematics and health knowledge

with teacher experience for Zambia, Malawi, and Mozambique where the average

teaching experience is lowest, and for countries such as Mauritius, Seychelles, and South Africa where the average teaching experience is relatively high.

Fig. 4.5 Mean teaching experience (years) of Grade 6 teachers by country

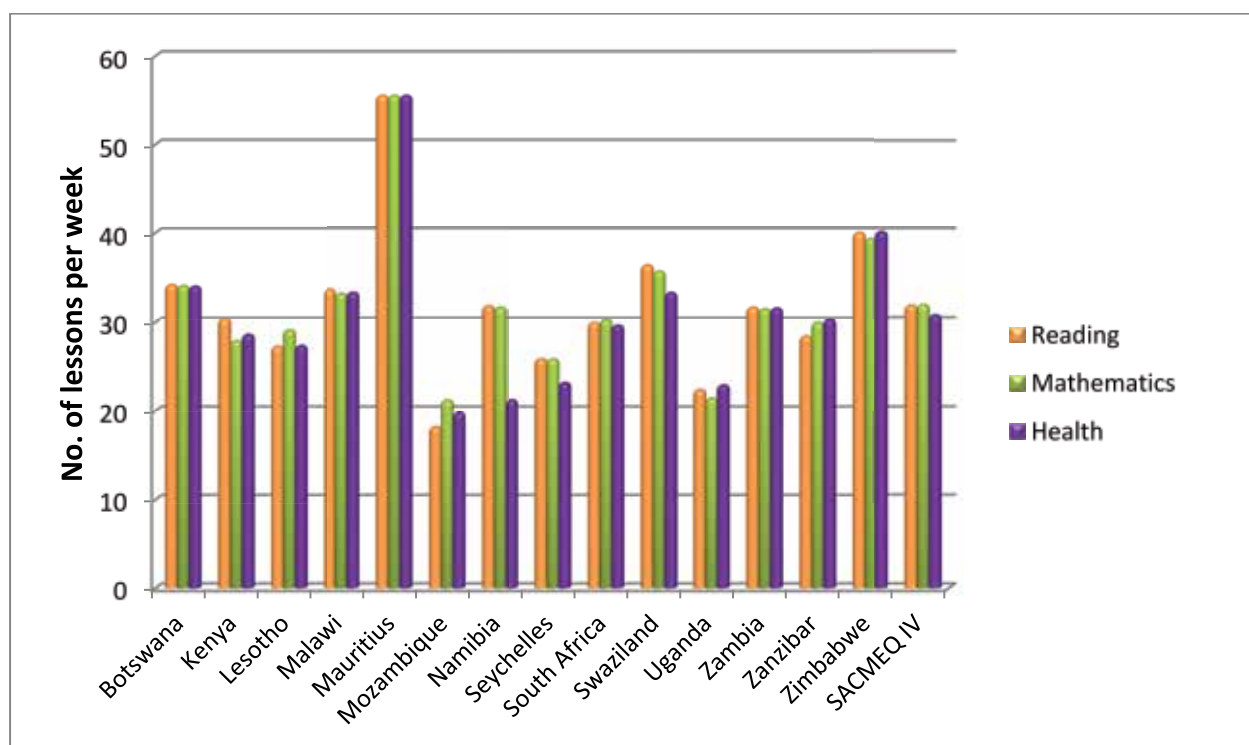


A study conducted in Kenya by Kimani et al. (2013) led to a conclusion that teachers' weekly teaching workload significantly affected students' academic achievement. The study result shows that schools where teachers had a weekly teaching workload of 25 lessons or less registered significantly higher student academic achievement

among secondary schools. Using this as some form of a benchmark, it is apparent from SACMEQ IV result in Fig 4.6 that, on average, Grade 6 pupils in most countries are taught by teachers who have high weekly teaching loads. The most obvious cases are in Mauritius (56 lessons per week) and Zimbabwe (40 lessons

per week). On the contrary, sixth graders in Mozambique, Seychelles, and Uganda have teachers whose weekly teaching load is 25 lessons and below. These differences in teaching loads across countries should arouse curiosity as to whether they are reflected in the reading, mathematics, and health knowledge achievement of Grade 6 pupils.

Fig. 4.6 Mean teaching load (periods per week) of Grade 6 teachers by country



More often than not, empirical studies of school influences on pupils' achievement ignore many classroom characteristics. Yet, there is evidence that features such as the number of learners in a class or class size has a bearing on their achievement. According to Jepsen and Rivkin (2002), one main finding of Tennessee's Student/

Teacher Achievement Ratio (STAR) experiment was that, all else equal, smaller classes are associated with higher achievement. In California public elementary schools, it was found that a reduction in class size by ten pupils raised the percentage of third-graders who exceed the national median test score by

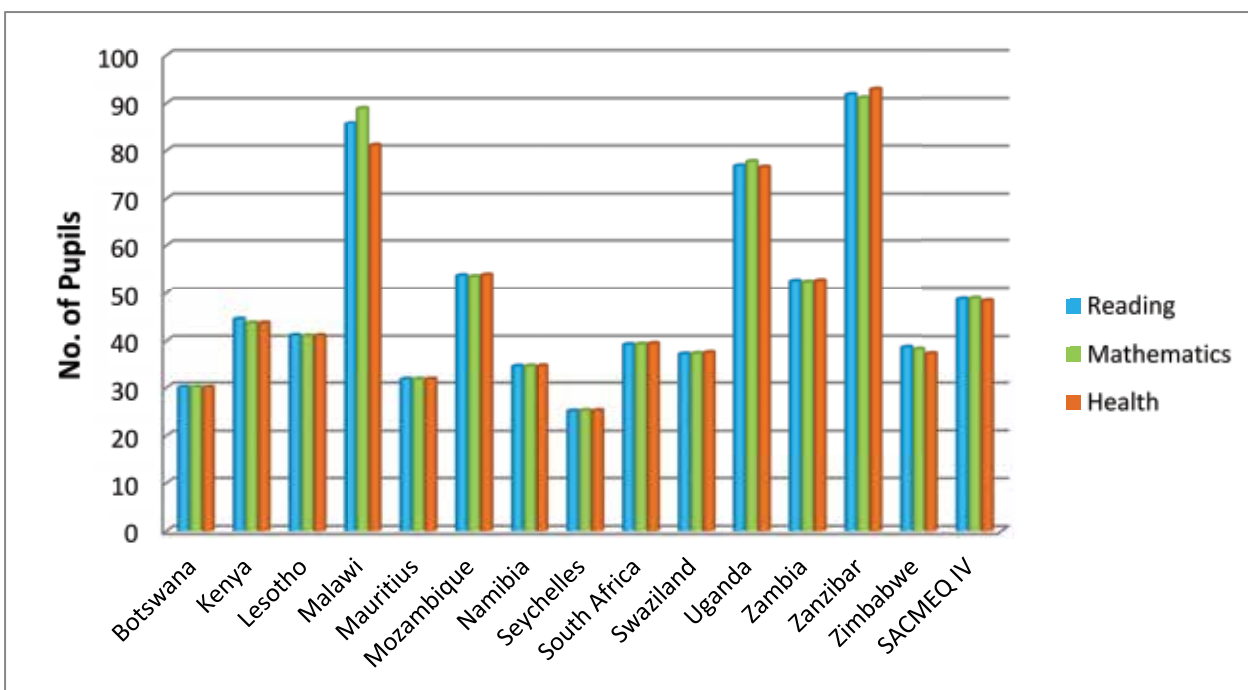
roughly 4 percentage points in mathematics and 3 percentage points in reading (Jepsen and Rivkin, 2002). This finding, however, was interestingly selective in that schools with more low-income students likely received larger benefits, whereas schools in rural areas appeared to benefit little if at all from smaller classes.

Fig. 4.7 shows the mean class size of sixth grade for the countries that participated in SACMEQ IV study. It is glaring that Grade 6 pupils in Zanzibar, Malawi, and Uganda are taught in abnormally

large classes. For instance, the mean class size for each of the subject areas in Zanzibar is about 90 pupils. Surely, this should have

a negative effect on pupil academic achievement. In contrast, the mean class size of Grade 6 in countries such as Seychelles, Botswana, Mauritius, and Namibia is 35 pupils and below.

Fig. 4.7 Mean class size for Grade 6 by country



Research shows opposing conclusions on the relationships between parent involvement and academic achievement of learners. Mattingly et al. (cited in McNeal, 2014) conducted a comprehensive review of 41 studies and conclude that there is little evidence indicating parent involvement affects academic achievement. However, it is known that the environment and the personal characteristics of learners play an important role in their academic success. The school personnel, members of the families and communities provide help and support to students for the quality of their academic performance.

According to Goddard (2003), this social support has a crucial role for the accomplishment of performance goals of students at school. Specifically, Furstenberg and Hughes (1995) reported that parents' involvement in their child's education increases the rate of academic success of their child. In two separate meta-analyses; one on African-American students and the other on urban secondary students; Jeynes (cited in McNeal, 2014) found that parent involvement was associated with increased academic achievement. Based on these divergent findings, McNeal (2014) advised that "the most

logical conclusion is that some elements of parent involvement affect some types of achievement for some students some of the time".

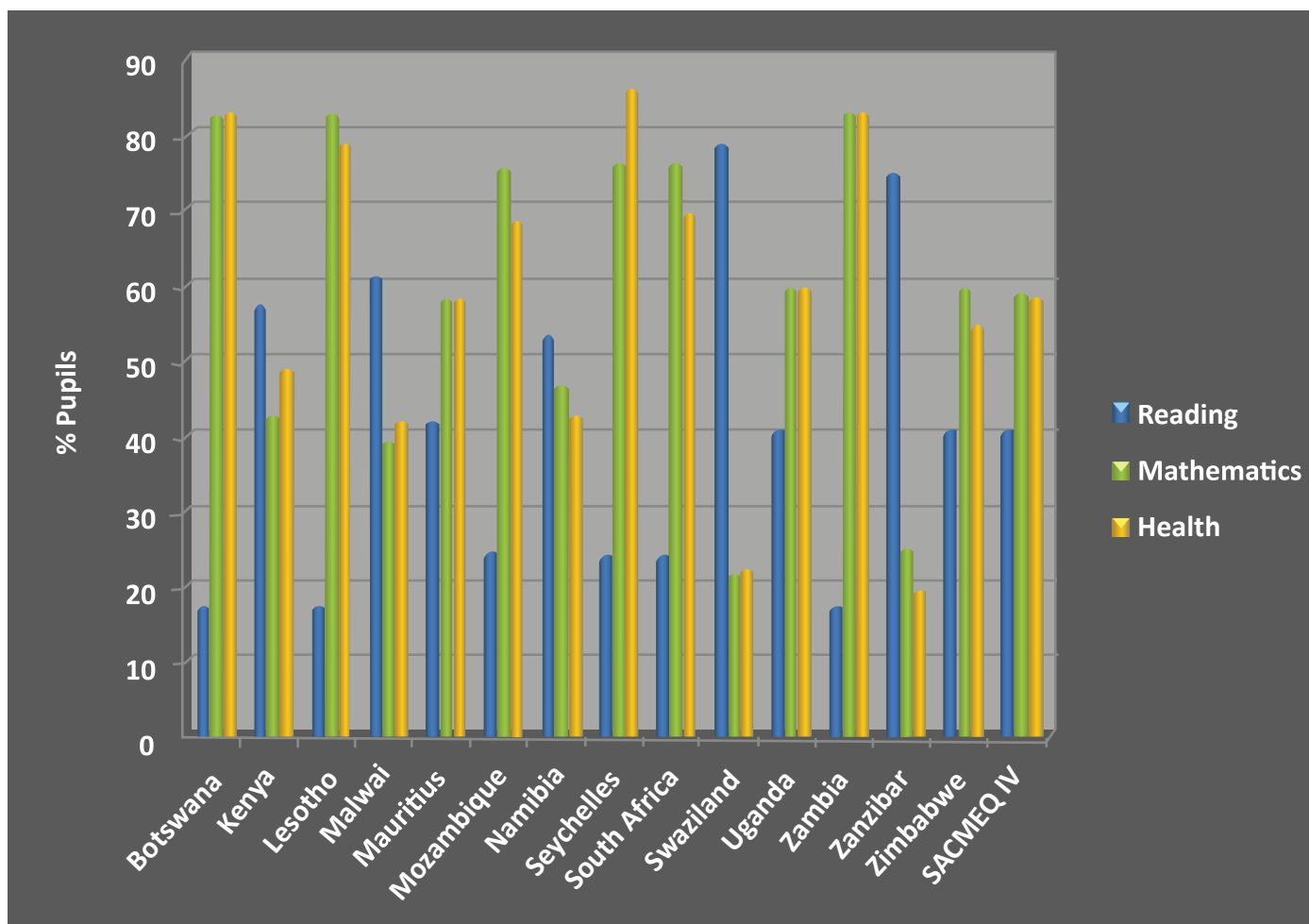
In SACMEQ IV study teachers were asked to indicate whether they request parents or guardians to sign that their children have completed homework. The result in Fig 4.8 suggests that teachers' request of parents or guardian to sign pupils' homework varies across subjects and countries. It is very clear that much greater percentages of Grade 6 pupils in Botswana, Zambia Seychelles, Lesotho, Mozambique, and South Africa have

teachers who ask their parents, or guardians to sign their mathematics and health homework. This is not the case with reading homework in

these countries. In Swaziland, Zanzibar, Malawi, Kenya, and Namibia the emphasis of parents or guardians signing homework seem to be concentrated much more on

reading than on mathematics and health knowledge. The question is: do these observed differences relate to respective Grade 6 pupils' SACMEQ IV test achievements?

Fig. 4.8 Distribution of Grade 6 pupils whose teachers ask parents to sign homework by subject and country



Kraft and Dougherty (2013) evaluated the efficacy of teacher communication with parents and students as a means of increasing student engagement. They estimated the causal effect of teacher communication by conducting a randomized field experiment on 6th and 9th grade students. It was established that frequent teacher-family communication immediately increased student engagement as measured by

homework completion rates, on-task behavior, and class participation. The explanation advanced for the observed change in student engagement was that communication resulted in stronger teacher-student relationships, expanded parental involvement, and increased student motivation. During SACMEQ IV study Grade 6 teachers were also asked to indicate how often they met with parents or guardians to

discuss pupils' performance or related matters. It is clearly shown in Table 4.1 that parent-teacher consultation for the majority of Grade 6 pupils, in all countries, occurs once a term irrespective of the subject area. This is most probably during termly performance report collection. It is important to note that the findings of the field experiment conducted by Kraft and Dougherty were based on very frequent teacher-family communication.

Therefore, it can be deduced that teacher-parent contact for most Grade 6 pupils in all countries is too infrequent to have any effect on the pupils' achievement.

Table 4.1 Percentage distribution and sampling error of Grade 6 pupils according to frequency of teacher-parent contact by country

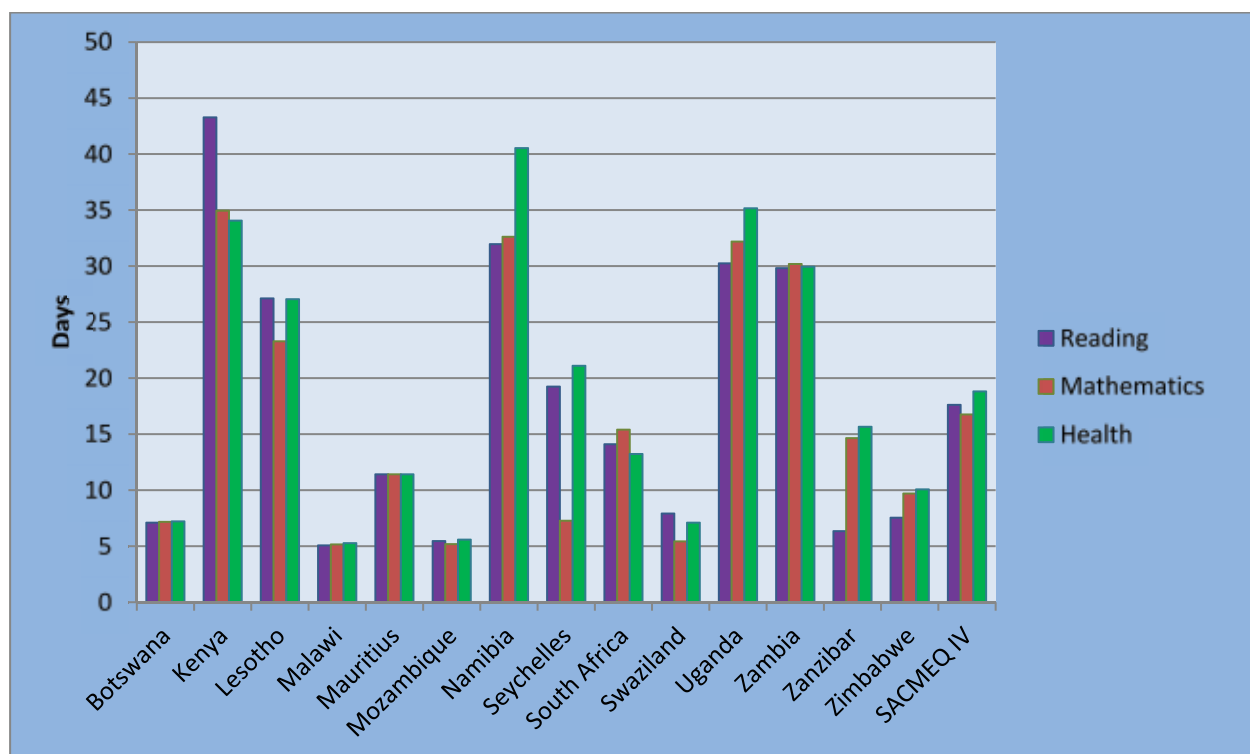
Country	Reading Teachers						Mathematics Teachers						Health Teachers					
	Once a year		Once per term		Once or more a month		Once a year		Once per term		Once or more a month		Once a year		Once per term		Once or more a month	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	0	0.3	61	3.1	36	3.1	0	0.3	61	3.1	36	3.1	0	0.3	61	3.1	36	3.1
Kenya	6	1.8	58	4.5	33	4.6	7	2.6	59	4.7	29	4.7	6	1.7	63	4.8	31	4.8
Lesotho	14	2.7	63	3.9	19	3.0	15	2.7	61	3.9	22	3.2	17	2.7	61	3.7	17	2.6
Malawi	8	3.1	43	5.0	47	5.2	7	2.7	35	4.8	53	5.2	8	2.8	42	4.8	49	5.0
Mauritius	9	1.6	61	3.4	29	3.1	9	1.6	61	3.4	29	3.1	9	1.6	61	3.4	29	3.1
Mozambique	1	0.7	48	3.9	50	3.9	3	1.3	45	3.9	52	3.9	4	1.9	43	4.1	52	4.2
Namibia	7	1.6	69	2.9	19	2.3	11	2.1	76	2.8	10	2.0	6	1.6	65	3.0	27	2.7
Seychelles	2	2.7	78	7.3	20	7.2	0	0.0	88	6.0	12	6.0	4	0.0	74	9.7	18	8.3
South Africa	4	1.3	73	2.8	22	2.6	5	1.4	75	2.9	18	2.6	4	1.4	73	3.0	23	2.8
Swaziland	20	3.5	71	3.9	8	2.3	24	3.7	71	3.9	4	1.6	24	3.7	66	4.1	9	2.6
Uganda	11	2.0	51	3.6	32	3.4	10	2.1	59	3.4	27	3.0	15	2.4	55	3.6	26	3.2
Zambia	2	1.0	57	4.4	41	4.4	2	1.0	55	4.4	42	4.4	2	1.0	55	4.4	42	4.4
Zanzibar	6	1.8	53	4.0	32	3.7	8	2.0	56	4.0	29	3.8	9	2.3	51	4.3	33	4.0
Zimbabwe	23	2.7	59	3.6	13	2.3	24	2.8	60	3.4	13	2.3	24	2.8	61	3.6	12	2.1
SACMEQ IV	8	1.9	60	4.0	29	3.6	9	1.9	62	3.9	27	3.5	9	1.9	59	4.3	29	3.8

According to Wong (2001), two hundred studies have shown that the only factor that can create student achievement is a knowledgeable, skillful teacher. One such study which was based on a review of 50 years of research on student learning, encompassing 11,000 statistical findings elaborates that what the teacher does in the classroom to structure and organize a learning environment is the most important factor that will increase student achievement. Unfortunately, it is inevitable that

the learning environment evolves at a rate that poses a challenge to the capability of teachers. Therefore, it is paramount that the school management keeps up with this pace of change by, among other strategies, developing and implementing induction programs for new teachers and in-service refresher training courses for veteran teachers. As shown in Fig. 4.9, all member countries do indeed send Grade 6 teachers of the three subject areas for in-service training. Nevertheless, nine out of the fourteen

participating countries send these teachers, on average, for a maximum of 15 days per year. Grade 6 teachers in the remaining five countries attended on average between 25 and 44 days of in-service training. Reading teachers in Kenya, health teachers in Namibia, and mathematics teachers in Kenya indicated that they attended an average of 43 days, 41 days, and 35 days of in-service training in the year respectively. These are the highest average number of days spent on in-service training by subject.

Fig. 4.9 Mean duration of in-service training for teachers by subject and country



According to Coleman et al. (1966) and many other studies exploring factors that influence student achievement, socio-economic circumstances, student ability, and family background as opposed to school facilities, curriculum and teacher characteristics had the major influence on student achievement. For a long time, these findings set the standard by which schooling was measured. However, popular beliefs and continued massive investments in school resources resulted in a counter body of research known as the school effectiveness studies. The school effectiveness studies were able to identify the weaknesses of the previous studies, namely their failure to include adequate measures of school and classroom process variables, which then resulted in the underestimation

of the influence of these effects (Oduol, 2006). The findings of some of the school effectiveness studies indicated that there was more variance to be explained at the classroom level than at the school level, for it was here that there were marked differences in progress made by students in different classes (Rowe cited in Oduol, 2006).

The main methodological issue is how to separate effects of school resources on pupil performance from effects of pupils' family background (Hægeland et al.,

2004). If this methodological challenge is sufficiently addressed, the effects of essential teaching aids such as teacher guides, references, and audio/visual equipment on pupil achievement is worthy of investigation. To substantiate this, it is shown in **Table 4.2** that most SACMEQ IV countries had very low proportions of Grade 6 pupils whose reading teachers had access to teacher guide. Very low proportions of these pupils were in Zambia (**3%**), Swaziland (**4%**), Zimbabwe (**5%**), and Malawi (**7%**) while very high proportions were in Mauritius (**99%**), Zanzibar (**96%**), and Mozambique (**87%**). Due to this remarkable variation among countries, it would be logical to determine whether there is a relationship between access to these resources and the performance of Grade 6 pupils taught by these teachers.

Table 4.2 Percentage distribution and sampling error of Grade 6 pupils whose teachers have access to selected essential teaching material by country

Co un try	Teacher guide (Reading)		Teacher guide (Maths)		English or Portuguese Dictionary		Classroom Library		Radio	
	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	20	3.0	74	2.7	82	2.5	84	2.7	58	3.5
Kenya	11	4.2	98	1.3	97	1.3	55	4.7	33	4.2
Lesotho	15	2.9	80	3.3	58	3.9	100	0.0	17	3.1
Malawi	7	2.6	94	2.5	61	5.0	14	3.8	70	4.8
Mauritius	99	0.5	98	1.0	100	0.0	92	2.5	96	1.2
Mozambique	87	2.6	81	3.3	83	2.9	13	2.5	25	3.5
Namibia	25	2.7	66	3.1	93	1.7	26	2.8	49	3.2
Seychelles	19	7.0	75	8.9	100	0.0	98	1.7	84	7.6
South Africa	16	2.4	98	0.8	91	1.8	72	2.8	61	3.1
Swaziland	4	1.7	98	1.2	92	2.2	32	4.0	8	2.3
Uganda	17	2.8	91	2.0	89	2.2	67	3.3	19	2.9
Zambia	3	1.1	75	3.7	59	4.3	46	4.7	20	3.4
Zanzibar	96	1.7	89	2.7	44	4.2	7	2.1	27	3.6
Zimbabwe	5	1.6	91	2.0	80	2.8	64	3.9	7	1.8
SACMEQ IV	30	2.6	86	2.7	81	2.5	55	3.0	41	3.4

In the context of SEACMEQ countries, classroom libraries are micro extensions of the school library from which pupils can easily and conveniently access and borrow books. Classroom libraries could also be teacher or school level alternative intervention in the absence of school libraries. Either way, classroom libraries are important resources in the

teaching and learning processes in a school. Results in Table 4.2 show that very low percentages of sixth graders in seven countries are taught by teachers who have classroom libraries. Critically low percentage in observed in Zanzibar (**7%**), Mozambique (**13%**), Malawi (**14%**), Namibia

(**26%**), and Swaziland (**32%**). The results also show that there are, however, countries with very high proportion of grade 6 pupils who are taught by teachers with classroom libraries. Lesotho tops this group with **100%** of grade 6 pupils having teachers with classroom libraries, then Seychelles (**98%**), Mauritius (**92%**), Botswana (**84%**), and South Africa (**72%**).

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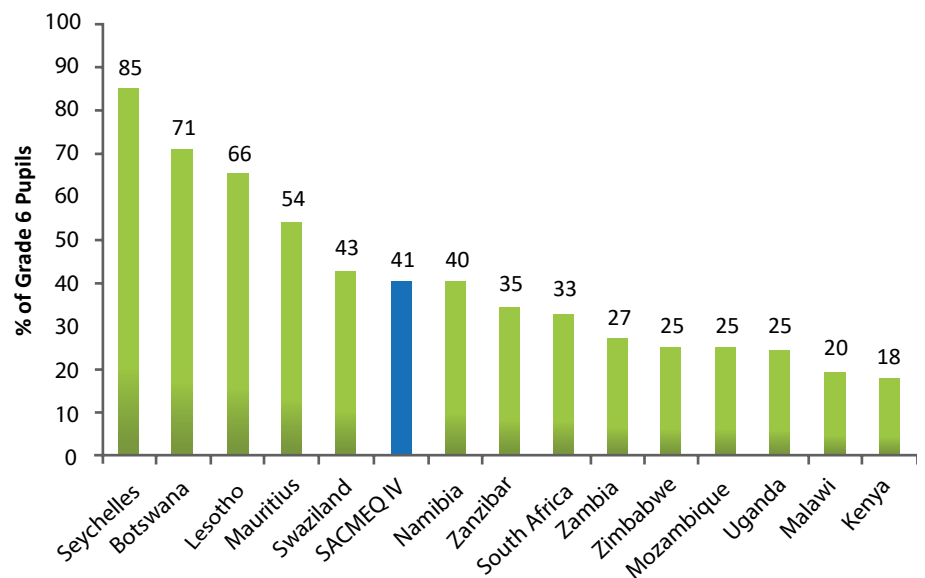
Chapter

5

Grade 6 School Head Characteristics and School Resources

Over **2,500** School Heads Grade 6 pupils in the SACMEQ participated in SACMEQ IV study. IV countries attended schools led by female School Heads. The results in Fig. 5.1 show that, on average, 41% (blue bar) of

Fig 5.1 Proportion by country of Grade 6 pupils attending schools with female School Heads

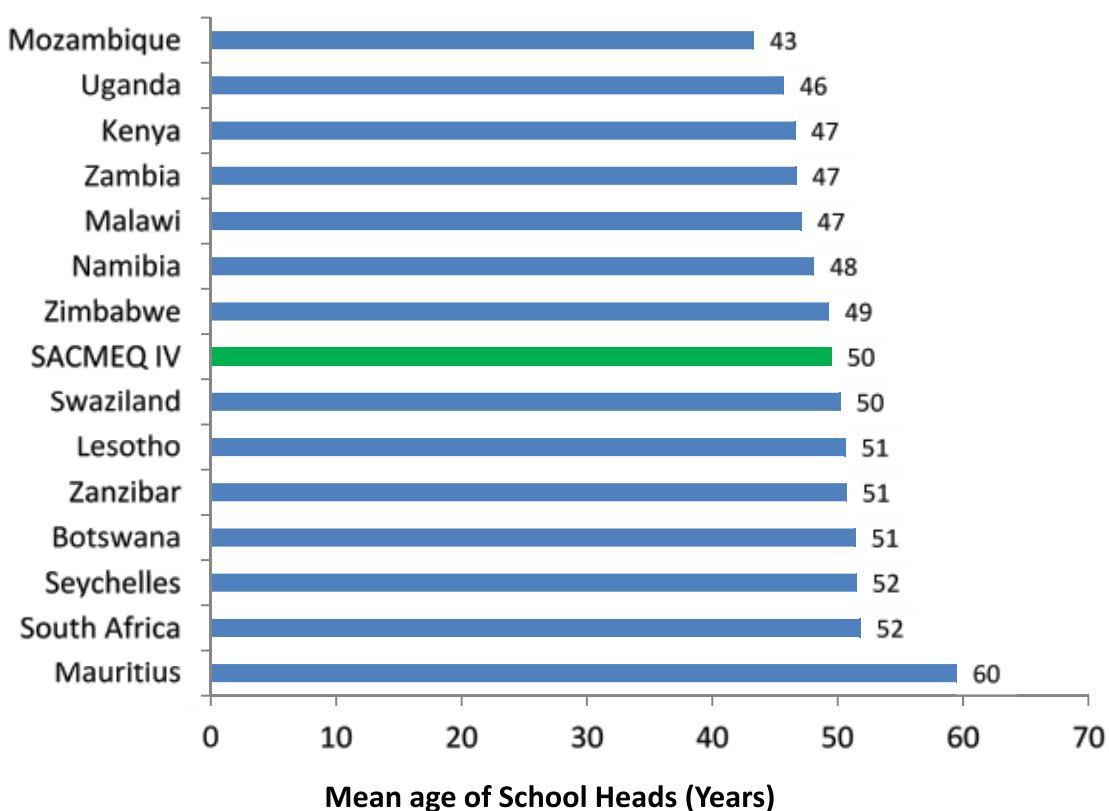


As shown in Fig 5.2, the average Grade 6 pupil in the SACMEQ IV countries attended schools of which the School Heads

were in their middle age. The mean age of the School Heads was approximately 50 years (green bar). Individually, Mauritius (at 60

years) was the only country with the mean age of School Heads which was significantly different from the SACMEQ IV mean.

Fig 5.2 Mean age of Grade 6 pupils' School Heads by country



As discussed in the previous chapter, attempts to quantify the relationships between pupil achievement and the gender or age of their teachers have yielded both contradiction and uncertainty. Therefore, empirical evidence such as that shown in Fig 5.1 and Fig 5.2 serves, more than anything, to support policy

proposals which seek to balance human resource distribution based on gender and age respectively. For this reason, all SACMEQ IV countries, except Mauritius, seem to have had gender bias in the composition of primary School Heads. From Fig 5.1, Seychelles,

Botswana, and Lesotho had much greater proportions of Grade 6 pupils whose School Heads were female (85%, 71%, 66% in that order). On the other hand, countries such as Kenya, Malawi, Mozambique, Uganda, Zambia, and Zimbabwe had less than 30% of Grade 6 pupils in schools managed by female School Heads.

Presented in Table 5.1 are more professional characteristics of School Heads that may have a bearing on their pupils' achievement and well-being. The extreme low case of Malawi (3.5%) regarding the proportion of Grade 6 pupils in schools

managed by School Heads with at least 'A' Level qualification signals a need for more in-depth investigation and/or explanation. Further, only 10.6% of Grade 6 pupils were under the care of

School Heads who indicated they had gone through at least 3 years of teacher training. However, 80% or more of Grade 6 pupils in all SACMEQ IV countries were in schools managed by School Heads who indicated that they went through management training.

Table 5.1 Means, percentages, and standard errors of selected professional characteristics of School Heads

2013 Country	Academic Education (at least 'A' Level)		Teacher Training (at least 3 years)		Teaching Experience (Yrs)		School Head Experience (Yrs)		Management Training		Teaching Periods per week	
	%	SE	%	SE	Mean	SE	Mean	SE	%	SE	Mean	SE
Botswana	77.8	3.52	77.1	3.37	28.18	0.51	8.22	0.57	81.1	3.11	1.4	0.26
Kenya	72.7	3.53	43.3	4.18	22.41	0.66	9.57	0.49	87.5	3.22	22.3	0.66
Lesotho	73.5	3.59	88.0	2.42	24.71	0.81	11.69	0.71	94.8	1.83	19.4	1.06
Malawi	3.5	1.77	10.6	2.74	21.83	0.63	8.41	0.61	89.9	2.95	13.5	1.01
Mauritius	57.3	4.72	19.5	3.91	37.09	0.38	2.99	0.33	88.7	2.91	1.8	0.30
Mozambique	39.6	3.79	53.4	3.93	19.27	0.64	9.00	0.54	82.7	2.92	7.7	0.57
Namibia	64.9	2.79	89.2	1.95	23.60	0.45	9.48	0.42	82.5	2.28	12.7	0.46
Seychelles	100.0	0.00	90.2	7.02	29.60	2.48	10.58	1.65	90.5	6.66	4.2	0.69
South Africa	90.3	1.77	92.3	1.58	27.18	0.43	10.76	0.47	97.6	0.90	10.6	0.58
Swaziland	63.8	4.11	64.9	4.12	24.52	0.57	9.90	0.64	90.8	2.42	6.6	0.73
Uganda	71.0	3.09	69.2	3.21	21.65	0.54	10.39	0.52	87.3	2.34	9.3	0.58
Zambia	47.3	4.50	39.1	4.42	21.37	0.58	5.69	0.40	91.2	2.46	12.8	1.29
Zanzibar	41.5	4.29	15.5	3.23	27.27	0.70	7.03	0.50	76.6	3.81	11.8	0.66
Zimbabwe	76.1	3.36	96.1	1.52	23.69	0.63	10.07	0.72	93.3	4.13	10.9	0.78
SACMEQ IV	62.8	3.20	60.6	3.40	25.17	0.72	8.8	0.61	88.2	3.00	10.4	0.69

According to Hanushek (2003) and Krueger (2003), there is disagreement as to whether there are any effects of resources at all and, if any, how large they may be on pupil achievement. Bonesrønning (2003, 2004a, 2004b) used survey data from Norway to arrive at the main conclusion that school resources have modest effects on pupil test scores. Todd and Wolpin (2003) explain that the major

challenge to estimating the effects of school resources on pupil achievement is methodological because authorities and individuals perceive that school resources are important for pupil achievement and behave accordingly. School authorities may direct extra resources to low-performing pupils and schools to improve their performance, parents may choose neighborhoods and thereby schools for their children based

on perceived school quality, and teachers may also prefer working in schools with better resources and pupils. This implies that neither pupils nor resources are randomly distributed across schools. Therefore, the main methodological issue is how to separate effects of school resources on pupil performance from effects of pupils' background. However, resource distribution remains an important educational

policy issue in many countries because allocation of school resources is designed to promote equality of opportunity by partly counteracting the effects of differences in family background.

Table 5.2 Percentages of primary schools with selected essential resources by country

	School Buildings in good Condition	School Electricity	School Computer	School TV	School Photocopier	Library (Class, School OR Both)	School Radio	School Water
Country	%	%	%	%	%	%	%	%
Botswana	67.0	100.0	95.6	93.0	82.9	90.9	89.3	93.8
Kenya	46.0	43.4	19.7	8.6	11.0	75.1	57.8	84.7
Lesotho	42.8	23.0	11.5	6.1	7.8	100.0	35.9	76.6
Malawi	49.3	23.1	9.1	1.2	3.3	31.7	87.0	71.7
Mauritius	86.2	100.0	100.0	100.0	100.0	99.1	100.0	99.4
Mozambique	54.0	55.4	42.3	23.1	13.4	29.6	28.3	63.0
Namibia	49.3	91.6	86.2	57.0	88.8	80.1	63.9	92.7
Seychelles	72.8	100.0	100.0	100.0	100.0	100.0	100.0	100.0
South Africa	61.2	100.0	97.6	87.0	99.5	74.8	81.1	93.2
Swaziland	51.3	100.0	89.8	19.4	94.0	49.8	15.3	94.3
Uganda	39.0	27.6	10.6	13.7	6.8	67.2	32.3	75.4
Zambia	47.0	41.7	23.5	17.2	17.3	54.0	55.7	83.8
Zanzibar	54.5	92.2	66.9	28.9	13.1	50.7	58.3	86.6
Zimbabwe	51.6	51.2	45.4	17.8	25.4	74.9	16.6	69.8
SACMEQ IV	55.2	67.8	57.0	40.9	47.4	69.8	58.7	84.6

Results in **Table 5.2** indicate that numerous SACMEQ IV countries have very low percentages of primary schools with the selected essential resources. Malawi, for example, has just **23%** of school with electricity. This most likely explains partially why

only **9.1%** of the schools have computer, **1.2%** have television, and **3.3%** have photocopier. A similar situation is observed in Lesotho, Uganda, and Zambia. Except for Malawi, Mozambique, and Swaziland (now Eswatini)

more than **50%** of primary schools in SACMEQ IV countries have some form of library. However, according to both pupils and School Heads, much lower percentages of grade 6 pupils are allowed to borrow books from the libraries to take home in most of the countries.

For example, it is shown in **Table 5.3** that **100%** of primary schools in Lesotho have libraries but no grade 6 pupil is allowed to borrow books from them to take home. Similarly, School Heads indicated that **90.9%** of primary schools in Botswana have some form of

library but only **32.5%** of them indicated that grade 6 pupils are allowed to borrow books to take home. The results also show that there is inconsistency in the percentages of pupils and School Heads in a country

who indicated that pupils are allowed to borrow books from the libraries. The countries concerned are Botswana, Mauritius, Zambia, Zanzibar, and Zimbabwe. These results suggest that there is a need for review of library borrowing policy in these countries.

Table 5.3 Percentages and standard errors of pupils and School Heads who indicated that grade 6 pupils are allowed to borrow books from the library by country

Country	Pupils		School Heads	
	Pupils allowed to borrow books		Pupils allowed to borrow books	
	%	SE	%	SE
Botswana	41.3	3.97	32.5	3.71
Kenya	47.1	3.39	47.3	4.00
Lesotho	0.0	0.00	0.0	0.00
Malawi	25.4	3.92	24.1	3.90
Mauritius	72.0	2.39	91.5	2.51
Mozambique	13.1	2.36	13.1	2.37
Namibia	61.7	2.78	66.5	2.89
Seychelles	98.3	0.40	100.0	0.00
South Africa	39.3	2.87	40.0	2.86
Swaziland	31.3	3.90	31.6	3.99
Uganda	59.6	3.36	59.7	3.36
Zambia	29.8	2.86	18.2	3.45
Zanzibar	37.9	3.09	44.7	4.43
Zimbabwe	15.1	2.16	30.7	3.65
SACMEQ IV	40.9	2.67	42.9	2.94

In terms of human resource and development available to the School Heads, results presented in Table 5.4 show that Seychelles at **64.2%** and Zimbabwe at **62.3%** are the only two SACMEQ IV countries with reasonable percentages of grade 6 pupils who are taught by teachers who have mastered

acceptable reading proficiency. The rest of the countries are below fifty percent. Kenya (**94.8%**), Zimbabwe (**86.7%**), Uganda (**77.1%**), and Swaziland (**62.2%**) are the four countries with high proportions of grade 6 pupils taught by teachers with

good proficiency in mathematics. From Table 5.4 we can also deduce that a vast majority of grade 6 pupils who attend reading lessons in classes with sizes above 41 learners are in Zanzibar (**90.2%**), Malawi (**90%**), Uganda (**87.2%**), Mozambique (**83.7%**), and Zambia (**65.7%**).

Table 5.4 Percentages and standard errors of grade 6 pupils taught by teachers with selected characteristics by country

Country	Teacher Reading Mastery		Teacher Mathematics Mastery		Reading Class Size is less than 41 pupils		School Has Teacher With Special Training On HIV&AIDS		Teacher Class Attendance	
	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	46.5	3.09	44.1	3.02	98.9	0.64	54.4	4.07	93.6	2.13
Kenya	41.5	4.34	94.8	1.86	45.1	4.32	71.7	3.88	86.1	2.75
Lesotho	14.6	2.76	19.9	3.19	57.7	4.00	86.1	2.71	84.5	2.89
Malawi	20.0	4.32	33.8	5.04	10.0	2.86	40.6	4.65	80.9	3.63
Mauritius	x	x	x	x	93.7	2.05	6.3	2.26	95.7	1.74
Mozambique	9.1	2.12	20.7	3.24	16.3	2.63	71.8	3.49	90.8	2.09
Namibia	31.7	2.91	37.0	3.05	79.6	2.44	74.8	2.60	87.1	2.12
Seychelles	64.2	9.85	58.3	8.26	100.0	0.00	58.6	10.86	79.0	7.97
South Africa	37.2	3.10	40.8	3.20	58.2	3.03	71.7	2.66	91.9	1.69
Swaziland	39.2	4.23	62.2	4.19	63.2	4.05	65.6	3.91	89.8	2.56
Uganda	23.7	3.00	77.1	2.98	12.8	2.07	69.6	3.17	61.4	3.26
Zambia	25.9	3.58	19.8	3.36	34.3	4.23	52.9	4.45	91.8	2.31
Zanzibar	9.6	2.62	12.6	2.69	9.8	2.09	71.2	4.06	x	x
Zimbabwe	62.3	3.52	86.7	2.22	50.3	4.28	54.0	4.30	84.2	2.92
SACMEQ IV	32.7	3.80	46.8	3.56	52.1	2.76	60.7	4.08	85.9	2.93

Reference

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Chapter

6

Distribution of Essential and Desirable School Resources

As discussed in chapter 5, prominent researchers (Hanushek, 2003; Krueger, 2003; Bonesrønning, 2003, 2004a, & 2004b; and Todd & Wolpin, 2003) have concluded that there is none to modest measured and confirmed effects of school resources on pupil test scores due to methodological challenges concerning how to separate effects of school resources on pupil performance from effects of pupils' background. It was also pointed out that resource distribution remains an important educational policy issue in many countries because allocation of school resources is designed to promote equality of opportunity by partly counteracting the effects of differences in family background. More results on the distribution of essential and desirable school resources are presented in this chapter.

Table 6.1 Percentages and sampling errors of primary schools with selected essential resources by country

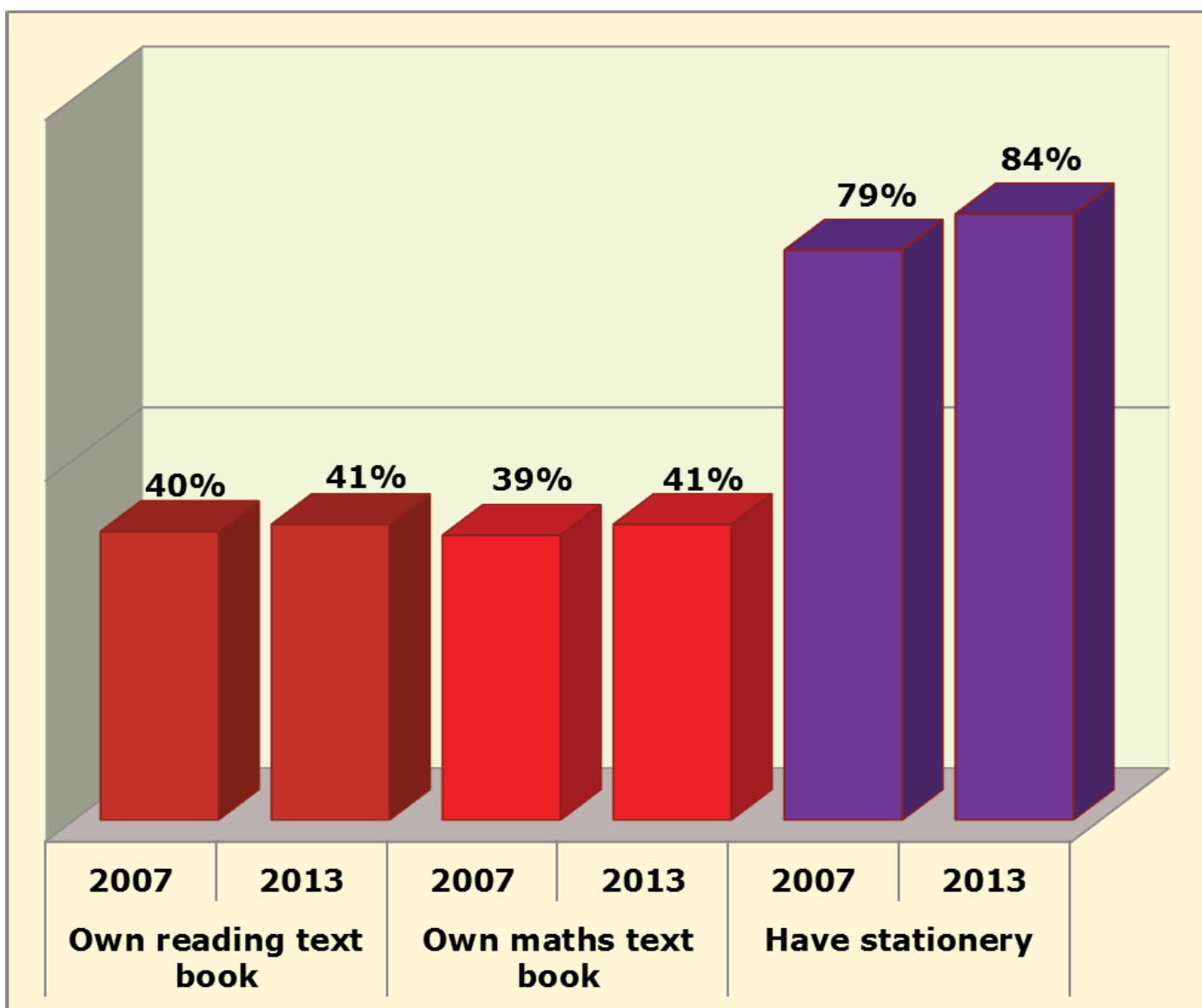
Country	Teacher's Guide English or Portuguese		Pupils own Reading Textbook		Pupils own mathematics Textbook		Pupil Sitting And Writing Place		Pupils own exercise books, pen, pencil, ruler	
	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	20.4	3.04	44.7	2.05	41.6	2.31	100.0	0.00	81.1	1.31
Kenya	10.8	4.25	20.1	1.41	14.4	1.35	83.0	1.30	89.5	0.76
Lesotho	14.6	2.87	35.4	2.58	29.7	2.45	100.0	0.00	68.2	1.88
Malawi	7.1	2.62	12.2	1.81	10.0	1.63	65.9	4.44	71.5	2.35
Mauritius	98.9	0.54	75.2	2.25	84.5	1.82	99.9	0.07	93.7	0.61
Mozambique	87.3	2.59	31.6	2.01	33.0	2.01	49.8	2.83	85.0	1.20
Namibia	24.6	2.70	56.2	2.08	63.6	2.16	98.1	0.37	74.4	1.26
Seychelles	18.9	6.98	39.5	4.24	52.1	5.68	98.5	0.38	97.3	0.61
South Africa	16.2	2.44	65.6	1.45	66.1	1.65	99.1	0.15	89.9	0.73
Swaziland	3.7	1.68	76.8	2.37	80.0	2.13	98.8	0.21	92.0	0.59
Uganda	17.4	2.82	19.4	1.15	13.4	0.95	100.0	0.00	90.0	0.75
Zambia	2.9	1.12	26.6	1.96	14.7	1.24	90.1	0.89	86.0	1.07
Zanzibar	95.6	1.74	14.0	1.30	9.3	1.02	57.3	3.46	82.8	1.19
Zimbabwe	5.2	1.56	56.6	2.30	54.7	2.32	86.3	1.20	80.0	1.25
SACMEQ IV	30.3	2.64	41.0	2.07	40.5	2.05	87.6	1.09	84.4	1.11

Figure 6.1 shows comparisons in percentages of primary schools with selected essential resources between SACMEQ III (2007) and

SACMEQ IV (2013). The target for the proportion of primary schools in SACMEQ countries having essential resources was set at **85%**. It

is apparent that this target has not been achieved for all resources in question. The shortage of text books especially needs redress.

Figure 6.1 Trend in percentages of primary schools with selected essential resources for SACMEQ IV countries



School resources presented in **Table 6.2a** are important in various ways. For example, while sports grounds cater for outdoor extracurricular activities, school halls provide the venue for indoor activities such as club meetings, drama, performing arts, and

sports. A quality school fence is necessary for security of these young learners as well as for curbing possible unauthorized exit from school by pupils. It is clear from **Table 6.2a** that an overwhelming majority of primary schools in SACMEQ IV

countries do not have school halls (only **18.4%** have). The results also show that very low percentages of primary schools are fenced in countries such as Zanzibar (**15%**), Malawi (**20.8%**), Zambia (**23.9%**), Lesotho (30%), Mozambique (**36%**), and Uganda (**38.1%**).

Table 6.2a Percentages and sampling errors of primary schools with selected desirable resources by country

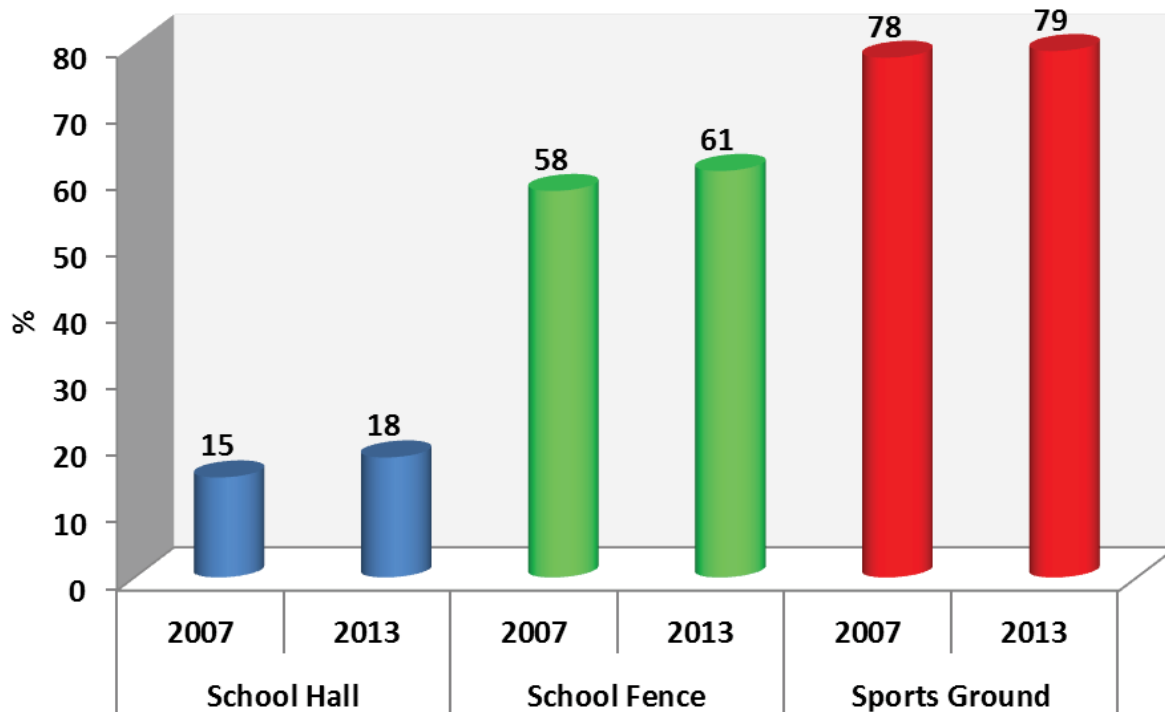
Country	School Potable Water		School Hall		School Fence		School Sports Ground		School Electricity	
	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	93.8	2.16	23.8	3.64	94.8	1.54	77.6	3.25	100.0	0.00
Kenya	84.7	2.80	15.2	3.38	79.2	3.13	92.9	1.92	43.4	4.01
Lesotho	76.6	3.43	14.3	3.05	30.6	3.79	68.7	3.67	23.0	3.56
Malawi	71.7	4.36	5.6	2.13	20.8	3.94	85.5	3.48	23.1	4.00
Mauritius	99.4	0.63	23.7	4.12	98.1	1.18	75.4	4.12	100.0	0.00
Mozambique	63.0	3.67	2.8	1.17	36.0	3.62	82.5	3.10	55.4	3.74
Namibia	92.7	1.64	20.1	2.21	87.9	1.88	73.5	2.76	91.6	1.71
Seychelles	100.0	0.00	42.5	10.63	92.2	5.37	87.6	7.38	100.0	0.00
South Africa	93.2	1.60	33.2	2.85	94.9	1.30	68.1	2.85	100.0	0.00
Swaziland	94.3	2.01	23.7	3.54	85.5	3.00	71.9	3.82	100.0	0.00
Uganda	75.4	2.98	21.8	2.79	38.1	3.26	80.3	2.77	27.6	3.02
Zambia	83.8	3.37	4.9	1.86	23.9	3.64	94.5	1.87	41.7	4.34
Zanzibar	86.6	3.03	12.1	2.93	15.7	3.29	54.9	4.46	92.2	2.40
Zimbabwe	69.8	4.48	13.6	2.69	54.9	4.32	85.8	2.79	51.2	4.29
SACMEQ IV	84.6	2.58	18.4	3.36	60.9	3.09	78.5	3.44	67.8	2.22

Figure 6.2a(i) presents these results in terms of changes in the distribution of the selected

school resources across SACMEQ III and SACMEQ IV studies. It is

evident that there is no significant improvement for SACMEQ region as a whole during this period.

Figure 6.2a(i) Trend in percentages of primary schools with selected school resources for SACMEQ IV countries



Various researches on water distribution and consumption in schools have drawn unsurprising but yet important conclusions. It was found that keeping children hydrated throughout the day boosts their learning by maintaining their memory, attention and concentration span that would usually be hindered by the effects of dehydration such as thirst, tiredness and irritability. Bar-David et al. (2005) found that, by lunch time, the short term memory of voluntarily dehydrated group of 10–12 year old school children in Israel was impaired. Bonnet et al. (2012) studied morning hydration status in a sample of 529 French school children from 9–11 years old by measuring food and fluid intake at breakfast and morning osmolality 30 minutes after breakfast. They found that

boys (72%) are more prone to dehydration than girls (52%) and that almost two-thirds of school children had hydration deficit on arriving at school in the morning, despite water intake at breakfast. In America, a cross-sectional study by Stookey et al. (2012) observed dehydration in two-thirds of healthy children in the morning due to the fact that over 90% of the children had breakfast but 75% did not drink water. Given that a large proportions of pupils do not have breakfast in SACMEQ IV countries, these findings do not only suggest that children’s fluid intake at breakfast does not suffice to maintain an adequate hydration status for the whole morning, but also that additional fluid or water intake during the entire school day should be a policy requirement for all primary schools.

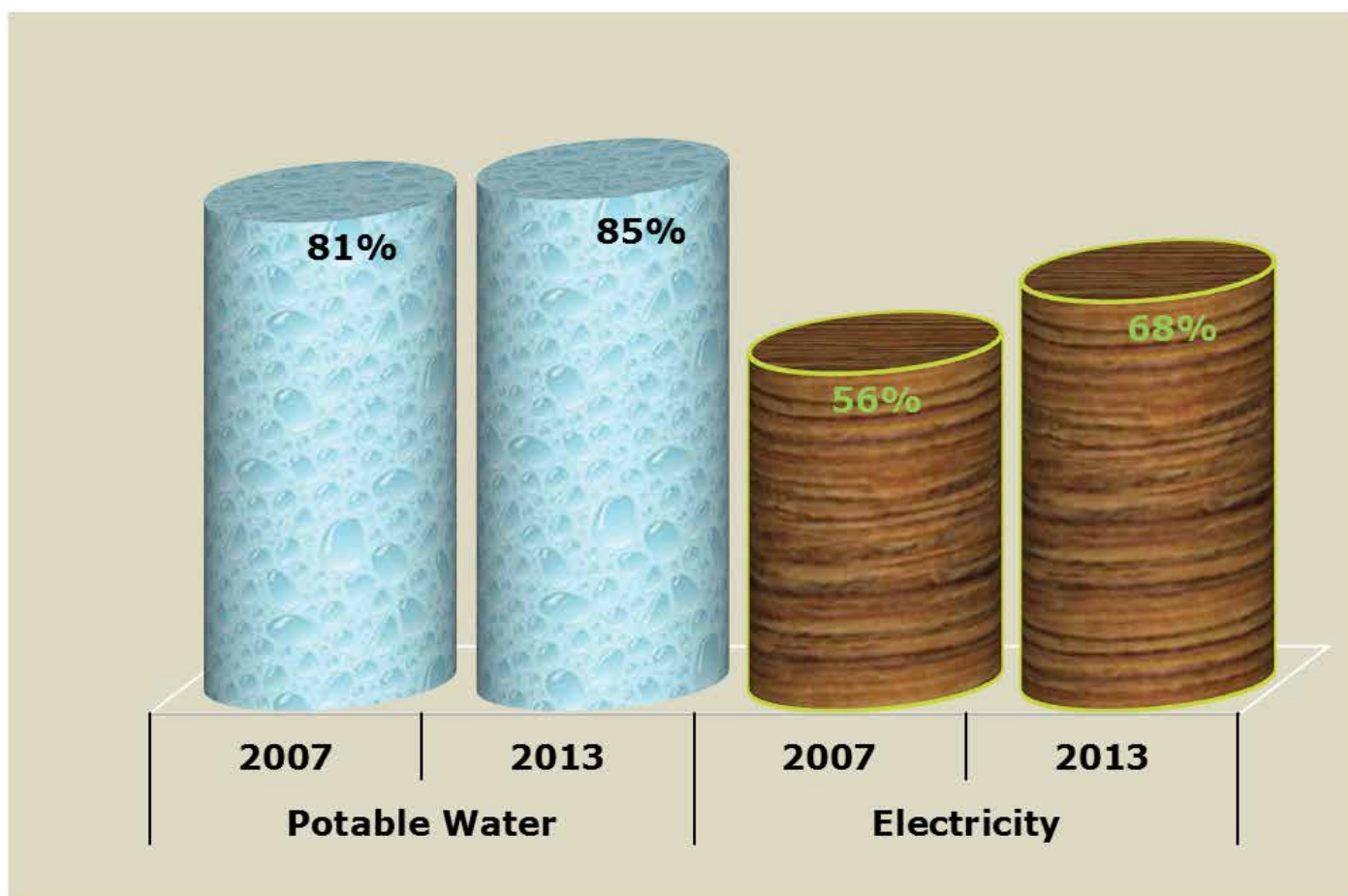
Drinking adequate amounts of water regularly throughout the day is not just a matter of maintaining good hydration in children but can help prevent a range of short and long-term health problems from headaches, bladder, kidney and bowel problems to cancer because water has none of the health problems associated with alternative fluids containing sugar, additives, sweeteners, acids or caffeine. According to the Institute National de Veille Sanitaire (2007), obesity in childhood and adolescence is increasingly a worldwide problem. In France, 18% of children and adolescents between the ages of 3 and 17 years old are overweight of whom 3% of boys and 4% of girls are classified as obese. In a recent systematic review and meta-analysis of randomized controlled

trials and prospective cohort studies on dietary sugars and body weight, Te Morenga et al. (2012) reported an increased likelihood of being overweight or obese in relation to increased intakes of sugar-sweetened beverages after a one year follow-up in children. Following their reviews of several studies, Muckelbauer et al. (2009a, 2009b), Daniels et al. (2010) and Slavin (2012) suggested that water has a potentially important role to play in reducing energy intake and

obesity prevention in children. According to Curtis et al. (2011), access to clean drinking water is not sufficient to eliminate the risk of water-related diseases, which cannot be decreased without compliance with good hygiene practices. It is well known that hand washing and other good hygiene practices can prevent infectious diseases such as gastrointestinal illness that may be contracted via hand-

to-mouth transmission of pathogenic microorganisms present in faeces (World Health Organization, 2010). Although **Figure 6.2a(ii)** shows that the overall percentage of primary schools having potable water for pupils is high (**85%**) in SACMEQ IV region, the individual percentages as indicated in **Table 6.2a** are comparatively low in countries such as Mozambique (**63%**), Zimbabwe (**69.8%**), Malawi (**71.7%**) and Uganda (**75.4%**).

Figure 6.2a(ii) Trend in percentages of primary schools with potable water and electricity for SACMEQ IV countries



In terms of electricity supply to primary schools, SACMEQ IV region is still far behind the collective target of **85%**. There is a modest improvement of **12%** over SACMEQ III study of primary school with electricity. Individual

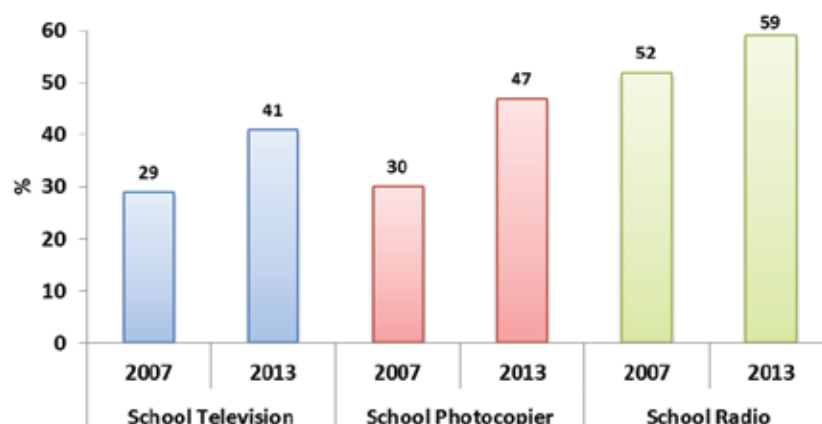
countries that are lagging behind on electricity supply to primary schools are Lesotho (**23%**), Malawi (**23.1%**), and Uganda (**27.6%**). Looking at the results in **Table 6.2b** and **Figure 6.2b**, lack of electricity is most likely one

of the reasons why very low percentages of primary schools in these countries (and indeed in other SACMEQ countries) have school resources such as television, photocopier, computers and other electronic devices.

Table 6.2b Percentages and sampling errors of primary schools with selected desirable resources by country

Country	School TV		School Photocopier		School Telephone		School Fax Machine		School Radio	
	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	93.0	2.18	82.9	3.08	88.7	2.75	85.5	2.73	89.3	2.74
Kenya	8.6	2.08	11.0	2.37	13.3	2.53	1.3	0.69	57.8	4.28
Lesotho	6.1	2.10	7.8	2.29	14.5	2.94	2.1	1.24	35.9	3.97
Malawi	1.2	1.16	3.3	1.95	8.2	2.61	0.0	0.00	87.0	3.47
Mauritius	100.0	0.00	100.0	0.00	99.3	0.74	96.1	1.96	100.0	0.00
Mozambique	23.1	3.31	13.4	2.64	15.0	2.67	0.7	0.75	28.3	3.52
Namibia	57.0	2.95	88.8	1.90	72.6	2.54	56.2	2.65	63.9	2.90
Seychelles	100.0	0.00	100.0	0.00	100.0	0.00	74.0	10.18	100.0	0.00
South Africa	87.0	2.03	99.5	0.32	74.6	2.55	63.4	2.76	81.1	2.32
Swaziland	19.4	3.45	94.0	2.00	63.1	4.15	26.4	3.73	15.3	3.11
Uganda	13.7	2.39	6.8	1.72	19.3	2.76	0.3	0.35	32.3	3.23
Zambia	17.2	3.38	17.3	3.33	14.0	3.12	1.0	0.96	55.7	4.50
Zanzibar	28.9	4.12	13.1	3.05	25.7	3.92	1.9	1.33	58.3	4.40
Zimbabwe	17.8	2.86	25.4	3.31	37.0	3.85	5.7	1.78	16.6	2.93
SACMEQ IV	40.9	2.29	47.4	2.00	46.1	2.65	29.6	2.22	58.7	2.96

Figure 6.2b Comparison of percentages of primary schools with televisions, photocopiers and radios between SACMEQ III and SACMEQ IV



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Chapter

Pupil and Teacher Achievement in Reading and Mathematics



A complex and dexterous skills audit for reading and mathematics resulted in identification of eight levels of competency for each subject as shown in Table 7.1 and Table 7.2. The eight competency levels provide a more concrete analysis of what pupils and teachers can typically do, and also suggest instructional strategies relevant to pupils who are learning at each level of competence. Such descriptions are of great assistance for the construction of textbooks, the design of teacher in-service training programmes, and the development of general classroom teaching strategies. This is because all these activities require a sound knowledge of the skills already acquired and the higher order skills that should be targeted in order to transfer to the next stage of learning.

Table 7.1 Descriptors for reading competency

LEVEL	DESCRIPTORS
LEVEL 1	Pre-Reading: Matches words and pictures...
Level 2	Emergent Reading: Matches words and pictures involving prepositions and abstract concepts...
Level 3	Basic Reading: Interprets meaning in a short and simple text...
Level 4	Reading for meaning: Reads forwards and backwards to link and interpret information...
Level 5	Interpretive Reading: Reads forwards and backwards in order to combine and interpret information...
Level 6	Inferential Reading: Reads forwards and backwards through longer texts in order to combine information...
Level 7	Analytical Reading: Locates information in longer ... text so as to infer ...
Level 8	Critical Reading: Locates information in longer ... texts ... to infer and evaluate...

Table 7.2 Descriptors for mathematics competency

LEVEL	DESCRIPTORS
Level 1	Pre-numeracy: Applies single step addition or subtraction operations. Recognises simple shapes. Matches numbers and pictures. Counts in whole numbers.
Level 2	Emergent numeracy: Applies a two-step addition or subtraction operation involving carrying, checking, or conversion of pictures to numbers...
Level 3	Basic numeracy: Translates verbal information ... in several repeated steps. Translates graphical information into fractions. Interprets place value of whole numbers up to thousands. Interprets simple common everyday units of measurement.
Level 4	Beginning numeracy: Translates verbal or graphic information into simple arithmetic problems. Uses multiple different arithmetic operations ... on whole numbers, fractions, and/or decimals.
Level 5	Competent numeracy: Translates verbal, graphic, or tabular information into an arithmetic form in order to solve a given problem. Solves multiple-operation problems ...
Level 6	Mathematically skilled: Solves multiple-operation problems ... involving fractions, ratios, and decimals. Translates verbal and graphic representation information into symbolic, algebraic, and equation form in order to solve a given mathematical problem...
Level 7	Problem solving: Extracts and converts ... information from tables, charts, visual and symbolic presentations in order to identify, and then solve multi-step problems.
Level 8	Abstract problem solving: Identifies the nature of an un-stated mathematical problem embedded within verbal or graphic information, and then translates this into algebraic or equation form in order to solve the problem.

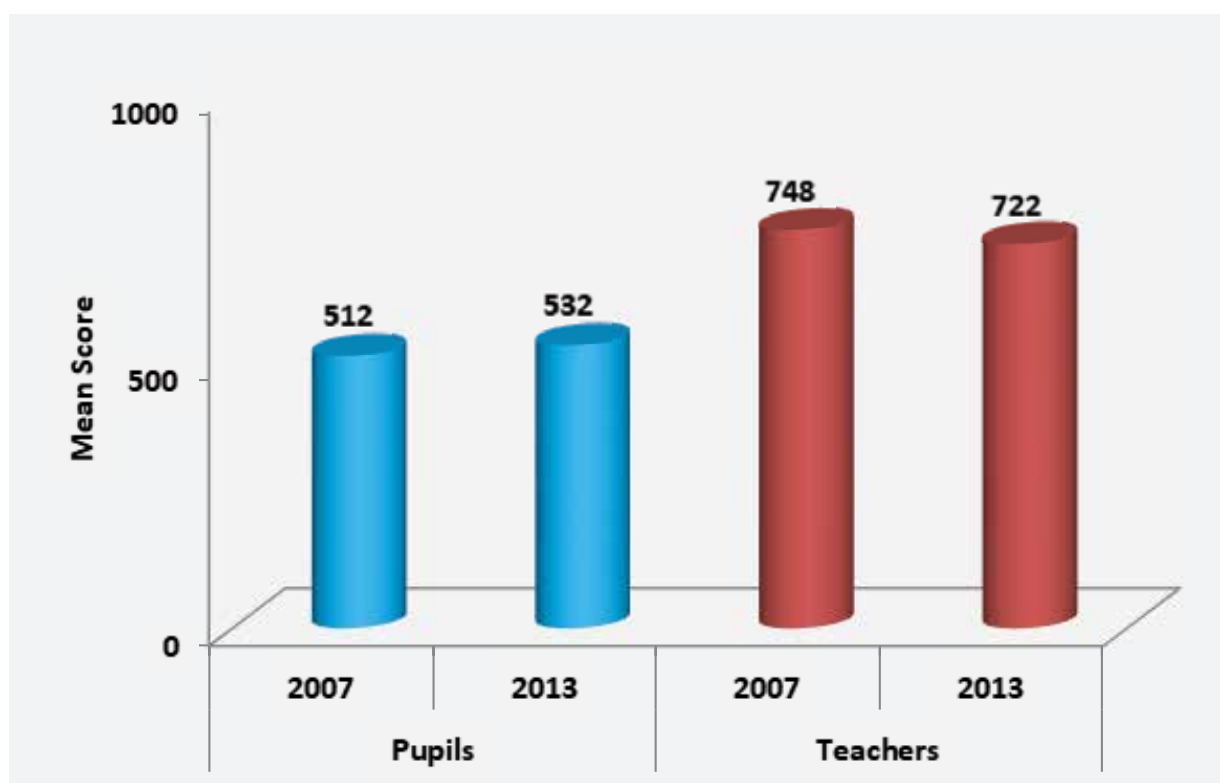
Pupil and Teacher Reading Achievement

Statistically, the collective pupil mean reading score for SACMEQ IV (2013) is significantly greater than that of SACMEQ III (2007).

As shown in Figure 7.1 the mean reading score for pupils was 512 for SACMEQ III and 532 for SAC

MEQ IV; an improvement of 20 point. Teachers' mean reading score, on the other hand, dropped by 26 points; from 748 to 722.

Figure 7.1 SACMEQ pupil and teacher reading mean scores for 2007 and 2013

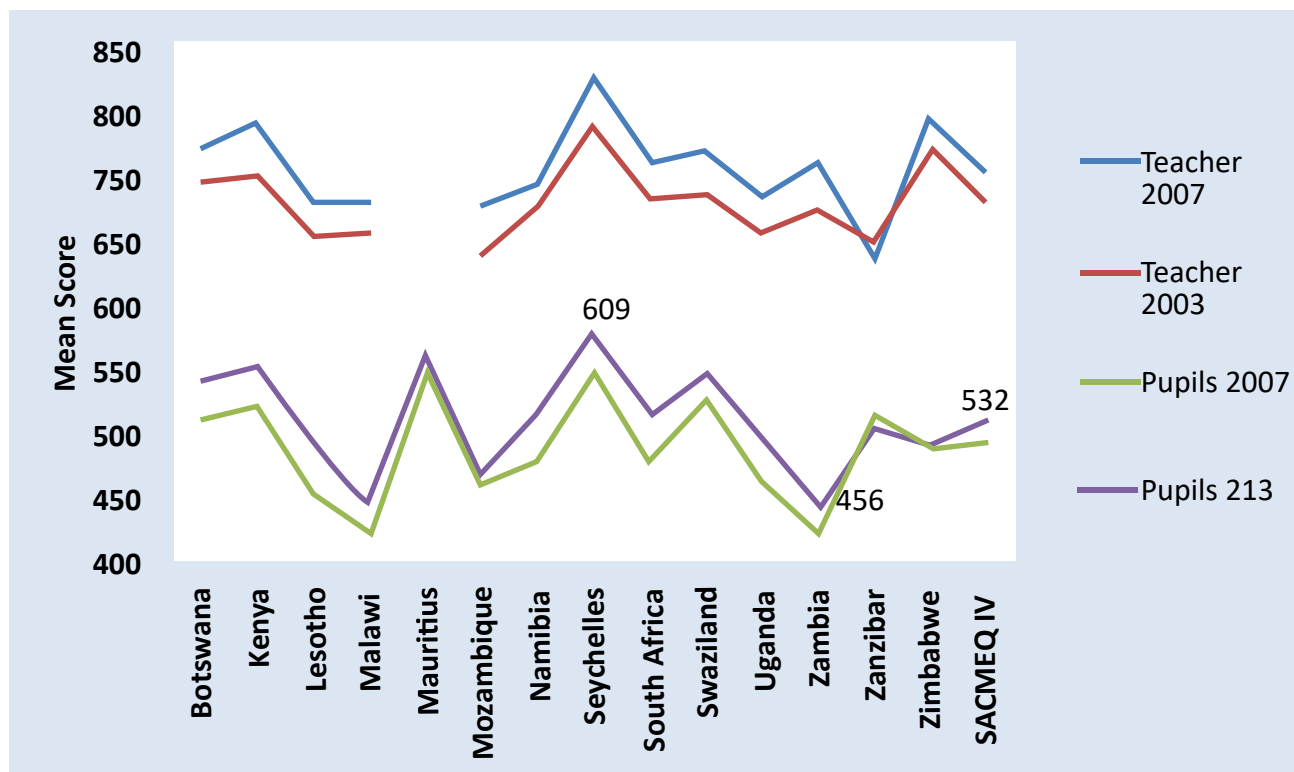


Except for Zanzibar and Zimbabwe, pupils performed notably better in reading in 2013 than in 2007 in all participating SACMEQ countries. Pupils' performance dropped by 11 points in Zanzibar, while the 2013 cohort of grade 6 pupils in Zimbabwe showed no change

in performance over the 2007 group. Despite the general improvement in pupil reading achievement, comparative country mean scores indicate that there is a huge gap of 153 points between the top performing country Seychelles and the lowest

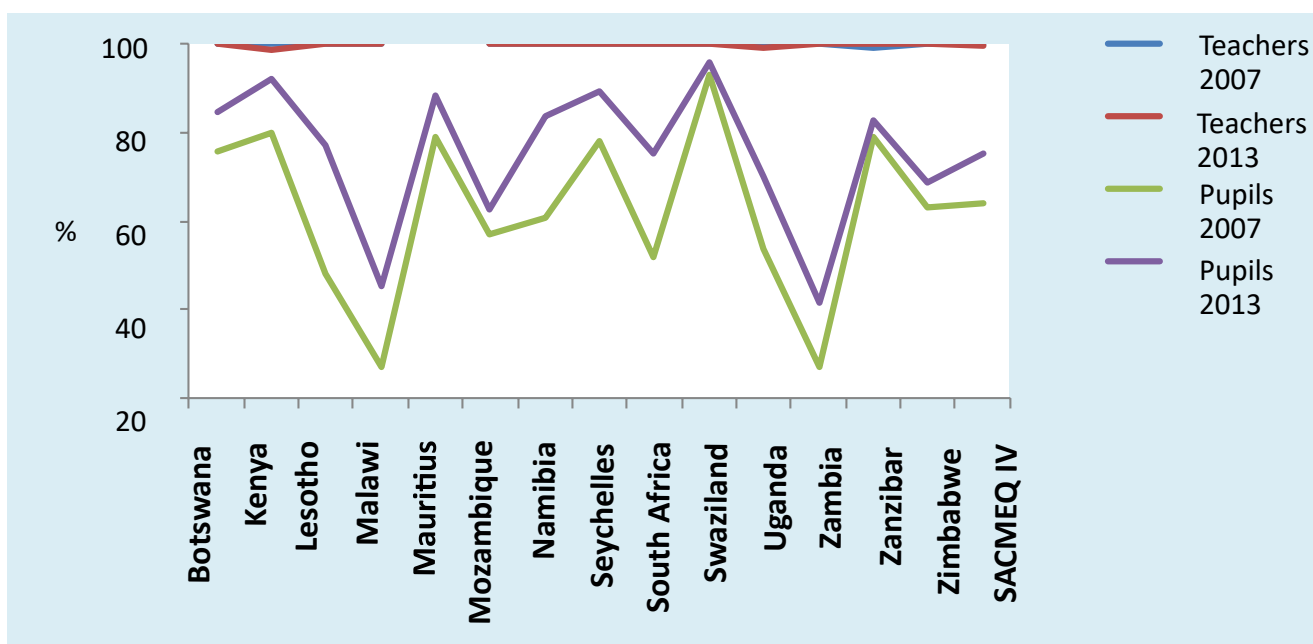
(Zambia). The 2013 mean reading scores for grade 6 pupils in these countries of interest and for SACMEQ IV are shown in Figure 7.2. Note that the gap in teacher mean scores for Mauritius exists because the country does not administer the tests to teachers as a matter of country policy.

Figure 7.2 Trends in pupil and teacher reading mean scores between 2007 and 2013 across



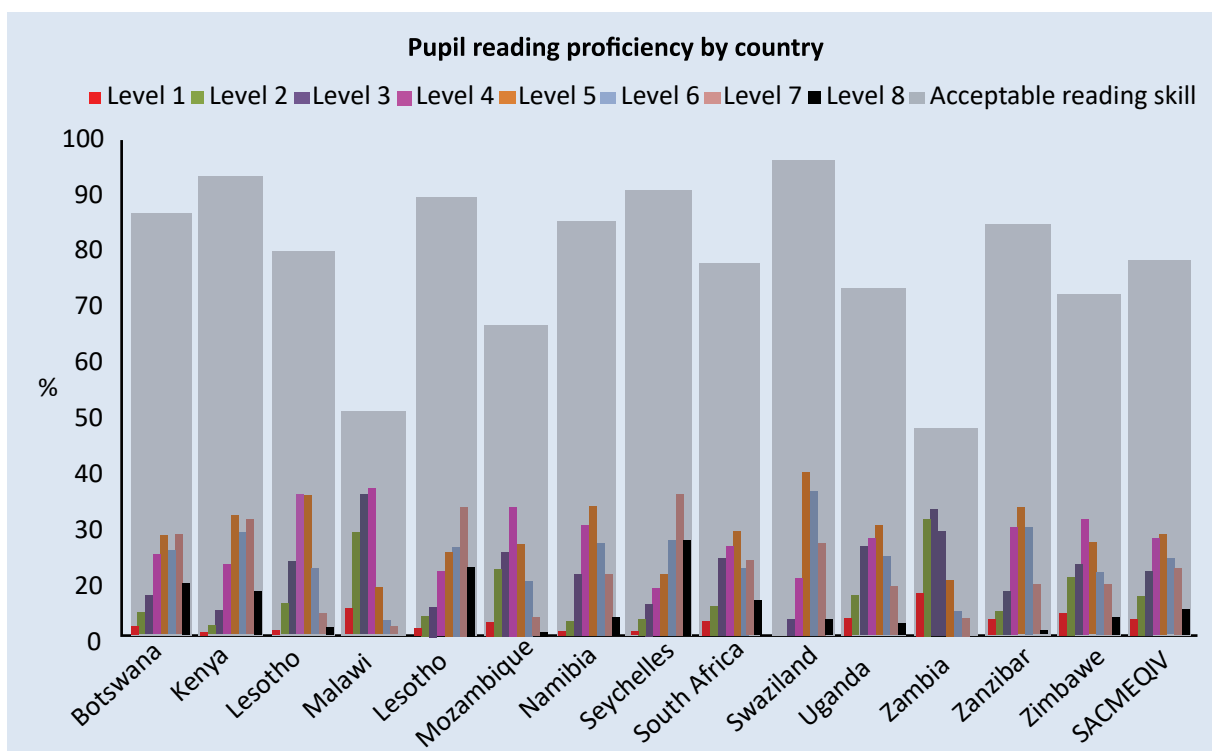
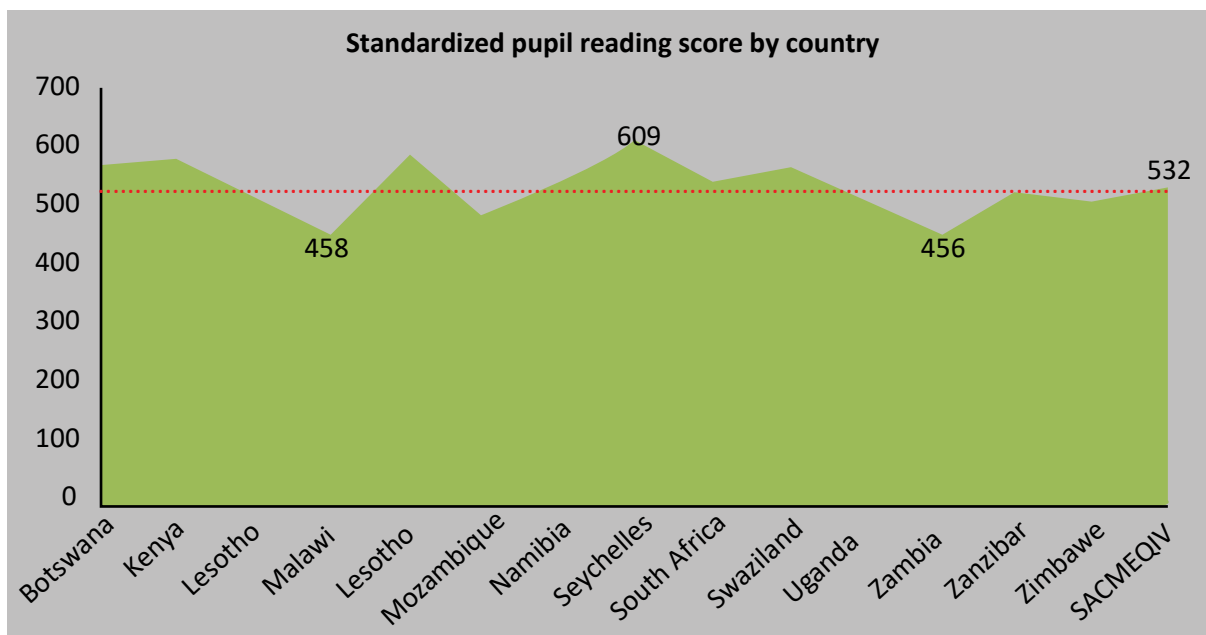
The reading proficiency of countries. As presented in Figure 7.3, eighty percent (80%) or greater half of SACMEQ IV participating pupils has also improved in most of the participating countries achieved acceptable reading skill (Levels 4 to 8).

Figure 7.3 Trends in the proportion of pupils and teachers having acceptable reading proficiency level between 2007 and 2013 across SACMEQ countries



Looking at SACMEQ IV pupil results in reading by country is given mean standardized scores and only, the overall achievement in **Figure 7.4** in terms of the the reading proficiency levels.

Figure 7.4 Overall grade 6 reading achievement by country for SACMEQ IV study



A more detailed analysis of the total percentages of grade 6 pupils reading achievement as presented have not achieved the acceptable level of reading proficiency in countries such as Zambia (58.2%), Malawi (54.8%), Mozambique (37.3%), and Zimbabwe (31.1%).

Table 7.3 Percentages and sampling errors of grade 6 pupils having reading proficiency below acceptable level by country

Country	Reading Level 1		Reading Level 2		Reading Level 3		Total	
	%	SE	%	SE	%	SE	%	SE
Botswana	2.0	0.27	5.0	0.40	8.1	0.61	15.1	0.43
Kenya	0.7	0.16	2.2	0.32	5.0	0.64	7.9	0.37
Lesotho	1.0	0.21	6.5	0.63	15.3	1.02	22.7	0.62
Malawi	5.6	0.73	20.6	1.52	28.6	1.41	54.8	1.22
Mauritius	1.6	0.23	4.3	0.49	5.9	0.60	11.8	0.44
Mozambique	6.7	0.89	13.5	1.04	17.1	0.96	37.3	0.96
Namibia	1.0	0.13	2.7	0.24	12.7	0.64	16.4	0.34
Seychelles	0.9	0.26	3.4	0.52	6.3	0.80	10.5	0.53
South Africa	2.9	0.28	6.0	0.43	15.8	0.78	24.7	0.50
Swaziland	0.1	0.06	0.6	0.21	3.4	0.50	4.2	0.25
Uganda	3.7	0.46	8.2	0.69	18.0	1.04	29.9	0.73
Zambia	9.0	0.71	23.6	1.18	25.6	1.16	58.2	1.01
Zanzibar	3.5	0.38	5.0	0.50	8.9	0.68	17.4	0.52
Zimbabwe	4.7	0.69	12.0	1.04	14.5	0.76	31.1	0.83
SACMEQ IV	3.1	0.39	8.1	0.66	13.2	0.83	24.4	0.63

At the upper end, the results in Table 7.4 show that significantly low total percentages of grade 6 pupils have achieved the desired higher levels (levels 6 to

8) of reading proficiency. The low total percentages are especially glaring in Malawi (5.5%), Zambia (9.5%), Mozambique (17.4%), Lesotho (20.2%), Zimbabwe (26.7%), Uganda (28.2%), Zanzibar (34.2%), Namibia (34.9%), and South Africa (36.1%)

(9.5%), Mozambique (17.4%), Lesotho (20.2%), Zimbabwe (26.7%), Uganda (28.2%), Zanzibar (34.2%), Namibia (34.9%), and South Africa (36.1%)

Table 7.4 Percentages and sampling errors of grade 6 pupils having reading proficiency levels 6 to 8 by country

Country	Reading Level 6		Reading Level 7		Reading Level 8		Total	
	%	SE	%	SE	%	SE	%	SE
Botswana	17.3	0.78	20.4	1.15	10.6	1.32	48.3	1.08
Kenya	21.0	1.01	23.4	1.39	9.0	1.41	53.3	1.27
Lesotho	13.6	1.01	4.6	0.62	2.0	0.68	20.2	0.77
Malawi	3.2	0.62	2.1	0.77	0.3	0.19	5.5	0.53
Mauritius	18.1	0.80	26.0	1.24	14.1	1.34	58.1	1.13
Mozambique	11.1	1.10	5.1	0.90	1.2	0.54	17.4	0.85
Namibia	18.6	0.68	12.4	0.80	3.9	0.51	34.9	0.66
Seychelles	19.3	1.60	28.9	1.54	19.3	3.62	67.4	2.25
South Africa	13.7	0.60	15.3	0.92	7.1	0.91	36.1	0.81
Swaziland	29.1	1.00	18.8	1.22	3.4	0.76	51.3	0.99
Uganda	15.9	0.92	9.8	1.06	2.4	0.47	28.2	0.82
Zambia	5.1	0.63	3.8	0.75	0.6	0.22	9.5	0.53
Zanzibar	22.1	0.96	11.1	1.06	1.1	0.25	34.2	0.75
Zimbabwe	12.6	0.78	10.4	1.12	3.6	0.73	26.7	0.88
SACMEQ IV	15.8	0.89	13.7	1.04	5.6	0.93	35.1	0.95

Disaggregated SACMEQ IV reading than the boys by 12 points is notably reversed in only three countries namely: Kenya, Malawi, and Uganda (Table 7.5). Results show that in general (Figure 7.5). This observation grade 6 girls performed better in

Figure 7.5 Overall grade 6 mean reading scores by gender

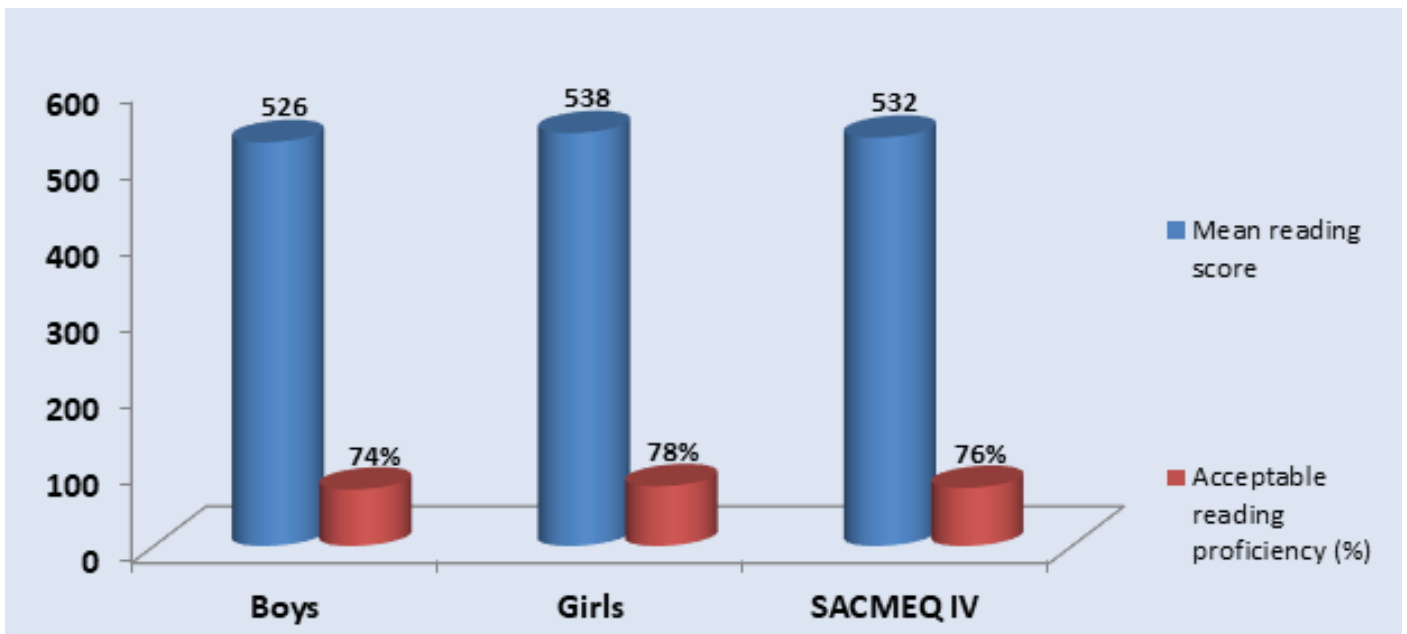


Table 7.5 Mean reading scores, percentages with acceptable reading skill and sampling errors of grade 6 pupils by gender and country

Country	Standardized Scores				Acceptable Reading Skill			
	Boys		Girls		Boys		Girls	
	Mean	SE	Mean	SE	%	SE	%	SE
Botswana	550.4	5.73	584.9	5.21	78.5	1.35	91.6	0.87
Kenya	579.6	5.74	574.1	5.11	91.4	1.07	92.7	1.11
Lesotho	508.2	5.17	512.7	3.51	74.2	1.93	79.7	1.69
Malawi	461.5	4.53	453.9	4.39	47.7	2.88	42.8	2.65
Mauritius	573.9	5.74	602.7	5.46	84.3	1.25	92.3	0.91
Mozambique	487.8	4.93	485.7	4.85	64.5	2.31	62.7	2.30
Namibia	529.4	3.24	546.3	2.95	80.2	1.04	87.1	0.76
Seychelles	580.1	12.14	639.4	10.67	84.2	1.60	95.2	0.89
South Africa	528.2	4.59	548.7	4.24	70.4	1.50	80.3	1.15
Swaziland	567.1	3.45	573.1	3.81	95.4	0.77	96.4	0.75
Uganda	518.6	5.00	506.5	4.46	71.7	1.94	68.8	1.86
Zambia	455.4	4.51	457.2	3.88	41.5	2.33	42.4	2.17
Zanzibar	523.9	3.11	527.2	3.37	81.8	1.39	83.4	1.33
Zimbabwe	499.6	5.46	517.4	6.09	63.5	2.41	74.4	1.91
SACMEQ IV	526.0	5.24	537.8	4.86	73.5	1.70	77.9	1.45

Except in Mozambique for some unclear reasons, results in **Figure 7.6** and **Table 7.6** indicate that grade 6 pupils in schools located in urban areas had higher

mean reading scores than those in rural areas for all SACMEQ IV countries. It should be noted

that SACMEQ does not have a common definition for 'rural' and 'urban' locations, so each country has its own definition or criteria for demarcation.

Figure 7.6 Overall grade 6 mean reading scores by location and country

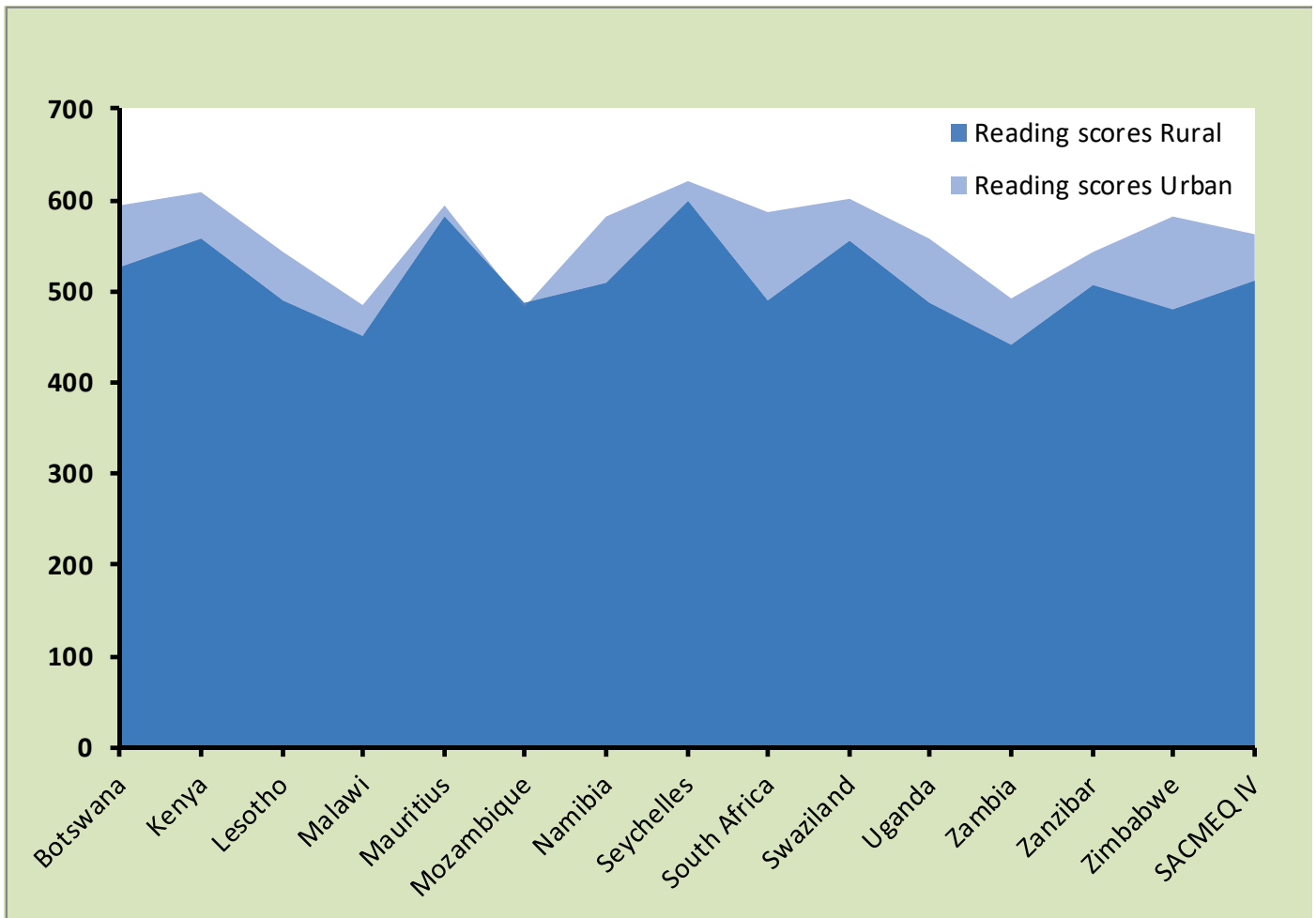
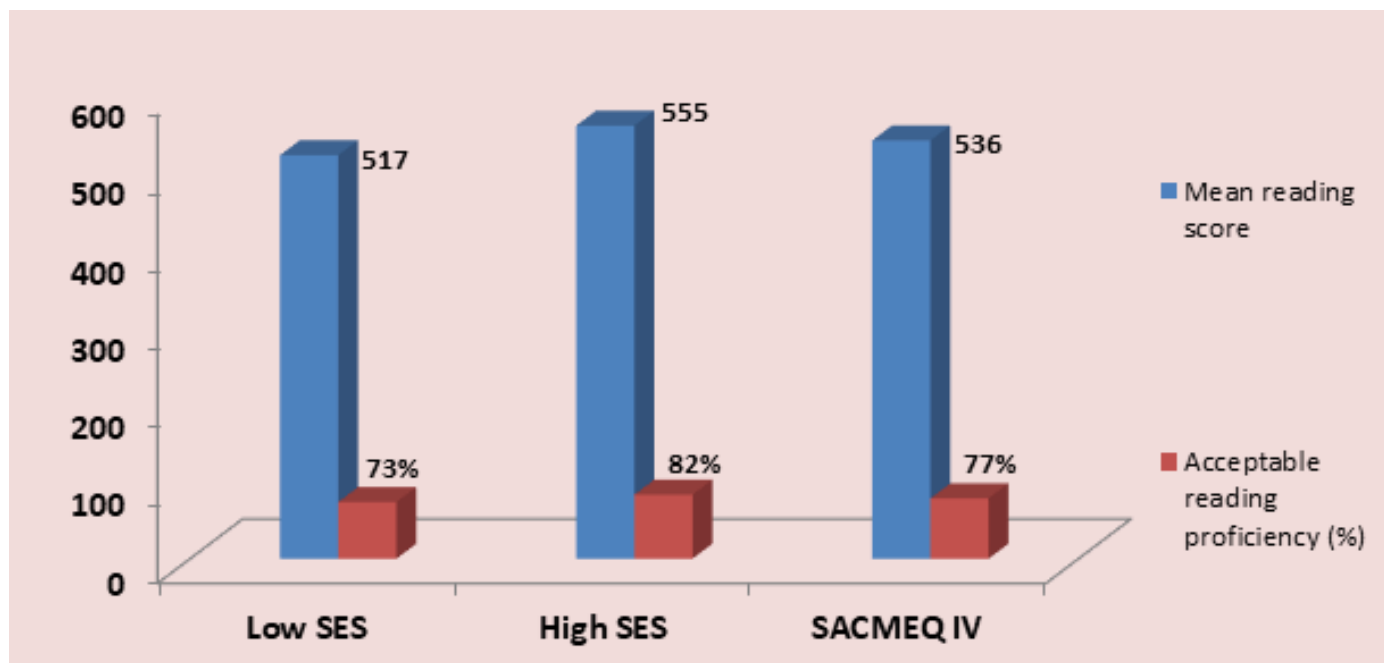


Table 7.6 Mean reading scores, percentages with acceptable reading skill and sampling errors of grade 6 pupils by location and country

Country	Standardized Scores				Acceptable Reading Skill			
	Rural		Urban		Rural		Urban	
	Mean	SE	Mean	SE	%	SE	%	SE
Botswana	525.8	4.30	594.2	6.75	78.0	1.61	89.6	0.97
Kenya	558.5	5.88	608.7	8.04	89.8	1.31	95.7	0.98
Lesotho	489.8	2.61	543.0	7.27	70.6	1.89	88.0	1.95
Malawi	451.8	3.54	484.0	10.51	41.8	2.73	61.2	4.63
Mauritius	582.9	7.55	593.4	7.10	87.5	1.33	88.9	1.26
Mozambique	486.7	7.58	483.6	5.39	61.7	3.06	64.0	2.93
Namibia	509.2	2.26	581.4	5.42	78.6	1.08	91.4	0.96
Seychelles	599.1	7.54	621.4	26.43	87.8	1.50	91.3	1.81
South Africa	490.2	3.47	585.8	6.23	62.4	1.89	88.0	1.18
Swaziland	556.1	2.83	602.4	6.92	94.8	0.80	98.1	0.63
Uganda	488.4	3.99	557.9	8.25	62.6	2.03	84.8	2.34
Zambia	441.4	3.59	491.9	7.83	34.6	2.05	59.1	3.46
Zanzibar	507.1	3.71	542.8	3.95	76.9	1.62	87.9	1.50
Zimbabwe	479.1	4.59	581.7	9.07	61.2	2.21	88.2	1.74
SACMEQ IV	511.9	4.53	562.3	8.51	70.6	1.79	84.0	1.88

Grade 6 pupils from high socio-economic background performed better in reading than those from relatively low socio-economic background (Figure 7.7).

Figure 7.7 Overall grade 6 mean reading scores by socio-economic status



The results disaggregated by socio-economic status and country are presented in Figure 7.8 and Table 7.7.

Figure 7.8 Overall grade 6 mean reading scores by socio-economic status and country

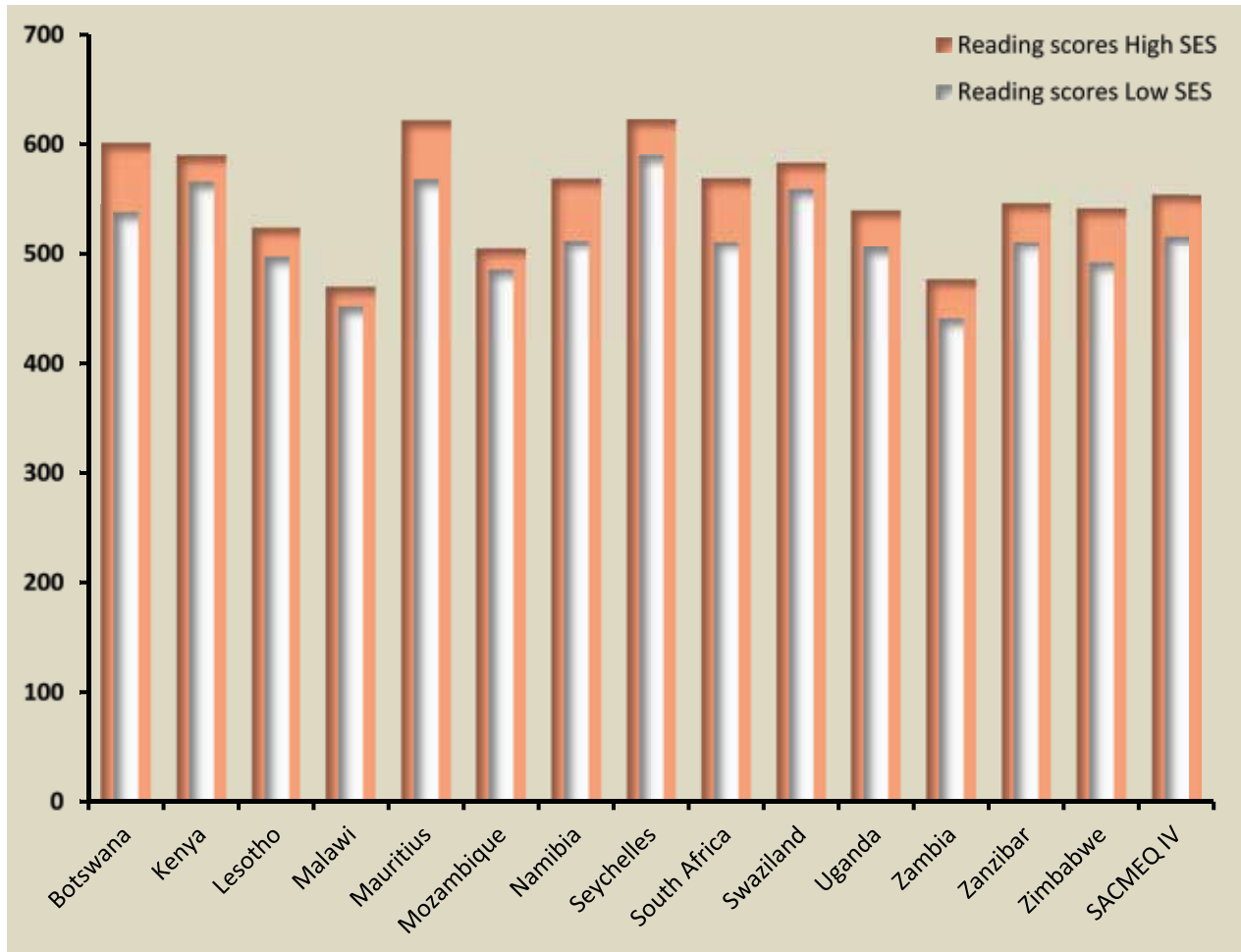


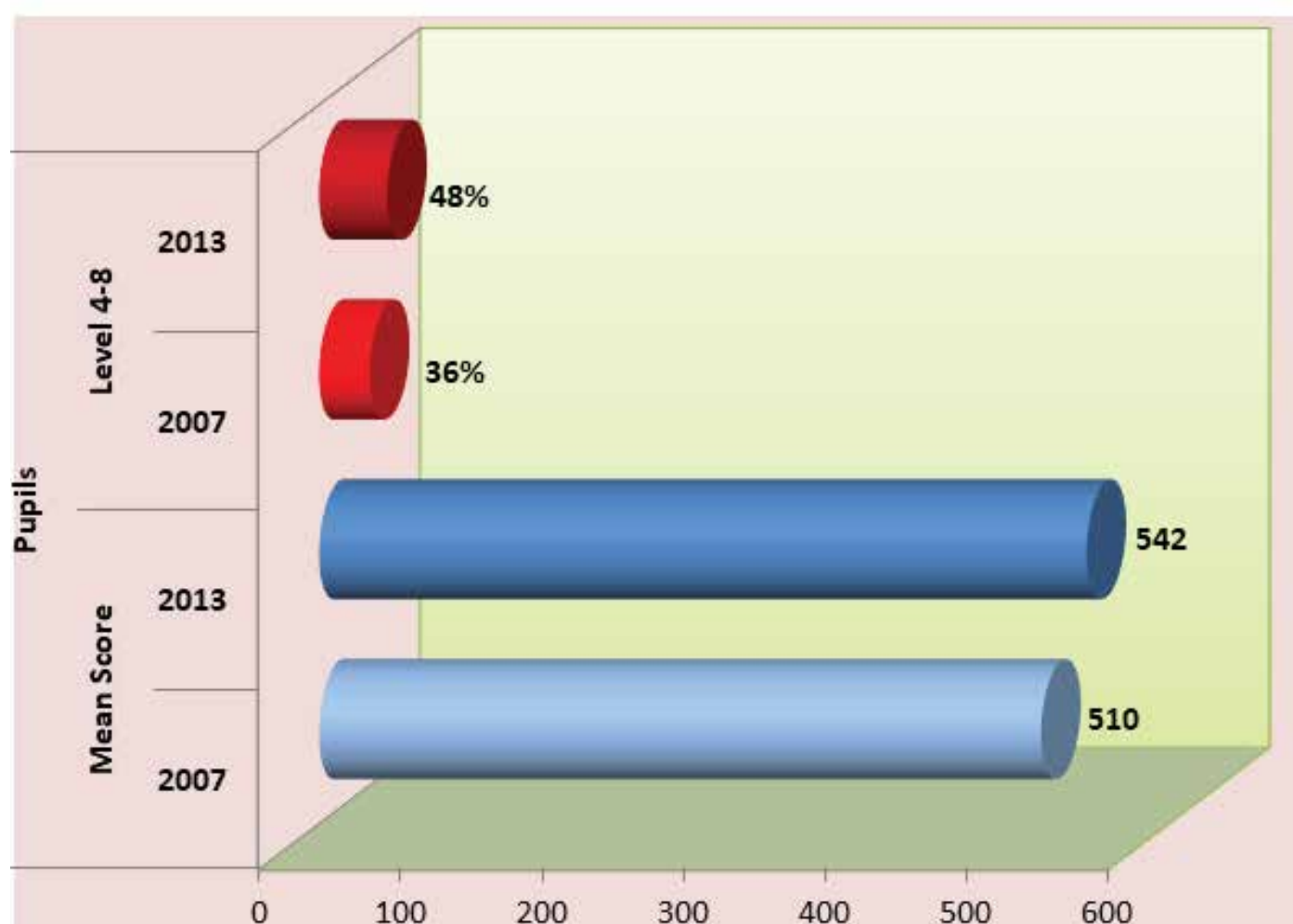
Table 7.7 Mean reading scores, percentages with acceptable reading skill and sampling errors of grade 6 pupils by socio-economic status and country

Country	Standardized Scores				Acceptable Reading Skill			
	Low SES		High SES		Low SES		High SES	
	Mean	SE	Mean	SE	%	SE	%	SE
Botswana	538.9	3.97	601.4	6.49	81.4	1.37	90.4	0.89
Kenya	566.2	4.95	589.9	6.49	90.9	1.24	93.5	1.05
Lesotho	497.2	2.77	524.8	6.00	73.6	1.88	81.2	1.71
Malawi	452.8	3.33	470.3	6.71	43.2	2.61	51.7	3.41
Mauritius	568.5	4.91	621.7	5.67	86.1	1.16	94.2	0.84
Mozambique	485.7	6.48	504.8	4.53	61.8	2.79	73.6	2.22
Namibia	512.6	2.13	569.0	4.16	79.3	1.15	89.5	0.77
Seychelles	589.9	7.20	622.7	13.95	88.1	1.55	90.9	1.52
South Africa	511.7	3.20	569.3	5.66	70.1	1.45	82.5	1.23
Swaziland	559.6	3.19	583.1	4.46	94.7	0.87	97.3	0.51
Uganda	506.1	4.05	540.3	6.73	69.4	1.92	77.6	1.99
Zambia	441.9	3.07	477.0	5.44	33.6	2.00	54.0	2.57
Zanzibar	511.7	3.00	546.8	3.61	78.1	1.49	90.3	0.99
Zimbabwe	492.1	4.47	542.2	6.48	65.4	1.94	79.5	1.73
SACMEQ IV	516.8	4.05	554.5	6.17	72.5	1.67	81.9	1.53

Pupil and Teacher Mathematics Achievement

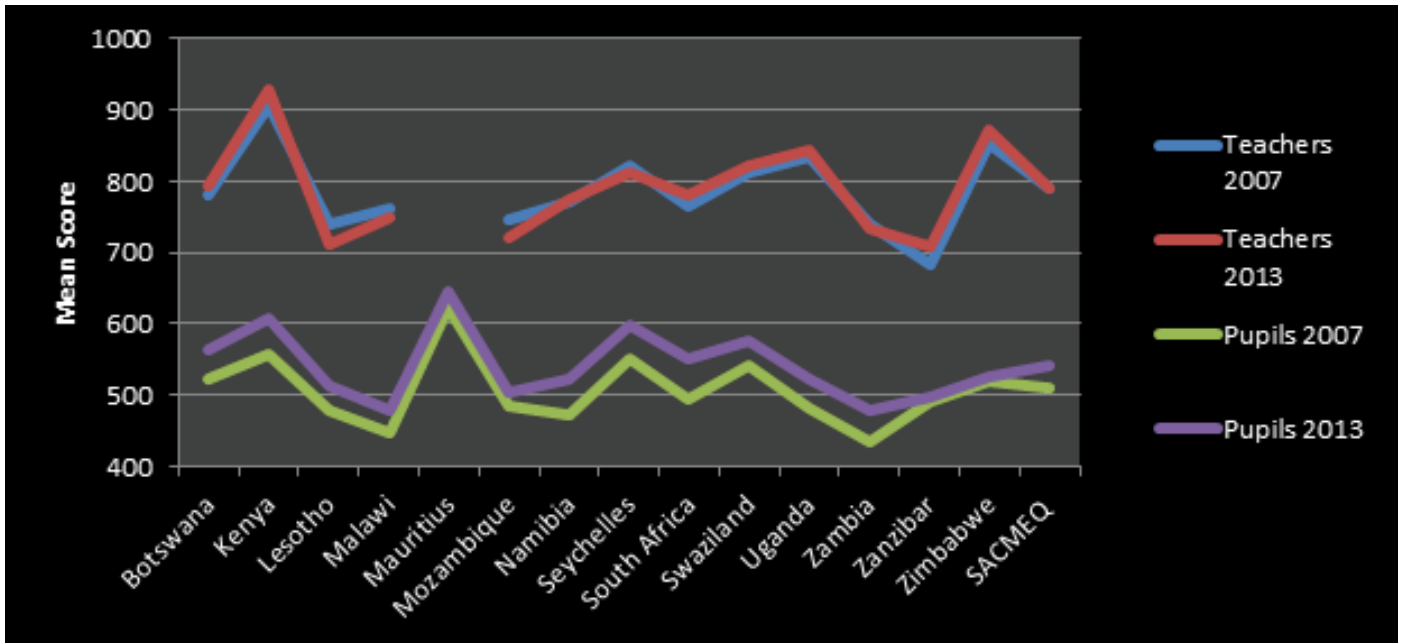
Overall, grade 6 pupil mathematics mean score has been improving by about 5 points per year in the SACMEQ region between 2007 (510 points) and 2013 (542 points). This is because 6th graders in all countries, on average, significantly outscored their counterparts of 2007 (Figure 7.10). The margins of improvement were, however, small in Zanzibar (9 points), and Zimbabwe (4 points). More pleasing is the observation that the proportion of pupils reaching numeracy skill levels 4 to 8 has increased from 36% to 48% over the six year period (Figure 7.9).

Figure 7.9 Grade 6 Mathematics mean scores and percentages attaining proficiency levels 4-8 for 2007 and 2013



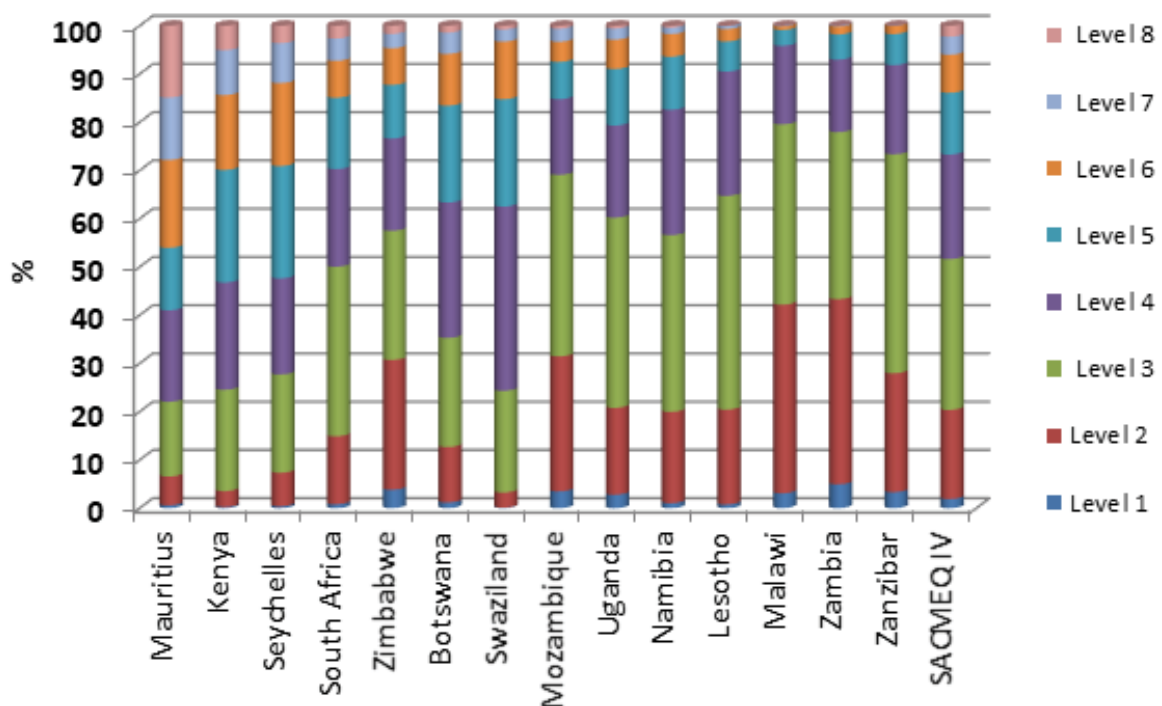
Compared to 2007, there were notable drops in teacher mathematics mean scores in four countries as follows: Lesotho (27 points), Mozambique (24 points), Malawi (12 points), and Seychelles (11 points). However, there was improvement in mean scores for the other countries; resulting in no overall improvement in teacher mean score for SACMEQ IV as shown in Figure 7.10.

Figure 7.10 Trends in pupil and teacher mathematics mean scores between 2007 and 2013 across SACMEQ countries



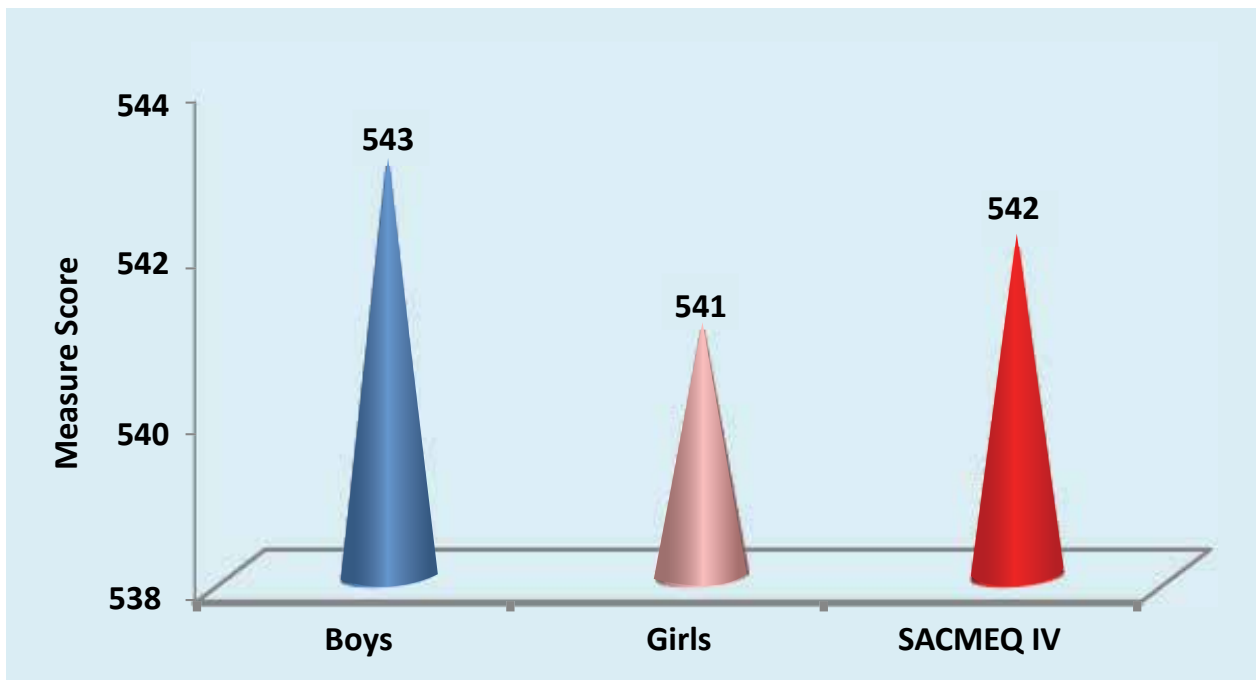
Nevertheless, results presented in Figure 7.11 show that the majority of grade 6 pupils have mathematics competency levels from 2 to 4 in all but the first three countries. This should be a concern for educational policy makers in SACMEQ countries.

Figure 7.11 Proportions of grade 6 pupils by mathematics proficiency levels and country



Unlike for reading, disaggregated overall grade 6 boys performed girls by just 2 points (Figure 7.12). SACMEQ IV results show that better in mathematics than the

Figure 7.12 Overall grade 6 mean mathematics scores by gender



However, individual country results show a range of variances in mathematics achievement. There are countries where grade 6 boys performed better than girls by more significant margins. These countries

are Kenya (**20** points), Malawi (**20** points), Uganda (**18** points), and Zambia (**11** points). While in South Africa grade 6 girls collectively performed better than boys by a small difference of **3** points,

in four other countries girls outperformed boys by much higher point differences. These countries are Seychelles (**35** points), Botswana (**13** points), Mauritius (**11** points), and Zimbabwe (**10** points) as shown in **Table 7.8**.

Table 7.8 Mean mathematics scores and sampling errors of grade 6 pupils by gender and country

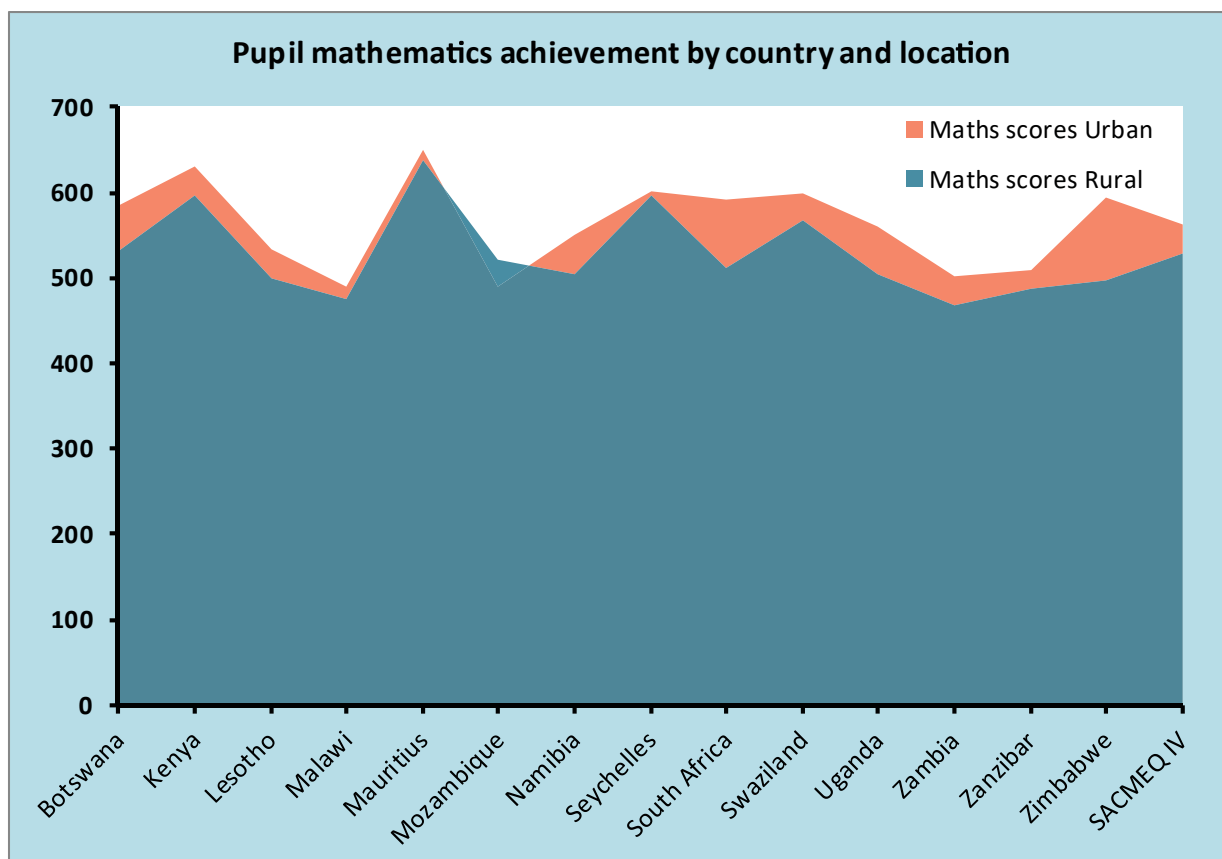
Country	Standardized Scores			
	Boys		Girls	
	Mean	SE	Mean	SE
Botswana	556.5	4.82	569.5	4.28
Kenya	617.9	5.67	597.5	5.54
Lesotho	517.2	3.90	510.7	2.72
Malawi	488.9	3.17	468.8	3.07
Mauritius	638.6	7.62	650.1	7.01
Mozambique	508.1	6.09	504.8	6.21
Namibia	523.7	2.93	521.2	2.55
Seychelles	582.0	8.80	616.7	8.22
South Africa	549.7	4.35	553.4	4.11
Swaziland	584.2	3.25	571.3	3.52
Uganda	532.4	4.87	514.8	4.04
Zambia	483.1	3.60	471.8	3.24
Zanzibar	502.4	2.73	495.4	2.65
Zimbabwe	519.1	5.50	529.4	5.48
SACMEQ IV	543.1	4.81	541.1	4.48

Similar to reading, grade 6 pupils in schools located in urban areas had higher mean mathematics scores than those in rural areas for all SACMEQ IV countries,

except Mozambique (Figure 7.13). The gaps in mean scores are particularly notable in Zimbabwe (99 points), South Africa (79 points),

Uganda (56 points), Botswana (52 points), Namibia (48 points), Zambia (34 points), Kenya (33 points), Lesotho (32 points), and Swaziland or Eswatini (31 points).

Figure 7.13 Mean mathematics scores of grade 6 pupils by location and country



Individual country results by location for mathematics are presented in **Table 7.9**.

Table 7.9 Mean mathematics scores and sampling errors of grade 6 pupils by location and country

Country	Standardized Scores			
	Rural		Urban	
	Mean	SE	Mean	SE
Botswana	531.4	3.23	583.2	5.78
Kenya	596.0	6.98	629.4	8.17
Lesotho	500.6	2.39	533.2	5.75
Malawi	476.0	2.80	490.4	7.39
Mauritius	638.2	9.70	650.9	9.04
Mozambique	521.1	10.44	490.2	5.51
Namibia	503.3	2.04	550.9	4.72
Seychelles	597.4	6.16	600.7	19.31
South Africa	512.2	3.35	590.7	6.48
Swaziland	568.4	2.75	599.0	7.15
Uganda	504.3	4.29	560.1	7.60
Zambia	467.4	3.00	500.7	6.43
Zanzibar	487.1	2.94	509.3	3.32
Zimbabwe	495.9	4.16	595.2	10.39
SACMEQ IV	528.5	4.59	563.1	7.65

The results disaggregated by socio-economic status and country are presented in **Figure 7.14**.

Again, grade 6 pupils from high socio-economic background performed better in mathematics than those from relatively low

Larger mean score gaps are observed in Mauritius, South Africa, Namibia, Zambia, Zimbabwe, Seychelles and Botswana.

Figure 7.14 Mean mathematics scores of grade 6 pupils by socio-economic status and country

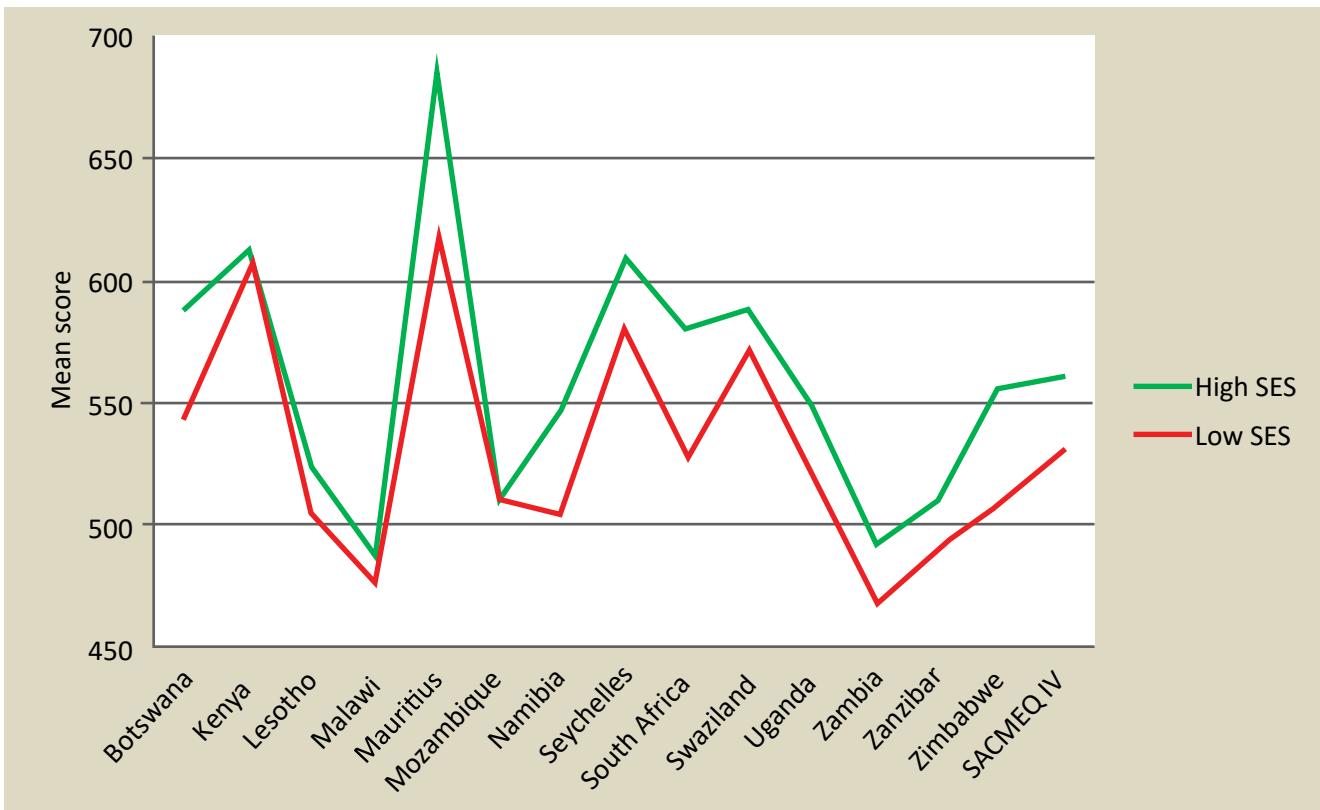


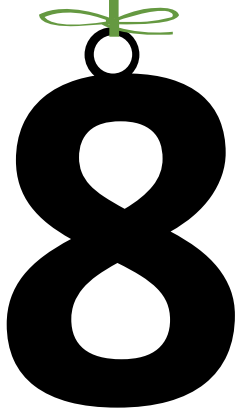
Table 7.10 shows individual country results by socio economic status for grade 6 mathematics achievement.

Table 7.10 Mean mathematics scores and sampling errors of grade 6 pupils by socioeconomic status and country

Country	Standardized Scores			
	Low SES		High SES	
	Mean	SE	Mean	SE
Botswana	543.6	3.31	587.9	5.72
Kenya	607.3	6.36	612.6	6.45
Lesotho	504.8	2.42	522.7	4.50
Malawi	476.1	3.04	486.7	4.43
Mauritius	619.1	6.10	687.6	8.04
Mozambique	511.2	8.27	512.6	5.41
Namibia	504.1	1.95	546.1	3.79
Seychelles	582.9	6.19	609.6	9.40
South Africa	526.8	2.93	580.1	5.95
Swaziland	570.5	2.89	587.8	4.60
Uganda	520.6	4.14	547.0	5.92
Zambia	468.6	2.88	492.7	4.13
Zanzibar	490.0	2.34	511.5	3.33
Zimbabwe	508.5	4.37	555.7	6.88
SACMEQ IV	531.0	4.09	560.0	5.61



Chapter



Pupil and Teacher Achievement in HIV and AIDS Knowledge

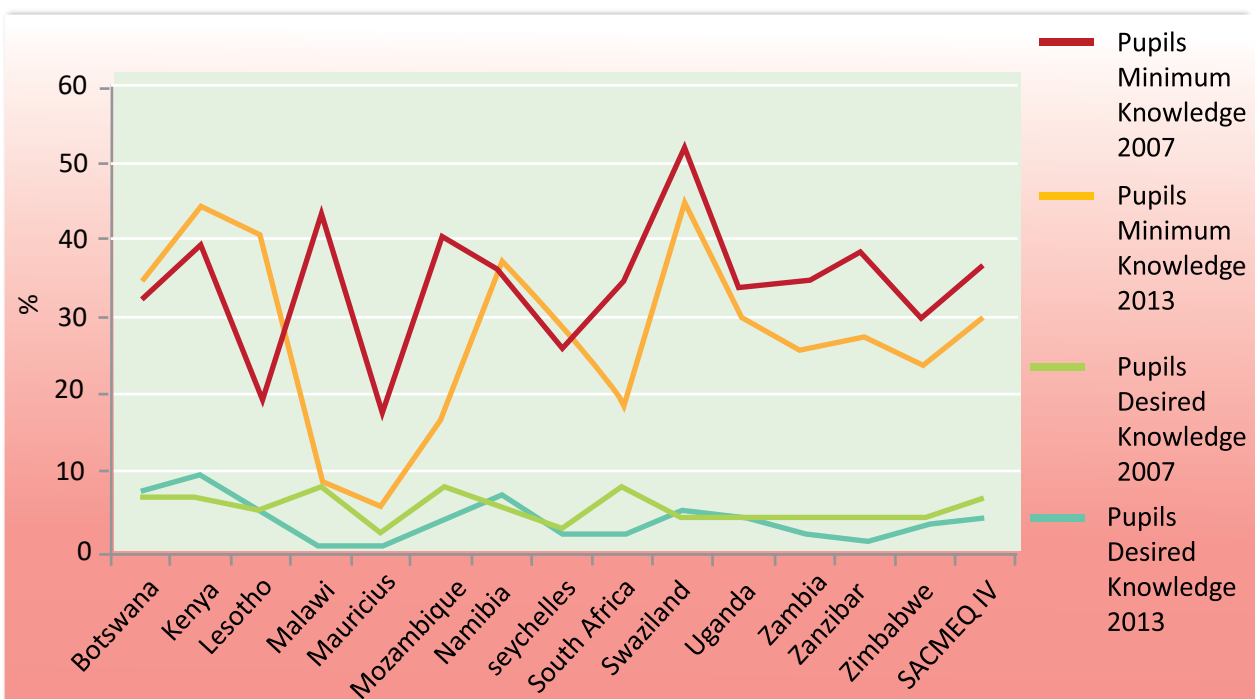
Reported health statistics indicate that Sub-Saharan Africa is home to over 20 million people living with HIV. Around 10% of them are below the age of 15 years; the age bracket within which grade 6 pupils in SACMEQ IV countries fall. The level of HIV/AIDS knowledge among primary school pupils and their teachers is therefore critical to establish.

SACMEQ measures basic HIV/AIDS knowledge levels of pupils and teachers on the following broad areas: definitions and terminologies; transmission mechanisms; avoidance behaviors; diagnosis and treatment; myths and misconceptions. In SACMEQ, a respondent who has

mastered at least 50% of the assessed curriculum content is judged to be having “minimum knowledge” level. A respondent who has mastered 75% or more would have acquired the “desired knowledge” level.

Because of particular interest to educational policy makers, HIV and AIDS knowledge achievement was presented in special policy reports, separate from this report, for each participating country. However, the general results of SACMEQ IV HIV and AIDS Knowledge Test (HAKT) reveal that the average knowledge levels among grade 6 pupils dropped between 2007 and 2013 (Figure 8.1).

Figure 8.1 Trends in the proportion of grade 6 pupils having minimum and desired knowledge levels on HIV and AIDS by country

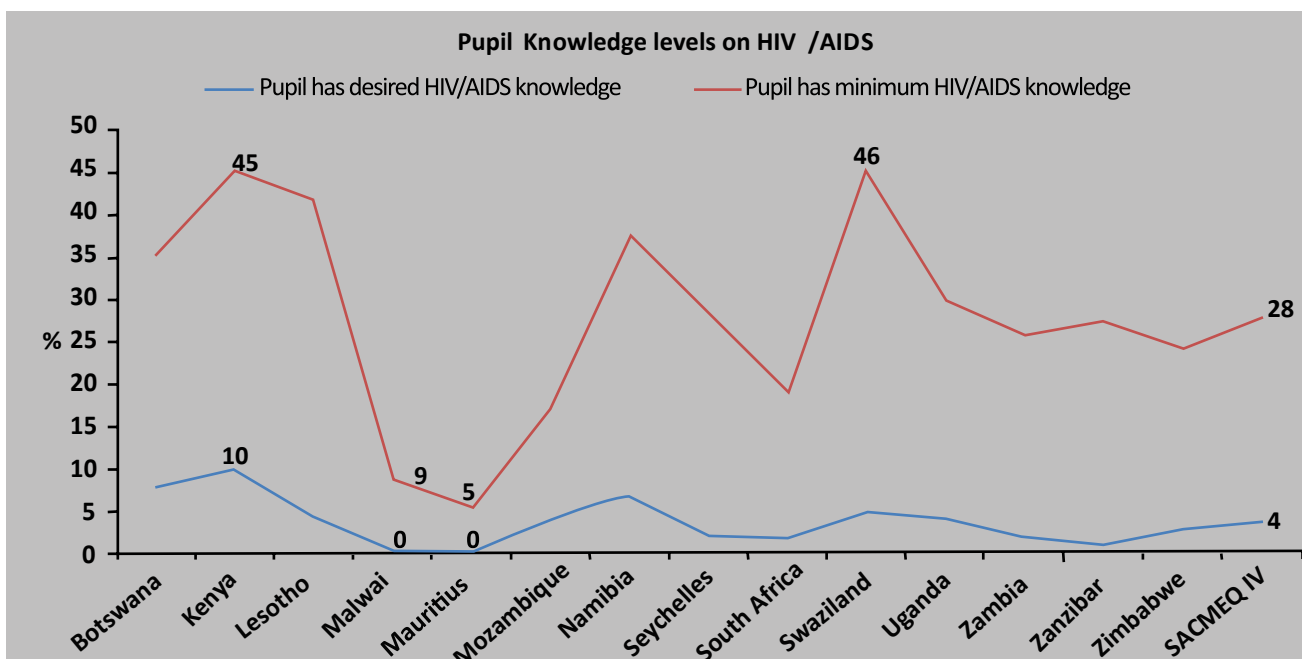
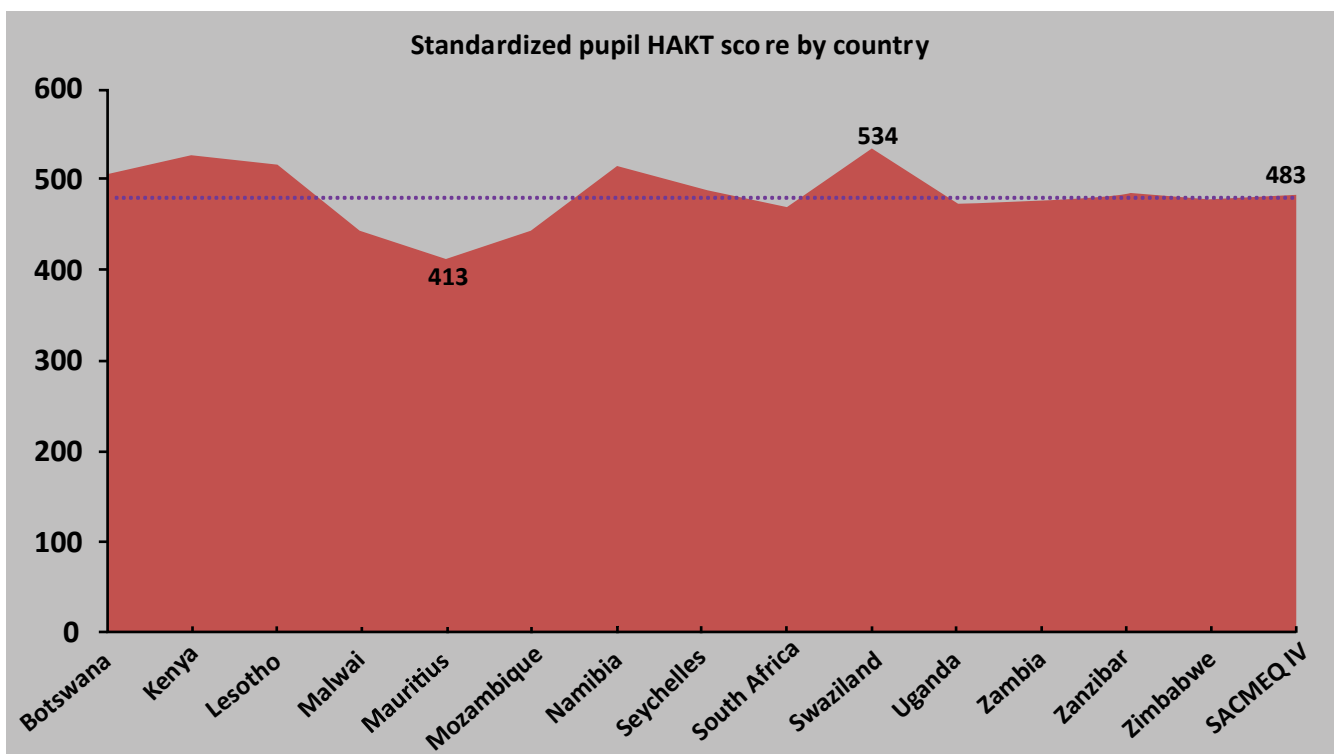


Only grade 6 pupils in Lesotho showed a notable **23%** improvement in the proportion of pupils who have acquired the minimum knowledge. Four (4) other countries (Kenya, Botswana, Seychelles and Namibia) improved by very minimal percentages,

while the rest of the countries declined. Of concern are the drops in the proportion of pupils with minimum knowledge in Malawi (**-34%**); Mozambique (**-23%**), South Africa (**-16%**); Mauritius (**-12%**); and Zanzibar

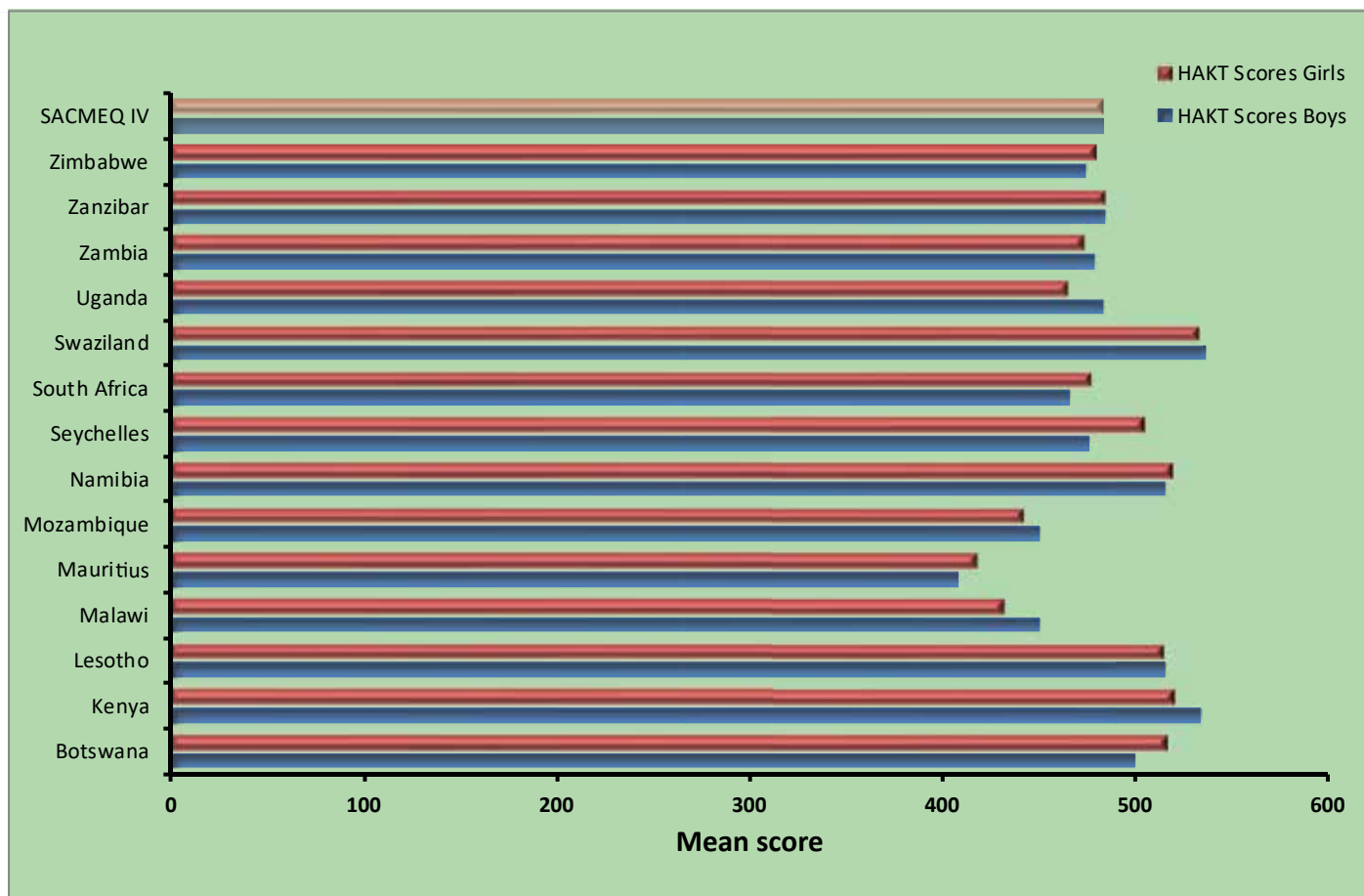
(**-11%**). There was negligible improvement in the proportions of pupils who acquired the desired knowledge level in just 4 countries (Kenya, Namibia, Swaziland and Botswana). Individual country performance for SACMEQ IV only is presented in **Figure 8.2**.

Figure 8.2 Grade 6 achievement on HAKT by country for SACMEQ IV



The average performance of girls and boys was similar in both 2007 and 2013 (Figure 8.3).

Figure 8.3 SACMEQ IV grade 6 mean scores in HAKT by gender and country



Higher socioeconomic status (SES) grade 6 pupils and grade 6 pupils attending schools located in small towns and cities had better average scores than

counterpart low SES pupils and pupils attending schools situated in rural areas. However,

in Mozambique and Seychelles grade 6 pupils in schools located in rural areas performed, on average, better than those in urban areas (Figure 8.4 and Figure 8.5).

Figure 8.4 SACMEQ IV grade 6 mean scores in HAKT by SES and country

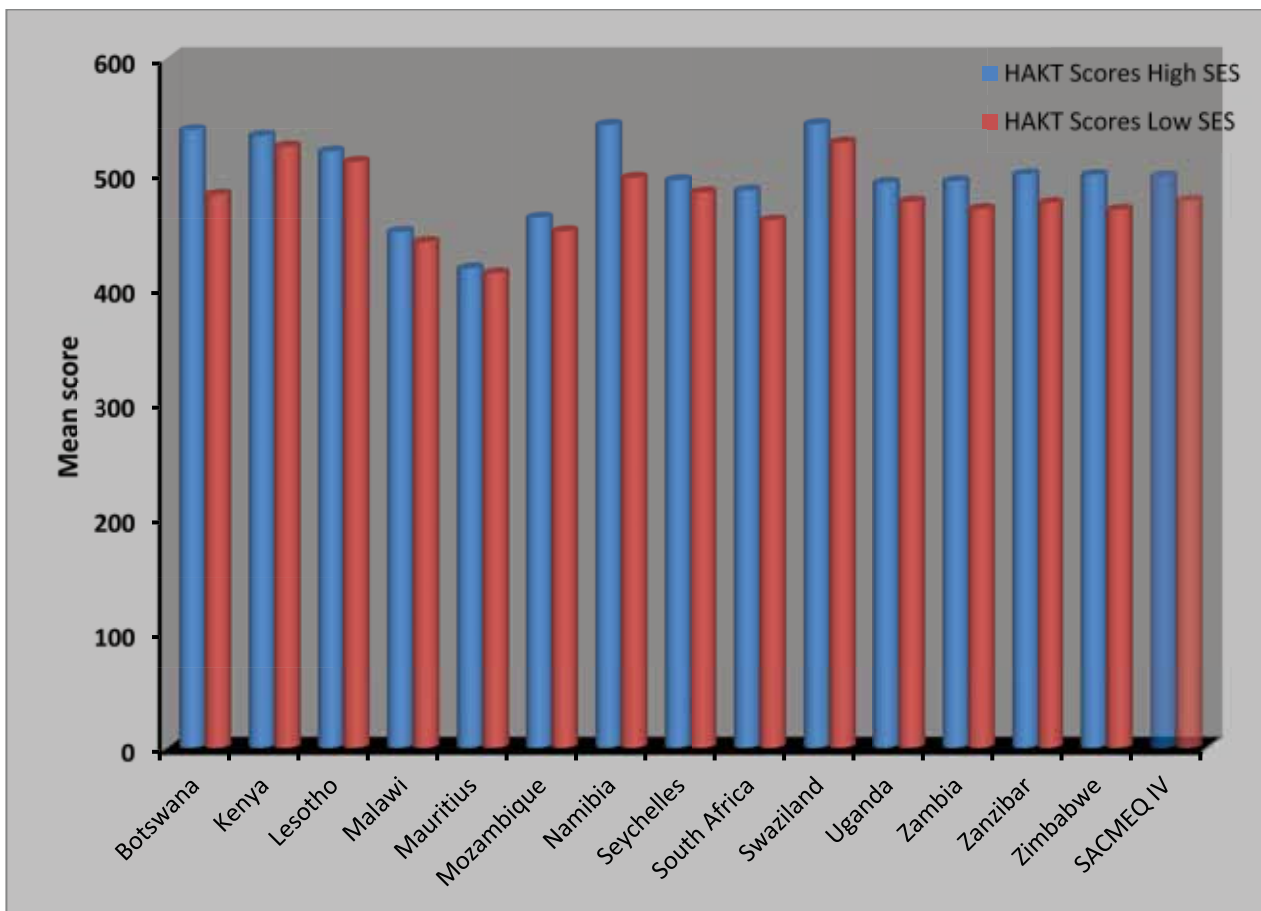
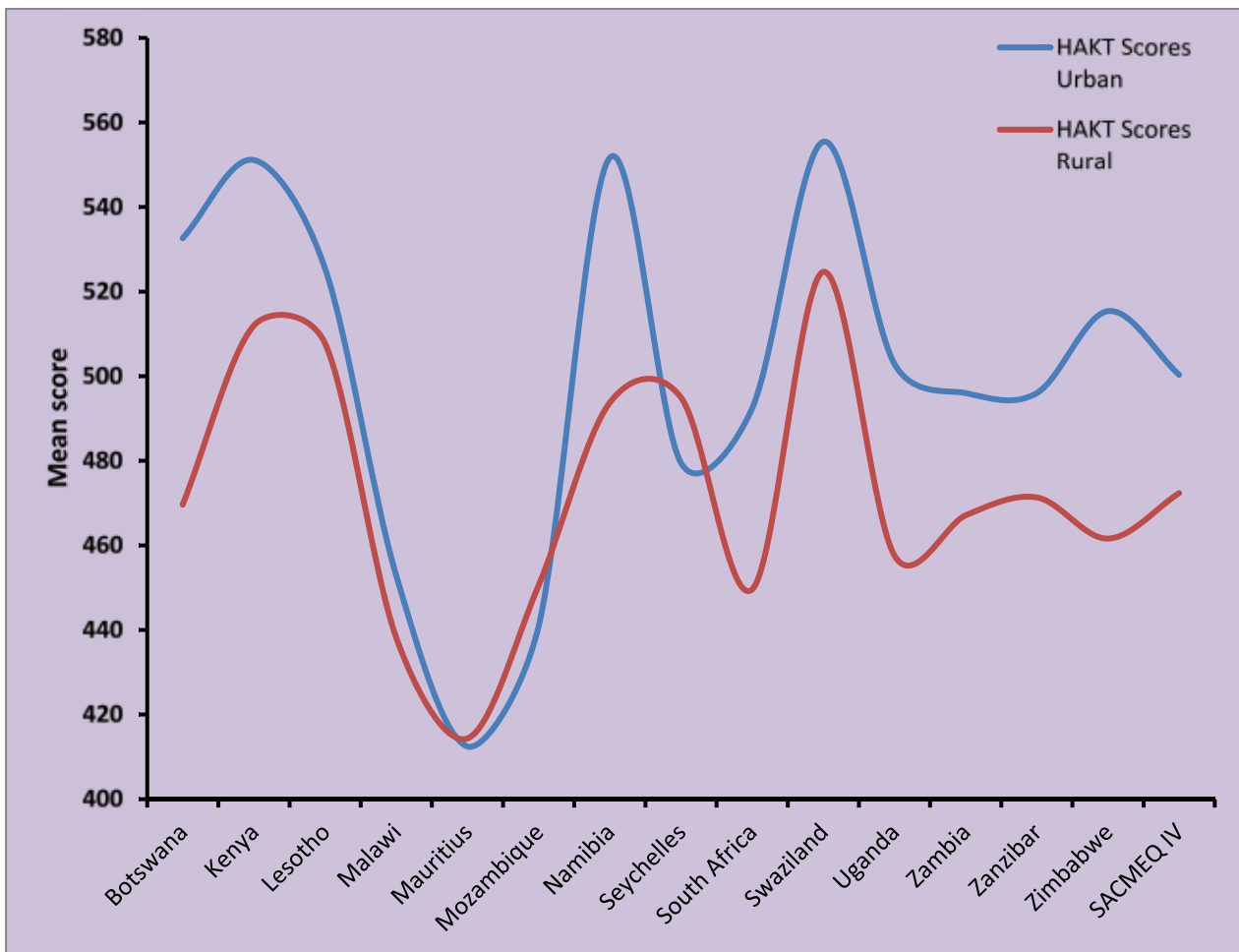


Figure 8.5: SACMEQ IV grade 6 mean scores in HAKT by location and country

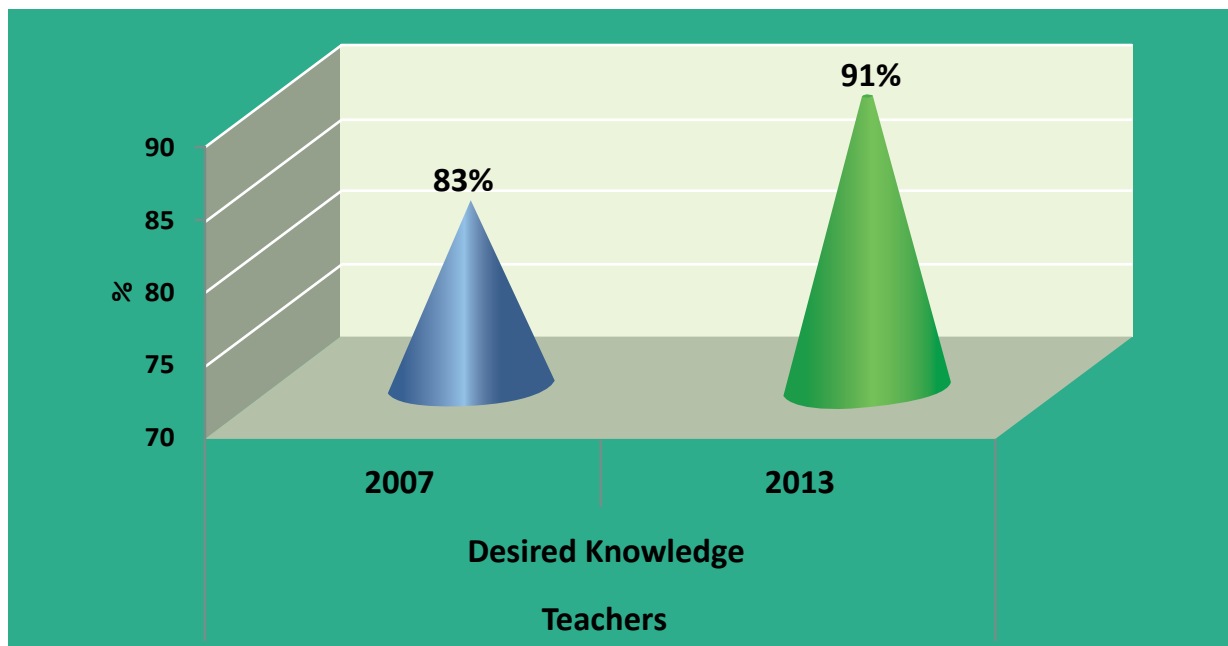


The percentage of pupils taught by teachers who have acquired desired HIV and AIDS knowledge level increased from **83%** in 2007 to **91%** in 2013 (Figure 8.6). However, there is still a marked

disparity between the percentage of pupils who have a positive attitude toward other pupils living with HIV and the proportion

of pupils whose teachers also hold such positive attitude. It is expected that the positive attitude displayed by the teachers and School Heads should rub off the pupils they teach.

Figure 8.6 Proportion of grade 6 pupils taught by teachers with desired HAK level

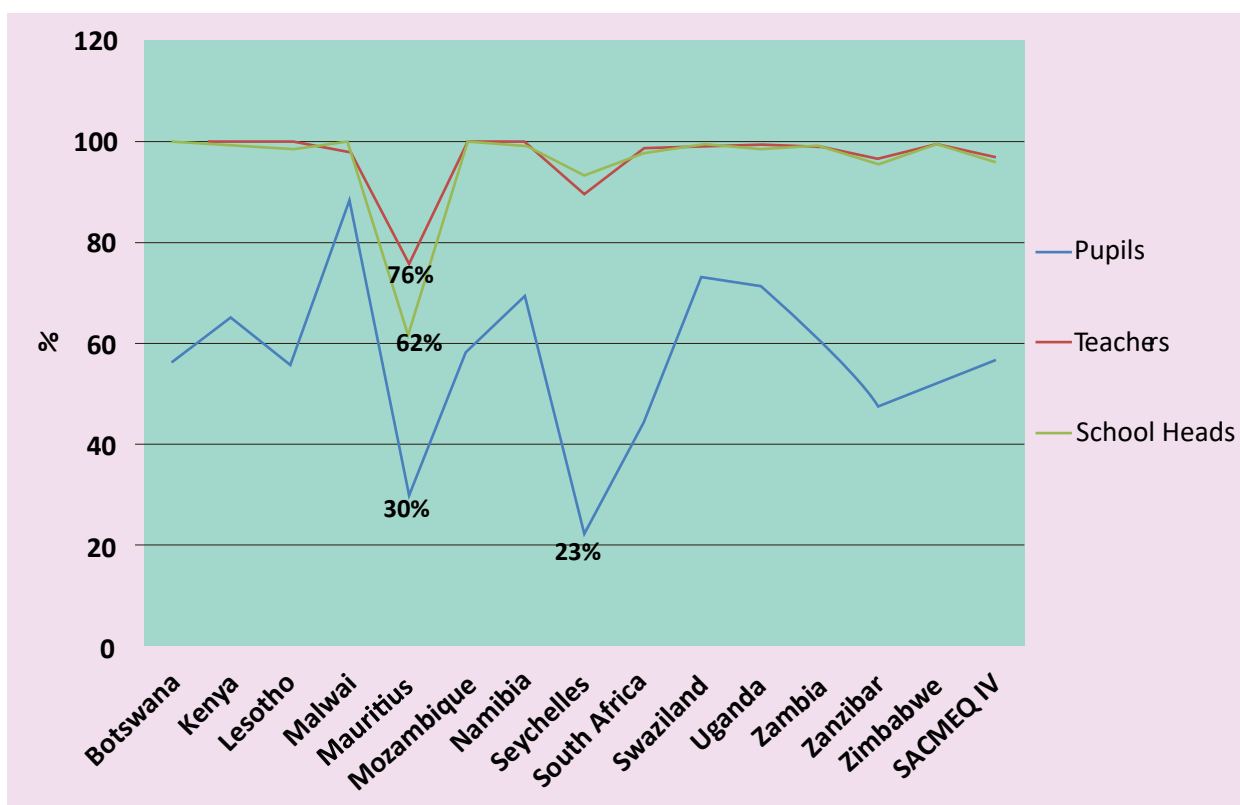


The overall results for SACMEQ IV show that 57% of grade 6 pupils display a positive attitude, and yet 97% of them have teachers

and School Heads with positive attitude toward pupils infected with HIV. The proportions of

grade 6 pupils having positive attitude toward pupils living with HIV in Seychelles and Mauritius are very low at 23% and 30%

Figure 8.7 Proportions by country of grade 6 pupils having a positive attitude toward other pupils living with HIV compared to the proportions taught by teachers and having School Heads with positive attitude toward pupils with HIV





APPENDIX

A3a: Grade 6 pupil age distribution by country and category

2013 Country	Pupil Age Distribution											
	Younger than ideal Grade 6 age		Ideal Grade 6 age		One year older than ideal Grade 6 age		Two years older than ideal Grade 6 age		Three years older than ideal Grade 6 age		More than three years older than ideal Grade 6 age	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	0.0	0.0	56.9	1.30	28.4	0.84	10.6	0.66	2.4	0.27	1.7	0.26
Kenya	0.2	0.6	32.0	1.80	26.3	2.06	21.2	0.96	11.1	0.75	9.3	0.87
Lesotho	0.0	0.0	32.7	1.40	22.0	0.77	19.8	0.76	13.3	0.68	12.3	0.80
Malawi	0.0	0.0	23.0	2.01	17.0	1.11	22.3	1.30	15.6	1.07	22.0	1.96
Mauritius	0.0	0.0	97.9	0.42	2.0	0.39	0.1	0.05	0.0	0.00	0.0	0.00
Mozambique	0.0	0.0	38.2	1.63	22.0	0.92	18.6	0.89	14.6	0.96	6.5	0.71
Namibia	0.0	0.0	23.6	0.91	27.9	0.69	21.3	0.63	13.1	0.52	14.1	0.70
Seychelles	0.0	0.0	99.2	0.31	0.8	0.31	0.0	0.00	0.0	0.00	0.0	0.00
South Africa	0.0	0.0	54.6	1.10	25.7	0.73	11.5	0.55	6.8	0.51	1.4	0.18
Swaziland	0.0	0.0	25.1	1.44	20.5	0.73	20.5	0.79	14.5	0.75	19.5	1.01
Uganda	0.0	0.3	12.9	1.02	20.9	0.96	26.6	0.84	20.6	0.84	18.9	0.96
Zambia	0.1	0.5	17.2	1.48	25.1	1.19	24.3	1.03	15.3	0.96	18.0	1.49
Zanzibar	0.0	0.0	8.2	0.71	36.6	1.43	34.4	1.97	14.2	0.98	6.6	0.72
Zimbabwe	0.0	0.0	49.2	1.43	42.6	1.24	8.1	1.53	0.0	0.03	0.0	0.00
SACMEQ IV	0.0	0.01	40.8	1.21	22.7	1.95	17.1	0.71	10.1	0.59	9.3	0.69

8.5-9.4yrs=younger than ideal Grade 6 age
***** 9.5-12.4yrs= ideal Grade 6 age**
 12.5yrs-13.4yrs=One year older than ideal Grade 6 age
 13.5yrs-14.4yrs=Two years older than ideal Grade 6 age
 14.5yrs-15.4yrs=Three years older than ideal Grade 6 age
 15.5yrs-20.4yrs=More than three years older than ideal Grade 6 age.



APPENDIX

A3b: Grade 6 pupils' meals per week by country

2013 Country	Breakfast								Lunch								Supper							
	Not at all		1 or 2 days per week		3 or 4 days per week		Everyday		Not at all		1 or 2 days per week		3 or 4 days per week		Everyday		Not at all		1 or 2 days per week		3 or 4 days per week		Everyday	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	75.7	3.24	2.0	0.36	1.4	0.30	20.9	2.82	0.5	0.13	0.8	0.18	1.6	0.31	97.1	0.50	81.3	3.04	0.8	0.18	1.5	0.29	16.3	2.70
Kenya	12.8	1.12	10.2	0.77	5.5	0.47	71.5	1.76	7.3	0.68	7.3	0.60	7.5	0.69	77.9	1.28	6.0	0.62	4.7	0.51	5.0	0.67	84.3	1.12
Lesotho	5.3	0.69	8.1	0.75	7.9	0.80	78.7	1.36	1.0	0.17	3.4	0.41	4.9	0.66	90.7	0.95	3.0	0.48	3.3	0.39	5.5	0.70	88.3	1.04
Malawi	14.1	1.41	16.5	1.78	13.1	1.10	56.3	2.55	3.8	0.56	5.5	0.64	6.8	0.81	83.3	1.47	4.8	0.63	4.4	0.67	5.2	0.66	85.6	1.35
Mauritius	4.8	0.46	7.0	0.57	5.1	0.52	83.1	1.00	1.8	0.27	5.2	0.52	4.6	0.55	88.4	0.93	2.3	0.36	4.6	0.50	4.0	0.46	89.1	0.88
Mozambique	16.4	1.33	17.6	1.05	13.2	1.83	52.9	1.68	6.8	0.93	8.8	0.74	8.9	0.70	75.5	1.55	5.7	0.83	5.2	0.53	7.1	0.70	82.1	1.30
Namibia	13.5	0.80	16.1	0.71	11.1	0.61	59.3	1.24	4.1	0.55	8.1	0.52	13.6	0.69	74.1	1.06	4.0	0.58	4.8	0.35	5.8	0.38	85.4	0.87
Seychelles	7.0	0.86	13.8	0.96	9.2	0.94	70.0	1.25	3.1	0.56	7.7	0.84	12.2	1.79	76.9	2.49	2.5	0.48	2.3	0.51	7.2	1.14	88.0	1.26
South Africa	10.0	0.59	13.3	0.56	8.5	0.39	68.2	0.94	4.5	0.46	8.1	0.51	7.7	0.43	79.6	1.03	4.5	0.43	6.1	0.41	6.2	0.35	83.2	0.86
Swaziland	10.5	0.76	12.6	0.60	10.6	0.64	66.3	1.14	6.7	1.46	5.8	0.71	15.3	1.23	72.2	1.88	3.5	0.43	4.6	0.44	7.8	0.54	84.2	0.84
Uganda	27.3	1.46	19.9	0.99	10.0	0.64	42.8	1.67	12.1	1.04	13.3	0.90	9.7	0.69	64.8	1.61	8.4	1.05	6.9	0.58	8.0	0.53	76.7	1.34
Zambia	20.7	1.60	15.4	1.17	12.3	0.99	51.5	2.08	4.0	0.71	7.8	0.81	6.0	0.58	82.2	1.40	3.4	0.44	4.5	0.62	4.4	0.48	87.7	1.01
Zanzibar	4.5	0.66	9.3	0.90	6.0	0.57	80.2	1.53	1.9	0.29	6.7	0.59	7.0	0.70	84.4	1.10	4.9	0.48	7.1	0.60	10.4	0.81	77.6	1.20
Zimbabwe	9.8	0.79	11.1	0.64	9.4	0.87	69.8	1.19	13.2	0.87	13.1	0.86	12.9	0.78	60.9	1.52	5.4	0.58	4.7	0.53	7.2	1.54	82.6	1.84
SACMEQ IV	16.6	1.13	12.3	0.85	8.8	0.69	62.2	1.59	5.1	0.62	7.3	0.63	8.5	0.76	79.2	1.34	10.0	0.75	4.6	0.49	6.1	0.66	79.4	1.26



APPENDIX

A3c: Percentage of grade 6 pupils who speak the language of instruction outside school/at home

2013	Country	Never		Often		Always	
		%	SE	%	SE	%	SE
	Botswana	19.1	1.27	77.3	1.23	3.6	0.58
	Kenya	16.3	1.13	67.9	1.42	15.7	1.09
	Lesotho	18.5	1.48	69.0	1.57	12.5	1.04
	Malawi	35.6	3.21	60.4	3.05	4.0	0.61
	Mauritius	31.7	1.57	66.4	1.59	1.9	0.28
	Mozambique	12.4	1.08	59.4	1.58	28.2	1.73
	Namibia	13.4	0.96	83.5	0.96	3.1	0.30
	Seychelles	83.9	6.71	14.8	6.20	1.3	0.65
	South Africa	11.8	0.75	74.8	1.27	13.4	1.29
	Swaziland	19.6	1.34	77.3	1.29	3.1	0.44
	Uganda	10.7	1.15	73.7	1.39	15.6	0.99
	Zambia	25.5	1.85	70.7	1.77	3.8	0.47
	Zanzibar	2.9	0.35	10.4	1.09	86.7	1.15
	Zimbabwe	22.3	1.45	73.9	1.42	3.8	0.45
	SACMEQ IV	23.1	1.73	62.8	1.84	14.1	0.79



APPENDIX

A3d: Grade 6 pupils' access to learning material and guidance

2013 Country	Pupil Sitting and Writing Place		Exercise Book, Pen_OR_Pen cil, Ruler		Own Reading Textbook		Own Math Textbook		Notebooks not marked by teacher	
	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	100.0	0.00	81.1	1.31	44.7	2.05	41.6	2.31	83.1	1.22
Kenya	83.0	1.30	89.5	0.76	20.1	1.41	14.4	1.35	74.9	2.13
Lesotho	100.0	0.00	68.2	1.88	35.4	2.58	29.7	2.45	96.5	0.47
Malawi	65.9	4.44	71.5	2.35	12.2	1.81	10.0	1.63	85.7	2.10
Mauritius	99.9	0.07	93.7	0.61	75.2	2.25	84.5	1.82	82.7	1.28
Mozambique	49.8	2.83	85.0	1.20	31.6	2.01	33.0	2.01	64.0	2.07
Namibia	98.1	0.37	74.4	1.26	56.2	2.08	63.6	2.16	77.5	1.20
Seychelles	98.5	0.38	97.3	0.61	39.5	4.24	52.1	5.68	69.7	2.83
South Africa	99.1	0.15	89.9	0.73	65.6	1.45	66.1	1.65	77.0	1.23
Swaziland	98.8	0.21	92.0	0.59	76.8	2.37	80.0	2.13	90.7	1.60
Uganda	100.0	0.00	90.0	0.75	19.4	1.15	13.4	0.95	71.9	1.58
Zambia	90.1	0.89	86.0	1.07	26.6	1.96	14.7	1.24	53.6	2.00
Zanzibar	57.3	3.46	82.8	1.19	14.0	1.30	9.3	1.02	76.8	1.44
Zimbabwe	86.3	1.20	80.0	1.25	56.6	2.30	54.7	2.32	85.0	0.97
SACMEQ IV	87.6	1.09	84.4	1.11	41.0	2.07	40.5	2.05	77.8	1.58



APPENDIX

A3e: Grade 6 pupils' homework status

2013 Country	Home work given at least once		Teacher always corrects home work		Teacher always explains home work		Family assists with home work	
	%	SE	%	SE	%	SE	%	SE
Botswana	97.2	0.39	33.8	1.46	37.8	1.62	92.0	0.74
Kenya	99.1	0.25	42.4	1.61	41.3	1.72	83.8	1.10
Lesotho	99.3	0.44	39.7	2.20	35.1	1.97	94.7	0.82
Malawi	96.4	1.54	33.8	2.67	34.0	2.79	75.1	2.20
Malawi	99.9	0.06	63.2	2.36	67.3	2.21	88.5	0.97
Mozambique	91.3	1.10	33.6	1.97	35.0	1.96	80.2	1.48
Namibia	99.6	0.15	39.4	1.67	41.0	1.67	91.2	0.66
Seychelles	100.0	0.00	69.0	3.53	47.0	3.30	96.1	0.66
South Africa	94.2	0.54	39.3	1.28	42.1	1.36	90.6	0.64
Swaziland	99.9	0.05	40.1	2.23	36.6	2.17	93.5	0.62
Uganda	87.8	1.32	31.6	1.73	29.4	1.70	73.4	1.73
Zambia	85.5	1.98	31.8	2.02	26.1	1.75	81.7	1.96
Zanzibar	97.4	0.44	44.8	2.08	26.4	2.14	86.8	1.02
Zimbabwe	99.4	0.16	41.9	2.04	45.4	1.97	94.9	0.55
SACMEQ IV	96.2	0.60	41.8	2.06	38.9	2.02	87.3	1.08



APPENDIX

A3f: Grade 6 pupils' access and borrowing from class and school libraries

2013 Country	Access to class or school library		Allowed to borrow from school library		Allowed to borrow from class library		Teachers allow pupils to borrow from class library		School Heads allow pupils to borrow from school library	
	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	91.7	2.16	41.3	3.97	76.2	2.82	76.4	2.95	32.5	3.71
Kenya	73.6	2.29	47.1	3.39	48.3	2.58	53.7	4.81	48.0	4.03
Lesotho	100.0	0.00	0.0	0.00	100.0	0.00	100.0	0.00	0.0	0.00
Malawi	30.5	4.04	25.4	3.92	20.4	3.43	22.2	4.59	25.8	4.10
Mauritius	92.0	1.20	72.0	2.39	76.7	2.87	89.3	2.82	92.5	2.41
Mozambique	32.7	2.84	13.1	2.36	13.1	1.34	6.5	1.82	13.4	2.41
Namibia	75.1	2.37	61.7	2.78	25.0	2.35	26.6	2.78	66.5	2.89
Seychelles	99.1	0.30	98.3	0.40	71.3	3.24	91.5	4.40	100.0	0.00
South Africa	62.0	2.71	39.3	2.87	51.8	2.81	66.6	2.94	40.9	2.90
Swaziland	47.6	4.13	31.3	3.90	28.2	3.70	30.0	3.99	31.6	3.99
Uganda	67.3	3.23	59.6	3.36	67.3	3.23	67.5	3.29	59.7	3.36
Zambia	53.4	2.80	29.8	2.86	32.8	2.57	40.5	4.58	18.7	3.54
Zanzibar	51.9	3.09	37.9	3.09	19.2	1.99	4.6	1.73	45.1	4.45
Zimbabwe	23.4	2.96	15.1	2.16	12.6	1.85	55.1	4.26	31.0	3.67
SACMEQ IV	64.3	2.44	40.9	2.67	45.9	2.48	52.2	3.21	43.3	2.96

APPENDIX

A3g: Distance travelled by grade 6 pupils to school by country

2013 Country	Up to 0.5km		0.5 to 1km		1 to 1.5km		1.5 to 2km		2 to 2.5km		2.5 to 3km		3 to 3.5km		3.5 to 4km		4 to 4.5km		4.5 to 5km		5 to 10km		Over 10km	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	32.5	1.33	19.5	0.90	11.9	0.59	6.0	0.42	4.7	0.36	3.9	0.37	2.6	0.27	2.2	0.23	1.8	0.24	3.2	0.37	11.5	1.18	0.0	0.00
Kenya	22.6	2.22	13.6	1.13	15.0	1.52	5.4	0.44	8.7	0.72	4.4	0.41	4.3	0.42	2.8	0.33	3.6	0.56	2.9	0.34	8.7	0.75	0.0	0.00
Lesotho	22.2	1.12	15.2	0.85	12.1	0.65	8.7	0.61	7.5	0.58	6.0	0.60	4.2	0.39	3.5	0.36	3.7	0.36	6.4	0.51	10.5	0.85	0.0	0.03
Malawi	29.6	1.95	21.7	1.99	12.6	1.15	8.6	1.31	6.8	0.92	4.2	0.68	2.9	0.49	1.7	0.28	2.4	0.46	1.4	0.32	6.5	1.07	0.0	0.04
Mauritius	31.8	1.61	17.4	1.02	10.8	0.74	6.8	0.51	4.8	0.53	3.6	0.39	2.7	0.39	2.2	0.29	2.6	0.32	2.1	0.27	9.3	1.01	0.3	0.16
Mozambique	26.7	1.15	15.9	0.79	12.5	0.68	7.2	0.59	7.2	0.61	4.6	0.47	4.0	0.40	1.9	0.26	2.9	0.35	3.2	0.33	7.9	0.70	0.7	0.28
Namibia	28.5	1.07	16.4	0.67	13.3	0.57	7.2	0.39	6.9	0.40	4.7	0.35	3.3	0.28	2.8	0.23	3.4	0.26	4.0	0.31	8.7	0.58	0.0	0.00
Seychelles	20.1	2.14	18.5	2.26	13.1	1.39	7.5	0.83	6.3	1.37	6.1	0.95	6.2	1.12	3.0	0.58	2.7	0.59	2.7	0.67	12.2	1.95	0.1	0.13
South Africa	23.0	0.92	15.1	0.67	10.4	0.48	6.9	0.37	6.2	0.36	5.4	0.34	4.2	0.35	3.5	0.27	3.1	0.25	5.0	0.38	16.7	1.07	0.0	0.00
Swaziland	21.0	0.94	14.8	0.63	13.7	0.67	7.3	0.48	8.1	0.58	4.8	0.38	5.5	0.49	3.0	0.34	4.1	0.36	4.1	0.37	13.2	0.97	0.0	0.00
Uganda	25.4	1.12	14.3	0.73	14.4	0.72	7.3	0.47	9.5	0.54	4.9	0.38	4.4	0.40	2.4	0.29	3.0	0.30	2.9	0.28	7.3	0.52	0.0	0.01
Zambia	22.0	1.21	16.8	1.12	14.5	0.94	7.4	0.68	8.0	0.64	5.6	0.58	5.4	0.72	3.4	0.43	4.0	0.46	4.2	0.64	7.3	0.78	0.0	0.00
Zanzibar	32.8	1.64	22.7	1.35	11.1	0.79	6.9	0.55	5.7	0.47	4.1	0.48	3.2	0.40	1.7	0.31	2.7	0.39	2.7	0.38	5.7	0.63	0.0	0.00
Zimbabwe	19.8	1.11	11.2	0.76	12.0	0.97	7.8	0.53	8.5	0.67	6.5	0.47	4.8	0.44	4.3	0.36	5.3	0.53	5.4	0.45	13.5	0.83	0.1	0.04
SACMEQ IV	25.6	1.40	16.6	1.06	12.7	0.85	7.2	0.58	7.1	0.62	4.9	0.49	4.1	0.47	2.7	0.33	3.2	0.39	3.6	0.40	9.9	0.92	0.1	0.05



APPENDIX

A3h: Distance walked by grade pupils to school by country

2013 Country	Walk up to 3k m		Walk 4 to 5km		Walk more than 5km	
	%	SE	%	SE	%	SE
Botswana	68.9	2.14	5.7	0.48	3.4	0.43
Kenya	60.4	1.83	9.9	0.83	7.0	0.66
Lesotho	68.2	1.61	15.8	0.87	7.9	0.66
Malawi	78.0	1.70	7.4	0.86	5.3	1.00
Mauritius	34.6	1.87	1.3	0.21	1.2	0.26
Mozambique	66.7	1.33	10.1	0.67	7.3	0.67
Namibia	70.8	1.23	11.0	0.57	6.2	0.47
Seychelles	34.4	3.43	1.8	0.44	0.4	0.22
South Africa	52.1	1.80	8.5	0.61	4.9	0.39
Swaziland	61.7	1.66	12.7	0.76	7.2	0.63
Uganda	66.5	1.22	10.3	0.61	5.8	0.46
Zambia	70.0	1.68	14.9	1.24	6.2	0.74
Zanzibar	75.6	1.53	7.5	0.68	3.8	0.43
Zimbabwe	60.6	1.27	17.5	0.90	10.4	0.71
SACMEQ IV	62.0	1.74	9.6	0.70	5.5	0.55



APPENDIX

A3i: Grade 6 pupils' home condition by country

2013 Country	Home condition index		Sources of lighting								Floor materials								Wall material								Roof materials							
			Fire/No Light		Candle/Paraffin/Oil Lamp		Gas Lamp		Electric lighting		Earth/Canvas		Wood		Cement		Carpet		Cardboard/Grass		Mud/Sticks/Stones		Metal Sheets/Wood		Cut Stones		Cardboard/Grass		Metal Sheets		Cement/Concrete		Tiles	
	Mean	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE		
Botswana	12.1	0.14	1.8	0.32	29.2	2.04	0.8	0.16	68.3	2.19	7.4	1.08	2.1	0.26	58.0	2.11	32.5	2.27	4.7	0.57	29.1	1.63	9.4	0.75	56.7	1.92	11.8	1.40	56.2	1.59	7.8	0.56	24.2	1.47
Kenya	9.8	0.17	9.2	0.88	41.3	2.26	8.0	0.69	41.5	2.59	33.3	2.09	6.5	0.63	43.4	1.79	16.8	1.53	11.0	0.96	51.5	1.74	18.6	1.45	18.9	1.92	24.5	1.65	51.7	1.76	15.6	1.12	8.3	0.78
Lesotho	10.3	0.14	1.5	0.25	64.4	2.45	2.5	0.32	31.6	2.52	24.6	1.63	3.4	0.35	43.7	1.41	28.3	1.45	4.8	0.39	51.2	1.58	5.7	0.64	38.3	1.70	30.5	1.90	45.0	1.72	6.5	0.71	18.0	1.01
Malawi	9.0	0.16	7.6	1.00	50.1	2.25	4.8	0.60	37.5	2.38	52.7	2.89	3.6	0.58	40.5	2.59	3.2	0.61	12.6	1.69	40.8	2.46	9.8	1.52	36.7	2.85	42.0	2.29	51.4	2.32	4.9	1.11	1.7	0.33
Mauritius	14.0	0.06	1.8	0.27	4.6	0.47	1.7	0.31	91.9	0.70	3.4	0.44	3.9	0.55	15.4	0.91	77.3	1.19	4.4	0.51	10.7	0.79	6.6	0.60	78.3	1.33	4.3	0.57	8.7	0.82	82.4	1.14	4.6	0.43
Mozambique	9.6	0.16	12.5	1.19	33.5	1.69	6.7	0.57	47.2	2.43	38.3	1.99	6.7	0.59	46.0	2.03	9.0	0.73	26.0	1.42	27.4	1.38	18.1	0.97	28.5	1.42	38.9	1.94	42.2	1.67	13.3	0.90	5.7	0.63
Namibia	9.5	0.11	11.8	0.89	30.5	1.33	6.2	0.51	51.5	1.56	39.0	1.56	5.7	0.47	36.3	1.38	18.9	1.26	22.2	1.27	36.2	1.28	19.0	1.03	22.5	1.28	43.0	1.43	42.9	1.36	10.4	0.63	3.7	0.30
Seychelles	13.8	0.04	0.5	0.19	0.6	0.23	0.3	0.22	98.6	0.43	0.5	0.19	1.1	0.41	6.2	0.77	92.2	0.84	1.2	0.33	6.7	0.87	11.0	1.60	81.1	2.20	2.2	0.73	83.1	2.15	9.9	1.31	4.8	0.79
South Africa	12.8	0.08	1.5	0.17	7.7	0.89	1.9	0.20	88.9	0.97	8.9	0.64	5.6	0.35	35.3	1.27	50.2	1.48	6.7	0.44	29.2	1.09	10.5	0.61	53.7	1.47	10.6	0.74	45.8	1.27	11.4	0.58	32.2	1.31
Swaziland	12.1	0.10	0.3	0.11	31.8	1.65	3.0	0.36	64.9	1.66	5.1	0.51	1.3	0.24	76.4	1.37	17.2	1.41	1.6	0.26	35.1	1.52	5.3	0.51	58.0	1.64	11.2	0.90	55.4	1.37	7.2	0.61	26.2	1.32
Uganda	8.8	0.11	12.0	0.89	58.3	1.67	4.9	0.39	24.8	1.78	43.7	1.54	8.3	0.69	40.8	1.50	7.2	0.58	16.6	1.00	46.6	1.34	12.9	0.77	23.9	1.46	37.1	1.72	47.6	1.72	11.5	0.65	3.8	0.35
Zambia	9.1	0.14	11.5	1.25	57.2	1.86	6.5	0.71	24.8	1.91	40.2	2.16	3.4	0.44	47.2	1.70	9.2	0.93	13.0	1.22	41.1	1.91	6.5	0.63	39.4	2.17	41.9	2.17	50.2	2.06	6.1	0.70	1.8	0.30
Zanzibar	10.6	0.10	1.5	0.39	47.2	2.08	0.8	0.19	50.6	2.10	15.3	1.22	1.8	0.26	76.1	1.40	6.8	0.83	1.9	0.29	47.7	1.71	4.1	0.41	46.3	1.75	18.0	1.20	74.9	1.33	5.8	0.62	1.2	0.28
Zimbabwe	9.8	0.13	15.8	1.16	50.4	1.70	2.8	0.55	31.1	2.28	22.3	1.27	4.3	0.45	62.5	1.41	11.0	1.14	8.6	1.05	40.5	1.53	10.8	0.66	40.1	1.54	33.1	1.73	55.0	1.74	7.4	0.50	4.5	0.68
SACMEQ IV	10.8	0.12	6.4	0.64	36.2	1.61	3.6	0.41	53.8	1.82	23.9	1.37	4.1	0.45	44.8	1.55	27.1	1.16	9.7	0.81	35.3	1.49	10.6	0.87	44.5	1.76	24.9	1.45	50.7	1.63	14.3	0.80	10.0	0.71



APPENDIX

A4a: Grade 6 pupil distribution by subject, teachers' academic qualification, and country

2013 Country	Reading Teachers										Mathematics Teachers										Health Teachers									
	Primary Education		Junior Secondary Education		Senior Secondary Education		A-level or further study		Tertiary Education		Primary Education		Junior Secondary Education		Senior Secondary Education		A-level or further study		Tertiary Education		Primary Education		Junior Secondary Education		Senior Secondary Education		A-level or further study		Tertiary Education	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	4.8	1.46	6.6	1.45	49.6	6.25	28.8	2.77	48.6	3.04	4.8	1.45	6.6	1.45	51.2	6.15	28.7	2.77	48.1	3.03	4.6	1.42	6.6	1.45	50.8	6.23	28.9	2.85	48.5	3.04
Kenya	8.5	1.90	3.9	1.44	67.0	6.25	45.2	4.41	17.0	3.01	8.7	2.02	3.4	1.55	67.2	6.55	48.3	4.59	14.9	3.07	7.7	2.20	0.9	1.64	71.9	7.70	48.6	4.67	20.8	3.47
Lesotho	28.2	3.68	1.6	1.13	26.4	5.55	27.3	3.41	32.1	3.69	28.6	3.68	1.7	1.28	25.1	5.01	32.8	3.76	26.9	3.35	30.7	3.68	2.4	1.16	21.8	4.57	33.0	3.51	24.7	3.28
Malawi	2.4	0.91	7.0	2.68	89.6	3.11	9.9	2.85	0.0	0.00	2.8	1.19	10.7	3.00	85.5	3.42	7.6	2.60	0.0	0.00	3.3	1.44	15.2	3.08	80.5	3.54	5.4	2.14	0.0	0.00
Mauritius	1.1	0.67	0.9	0.86	86.1	7.15	68.6	2.81	16.5	2.22	1.1	0.67	0.9	0.86	86.1	7.14	68.6	2.81	16.5	2.22	1.1	0.67	0.9	0.86	86.1	7.15	68.6	2.81	16.5	2.22
Mozambique	16.6	2.84	17.8	2.61	59.7	4.17	5.2	1.72	9.4	2.35	9.7	2.47	17.3	2.67	67.5	4.05	6.0	2.28	10.7	2.48	14.1	2.43	17.5	3.01	62.9	4.26	5.9	2.16	8.8	2.36
Namibia	5.6	1.40	3.0	1.07	78.1	4.02	32.0	2.92	28.7	2.90	10.0	1.95	6.1	1.53	62.7	4.72	23.6	2.64	33.3	3.01	8.5	1.88	6.0	1.31	67.8	4.32	24.0	2.54	31.1	2.84
Seychelles	4.0	3.48	0.0	0.00	80.8	15.53	58.9	8.78	20.4	6.60	6.8	3.87	0.0	0.00	82.9	9.15	43.3	8.22	17.0	6.31	3.5	2.07	2.6	3.16	77.5	12.06	54.9	9.54	17.9	7.60
South Africa	21.2	2.63	2.3	0.94	29.4	4.87	12.6	2.17	54.2	3.18	21.6	2.54	1.7	0.86	28.5	5.05	11.8	2.12	55.6	3.19	21.4	2.66	2.4	1.14	34.6	5.25	10.0	2.05	53.6	3.34
Swaziland	17.6	3.28	6.8	2.24	14.4	6.00	8.4	2.12	63.1	4.15	28.4	3.86	5.6	1.80	11.3	4.11	14.8	3.12	46.8	4.24	24.9	3.72	3.7	1.66	13.5	4.53	10.8	2.94	56.0	4.36
Uganda	19.6	2.81	1.5	1.10	59.6	4.76	38.4	3.52	9.3	1.89	15.8	2.55	0.0	0.00	70.8	4.22	38.2	3.48	7.7	1.85	16.2	2.67	0.4	0.45	69.1	4.47	40.3	3.47	6.1	1.60
Zambia	26.4	3.81	4.7	1.85	55.3	5.26	23.2	3.67	7.1	2.07	27.9	3.87	3.9	1.64	53.8	5.30	24.1	3.70	7.2	2.08	27.2	3.86	3.9	1.64	54.4	5.29	24.0	3.70	7.9	2.08
Zanzibar	4.9	2.10	9.9	2.34	75.3	4.77	38.1	3.99	2.0	1.00	2.3	1.16	9.3	2.46	82.9	3.87	29.1	3.70	2.9	1.62	3.9	1.84	6.3	1.98	83.9	4.12	36.6	4.22	0.0	0.00
Zimbabwe	3.1	1.19	0.8	0.76	91.0	3.14	30.1	3.37	27.6	3.07	3.0	1.17	0.8	0.79	90.8	3.28	31.5	3.31	27.1	2.89	2.9	1.21	0.8	0.76	90.9	3.23	30.2	3.36	29.2	3.21
SACMEQ IV	11.7	2.30	4.8	1.46	61.6	5.77	30.5	3.47	24.0	2.80	12.2	2.32	4.9	1.42	61.9	5.15	29.2	3.51	22.5	2.81	12.1	2.27	5.0	1.66	61.8	5.48	30.1	3.57	22.9	2.81



APPENDIX

A4b: Grade 6 teachers' access to essential teaching material by country

Country	Teacher guide (Reading)		Teacher guide (Maths)		English or Portuguese Dictionary		Classroom Library		Radio	
	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	20.4	3.04	73.6	2.72	82.3	2.51	83.8	2.65	57.7	3.55
Kenya	10.8	4.25	97.6	1.25	96.6	1.32	55.0	4.71	33.1	4.21
Lesotho	14.6	2.87	79.6	3.33	58.5	3.85	100.0	0.00	16.8	3.06
Malawi	7.1	2.62	94.0	2.53	61.1	5.03	13.7	3.76	69.9	4.83
Mauritius	98.9	0.54	98.0	1.04	100.0	0.00	92.2	2.51	95.6	1.19
Mozambique	87.3	2.59	80.8	3.27	82.9	2.88	13.2	2.53	24.9	3.53
Namibia	24.6	2.70	65.8	3.06	93.2	1.68	25.6	2.77	49.3	3.16
Seychelles	18.9	6.98	74.6	8.91	100.0	0.00	97.7	1.66	83.6	7.56
South Africa	16.2	2.44	98.4	0.80	91.2	1.83	72.1	2.81	61.3	3.13
Swaziland	3.7	1.68	98.0	1.16	92.4	2.20	31.5	4.05	8.1	2.27
Uganda	17.4	2.82	91.5	1.98	88.8	2.23	67.3	3.31	19.2	2.90
Zambia	2.9	1.12	74.8	3.73	59.1	4.28	46.2	4.65	20.3	3.39
Zanzibar	95.6	1.74	88.6	2.72	43.9	4.17	6.6	2.13	26.6	3.63
Zimbabwe	5.2	1.56	91.4	1.97	80.4	2.79	64.2	3.95	6.8	1.84
SACMEQ IV	30.3	2.64	86.2	2.75	80.7	2.48	54.9	2.96	40.9	3.45



APPENDIX

A4c: Frequency of grade 6 teachers giving classroom tests by country

2013 Country	Reading Teachers												Mathematics Teachers												Health Teachers											
	I do not test the learners		Once a year		Once per term		About two or three times per term		About two or three times per month		Once or more per week		I do not test the learners		Once a year		Once per term		About two or three times per term		About two or three times per month		Once or more per week		I do not test the learners		Once a year		Once per term		About two or three times per term		About two or three times per month		Once or more per week	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE		
Botswana	0.0	0.00	0.1	0.10	0.5	0.41	33.1	2.87	39.7	2.99	26.6	2.59	0.0	0.00	0.1	0.10	0.5	0.40	33.3	2.88	39.7	3.00	26.4	2.59	0.0	0.00	0.1	0.10	0.5	0.40	34.3	2.97	39.3	3.00	25.8	2.57
Kenya	0.0	0.00	0.0	0.00	0.7	0.48	34.5	3.97	28.7	3.96	36.0	4.44	0.7	0.64	0.0	0.00	1.4	0.66	34.2	4.20	28.6	3.73	35.1	4.65	0.2	0.54	0.0	0.00	0.3	0.21	31.8	4.72	26.1	4.22	41.6	4.25
Lesotho	0.0	0.00	0.0	0.00	1.7	1.07	8.2	2.22	25.7	3.49	64.3	3.86	0.0	0.00	1.2	1.25	3.5	1.38	8.9	2.41	26.8	3.49	59.5	3.95	0.0	0.00	0.6	0.97	1.1	0.53	8.9	2.27	28.9	3.47	60.5	3.79
Malawi	1.0	0.75	0.0	0.00	2.4	1.35	24.1	4.47	41.7	5.13	30.8	4.82	0.0	0.00	0.0	0.00	3.6	1.54	25.3	4.56	42.0	5.12	29.1	4.82	0.6	0.42	0.0	0.00	4.0	2.15	21.1	4.20	43.7	5.07	30.6	4.73
Mauritius	0.0	0.00	0.3	0.25	9.5	1.70	38.8	3.45	26.6	2.99	24.8	2.81	0.0	0.00	0.3	0.25	9.5	1.70	38.8	3.45	26.6	2.99	24.8	2.81	0.0	0.00	0.3	0.25	9.5	1.70	38.8	3.45	26.6	2.99	24.8	2.81
Mozambique	0.0	0.00	0.4	0.40	0.4	0.69	44.0	3.86	43.5	3.78	11.8	2.43	0.0	0.00	1.5	0.92	0.0	0.00	48.4	3.93	37.5	3.78	12.6	2.68	0.9	0.72	0.8	1.13	2.2	1.29	46.4	4.01	35.5	3.83	14.2	2.90
Namibia	0.3	0.43	0.0	0.00	6.8	1.71	37.8	3.09	25.5	2.88	29.6	2.85	0.0	0.00	0.4	0.21	0.0	0.00	32.8	2.97	41.3	3.15	25.5	2.79	18.8	2.48	0.4	0.21	4.2	1.16	30.8	2.94	26.0	2.65	19.8	2.34
Seychelles	0.0	0.00	0.0	0.00	1.8	1.88	68.0	9.48	20.1	9.30	10.1	4.54	0.0	0.00	0.0	0.00	0.0	0.00	75.2	7.61	13.2	6.90	11.5	3.67	0.0	0.00	4.2	0.00	7.4	7.86	58.3	10.32	16.8	7.18	13.4	6.17
South Africa	0.0	0.00	0.8	0.64	5.6	1.53	39.9	3.12	29.5	2.80	24.2	2.86	0.4	0.38	0.4	0.47	6.2	1.56	53.4	3.19	24.7	2.71	14.9	2.22	0.0	0.00	0.0	0.00	15.6	2.55	45.6	3.30	21.8	2.72	16.9	2.49
Swaziland	0.0	0.00	0.0	0.00	0.0	0.00	64.6	4.14	31.0	3.95	4.4	2.07	0.0	0.00	0.0	0.00	0.0	0.00	63.7	4.13	32.7	4.05	3.6	1.49	0.7	0.67	0.0	0.00	0.0	0.00	58.4	4.29	34.8	4.14	6.0	2.04
Uganda	0.0	0.00	0.0	0.00	3.6	1.41	40.6	3.56	27.7	3.16	28.1	3.16	0.0	0.00	0.0	0.00	4.2	1.91	34.2	3.36	30.4	3.30	31.3	3.45	0.0	0.00	0.0	0.00	3.1	1.49	41.1	3.47	26.2	3.07	29.6	3.40
Zambia	0.0	0.00	0.0	0.00	2.7	1.27	51.1	4.24	29.7	3.77	16.6	2.77	0.0	0.00	0.0	0.00	2.7	1.28	49.9	4.26	31.3	3.83	16.1	2.68	0.0	0.00	0.0	0.00	2.7	1.28	49.8	4.26	29.9	3.77	17.7	2.79
Zanzibar	0.9	0.94	0.0	0.00	18.7	3.14	24.0	3.53	20.3	3.46	36.1	3.82	0.0	0.00	1.5	0.95	24.1	3.53	23.3	3.35	21.2	3.33	29.9	3.74	0.0	0.00	0.0	0.00	19.7	3.53	15.7	2.93	23.4	3.59	41.2	4.37
Zimbabwe	0.5	0.45	0.3	0.15	0.8	0.51	7.8	1.73	57.2	3.94	33.4	4.14	0.5	0.47	0.3	0.16	0.8	0.53	7.3	1.70	59.3	3.23	31.7	3.13	0.7	0.49	0.3	0.15	0.8	0.51	8.3	1.81	56.9	4.05	33.0	4.27
SACMEQ IV	0.2	0.18	0.1	0.11	3.9	1.22	36.9	3.84	31.9	3.97	26.9	3.37	0.1	0.11	0.4	0.31	4.0	1.04	37.8	3.71	32.5	3.76	25.1	3.19	1.6	0.38	0.5	0.20	5.1	1.76	35.0	3.92	31.1	3.84	26.8	3.49



APPENDIX

A4d: Grade 6 teachers' perception on effectiveness of in-service training by country

2013 Country	Reading Teachers										Mathematics Teachers										Health Teachers									
	I did not attend any in-service training		Not effective		Reasonably effective		Effective		Very effective		I did not attend any in-service training		Not effective		Reasonably effective		Effective		Very effective		I did not attend any in-service training		Not effective		Reasonably effective		Effective		Very effective	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	45.5	3.03	2.7	0.94	11.6	1.68	22.5	2.42	17.7	2.37	45.7	3.04	2.7	0.94	12.1	1.71	22.4	2.49	17.1	2.24	45.7	3.03	2.7	0.94	12.5	1.92	21.5	2.35	17.6	2.27
Kenya	36.8	4.61	0.7	0.60	7.9	1.80	25.7	3.65	28.9	3.86	28.6	4.76	0.4	0.40	5.5	1.75	31.1	4.00	34.4	4.34	30.5	4.84	0.0	0.00	6.9	2.40	25.9	3.84	36.7	4.26
Lesotho	52.3	4.03	0.6	0.55	7.3	2.47	12.6	2.79	27.2	3.32	52.4	4.03	0.6	0.54	10.7	2.37	13.4	2.80	22.9	3.23	55.9	3.86	0.6	0.53	6.2	2.20	11.8	2.65	25.6	3.17
Malawi	40.7	5.11	1.3	0.51	18.8	4.54	23.2	4.47	16.0	4.01	41.1	5.36	1.9	1.85	16.6	4.11	26.1	4.54	14.3	3.82	40.4	5.16	1.8	1.69	18.7	4.26	25.3	4.47	13.9	3.18
Mauritius	3.0	1.17	2.9	0.94	41.0	3.55	42.9	3.44	10.2	1.93	3.0	1.17	2.9	0.94	41.0	3.55	42.9	3.44	10.2	1.93	3.0	1.17	2.9	0.94	41.0	3.55	42.9	3.44	10.2	1.93
Mozambique	38.7	3.81	1.5	1.24	8.8	2.51	29.1	3.50	21.9	3.03	40.0	3.93	1.0	0.45	10.2	2.22	30.7	3.84	18.0	2.93	44.5	4.16	0.9	1.14	10.5	2.30	25.3	3.73	18.8	3.34
Namibia	42.1	3.08	1.5	0.76	12.6	2.09	28.9	2.91	14.9	2.16	44.4	3.22	1.6	0.91	16.4	2.19	23.9	2.81	13.7	2.10	25.3	2.73	2.2	1.04	12.2	2.08	28.0	2.76	32.2	2.93
Seychelles	34.9	9.74	0.0	0.00	16.4	5.44	32.0	10.10	16.7	5.97	29.5	7.43	0.0	0.00	26.3	7.50	31.1	7.77	13.2	7.56	33.9	8.53	0.0	0.00	5.4	4.43	30.7	8.62	30.0	9.04
South Africa	8.8	1.77	6.1	1.44	30.6	2.82	33.3	3.09	21.2	2.57	12.7	2.20	7.4	1.77	25.2	2.65	36.2	3.06	18.6	2.46	15.6	2.43	4.2	1.35	26.4	2.81	35.6	3.24	18.2	2.62
Swaziland	32.0	4.14	0.3	0.30	14.0	2.98	31.4	3.98	22.3	3.57	43.0	4.33	0.7	0.67	11.3	2.36	21.8	3.52	23.2	3.59	32.3	4.28	0.0	0.00	11.5	2.36	23.1	3.57	33.1	4.13
Uganda	29.4	3.27	0.6	0.31	14.5	2.62	26.9	3.43	28.6	3.36	27.6	3.14	0.6	0.08	8.1	2.10	33.9	3.52	29.8	3.47	27.8	3.17	0.9	0.33	10.1	2.42	30.0	3.41	31.2	3.27
Zambia	36.9	4.32	0.3	0.45	7.4	2.10	24.4	3.53	31.0	3.74	39.3	4.36	0.3	0.45	6.6	2.10	23.5	3.49	30.3	3.71	39.3	4.36	0.3	0.45	6.5	2.08	23.8	3.52	30.2	3.70
Zanzibar	40.9	3.96	0.3	0.25	26.1	3.63	17.2	2.86	15.6	2.82	27.0	3.58	0.3	0.24	24.5	3.31	26.4	3.64	21.8	3.24	23.6	3.64	0.9	0.73	26.5	3.84	24.1	3.70	25.0	3.75
Zimbabwe	49.8	4.15	1.4	0.81	5.6	1.28	24.6	2.84	18.6	4.54	50.1	3.54	0.8	0.57	6.9	1.64	24.6	2.77	17.5	2.74	49.8	4.22	0.8	0.54	7.0	1.50	25.1	4.53	17.2	2.78
SACMEQ IV	35.1	4.01	1.4	0.65	15.9	2.82	26.8	3.79	20.8	3.37	34.6	3.86	1.5	0.70	15.8	2.83	27.7	3.69	20.4	3.38	33.4	3.97	1.3	0.69	14.4	2.72	26.6	3.84	24.3	3.60



APPENDIX

A4e: Grade 6 teachers' frequency of talking to parents by country

2013 Country	Reading Teachers								Mathematics Teachers								Health Teachers							
	Never		Once a year		Once per term		Once or more a month		Never		Once a year		Once per term		Once or more a month		Never		Once a year		Once per term		Once or more a month	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	2.7	0.98	0.3	0.30	61.3	3.13	35.7	3.10	2.7	0.98	0.3	0.30	61.2	3.15	35.9	3.11	2.7	0.98	0.3	0.30	61.1	3.15	35.9	3.11
Kenya	2.6	1.39	6.4	1.83	58.4	4.55	32.7	4.60	4.1	1.27	7.5	2.59	59.2	4.69	29.2	4.70	0.4	0.21	6.0	1.67	62.9	4.78	30.8	4.79
Lesotho	4.0	2.05	13.9	2.66	63.3	3.86	18.8	2.96	2.9	1.81	14.7	2.70	60.6	3.85	21.8	3.15	4.7	2.19	17.1	2.69	61.4	3.70	16.7	2.56
Malawi	2.1	1.75	7.6	3.11	42.8	5.03	47.5	5.18	4.7	2.52	7.4	2.72	34.7	4.82	53.2	5.18	1.5	1.67	7.6	2.84	41.7	4.85	49.1	5.04
Mauritius	0.7	0.57	8.7	1.64	61.1	3.37	29.5	3.12	0.7	0.57	8.7	1.64	61.1	3.37	29.5	3.12	0.7	0.57	8.7	1.64	61.1	3.37	29.5	3.12
Mozambique	0.0	0.00	1.3	0.67	48.3	3.88	50.4	3.86	0.0	0.00	3.5	1.31	44.9	3.85	51.7	3.94	0.0	0.00	4.2	1.94	43.4	4.10	52.4	4.22
Namibia	5.4	1.57	6.7	1.57	68.6	2.88	19.3	2.30	2.3	0.89	11.3	2.10	76.1	2.78	10.2	2.03	2.5	1.13	6.0	1.62	65.0	2.99	26.6	2.68
Seychelles	0.0	0.00	2.5	2.67	77.9	7.35	19.6	7.24	0.0	0.00	0.0	0.00	87.8	6.00	12.2	6.00	4.2	6.92	3.9	0.00	73.6	9.67	18.2	8.27
South Africa	0.4	0.52	4.1	1.30	73.4	2.80	22.0	2.58	1.7	1.02	5.1	1.41	74.9	2.89	18.4	2.57	0.0	0.00	4.1	1.39	72.7	3.00	23.2	2.82
Swaziland	0.8	0.64	19.9	3.51	70.9	3.90	8.5	2.31	0.7	0.40	24.1	3.73	71.2	3.89	4.0	1.56	1.5	0.77	23.6	3.71	66.1	4.12	8.9	2.56
Uganda	5.4	1.77	11.5	2.03	50.6	3.57	32.5	3.37	3.9	1.16	10.0	2.08	59.4	3.43	26.7	3.00	3.3	1.21	14.7	2.43	55.5	3.58	26.5	3.18
Zambia	0.8	0.00	1.6	1.00	56.6	4.36	41.0	4.35	1.2	0.23	1.6	1.01	55.1	4.39	42.1	4.39	1.2	0.23	1.6	1.01	55.3	4.38	41.9	4.37
Zanzibar	8.5	2.07	5.9	1.78	53.3	4.00	32.3	3.74	7.7	2.03	7.9	2.03	55.6	4.05	28.9	3.77	6.4	2.21	9.5	2.28	50.8	4.32	33.3	4.01
Zimbabwe	4.1	1.51	23.2	2.74	59.2	3.64	13.4	2.25	3.0	1.19	24.0	2.75	59.6	3.40	13.5	2.35	3.3	1.38	24.1	2.82	60.9	3.64	11.7	2.15
SACMEQ IV	2.7	1.06	8.1	1.91	60.4	4.02	28.8	3.64	2.5	1.01	9.0	1.88	61.5	3.90	26.9	3.49	2.3	1.39	9.4	1.88	59.4	4.26	28.9	3.78



APPENDIX

A4f: Mean grade 6 class size by subject and country

2013 Country	Reading		Mathematics		Health	
	Mean	SE	Mean	SE	Mean	SE
Botswana	30.1	0.42	30.1	0.42	30.1	0.42
Kenya	44.5	1.81	43.7	1.83	43.7	1.86
Lesotho	41.1	1.54	41.0	1.55	41.1	1.51
Malawi	85.7	5.15	88.9	5.62	81.1	3.96
Mauritius	31.8	0.63	31.8	0.63	31.8	0.63
Mozambique	53.8	1.07	53.6	1.09	53.9	1.09
Namibia	34.8	0.45	34.8	0.46	34.8	0.45
Seychelles	25.1	0.90	25.2	0.89	25.2	0.88
South Africa	39.2	0.72	39.3	0.73	39.4	0.76
Swaziland	37.3	0.80	37.4	0.79	37.6	0.79
Uganda	76.8	2.40	77.7	2.46	76.5	2.41
Zambia	52.6	2.45	52.4	2.46	52.7	2.45
Zanzibar	91.8	3.63	91.1	3.46	92.9	3.60
Zimbabwe	38.7	0.83	38.3	0.78	37.4	1.13
SACMEQ IV	48.8	1.63	49.0	1.65	48.4	1.57



APPENDIX

A5a: Professional characteristics of School Heads

2013 Country	Academic Education (atleast A level)		Teacher Training(at atleast 3 years)		Teacher Experience (yrs)		School Head Experience (yrs)		Management Training		Teacher Periods per week	
	%	SE	%	SE	Mean	SE	Mean	SE	%	SE	%	SE
Botswana	77.8	3.52	77.1	3.37	28.18	0.51	8.22	0.57	81.1	3.11	1.4	0.26
Kenya	72.7	3.53	43.3	4.18	22.41	0.66	9.57	0.49	87.5	3.22	22.3	0.66
Lesotho	73.5	3.59	88.0	2.42	24.71	0.81	11.69	0.71	94.8	1.83	19.4	1.06
Malawi	3.5	1.77	10.6	2.74	21.83	0.63	8.41	0.61	89.9	2.95	13.5	1.01
Mauritius	57.3	4.72	19.5	3.91	37.09	0.38	2.99	0.33	88.7	2.91	1.8	0.30
Mozambique	39.6	3.79	53.4	3.93	19.27	0.64	9.00	0.54	82.7	2.92	7.7	0.57
Namibia	64.9	2.79	89.2	1.95	23.60	0.45	9.48	0.42	82.5	2.28	12.7	0.46
Seychelles	100.0	0.00	90.2	7.02	29.60	2.48	10.58	1.65	90.5	6.66	4.2	0.69
South Africa	90.3	1.77	92.3	1.58	27.18	0.43	10.76	0.47	97.6	0.90	10.6	0.58
Swaziland	63.8	4.11	64.9	4.12	24.52	0.57	9.90	0.64	90.8	2.42	6.6	0.73
Uganda	71.0	3.09	69.2	3.21	21.65	0.54	10.39	0.52	87.3	2.34	9.3	0.58
Zambia	47.3	4.50	39.1	4.42	21.37	0.58	5.69	0.40	91.2	2.46	12.8	1.29
Zanzibar	41.5	4.29	15.5	3.23	27.27	0.70	7.03	0.50	76.6	3.81	11.8	0.66
Zimbabwe	76.1	3.36	96.1	1.52	23.69	0.63	10.07	0.72	93.3	4.13	10.9	0.78
SACMEQ IV	62.8	3.20	60.6	3.40	25.17	0.72	8.8	0.61	88.2	3.00	10.4	0.69



APPENDIX

A5b: When last school Inspection was done

2013 Country	Never		Before 2009		2009		2010		2011		2012		2013	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	9.5	2.44	28.3	3.69	7.0	2.07	5.2	1.52	5.5	1.62	26.0	3.59	18.5	3.25
Kenya	2.9	1.22	5.4	1.76	3.8	1.27	7.2	2.00	15.6	2.96	32.0	3.91	33.0	3.98
Lesotho	4.1	1.47	7.5	2.11	5.9	1.93	5.4	1.80	7.6	2.28	22.5	3.35	47.1	4.07
Malawi	10.1	2.89	5.5	2.07	3.7	1.67	6.3	2.53	12.2	2.94	33.3	4.43	28.9	4.62
Mauritius	1.0	0.96	0.7	0.68	0.0	0.00	1.4	0.96	25.7	4.11	53.8	4.70	17.4	3.46
Mozambique	18.5	3.04	6.4	1.89	3.2	1.37	5.3	1.87	10.7	2.44	19.1	3.07	36.8	3.82
Namibia	27.4	2.79	23.5	2.72	9.4	1.81	6.2	1.55	10.9	1.94	14.2	2.08	8.3	1.60
Seychelles	6.8	6.52	3.4	3.35	4.4	4.30	0.0	0.00	27.8	9.75	23.9	9.46	33.7	9.96
South Africa	22.3	2.60	20.2	2.57	6.4	1.58	3.6	1.25	5.3	1.53	23.8	2.70	18.4	2.46
Swaziland	9.6	2.46	12.5	2.84	8.2	2.40	8.4	2.46	22.0	3.47	31.6	3.96	7.7	2.27
Uganda	3.4	1.22	2.2	1.34	0.6	0.61	0.8	0.50	4.6	1.46	25.1	3.05	63.4	3.42
Zambia	5.4	1.84	8.8	2.54	4.8	1.95	5.3	1.86	5.1	1.96	36.1	4.44	34.6	4.36
Zanzibar	3.7	1.78	11.8	2.97	6.6	2.27	6.6	2.28	18.1	3.47	34.6	4.29	18.6	3.32
Zimbabwe	3.1	1.30	17.6	3.05	3.5	1.42	4.8	1.56	10.4	2.30	26.8	3.52	33.8	4.42
SACMEQ IV	9.1	2.32	11.0	2.40	4.8	1.76	4.7	1.58	13.0	3.02	28.8	4.04	28.6	3.93



APPENDIX

A6a: Essential Resource Distribution by Country

2013 Country	Schools with the resource																									
	Teacher's Guide English or Portuguese		Teacher's Guide Mathematics		English or Portuguese Dictionary		Exercise Book, Pen_OR_Pencil, Ruler		Pupils own Reading Textbook		Pupils own mathematics Textbook		Reading Teacher Writing Board		Pupil Sitting And Writing Place		Teacher Table And Chair		Library (Class, School_OR_Both)		School-Radio		School-Water		School-Computer	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	20.4	3.04	73.6	2.72	82.3	2.51	81.1	1.31	44.7	2.05	41.6	2.31	96.5	0.93	100.0	0.00	89.7	1.88	90.9	2.23	89.3	2.74	93.8	2.16	95.6	1.27
Kenya	10.8	4.25	97.6	1.25	96.6	1.32	89.5	0.76	20.1	1.41	14.4	1.35	98.2	1.43	83.0	1.30	61.3	4.56	75.1	3.90	57.8	4.28	84.7	2.80	19.7	3.10
Lesotho	14.6	2.87	79.6	3.33	58.5	3.85	68.2	1.88	35.4	2.58	29.7	2.45	100.0	0.00	100.0	0.00	100.0	0.00	100.0	0.00	35.9	3.97	76.6	3.43	11.5	2.66
Malawi	7.1	2.62	94.0	2.53	61.1	5.03	71.5	2.35	12.2	1.81	10.0	1.63	98.8	0.86	65.9	4.44	54.9	5.44	31.7	5.07	87.0	3.47	71.7	4.36	9.1	2.69
Mauritius	98.9	0.54	98.0	1.04	100.0	0.00	93.7	0.61	75.2	2.25	84.5	1.82	99.6	0.40	99.9	0.07	99.0	0.57	99.1	0.85	100.0	0.00	99.4	0.63	100.0	0.00
Mozambique	87.3	2.59	80.8	3.27	82.9	2.88	85.0	1.20	31.6	2.01	33.0	2.01	90.0	2.52	49.8	2.83	66.3	3.65	29.6	3.65	28.3	3.52	63.0	3.67	42.3	3.70
Namibia	24.6	2.70	65.8	3.06	93.2	1.68	74.4	1.26	56.2	2.08	63.6	2.16	96.8	1.20	98.1	0.37	63.5	2.84	80.1	2.62	63.9	2.90	92.7	1.64	86.2	2.06
Seychelles	18.9	6.98	74.6	8.91	100.0	0.00	97.3	0.61	39.5	4.24	52.1	5.68	100.0	0.00	98.5	0.38	96.7	3.23	100.0	0.00	100.0	0.00	100.0	0.00	100.0	0.00
South Africa	16.2	2.44	98.4	0.80	91.2	1.83	89.9	0.73	65.6	1.45	66.1	1.65	100.0	0.00	99.1	0.15	86.4	2.17	74.8	2.74	81.1	2.32	93.2	1.60	97.6	0.90
Swaziland	3.7	1.68	98.0	1.16	92.4	2.20	92.0	0.59	76.8	2.37	80.0	2.13	98.8	0.85	98.8	0.21	82.9	3.22	49.8	4.32	15.3	3.11	94.3	2.01	89.8	2.54
Uganda	17.4	2.82	91.5	1.98	88.8	2.23	90.0	0.75	19.4	1.15	13.4	0.95	92.0	1.90	100.0	0.00	57.2	3.77	67.2	3.32	32.3	3.23	75.4	2.98	10.6	2.13
Zambia	2.9	1.12	74.8	3.73	59.1	4.28	86.0	1.07	26.6	1.96	14.7	1.24	99.0	0.61	90.1	0.89	54.6	4.53	54.0	4.76	55.7	4.50	83.8	3.37	23.5	3.81
Zanzibar	95.6	1.74	88.6	2.72	43.9	4.17	82.8	1.19	14.0	1.30	9.3	1.02	96.9	1.40	57.3	3.46	82.2	3.33	50.7	4.52	58.3	4.40	86.6	3.03	66.9	3.88
Zimbabwe	5.2	1.56	91.4	1.97	80.4	2.79	80.0	1.25	56.6	2.30	54.7	2.32	97.8	0.96	86.3	1.20	68.7	4.85	74.9	3.49	16.6	2.93	69.8	4.48	45.4	4.06
SACMEQ IV	30.3	2.64	86.2	2.75	80.7	2.48	84.4	1.11	41.0	2.07	40.5	2.05	97.5	0.93	87.6	1.09	76.0	3.15	69.8	2.96	58.7	2.96	84.6	2.58	57.0	2.34



APPENDIX

A6b: Desirable Resource Distribution by Country

2013 Country	Schools with the resource																											
	Good School Buildings Condition		School Head Office		School-Staff Room		School-Hall		Reading Teacher - Cupboard		Reading Teacher - Bookshelf		School-Fence		School-TV		School-Photocopier		School-Sports Ground		School-Telephone		School-Electricity		School-Computer		School-Fax Machine	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	67.0	3.82	76.1	3.48	70.6	3.75	23.8	3.64	43.8	3.61	73.9	2.72	94.8	1.54	93.0	2.18	82.9	3.08	77.6	3.25	88.7	2.75	100.0	0.00	95.6	1.27	85.5	2.73
Kenya	46.0	4.21	71.8	3.49	86.3	2.66	15.2	3.38	34.6	4.84	28.4	4.97	79.2	3.13	8.6	2.08	11.0	2.37	92.9	1.92	13.3	2.53	43.4	4.01	19.7	3.10	1.3	0.69
Lesotho	42.8	4.06	52.4	4.06	30.5	3.79	14.3	3.05	100.0	0.00	100.0	0.00	30.6	3.79	6.1	2.10	7.8	2.29	68.7	3.67	14.5	2.94	23.0	3.56	11.5	2.66	2.1	1.24
Malawi	49.3	4.80	46.8	4.79	45.4	4.82	5.6	2.13	42.2	5.36	17.5	3.99	20.8	3.94	1.2	1.16	3.3	1.95	85.5	3.48	8.2	2.61	23.1	4.00	9.1	2.69	0.0	0.00
Mauritius	86.2	3.44	83.8	3.34	77.5	4.00	23.7	4.12	95.5	1.60	94.5	1.70	98.1	1.18	100.0	0.00	100.0	0.00	75.4	4.12	99.3	0.74	100.0	0.00	100.0	0.00	96.1	1.96
Mozambique	54.0	3.77	90.3	2.29	49.8	3.82	2.8	1.17	26.3	3.56	28.7	3.71	36.0	3.62	23.1	3.31	13.4	2.64	82.5	3.10	15.0	2.67	55.4	3.74	42.3	3.70	0.7	0.75
Namibia	49.3	3.08	67.7	2.79	61.5	2.79	20.1	2.21	71.8	2.75	36.7	2.92	87.9	1.88	57.0	2.95	88.8	1.90	73.5	2.76	72.6	2.54	91.6	1.71	86.2	2.06	56.2	2.65
Seychelles	72.8	9.87	100.0	0.00	95.6	4.30	42.5	10.63	94.6	3.75	95.3	3.50	92.2	5.37	100.0	0.00	100.0	0.00	87.6	7.38	100.0	0.00	100.0	0.00	100.0	0.00	74.0	10.18
South Africa	61.2	2.95	76.9	2.49	67.7	2.81	33.2	2.85	84.9	2.26	56.7	3.16	94.9	1.30	87.0	2.03	99.5	0.32	68.1	2.85	74.6	2.55	100.0	0.00	97.6	0.90	63.4	2.76
Swaziland	51.3	4.29	78.4	3.52	69.7	3.94	23.7	3.54	63.9	4.20	38.0	4.23	85.5	3.00	19.4	3.45	94.0	2.00	71.9	3.82	63.1	4.15	100.0	0.00	89.8	2.54	26.4	3.73
Uganda	39.0	3.36	72.3	3.09	41.0	3.22	21.8	2.79	29.2	3.49	22.4	3.11	38.1	3.26	13.7	2.39	6.8	1.72	80.3	2.77	19.3	2.76	27.6	3.02	10.6	2.13	0.3	0.35
Zambia	47.0	4.52	82.2	3.34	41.2	4.41	4.9	1.86	23.2	3.70	33.2	4.30	23.9	3.64	17.2	3.38	17.3	3.33	94.5	1.87	14.0	3.12	41.7	4.34	23.5	3.81	1.0	0.96
Zanzibar	54.5	4.46	83.7	3.13	53.9	4.43	12.1	2.93	13.7	2.84	8.8	2.45	15.7	3.29	28.9	4.12	13.1	3.05	54.9	4.46	25.7	3.92	92.2	2.40	66.9	3.88	1.9	1.33
Zimbabwe	51.6	4.30	65.8	3.86	19.9	3.04	13.6	2.69	43.3	4.33	43.4	4.48	54.9	4.32	17.8	2.86	25.4	3.31	85.8	2.79	37.0	3.85	51.2	4.29	45.4	4.06	5.7	1.78
SACMEQ IV	55.2	4.35	74.9	3.12	57.9	3.70	18.4	3.36	54.8	3.31	48.4	3.23	60.9	3.09	40.9	2.29	47.4	2.00	78.5	3.44	46.1	2.65	67.8	2.22	57.0	2.34	29.6	2.22



APPENDIX

A6c: Human Resource Distribution by Country

2013	Country	Schools with the resource																					
		Female School Head		School Head Qualification - Senior Sec_OR_More		School Head Management Course		Female Reading Teacher		Reading Teacher Attended Inservice Course		Reading Teacher - Pre-service Training 2yrs_OR_More		Teacher Reading Mastery		Teacher Mathematics Mastery		Reading Class Size is less than 41 pupils		School Has Teacher With Special Training On HIV_AIDS		Teacher Class Attendance	
		%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
	Botswana	71.3	3.65	81.5	3.27	81.1	3.11	59.3	2.87	55.0	3.03	90.7	1.65	46.5	3.09	44.1	3.02	98.9	0.64	54.4	4.07	93.6	2.13
	Kenya	18.1	3.71	99.4	0.38	87.5	3.22	45.9	4.44	60.4	4.61	90.0	2.72	41.5	4.34	94.8	1.86	45.1	4.32	71.7	3.88	86.1	2.75
	Lesotho	65.6	3.86	76.1	3.46	94.8	1.83	63.6	3.82	49.2	4.03	77.7	3.25	14.6	2.76	19.9	3.19	57.7	4.00	86.1	2.71	84.5	2.89
	Malawi	20.0	4.00	91.4	2.69	89.9	2.95	28.4	4.62	61.6	5.08	88.5	3.15	20.0	4.32	33.8	5.04	10.0	2.86	40.6	4.65	80.9	3.63
	Mauritius	54.2	4.63	99.3	0.73	88.7	2.91	54.1	3.41	97.0	1.16	91.3	2.17	x	x	x	x	93.7	2.05	6.3	2.26	95.7	1.74
	Mozambique	25.3	3.42	87.3	2.48	82.7	2.92	41.6	3.85	60.0	3.79	63.2	3.74	9.1	2.12	20.7	3.24	16.3	2.63	71.8	3.49	90.8	2.09
	Namibia	40.3	3.07	91.5	1.73	82.5	2.28	65.7	2.93	56.9	3.07	90.3	1.87	31.7	2.91	37.0	3.05	79.6	2.44	74.8	2.60	87.1	2.12
	Seychelles	84.9	8.29	100.0	0.00	90.5	6.66	95.6	3.01	65.6	8.94	96.2	2.64	64.2	9.85	58.3	8.26	100.0	0.00	58.6	10.86	79.0	7.97
	South Africa	33.4	2.88	93.4	1.47	97.6	0.90	68.4	2.97	91.1	1.81	92.4	1.68	37.2	3.10	40.8	3.20	58.2	3.03	71.7	2.66	91.9	1.69
	Swaziland	42.7	4.23	73.4	3.77	90.8	2.42	66.6	4.07	67.4	4.14	86.6	2.96	39.2	4.23	62.2	4.19	63.2	4.05	65.6	3.91	89.8	2.56
	Uganda	25.0	2.94	94.9	1.46	87.3	2.34	33.4	3.27	71.6	3.26	94.2	1.66	23.7	3.00	77.1	2.98	12.8	2.07	69.6	3.17	61.4	3.26
	Zambia	26.5	3.92	87.0	2.88	91.2	2.46	55.3	4.32	62.1	4.29	85.0	3.33	25.9	3.58	19.8	3.36	34.3	4.23	52.9	4.45	91.8	2.31
	Zanzibar	34.8	4.19	100.0	0.00	76.6	3.81	80.6	3.21	56.6	3.97	96.8	1.38	9.6	2.62	12.6	2.69	9.8	2.09	71.2	4.06	x	x
	Zimbabwe	25.4	3.46	97.9	1.04	93.3	4.13	29.6	3.29	49.5	4.13	88.5	2.34	62.3	3.52	86.7	2.22	50.3	4.28	54.0	4.30	84.2	2.92
	SACMEQ IV	40.5	4.02	90.9	1.81	88.2	3.00	56.3	3.58	64.6	3.95	87.9	2.47	32.7	3.80	46.8	3.56	52.1	2.76	60.7	4.08	85.9	2.93



APPENDIX

A7a: Grade 6 pupils reading achievement by country

Country	Transformed Scores		Reading Skills Acceptable		Reading Level1		Reading Level2		Reading Level3		Reading Level4		Reading Level5		Reading Level6		Reading Level7		Reading Level8	
	Mean	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	567.1	5.21	84.9	0.97	2.0	0.27	5.0	0.40	8.1	0.61	16.4	1.03	20.2	0.85	17.3	0.78	20.4	1.15	10.6	1.32
Kenya	576.8	5.22	92.1	0.94	0.7	0.16	2.2	0.32	5.0	0.64	14.5	1.13	24.3	0.98	21.0	1.01	23.4	1.39	9.0	1.41
Lesotho	510.7	3.89	77.3	1.55	1.0	0.21	6.5	0.63	15.3	1.02	28.8	1.12	28.3	1.09	13.6	1.01	4.6	0.62	2.0	0.68
Malawi	457.7	3.91	45.2	2.43	5.6	0.73	20.6	1.52	28.6	1.41	29.9	1.43	9.7	1.07	3.2	0.62	2.1	0.77	0.3	0.19
Mauritius	587.8	5.25	88.2	0.92	1.6	0.23	4.3	0.49	5.9	0.60	12.9	0.91	17.2	0.94	18.1	0.80	26.0	1.24	14.1	1.34
Mozambique	484.9	4.53	62.7	2.06	6.7	0.89	13.5	1.04	17.1	0.96	26.4	1.33	18.9	1.12	11.1	1.10	5.1	0.90	1.2	0.54
Namibia	537.8	2.90	83.6	0.80	1.0	0.13	2.7	0.24	12.7	0.64	22.3	0.82	26.3	0.78	18.6	0.68	12.4	0.80	3.9	0.51
Seychelles	608.9	11.43	89.5	1.20	0.9	0.26	3.4	0.52	6.3	0.80	9.7	1.18	12.4	1.30	19.3	1.60	28.9	1.54	19.3	3.62
South Africa	538.3	4.26	75.3	1.23	2.9	0.28	6.0	0.43	15.8	0.78	18.1	0.74	21.1	0.71	13.7	0.60	15.3	0.92	7.1	0.91
Swaziland	570.1	3.36	95.8	0.60	0.1	0.06	0.6	0.21	3.4	0.50	11.6	0.82	33.0	1.19	29.1	1.00	18.8	1.22	3.4	0.76
Uganda	512.0	4.48	70.1	1.73	3.7	0.46	8.2	0.69	18.0	1.04	19.5	0.82	22.4	0.94	15.9	0.92	9.8	1.06	2.4	0.47
Zambia	456.1	3.88	41.8	1.97	9.0	0.71	23.6	1.18	25.6	1.16	21.0	0.82	11.3	1.04	5.1	0.63	3.8	0.75	0.6	0.22
Zanzibar	525.7	2.84	82.6	1.11	3.5	0.38	5.0	0.50	8.9	0.68	22.1	1.02	26.3	0.99	22.1	0.96	11.1	1.06	1.1	0.25
Zimbabwe	508.4	5.50	68.9	1.96	4.7	0.69	12.0	1.04	14.5	0.76	23.4	0.90	18.8	1.00	12.6	0.78	10.4	1.12	3.6	0.73
SACMEQ IV	531.6	4.76	75.6	1.39	3.1	0.39	8.1	0.66	13.2	0.83	19.8	1.01	20.7	1.00	15.8	0.89	13.7	1.04	5.6	0.93



APPENDIX

A7b: Grade 6 pupils reading achievement by gender and country

Country	Transformed Scores				Acceptable Reading Skills				Reading Level 1				Reading Level 2				Reading Level 3				Reading Level 4				Reading Level 5				Reading Level 6				Reading Level 7				Reading Level 8			
	Boys		Girls		Boys		Girls		Boys		Girls		Boys		Girls		Boys		Girls		Boys		Girls		Boys		Girls		Boys		Girls		Boys		Girls					
	Mean	SE	Mean	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%							
Botswana	550.4	5.73	584.9	5.21	78.5	1.35	91.6	0.87	2.9	0.48	0.9	0.24	7.5	0.66	2.4	0.34	11.0	0.82	5.1	0.64	18.3	1.22	14.4	1.21	19.4	1.01	21.1	1.20	14.4	0.92	20.4	1.10	16.5	1.20	24.4	1.50	10.0	1.40	11.4	1.43
Kenya	579.6	5.74	574.1	5.11	91.4	1.07	92.7	1.11	0.8	0.20	0.6	0.18	2.3	0.39	2.2	0.40	5.5	0.77	4.5	0.75	14.7	1.46	14.2	1.21	21.5	1.17	27.0	1.27	21.3	1.60	20.7	1.25	23.4	1.64	23.3	1.51	10.5	1.89	7.5	1.07
Lesotho	508.2	5.17	512.7	3.51	74.2	1.93	79.7	1.69	1.2	0.33	0.8	0.25	8.1	0.97	5.2	0.64	16.6	1.21	14.2	1.16	28.8	1.51	28.8	1.32	25.8	1.29	30.3	1.29	11.5	1.14	15.3	1.20	5.5	0.87	3.9	0.58	2.6	0.97	1.5	0.51
Malawi	461.5	4.53	453.9	4.39	47.7	2.88	42.8	2.65	6.2	0.97	5.0	0.75	18.4	1.66	22.8	2.05	27.8	1.82	29.5	1.84	29.9	1.94	30.0	1.85	11.4	1.50	8.0	1.13	3.6	0.77	2.8	0.68	2.6	1.02	1.5	0.80	0.1	0.10	0.4	0.37
Mauritius	573.9	5.74	602.7	5.46	84.3	1.25	92.3	0.91	2.0	0.33	1.2	0.30	5.4	0.67	3.1	0.53	8.3	0.88	3.4	0.53	14.3	1.09	11.4	1.09	16.5	1.19	17.8	1.16	17.8	1.06	18.3	1.03	23.6	1.50	28.4	1.46	12.1	1.37	16.3	1.66
Mozambique	487.8	4.93	485.7	4.85	64.5	2.31	62.7	2.30	5.0	0.81	7.4	1.04	12.1	1.15	14.4	1.30	18.4	1.30	15.5	1.15	28.0	1.68	24.9	1.49	19.1	1.36	19.4	1.46	10.9	1.22	11.9	1.27	5.3	1.13	5.2	0.88	1.2	0.52	1.4	0.64
Namibia	529.4	3.24	546.3	2.95	80.2	1.04	87.1	0.76	1.4	0.21	0.7	0.14	3.4	0.37	1.9	0.27	15.1	0.82	10.2	0.66	23.3	0.97	21.4	0.97	26.0	0.97	26.7	0.98	16.2	0.78	21.0	0.90	11.5	0.91	13.4	0.89	3.2	0.59	4.7	0.57
Seychelles	580.1	12.14	639.4	10.67	84.2	1.60	95.2	0.89	1.2	0.44	0.4	0.23	5.6	0.85	1.0	0.37	9.0	1.02	3.4	0.80	13.6	1.71	5.4	1.02	16.4	1.49	8.5	1.55	19.0	1.70	20.1	2.28	20.4	1.69	37.3	2.02	14.8	3.19	24.0	4.24
South Africa	528.2	4.59	548.7	4.24	70.4	1.50	80.3	1.15	3.9	0.41	1.8	0.28	7.7	0.59	4.3	0.44	18.0	0.97	13.6	0.82	17.5	0.82	18.7	0.98	20.3	0.85	22.0	0.90	12.3	0.70	15.1	0.78	14.2	1.03	16.4	1.06	6.0	0.91	8.2	1.01
Swaziland	567.1	3.45	573.1	3.81	95.4	0.77	96.4	0.75	0.2	0.12	0.0	0.00	0.9	0.29	0.4	0.18	3.5	0.66	3.2	0.64	12.4	0.99	10.8	1.03	33.9	1.43	32.3	1.46	27.3	1.28	30.7	1.36	18.7	1.47	18.8	1.36	3.1	0.71	3.7	0.95
Uganda	518.6	5.00	506.5	4.46	71.7	1.94	68.8	1.86	3.5	0.51	3.8	0.65	8.1	0.89	8.0	0.83	16.7	1.15	19.3	1.24	18.2	0.95	20.6	1.05	22.5	1.15	22.4	1.13	16.8	1.08	15.4	1.10	10.8	1.16	8.9	1.13	3.4	0.63	1.6	0.39
Zambia	455.4	4.51	457.2	3.88	41.5	2.33	42.4	2.17	9.2	0.90	8.6	0.95	24.1	1.42	23.0	1.43	25.2	1.41	26.1	1.50	21.2	1.05	20.9	1.29	10.7	1.14	12.0	1.31	4.8	0.84	5.3	0.70	4.3	0.92	3.4	0.75	0.6	0.25	0.7	0.29
Zanzibar	523.9	3.11	527.2	3.37	81.8	1.39	83.4	1.33	3.7	0.52	3.4	0.51	5.1	0.65	4.8	0.64	9.4	1.01	8.4	0.87	22.0	1.39	22.2	1.29	25.8	1.29	26.8	1.29	23.0	1.50	21.3	1.16	10.0	1.11	12.0	1.32	0.9	0.30	1.2	0.33
Zimbabwe	499.6	5.46	517.4	6.09	63.5	2.41	74.4	1.91	5.4	0.64	4.0	1.05	14.4	1.32	9.4	1.09	16.7	1.21	12.2	1.11	22.6	1.10	24.4	1.42	16.2	1.06	21.4	1.42	11.5	0.99	13.8	0.93	9.6	1.11	11.2	1.33	3.6	0.75	3.6	0.80
SACMEQ IV	526.0	5.24	537.8	4.86	73.5	1.70	77.9	1.45	3.3	0.49	2.8	0.47	8.8	0.85	7.3	0.75	14.4	1.08	12.0	0.98	20.3	1.28	19.1	1.23	20.4	1.21	21.1	1.25	15.0	1.11	16.6	1.13	12.6	1.20	14.9	1.18	5.2	0.97	6.1	1.02



APPENDIX

A7c: Grade 6 pupils reading achievement by SES and country

Country	Transformed Scores				Acceptable Reading Skills				Reading Level 1				Reading Level 2				Reading Level 3				Reading Level 4				Reading Level 5				Reading Level 6				Reading Level 7				Reading Level 8			
	Low SES		High SES		Low SES		High SES		Low SES		High SES		Low SES		High SES		Low SES		High SES		Low SES		High SES		Low SES		High SES		Low SES		High SES		Low SES		High SES					
	Mean	SE	Mean	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%							
Botswana	538.9	3.97	601.4	6.49	81.4	1.37	90.4	0.89	2.5	0.44	0.8	0.22	6.0	0.55	3.5	0.48	10.1	0.83	5.3	0.63	21.3	1.34	10.6	1.00	24.3	1.01	16.7	1.18	16.5	1.09	18.8	1.20	14.1	1.07	27.7	1.41	5.2	0.71	16.6	2.11
Kenya	566.2	4.95	589.9	6.49	90.9	1.24	93.5	1.05	0.7	0.24	0.4	0.17	2.2	0.45	2.3	0.38	6.2	0.87	3.8	0.70	16.4	1.24	12.2	1.42	26.2	1.45	21.9	1.42	21.0	1.32	21.4	1.64	20.6	1.70	26.5	1.81	6.7	0.99	11.5	2.07
Lesotho	497.2	2.77	524.8	6.00	73.6	1.88	81.2	1.71	1.5	0.36	0.5	0.17	7.1	0.79	5.9	0.77	17.9	1.27	12.4	1.18	31.3	1.18	26.1	1.57	28.3	1.33	28.3	1.51	11.0	0.99	16.4	1.36	2.7	0.39	6.6	1.02	0.3	0.12	3.9	1.33
Malawi	452.8	3.33	470.3	6.71	43.2	2.61	51.7	3.41	5.9	0.87	4.2	1.00	21.6	1.60	16.4	1.81	29.4	1.87	27.7	2.25	31.0	1.96	30.2	2.01	8.4	1.18	12.1	1.76	2.0	0.45	5.5	1.17	1.5	0.89	3.4	1.47	0.1	0.09	0.6	0.47
Mauritius	568.5	4.91	621.7	5.67	86.1	1.16	94.2	0.84	2.1	0.36	0.3	0.16	4.7	0.62	2.3	0.47	7.1	0.82	3.2	0.59	14.1	1.09	10.4	1.20	22.0	1.26	12.4	1.05	18.3	1.01	18.3	1.29	22.9	1.48	31.9	1.48	8.7	1.12	21.3	1.90
Mozambique	485.7	6.48	504.8	4.53	61.8	2.79	73.6	2.22	6.2	1.18	3.4	0.72	14.9	1.81	9.3	1.20	17.1	1.37	13.7	1.31	27.7	2.12	25.4	1.63	16.8	1.72	25.2	1.61	10.3	1.80	15.3	1.44	5.2	1.54	6.5	0.93	1.8	1.10	1.2	0.47
Namibia	512.6	2.13	569.0	4.16	79.3	1.15	89.5	0.77	1.2	0.22	0.7	0.17	3.8	0.40	1.1	0.20	15.7	0.92	8.7	0.67	28.2	1.00	15.2	0.97	29.2	1.01	23.5	1.11	15.0	0.80	23.0	0.93	5.8	0.54	20.4	1.27	1.0	0.23	7.4	0.91
Seychelles	589.9	7.20	622.7	13.95	88.1	1.55	90.9	1.52	0.7	0.40	0.8	0.37	4.7	0.89	2.4	0.66	6.5	1.17	5.8	1.01	12.1	1.58	7.6	1.36	13.7	1.86	11.4	1.77	20.1	2.31	19.4	1.97	29.3	2.79	29.3	1.38	12.9	2.59	23.2	4.79
South Africa	511.7	3.20	569.3	5.66	70.1	1.45	82.5	1.23	3.6	0.39	1.8	0.27	7.2	0.60	4.1	0.45	19.1	0.95	11.7	0.85	21.7	0.99	14.4	0.87	22.6	0.90	20.0	1.04	13.1	0.82	14.9	0.78	10.5	0.85	20.8	1.28	2.2	0.35	12.2	1.55
Swaziland	559.6	3.19	583.1	4.46	94.7	0.87	97.3	0.51	0.0	0.04	0.2	0.12	0.9	0.34	0.4	0.21	4.4	0.69	2.0	0.43	13.4	1.12	9.1	1.00	34.9	1.40	30.5	1.61	29.5	1.36	29.1	1.21	15.2	1.29	23.1	1.50	1.6	0.38	5.5	1.42
Uganda	506.1	4.05	540.3	6.73	69.4	1.92	77.6	1.99	2.9	0.48	2.3	0.46	8.2	0.90	5.8	0.75	19.5	1.17	14.3	1.45	20.5	1.13	16.5	1.27	24.1	1.25	21.7	1.40	16.1	1.19	17.7	1.26	7.7	0.97	16.5	1.95	1.1	0.25	5.2	1.04
Zambia	441.9	3.07	477.0	5.44	33.6	2.00	54.0	2.57	11.1	1.04	5.4	0.78	26.6	1.49	17.9	1.68	28.7	1.56	22.8	1.57	19.1	1.11	24.2	1.42	8.8	1.12	14.7	1.45	3.8	0.78	7.6	0.95	1.8	0.48	6.5	1.23	0.2	0.11	1.1	0.38
Zanzibar	511.7	3.00	546.8	3.61	78.1	1.49	90.3	0.99	4.3	0.52	2.1	0.47	6.9	0.77	2.2	0.50	10.7	0.98	5.4	0.72	24.7	1.26	18.8	1.27	25.9	1.08	27.8	1.82	19.0	1.21	26.2	1.53	7.9	0.87	15.7	1.86	0.6	0.24	1.8	0.46
Zimbabwe	492.1	4.47	542.2	6.48	65.4	1.94	79.5	1.73	4.4	0.58	2.2	0.46	14.0	1.30	6.6	0.90	16.1	1.02	11.7	1.09	26.1	1.08	20.7	1.37	20.3	1.33	18.9	1.14	11.0	0.92	16.3	1.11	6.0	0.79	17.3	1.70	1.9	0.74	6.4	1.22
SACMEQ IV	516.8	4.05	554.5	6.17	72.5	1.67	81.9	1.53	3.4	0.51	1.8	0.39	9.2	0.89	5.7	0.75	14.9	1.11	10.6	1.03	22.0	1.30	17.2	1.31	21.8	1.28	20.4	1.42	14.8	1.15	17.9	1.27	10.8	1.12	18.0	1.45	3.2	0.64	8.4	1.44



APPENDIX

A7d: Grade 6 pupils' mathematics achievement by country

Country	Transformed Scores		MathLevel 1		Math Level 2		Math Level 3		Math Level 4		Math Level 5		Math Level 6		MathLevel 7		MathLevel 8	
	Mean	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	562.8	4.28	1.2	0.18	11.5	0.74	22.6	1.05	28.1	0.96	20.1	0.80	10.7	0.87	4.4	0.61	1.4	0.37
Kenya	607.6	5.36	0.3	0.08	3.3	0.50	21.0	1.39	22.2	0.94	23.3	0.91	15.5	0.90	9.3	0.85	5.1	0.85
Lesotho	513.5	2.99	0.8	0.16	19.6	1.23	44.3	1.08	25.8	1.07	6.2	0.57	2.6	0.49	0.6	0.22	0.1	0.04
Malawi	479.2	2.76	3.1	0.47	39.1	1.71	37.4	1.46	16.3	1.18	3.3	0.55	0.7	0.28	0.1	0.08	0.0	0.00
Mauritius	644.1	6.71	0.6	0.18	6.0	0.59	15.5	0.96	19.0	1.16	13.0	0.75	18.2	0.80	12.9	0.90	14.9	1.43
Mozambique	505.0	5.91	3.5	0.44	28.0	1.48	37.6	1.55	15.7	0.96	7.7	1.16	4.2	1.07	2.7	1.09	0.6	0.36
Namibia	522.4	2.53	1.0	0.13	18.9	0.77	36.6	0.83	26.0	0.71	11.0	0.58	4.7	0.45	1.3	0.23	0.4	0.11
Seychelles	599.1	8.24	0.4	0.16	6.9	0.93	20.4	1.64	19.9	1.16	23.3	1.41	17.2	1.69	8.3	1.03	3.6	0.92
South Africa	551.5	4.05	0.8	0.14	14.1	0.76	35.1	1.04	20.3	0.67	14.8	0.73	7.7	0.60	4.6	0.56	2.6	0.47
Swaziland	577.6	3.11	0.1	0.06	3.1	0.41	21.1	1.14	38.2	0.99	22.2	0.85	11.9	0.79	2.5	0.36	0.8	0.37
Uganda	523.2	4.23	2.8	0.38	18.0	1.11	39.4	1.22	19.1	0.87	11.7	0.79	6.1	0.78	2.3	0.50	0.6	0.16
Zambia	477.3	3.08	4.9	0.50	38.4	1.32	34.6	0.96	15.0	0.97	5.2	0.77	1.6	0.41	0.2	0.08	0.0	0.00
Zanzibar	498.6	2.29	3.3	0.40	24.6	1.05	45.4	1.17	18.5	1.05	6.4	0.62	1.7	0.34	0.0	0.03	0.0	0.00
Zimbabwe	524.1	5.25	3.8	0.41	26.9	1.66	26.8	1.03	19.1	0.84	11.1	0.70	7.6	0.73	3.0	0.47	1.7	0.36
SACMEQ IV	541.9	4.34	1.9	0.26	18.5	1.02	31.3	1.18	21.7	0.97	12.8	0.80	7.9	0.73	3.7	0.50	2.3	0.39



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A7e: Grade 6 pupils' mathematics achievement by gender and country

Country	Transformed Scores				Math Level 1				Math Level 2				Math Level 3				Math Level 4				Math Level 5				Math Level 6				Math Level 7				Math Level 8			
	Boys		Girls		Boys		Girls		Boys		Girls		Boys		Girls		Boys		Girls		Boys		Girls		Boys		Girls		Boys		Girls		Boys		Girls	
	Mean	SE	Mean	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%			
Botswana	556.5	4.82	569.5	4.28	1.5	0.26	0.8	0.19	14.1	0.95	8.9	0.78	23.7	1.21	21.4	1.28	26.5	1.02	29.8	1.33	17.9	0.93	22.4	1.18	10.1	0.93	11.3	1.12	4.7	0.77	4.1	0.59	1.4	0.48	1.4	0.40
Kenya	617.9	5.67	597.5	5.54	0.2	0.10	0.3	0.11	2.8	0.57	3.8	0.56	19.2	1.50	22.9	1.57	20.9	1.11	23.5	1.15	22.7	1.10	24.0	1.22	17.7	1.25	13.3	1.09	9.9	0.86	8.8	1.13	6.7	1.17	3.4	0.74
Lesotho	517.2	3.90	510.7	2.72	0.5	0.17	1.0	0.23	19.2	1.45	20.0	1.36	42.9	1.50	45.4	1.27	26.4	1.50	25.3	1.24	6.8	0.90	5.8	0.65	3.3	0.71	2.0	0.42	0.7	0.30	0.5	0.20	0.1	0.09	0.0	0.00
Malawi	488.9	3.17	468.8	3.07	2.0	0.54	4.2	0.77	33.4	2.14	45.3	2.03	39.7	2.36	35.0	1.67	19.6	1.68	12.6	1.37	3.9	0.70	2.6	0.71	1.1	0.44	0.3	0.19	0.3	0.15	0.0	0.00	0.0	0.00	0.0	0.00
Mauritius	638.6	7.62	650.1	7.01	0.8	0.30	0.4	0.18	6.8	0.82	5.2	0.67	17.1	1.39	13.8	1.05	19.2	1.44	18.8	1.30	12.7	1.01	13.2	0.96	16.6	1.07	19.6	1.20	12.1	1.03	13.8	1.18	14.7	1.66	15.2	1.61
Mozambique	508.1	6.09	504.8	6.21	2.8	0.55	3.8	0.63	26.9	1.74	28.2	1.68	38.3	1.93	37.4	1.68	15.7	1.26	16.0	1.20	8.4	1.37	7.2	1.20	4.5	1.24	4.0	1.18	2.9	1.15	2.5	1.07	0.4	0.25	0.9	0.51
Namibia	523.7	2.93	521.2	2.55	1.0	0.18	1.1	0.20	18.7	0.90	19.1	0.90	36.7	1.07	36.6	1.01	26.5	0.92	25.5	0.88	10.3	0.69	11.6	0.74	4.8	0.54	4.6	0.47	1.5	0.35	1.1	0.21	0.5	0.16	0.3	0.10
Seychelles	582.0	8.80	616.7	8.22	0.7	0.33	0.2	0.15	10.2	1.36	3.4	0.69	24.6	2.11	16.3	1.52	20.1	1.76	19.7	1.86	21.9	1.48	24.7	2.18	12.1	1.07	22.3	3.00	6.8	1.04	9.8	1.27	3.7	1.34	3.5	0.88
South Africa	549.7	4.35	553.4	4.11	1.0	0.19	0.6	0.16	14.4	0.88	13.8	0.87	36.0	1.18	34.3	1.22	19.4	0.80	21.0	0.88	14.2	0.82	15.4	0.91	7.7	0.70	7.7	0.66	4.5	0.57	4.7	0.67	2.7	0.50	2.5	0.50
Swaziland	584.2	3.25	571.3	3.52	0.0	0.04	0.2	0.11	2.7	0.59	3.5	0.48	19.2	1.28	22.8	1.48	35.8	1.22	40.6	1.31	24.5	1.16	20.1	1.14	14.1	1.11	9.9	0.83	2.9	0.47	2.1	0.47	0.7	0.34	0.8	0.42
Uganda	532.4	4.87	514.8	4.04	2.4	0.45	3.1	0.44	17.2	1.27	18.8	1.21	36.6	1.38	42.0	1.49	18.9	1.01	19.2	1.07	13.0	0.99	10.7	0.92	7.8	0.96	4.4	0.77	3.2	0.58	1.4	0.48	0.8	0.26	0.3	0.12
Zambia	483.1	3.60	471.8	3.24	3.9	0.57	6.0	0.72	36.4	1.70	40.2	1.55	36.0	1.38	33.3	1.44	15.5	1.27	14.6	1.17	5.8	0.96	4.7	0.81	2.2	0.51	1.1	0.41	0.2	0.14	0.1	0.08	0.0	0.00	0.0	0.00
Zanzibar	502.4	2.73	495.4	2.65	3.0	0.51	3.6	0.52	23.5	1.39	25.5	1.41	44.6	1.58	46.2	1.48	19.8	1.50	17.5	1.21	6.7	0.83	6.1	0.76	2.3	0.52	1.2	0.38	0.1	0.07	0.0	0.00	0.0	0.00	0.0	0.00
Zimbabwe	519.1	5.50	529.4	5.48	4.4	0.54	3.3	0.53	28.7	1.71	25.0	2.03	27.2	1.37	26.4	1.21	17.3	0.93	21.0	1.08	11.5	0.88	10.7	0.96	6.5	0.81	8.7	0.84	2.6	0.50	3.4	0.56	1.9	0.40	1.5	0.39
SACMEQIV	543.1	4.81	541.1	4.48	1.7	0.34	2.0	0.35	18.2	1.25	18.6	1.16	31.6	1.52	31.0	1.38	21.5	1.24	21.8	1.22	12.9	0.99	12.8	1.02	7.9	0.85	7.9	0.90	3.7	0.57	3.7	0.57	2.4	0.48	2.1	0.41



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A7f: Grade 6 pupils' mathematics achievement by SES and country

Country	Transformed Scores				Math Level 1				Math Level 2				Math Level 3				Math Level 4				Math Level 5				Math Level 6				Math Level 7				Math Level 8			
	Low SES		High SES		Low SES		High SES		Low SES		High SES		Low SES		High SES		Low SES		High SES		Low SES		High SES		Low SES		High SES		Low SES		High SES		Low SES		High SES	
	Mean	SE	Mean	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%			
Botswana	543.6	3.31	587.9	5.72	1.7	0.31	0.5	0.15	13.8	1.04	7.4	0.72	26.8	1.26	17.1	1.28	30.1	1.15	27.2	1.46	18.0	1.01	23.4	1.13	6.3	0.68	15.9	1.29	2.7	0.47	6.2	0.95	0.6	0.20	2.3	0.73
Kenya	607.3	6.36	612.6	6.45	0.3	0.13	0.1	0.07	2.6	0.47	3.5	0.66	22.2	1.55	18.5	1.69	21.5	1.08	22.3	1.27	23.5	1.27	23.7	1.13	15.6	1.11	16.7	1.27	9.3	1.11	9.7	1.11	4.9	1.10	5.4	1.12
Lesotho	504.8	2.42	522.7	4.50	0.9	0.23	0.6	0.22	23.0	1.54	16.1	1.43	45.8	1.11	42.8	1.75	23.6	1.29	28.0	1.44	4.9	0.53	7.6	0.91	1.4	0.29	3.8	0.89	0.3	0.14	1.0	0.42	0.0	0.00	0.1	0.09
Malawi	476.1	3.04	486.7	4.43	3.7	0.66	2.0	0.49	39.9	1.99	35.5	2.61	37.4	1.72	38.6	2.45	15.3	1.67	18.6	2.05	3.1	0.72	3.9	0.92	0.6	0.23	1.1	0.66	0.1	0.08	0.2	0.17	0.0	0.00	0.0	0.00
Mauritius	619.1	6.10	687.6	8.04	0.6	0.23	0.2	0.12	7.3	0.83	3.0	0.62	17.4	1.26	10.8	1.12	24.0	1.48	13.3	1.33	13.6	0.99	12.6	1.02	15.7	1.07	21.7	1.31	10.9	1.09	16.2	1.23	10.6	1.31	22.1	2.03
Mozambique	511.2	8.27	512.6	5.41	2.1	0.50	2.5	0.57	27.9	2.14	22.8	1.77	37.9	2.41	39.7	1.85	13.7	1.30	20.7	1.44	9.4	2.00	8.6	1.31	4.8	1.58	3.2	0.87	3.5	1.53	2.1	0.98	0.8	0.61	0.4	0.24
Namibia	504.1	1.95	546.1	3.79	1.3	0.22	0.7	0.16	23.5	0.97	12.7	0.86	41.6	0.96	30.8	1.22	24.1	0.93	28.8	1.05	7.2	0.53	15.6	0.94	1.9	0.25	8.1	0.80	0.3	0.15	2.5	0.41	0.2	0.09	0.7	0.19
Seychelles	582.9	6.19	609.6	9.40	0.8	0.42	0.2	0.16	9.0	1.18	5.5	1.05	22.0	2.01	19.1	2.07	21.1	1.95	19.3	1.45	25.6	2.29	22.3	1.69	13.3	1.65	19.5	2.05	6.4	1.22	9.5	1.45	1.8	1.10	4.6	0.90
South Africa	526.8	2.93	580.1	5.95	1.2	0.25	0.4	0.12	16.9	0.90	10.2	0.84	40.3	1.09	29.1	1.41	21.5	0.88	19.6	0.96	12.8	0.85	17.5	0.94	5.2	0.59	10.5	0.84	1.9	0.33	7.6	0.94	0.3	0.13	5.1	0.89
Swaziland	570.5	2.89	587.8	4.60	0.2	0.09	0.1	0.07	3.7	0.56	2.2	0.43	23.5	1.40	17.9	1.24	38.7	1.21	37.5	1.52	20.8	1.09	24.3	1.23	11.7	0.98	12.7	1.01	1.3	0.28	4.0	0.63	0.3	0.16	1.4	0.75
Uganda	520.6	4.14	547.0	5.92	2.3	0.38	1.2	0.31	17.8	1.26	14.2	1.36	42.0	1.36	34.5	1.95	19.9	1.15	19.3	1.25	10.6	0.91	16.6	1.28	5.0	0.71	9.4	1.29	2.1	0.65	3.6	0.73	0.3	0.12	1.2	0.34
Zambia	468.6	2.88	492.7	4.13	4.7	0.63	3.6	0.55	43.2	1.78	31.2	1.84	34.4	1.48	36.5	1.61	13.9	1.30	17.3	1.37	2.9	0.79	8.3	1.19	0.9	0.34	2.8	0.70	0.0	0.00	0.4	0.19	0.0	0.00	0.0	0.00
Zanzibar	490.0	2.34	511.5	3.33	3.9	0.56	2.3	0.51	28.1	1.34	19.3	1.43	45.6	1.45	45.5	1.96	16.5	1.27	21.7	1.53	4.9	0.60	8.4	1.10	0.9	0.28	2.8	0.66	0.0	0.00	0.1	0.08	0.0	0.00	0.0	0.00
Zimbabwe	508.5	4.37	555.7	6.88	4.3	0.65	2.4	0.46	29.4	1.77	18.2	1.38	28.6	1.44	25.3	1.63	21.0	1.10	19.2	1.15	9.2	0.80	15.1	0.93	5.2	0.69	11.6	1.18	1.4	0.42	5.2	0.73	0.8	0.26	3.0	0.67
SACMEQIV	531.0	4.09	560.0	5.61	2.0	0.38	1.2	0.28	20.4	1.27	14.4	1.22	33.3	1.46	29.0	1.66	21.8	1.27	22.3	1.38	11.9	1.03	14.9	1.12	6.3	0.75	10.0	1.06	2.9	0.53	4.9	0.71	1.5	0.36	3.3	0.57

A7g: Grade 6 teachers' reading achievement by country

Country	Transformed Scores		Acceptable Reading Skills		Reading Level 1		Reading Level 2		Reading Level 3		Reading Level 4		Reading Level 5		Reading Level 6		Reading Level 7		Reading Level 8	
			%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
	Mean	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	737.2	3.79	100.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.3	0.34	2.6	0.85	21.7	2.30	75.3	2.39
Kenya	744.9	7.30	98.8	1.20	1.2	1.20	0.0	0.00	0.0	0.00	0.0	0.00	0.1	0.06	0.7	0.52	20.2	3.34	77.9	3.50
Lesotho	692.4	4.62	100.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.7	0.72	6.1	1.94	50.0	4.01	43.2	3.98
Malawi	694.1	7.18	100.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.7	0.71	4.0	2.48	8.5	2.78	39.0	5.30	47.8	5.42
Mauritius	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Mozambique	674.9	4.72	100.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.5	0.47	4.4	1.44	12.6	2.74	50.4	3.97	32.2	3.65
Namibia	718.3	3.94	100.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	6.4	1.49	29.4	2.92	64.1	3.05
Seychelles	790.9	14.42	100.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	7.7	4.33	92.3	4.33
South Africa	726.6	4.94	100.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.6	0.44	0.8	0.55	6.7	1.55	27.8	2.96	64.0	3.10
Swaziland	729.6	5.54	100.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	2.9	1.34	27.0	3.91	70.1	3.99
Uganda	696.8	5.03	99.1	0.66	0.9	0.66	0.0	0.00	0.0	0.00	0.0	0.00	1.3	0.65	3.2	1.24	45.7	3.49	48.9	3.50
Zambia	716.8	4.95	100.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.8	0.85	0.6	0.46	3.9	1.60	35.5	3.88	59.2	3.98
Zanzibar	687.5	4.54	100.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	1.8	1.26	7.5	2.27	53.4	4.28	37.4	4.20
Zimbabwe	769.1	4.34	100.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.3	0.30	0.4	0.41	13.0	2.35	86.3	2.43
SACMEQ IV	721.5	5.79	99.8	0.14	0.2	0.14	0.0	0.00	0.0	0.00	0.2	0.19	1.1	0.64	4.7	1.44	32.4	3.62	61.4	3.66



APPENDIX

A7h: Grade 6 teachers' mathematics achievement by country

Country	Transformed Scores		Math Level1		Math Level2		Math Level3		Math Level4		Math Level5		Math Level6		Math Level7		Math Level8	
	Mean	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	794.1	5.66	0.0	0.00	0.0	0.00	0.0	0.00	0.3	0.34	3.6	1.00	14.2	2.04	46.5	2.81	35.4	2.96
Kenya	927.2	8.34	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	1.6	1.02	7.3	2.29	91.0	2.48
Lesotho	711.5	9.04	0.0	0.00	1.7	1.01	2.7	1.31	3.4	1.34	15.8	2.88	31.7	3.65	29.9	3.74	14.9	2.91
Malawi	750.2	9.96	1.0	1.05	0.0	0.00	0.0	0.00	0.0	0.00	13.0	3.89	18.1	4.23	41.3	5.32	26.6	4.67
Mauritius	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Mozambique	721.8	6.78	0.0	0.00	0.0	0.00	0.3	0.25	3.7	1.47	12.0	2.53	34.7	3.90	31.7	3.71	17.6	3.08
Namibia	774.1	6.63	0.0	0.00	0.0	0.00	0.0	0.00	0.4	0.35	8.8	1.83	20.6	2.52	38.2	3.15	32.0	2.95
Seychelles	812.0	19.75	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	8.1	6.37	6.1	4.42	27.5	7.74	58.3	8.26
South Africa	780.5	7.18	0.0	0.00	0.0	0.00	0.1	0.11	1.4	0.80	7.2	1.63	23.4	2.69	32.4	2.95	35.4	3.11
Swaziland	821.7	7.67	0.0	0.00	0.0	0.00	0.0	0.00	0.6	0.64	1.6	0.97	10.7	2.54	31.4	4.05	55.6	4.29
Uganda	844.9	6.15	0.0	0.00	0.0	0.00	0.9	0.64	0.0	0.00	0.6	0.48	5.2	1.43	31.2	3.33	62.2	3.48
Zambia	732.0	6.99	0.0	0.00	0.6	0.43	0.7	0.65	2.2	1.18	11.0	2.60	29.0	3.70	42.7	4.11	13.8	3.01
Zanzibar	708.9	6.04	0.0	0.00	0.0	0.00	0.8	0.79	2.3	1.10	11.0	2.67	47.1	4.11	30.1	3.72	8.6	2.32
Zimbabwe	872.5	5.49	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.1	0.09	1.8	0.75	18.9	2.64	79.2	2.67
SACMEQ IV	788.6	8.13	0.1	0.08	0.2	0.11	0.4	0.29	1.1	0.56	7.1	2.07	18.8	2.85	31.5	3.81	40.8	3.55



APPENDIX

A8a: Grade 6 pupils' HAK achievement by country

Country	Transformed Scores		Reaching Minimum Level		Reaching Desired Level	
	Mean	SE	%%	SE		SE
Botswana	507.4	4.57	35.2	2.00	7.9	0.93
Kenya	526.3	4.26	45.1	2.18	9.7	1.07
Lesotho	514.5	3.26	41.6	1.73	4.4	0.62
Malawi	440.5	4.47	8.9	2.05	0.4	0.25
Mauritius	413.0	3.58	5.5	1.03	0.2	0.14
Mozambique	444.9	5.27	17.1	1.76	3.8	1.07
Namibia	516.6	2.59	37.6	1.34	7.0	0.59
Seychelles	489.9	6.84	28.9	3.95	2.1	0.69
South Africa	471.1	2.93	19.0	1.20	2.0	0.50
Swaziland	533.9	3.62	45.6	2.12	4.7	0.81
Uganda	473.1	4.64	30.0	1.76	4.1	0.66
Zambia	475.4	4.77	25.9	1.91	2.0	0.37
Zanzibar	484.1	2.79	27.5	1.40	0.9	0.19
Zimbabwe	476.6	4.65	24.2	1.87	3.0	0.46
SACMEQ IV	483.4	4.16	28.0	1.88	3.7	0.60



APPENDIX

A8b: Grade 6 pupils' HAK achievement by gender and country

Country	Transformed Scores				Reaching Minimum Level				Reaching Desired Level			
	Boys		Girls		Boys		Girls		Boys		Girls	
	Mean	SE	Mean	SE	%	SE	%	SE	%	SE	%	SE
Botswana	499.6	4.95	515.6	4.79	32.4	2.11	38.1	2.19	7.9	1.08	7.8	0.96
Kenya	533.7	4.85	519.0	4.58	48.4	2.35	41.9	2.30	11.3	1.31	8.2	1.03
Lesotho	515.2	3.82	514.0	3.35	42.3	2.06	41.1	1.84	4.8	0.81	4.2	0.61
Malawi	450.2	5.50	430.9	4.77	11.8	3.03	6.0	1.78	0.4	0.19	0.4	0.38
Mauritius	408.6	3.83	417.3	3.83	5.2	1.05	5.8	1.15	0.2	0.11	0.2	0.21
Mozambique	450.9	5.90	441.3	5.56	18.1	2.09	16.7	1.75	4.1	1.22	3.6	1.04
Namibia	515.4	2.91	517.9	2.73	37.7	1.52	37.6	1.44	6.9	0.72	7.1	0.62
Seychelles	476.0	6.52	504.0	7.89	23.5	3.45	34.2	4.73	1.6	0.48	2.5	1.07
South Africa	466.1	3.17	476.3	2.98	17.4	1.25	20.6	1.33	2.0	0.58	2.0	0.46
Swaziland	536.5	3.76	531.7	3.98	47.1	2.21	44.1	2.36	4.8	0.82	4.6	0.91
Uganda	483.5	5.01	464.3	4.93	32.9	1.93	27.6	1.90	5.1	0.79	3.2	0.63
Zambia	478.4	5.43	472.6	5.00	26.8	2.28	25.1	1.96	2.3	0.52	1.8	0.39
Zanzibar	484.5	3.08	483.7	3.35	26.7	1.74	28.2	1.71	1.4	0.35	0.6	0.22
Zimbabwe	474.7	4.87	478.7	4.90	24.0	1.92	24.5	2.04	2.9	0.52	3.1	0.50
SACMEQ IV	483.8	4.54	483.4	4.47	28.2	2.07	28.0	2.03	4.0	0.68	3.5	0.65



APPENDIX

A8c: Grade 6 pupils' HAK achievement by SES and country

Country	Transformed Scores				Reaching Minimum Level				Reaching Desired Level			
	Low SES		High SES		Low SES		High SES		Low SES		High SES	
	Mean	SE	Mean	SE	%	SE	%	SE	%	SE	%	SE
Botswana	481.7	3.59	537.8	5.31	23.7	1.45	48.4	2.53	4.1	0.55	11.9	1.38
Kenya	523.4	5.01	532.7	4.95	43.9	2.51	47.7	2.62	9.1	1.40	10.9	1.25
Lesotho	510.1	3.83	519.1	3.91	39.0	2.00	44.4	2.07	4.2	0.85	4.7	0.72
Malawi	440.2	4.38	449.1	7.39	7.6	1.68	12.7	3.75	0.3	0.15	0.7	0.64
Mauritius	413.4	3.71	417.5	4.37	5.4	1.11	6.3	1.25	0.2	0.24	0.2	0.13
Mozambique	449.6	7.45	461.8	6.16	19.1	2.59	21.2	2.29	5.2	1.58	3.2	1.29
Namibia	496.3	2.69	542.5	3.33	27.2	1.39	50.5	1.77	3.3	0.47	11.5	0.97
Seychelles	483.7	7.30	494.3	7.38	25.7	4.03	30.9	4.32	1.2	0.63	2.6	0.97
South Africa	459.2	3.02	485.2	3.68	13.5	1.19	25.4	1.61	1.2	0.50	2.8	0.68
Swaziland	526.7	4.03	543.2	4.09	41.9	2.51	49.8	2.27	3.3	0.67	6.4	1.29
Uganda	475.6	4.93	491.9	6.16	30.0	2.03	36.6	2.46	3.6	0.59	5.7	1.09
Zambia	469.3	5.67	493.4	5.33	24.4	2.27	31.2	2.37	1.5	0.41	2.8	0.58
Zanzibar	474.5	3.33	499.2	3.20	22.5	1.50	34.6	2.03	0.8	0.25	1.2	0.33
Zimbabwe	468.5	4.41	498.7	4.73	20.4	1.82	32.1	2.31	1.9	0.38	4.7	0.75
SACMEQ IV	476.6	4.53	497.6	5.00	24.6	2.00	33.7	2.40	2.9	0.62	5.0	0.86



APPENDIX

A8d: Percentages of grade 6 pupils, teachers and school heads expressing fear of casual contact with a pupil infected with HIV by country (stigma)

Country	RESPONSES ON THE POSSIBILITY OF A PUPIL INFECTED WITH HIV TO COTNINUE TO ATTEND SCHOOL																	
	PUPILS						TEACHERS						SCHOOL HEADS					
	No		Not Sure		Yes		No		Not Sure		Yes		No		Not Sure		Yes	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	26.4	1.27	17.3	0.95	56.3	1.58	0.0	0.00	0.0	0.00	100.0	0.00	0.0	0.00	0.0	0.00	100.0	0.00
Kenya	24.0	1.34	10.7	0.86	65.2	1.65	0.5	0.35	0.1	0.14	99.4	0.37	0.5	0.52	0.2	0.17	99.3	0.54
Lesotho	25.3	1.32	18.7	1.01	56.0	1.67	0.2	0.19	0.0	0.00	99.8	0.19	1.0	0.72	0.4	0.34	98.6	0.79
Malawi	7.7	0.82	3.9	0.59	88.4	1.06	0.0	0.00	1.9	1.33	98.1	1.33	0.0	0.00	0.0	0.00	100.0	0.00
Mauritius	36.8	2.44	33.0	2.40	30.2	2.76	4.1	1.40	20.2	2.87	75.7	3.12	6.3	2.13	31.9	4.36	61.8	4.53
Mozambique	27.7	1.46	16.0	1.08	56.3	1.70	0.0	0.00	0.0	0.00	100.0	0.00	0.4	0.38	0.4	0.44	99.2	0.57
Namibia	13.5	0.75	16.6	0.73	69.9	1.19	0.0	0.00	0.5	0.37	99.5	0.37	0.2	0.21	0.6	0.50	99.2	0.54
Seychelles	41.9	3.12	35.6	2.25	22.5	2.92	0.0	0.00	10.5	6.80	89.5	6.80	0.0	0.00	6.7	6.38	93.3	6.38
South Africa	26.9	1.02	29.3	0.94	43.8	1.29	0.5	0.40	1.1	0.57	98.4	0.71	0.9	0.52	1.5	0.74	97.7	0.90
Swaziland	13.9	1.08	13.1	0.85	73.0	1.53	1.3	0.89	0.0	0.00	98.7	0.89	0.6	0.57	0.0	0.00	99.4	0.57
Uganda	20.5	1.15	8.2	0.64	71.3	1.39	0.5	0.52	0.0	0.00	99.5	0.52	0.6	0.57	0.9	0.62	98.6	0.84
Zambia	27.8	1.48	11.5	0.87	60.7	1.64	1.2	0.88	0.0	0.00	98.8	0.88	0.9	0.91	0.0	0.00	99.1	0.91
Zanzibar	25.6	1.45	26.8	1.29	47.6	1.93	0.8	0.76	2.7	1.37	96.5	1.61	4.7	1.92	0.0	0.00	95.3	1.92
Zimbabwe	27.8	1.24	20.0	0.98	52.2	1.37	0.5	0.50	0.3	0.27	99.2	0.57	0.0	0.00	0.3	0.33	99.7	0.33
SACMEQ IV	24.7	1.42	18.6	1.10	56.7	1.69	0.7	0.42	2.7	0.98	96.7	1.24	1.2	0.60	3.1	0.99	95.8	1.34



APPENDIX

A8e: Percentages of grade 6 pupils, teachers and school heads expressing fear of casual contact with a teacher infected with HIV by country (stigma)

Country	RESPONSES ON THE POSSIBILITY OF A TEACHER INFECTED WITH HIV TO CONTINUE TEACHING																	
	PUPILS						TEACHERS						SCHOOL HEADS					
	No		Not Sure		Yes		No		Not Sure		Yes		No		Not Sure		Yes	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	26.3	1.18	21.4	1.08	52.3	1.52	0.1	0.11	0.0	0.00	99.9	0.11	0.3	0.35	0.8	0.82	98.8	0.89
Kenya	25.0	1.11	12.3	0.92	62.7	1.60	0.5	0.35	0.0	0.00	99.5	0.35	0.2	0.16	0.0	0.00	99.8	0.16
Lesotho	28.6	1.36	22.3	1.11	49.1	1.64	0.0	0.00	1.1	0.65	98.9	0.65	0.7	0.53	0.6	0.56	98.7	0.77
Malawi	7.7	0.87	5.0	0.74	87.3	1.19	0.0	0.00	1.9	1.33	98.1	1.33	0.0	0.00	0.7	0.65	99.3	0.65
Mauritius	45.2	2.61	32.0	2.40	22.8	2.49	5.2	1.28	17.5	2.79	77.2	2.91	9.5	2.61	33.8	4.46	56.7	4.64
Mozambique	27.1	1.34	17.3	1.03	55.6	1.62	1.5	0.94	5.7	1.80	92.8	1.99	0.8	0.85	1.2	0.74	97.9	1.12
Namibia	14.4	0.80	19.1	0.75	66.4	1.22	0.0	0.00	1.3	0.65	98.7	0.65	0.5	0.50	0.6	0.50	98.9	0.70
Seychelles	42.2	2.72	37.6	2.42	20.3	3.26	0.0	0.00	8.1	4.94	91.9	4.94	0.0	0.00	6.7	6.38	93.3	6.38
South Africa	27.5	1.02	32.1	1.01	40.4	1.25	0.8	0.51	1.3	0.66	98.0	0.83	0.5	0.36	1.4	0.70	98.1	0.79
Swaziland	15.9	1.06	16.2	0.88	67.8	1.42	1.3	0.89	0.0	0.00	98.7	0.89	0.0	0.00	0.5	0.51	99.5	0.51
Uganda	22.5	1.31	9.5	0.68	67.9	1.50	0.9	0.60	0.9	0.51	98.2	0.78	2.1	1.02	0.8	0.53	97.2	1.14
Zambia	26.5	1.52	13.3	0.96	60.2	1.77	1.2	0.88	0.0	0.00	98.8	0.88	0.0	0.00	0.0	0.00	100.0	0.00
Zanzibar	23.0	1.32	31.0	1.37	46.0	1.91	2.9	1.43	2.0	1.09	95.1	1.76	3.1	1.55	0.0	0.00	96.9	1.55
Zimbabwe	28.4	1.27	22.6	1.24	49.0	1.40	0.0	0.00	0.7	0.65	99.3	0.65	0.0	0.00	0.0	0.00	100.0	0.00
SACMEQ IV	25.7	1.39	20.8	1.19	53.4	1.70	1.0	0.50	2.9	1.08	96.1	1.34	1.3	0.57	3.4	1.13	95.4	1.38



APPENDIX

A8f: Percentages of grade 6 pupils refusing contact with a person living with HIV or AIDS by country (Discrimination)

Country	PUPIL BEHAVIOUR WITH A FRIEND INFECTED WITH HIV						PUPIL WILLING TO CARE FOR A RELATIVE ILL WITH AIDS					
	Avoid/ shun him or her		Not sure		Positive attitude		No		Not sure		Yes	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	11.3	0.78	25.0	1.22	63.7	1.48	17.6	1.06	17.5	1.04	64.9	1.57
Kenya	23.0	1.04	21.6	1.11	55.4	1.53	25.1	1.44	5.0	0.44	69.9	1.57
Lesotho	17.0	0.96	27.8	1.23	55.1	1.53	23.0	1.39	19.8	1.11	57.2	1.91
Malawi	10.5	1.13	9.1	1.03	80.4	1.53	10.3	1.02	5.0	0.63	84.7	1.36
Mauritius	14.9	1.59	40.7	2.49	44.4	2.47	20.9	1.97	31.2	2.26	47.8	2.69
Mozambique	17.9	1.21	21.9	1.31	60.2	1.68	21.7	1.22	17.3	0.96	61.0	1.58
Namibia	8.4	0.50	31.3	1.01	60.3	1.18	11.2	0.69	24.4	1.03	64.4	1.38
Seychelles	16.3	1.87	53.6	2.18	30.1	2.27	19.1	1.85	41.2	2.67	39.7	3.21
South Africa	9.6	0.53	36.1	1.00	54.3	1.07	21.1	1.02	30.0	0.90	48.9	1.40
Swaziland	11.5	0.75	27.3	0.99	61.2	1.32	23.9	1.21	24.2	0.99	51.8	1.51
Uganda	29.2	1.35	17.8	1.05	53.0	1.62	18.7	1.21	11.1	0.82	70.2	1.57
Zambia	22.2	1.47	24.7	1.20	53.2	1.84	14.4	1.28	11.2	0.92	74.4	1.59
Zanzibar	28.0	1.41	33.0	1.43	39.1	1.74	26.0	1.48	28.1	1.23	45.9	1.73
Zimbabwe	21.0	1.43	28.7	1.10	50.3	1.62	23.6	1.78	16.0	0.88	60.4	2.11
SACMEQ IV	17.2	1.15	28.5	1.31	54.3	1.63	19.8	1.33	20.1	1.13	60.1	1.80



APPENDIX

A8g: Grade 6 teachers' and school heads' perception on HIV/AIDS risk exposure by country

Country	RESPONSES ON PERCEIVED LEVEL OF EXPOSURE TO HIV/AIDS RISK BY TEACHERS AND SCHOOL HEADS											
	TEACHERS						SCHOOL HEADS					
	No or Low Risk		Medium Risk		High or Very High Risk		No or Low Risk		Medium Risk		High or Very High Risk	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Botswana	46.0	3.06	19.6	2.12	34.4	2.83	61.7	3.94	11.3	2.50	27.0	3.60
Kenya	45.4	4.35	10.1	2.39	44.5	4.30	42.9	4.07	15.6	2.75	41.5	4.24
Lesotho	38.6	3.74	13.2	2.36	48.2	3.83	34.5	3.85	20.0	3.25	45.5	4.08
Malawi	41.2	4.73	11.8	3.06	47.0	4.84	33.3	4.53	12.9	3.36	53.9	4.78
Mauritius	91.7	1.80	5.8	1.51	2.5	1.08	93.4	2.68	2.0	1.43	4.6	2.33
Mozambique	42.9	3.76	15.7	2.65	41.4	3.65	42.3	3.91	11.8	2.63	45.9	3.90
Namibia	54.2	2.96	20.2	2.42	25.6	2.64	60.5	2.92	14.7	2.23	24.8	2.60
Seychelles	58.0	9.05	31.4	8.85	10.6	4.64	70.2	10.33	16.3	7.65	13.5	8.64
South Africa	52.3	3.07	23.6	2.66	24.0	2.61	70.9	2.77	16.1	2.26	13.1	2.06
Swaziland	48.2	4.26	21.7	3.53	30.1	3.85	47.2	4.28	16.8	3.22	36.0	4.14
Uganda	50.5	3.52	12.5	2.38	37.0	3.41	49.1	3.40	14.6	2.44	36.3	3.28
Zambia	54.2	4.01	13.3	2.98	32.4	3.67	59.9	4.41	12.0	3.19	28.1	3.97
Zanzibar	19.0	3.27	4.6	1.83	76.5	3.54	14.9	3.24	7.6	2.43	77.5	3.74
Zimbabwe	52.3	4.06	22.0	4.43	25.7	3.13	57.9	4.08	13.6	2.67	28.5	3.61
SACMEQ IV	49.6	3.97	16.1	3.08	34.3	3.43	52.8	4.17	13.2	3.00	34.0	3.93



APPENDIX

A8h: Percentages of grade 6 pupils, teachers and school heads expressing fear of casual contact with a pupil infected with HIV by gender (stigma)

Gender	RESPONSES ON THE POSSIBILITY OF A PUPIL INFECTED WITH HIV TO CONTINUE TO ATTEND SCHOOL																	
	PUPILS						TEACHERS						SCHOOL HEADS					
	No		Not Sure		Yes		No		Not Sure		Yes		No		Not Sure		Yes	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Male	24.7	0.70	14.8	0.49	60.5	0.80	0.7	0.29	0.8	0.16	98.5	0.33	0.4	0.16	1.0	0.24	98.6	0.29
Female	23.1	0.88	17.8	0.58	59.0	1.04	0.2	0.09	1.1	0.23	98.7	0.25	1.4	0.66	1.7	0.31	96.9	0.71
SACMEQ IV	23.9	0.79	16.3	0.53	59.8	0.92	0.4	0.19	0.9	0.20	98.6	0.29	0.9	0.41	1.3	0.28	97.7	0.50

A8i: Percentages of grade 6 pupils, teachers and school heads expressing fear of casual contact with a teacher infected with HIV by gender (stigma)

Gender	RESPONSES ON THE POSSIBILITY OF A TEACHER INFECTED WITH HIV TO CONTINUE TEACHING																	
	PUPILS						TEACHERS						SCHOOL HEADS					
	No		Not Sure		Yes		No		Not Sure		Yes		No		Not Sure		Yes	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Male	24.6	0.67	16.8	0.48	58.6	0.82	1.1	0.38	2.7	0.64	96.2	0.74	0.9	0.36	1.4	0.33	97.7	0.48
Female	24.1	0.86	19.8	0.63	56.1	1.03	0.9	0.58	2.0	0.74	97.0	0.93	0.6	0.19	1.7	0.31	97.7	0.35
SACMEQ IV	24.3	0.77	18.3	0.55	57.4	0.92	1.0	0.48	2.4	0.69	96.6	0.83	0.7	0.28	1.6	0.32	97.7	0.42



APPENDIX

A8j: Percentages of grade 6 pupils refusing contact with a person living with HIV or AIDS by gender (Discrimination)

Gender	PUPIL BEHAVIOUR WITH A FRIEND INFECTED WITH HIV						PUPIL WILLING TO CARE FOR A RELATIVE ILL WITH AIDS					
	Avoid/ shun him or her		Not sure		Positive attitude		No		Not sure		Yes	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Boys	18.1	0.57	24.9	0.55	57.0	0.75	18.8	0.53	16.0	0.42	65.2	0.69
Girls	16.4	0.54	26.9	0.56	56.7	0.72	17.3	0.56	18.8	0.51	63.9	0.73
SACMEQ IV	17.3	0.55	25.9	0.55	56.9	0.74	18.1	0.55	17.4	0.46	64.5	0.71

A8k: Grade 6 teachers' and School Heads' perception on HIV/AIDS risk exposure by gender

Gender	RESPONSES ON PERCEIVED LEVEL OF EXPOSURE TO HIV/AIDS RISK BY TEACHERS AND SCHOOL HEADS											
	TEACHERS						SCHOOL HEADS					
	No or Low Risk		Medium Risk		High or Very High Risk		No or Low Risk		Medium Risk		High or Very High Risk	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Male	47.7	1.72	15.7	1.26	36.6	1.69	50.3	1.87	13.9	1.39	35.8	1.82
Female	52.8	2.30	16.2	1.69	30.9	2.03	57.7	2.63	11.2	1.57	31.1	2.52
SACMEQ IV	50.3	2.01	16.0	1.47	33.8	1.86	54.0	2.25	12.5	1.48	33.5	2.17