THE REPUBLIC OF UGANDA

Ministry of Education & Sports

Addressing the Challenges of providing Quality Education For All in Uganda

Primary Education Policy Suggestions Based on Southern African Consortium for Monitoring Education Quality (SACMEQ) survey 2013.

SACMEQ PROJECT IV REPORT

2017

Foreword by the Minister of ESTS

Uganda has pursued a comprehensive Education sector-wide reform program since 1986. The main thrust of the reform in the education sector focuses on enhancing equitable access, and ensuring quality education for social transformation, integration and national development/modernization. The reform program has and continues to focus on addressing critical issues of: (a) the learning environment; (b) quality of curricula and its content; (c) the teaching/learning process; and, (d) learning achievements of learners. Along this line, our reform programs has (amongst others) focused on policy review and development, legal and regulatory reform, and restructuring of the administrative and management structures.

As a country, one of our remarkable developments in the Primary Sub-sector has been the adoption of Universal Primary Education (UPE). This policy has undoubtedly helped a lot of our children especially in rural, and geographically disadvantaged areas to attain education. We have also made remarkable progress in aligning our education system to the critical needs of our Country in a bid to achieve the Education For All (EFA) and the Millennium Development Goals (MDGs), to which Uganda is a signatory. In light of these achievements however, Uganda like other SACMEQ members still faces many challenges within its Education system that still need immediate redress if we are to meet the EFA and MDGs by 2015.

This report is the 3rd in the series of SACMEQ projects that Uganda has participated in since 1998. The main thrust of this particular case study was directed towards gaining a critical understanding of the country-specific in school and out of school factors that condition the efficiency, effectiveness and quality of primary school education. It additionally sought to measure the literacy and numeracy achievement levels of primary six (P.6) pupils on an incremental scale of competence.

I have no doubt henceforth that SACMEQ member countries and the rest of Africa will find Uganda's SACMEQ IV Study report valuable, in providing information needed for the betterment of our education system. For God and My Country.

Janet Museveni Kataaha
FIRST LADY & MINISTER OF EDUCATION AND SPORTS

ACRONYMS/ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
CDC	Centre for Disease Control
DEO	District Education Officers
DES	Directorate of Education Standards
DSC	District Service Commission
EFA	Education For All
EPD	Education Planning Department
ESA	Education Standards Agency
ESC	Education Service Commission
ESIP	Education Strategic Investment Plan
GDP	Gross Domestic Product
GWPE	Government White Paper on Education
HAKT	HIV-AIDS Knowledge Test
HIV	Human Immune Virus
ICT	Information Communication Technology
IEQ	Improving Educational Quality
IIEP	International Institute for Educational Planning
IMU	Instructional Materials Unit
MDGS	Millennium Development Goals
MoES	Ministry of Education and Sports
MUST	Mbarara University of Science and Technology
NAPE	National Assessment of Progress in Education
NER	Net Enrolment Ratio
NCDC	National Curriculum Development Centre
NRM	National Resistance Movement
PAF	Poverty Alleviation Fund
PLE	Primary Leaving Examination
SACMEQ	Southern African Consortium for Monitoring Education Quality
SAPS	Structural Adjustment Programmes
TDMS	Teacher Development Management System
UACE	Uganda Advanced Certificate of Education
UCE	Uganda Certificate of Education
UNDP	United Nations Development programme
UNEB	Uganda National Examinations Board
UPE	Universal Primary Education

Executive Summary

This report is the 3rd in the series of SACMEQ projects that Uganda has participated in since it became a signatory. It has been prepared as part of an on-going collaborative effort by the International Institute for Educational Planning (IIEP) and the Southern Africa Consortium for Monitoring Educational Quality (SACMEQ)

The main thrust of this particular case study was directed towards gaining a critical understanding of the country-specific in school and out of school factors that condition the efficiency, effectiveness and quality of primary school education. It additionally sought to measure the literacy and numeracy achievement levels of primary six (P.6) pupils on an incremental scale of competence.

The case study relied on SACMEQ III project survey research design that utilized three pre-tested and validated Teacher, Pupil and Head teacher questionnaires as well as the skills-audited Pupil and Teacher reading and mathematics tests in a mutually supportive manner. A stratified sample of 264 primary schools was drawn from the national list while simple random sampling techniques were employed to select 5,307 Grade 6 pupils (i.e. 25 from each of the sampled schools) to participate in the study, and 747 teachers. The Head teachers of the participating schools automatically qualified as key informants and the Maths and Reading teachers were purposively selected. Computer assisted procedures were used to process the data, which was subsequently presented in matrix formats that were congruent with the stipulated general policy concerns.

The salient findings that emerged from the viewpoints expressed by the respondents relating to their learning environments, the challenges facing the education sector and the policy suggestions for their mitigation include, inter-alia, the following:

1) Uganda has achieved gender parity at primary level. There has been a significant improvement in gender distribution in P.6 from 44.5% in SACMEQ II, 50.2% in SACMEQ III and 50.8% in SACMEQ IV. This confirms with the EFA gender parity target of 50% enrolment share for females. The Acholi and Bunyoro Region had the lowest number of females (44.0%) in primary six while the Kigezi region had the highest (59.3%). The reason for poor participations of girls in the Acholi and Bunyoro Region is among others attributed to early marriages and pregnancies, challenges of dealing with sex maturation and menstruation in particular.

2) Realizing Net Enrolment Ratio (NER) at primary level is still a big challenge of the Education Sector. The primary cycle is still infiltrated with over-aged pupils. For instance in grade 6, the average age was 13 years (i.e. 3 years older), yet learners at this age should have been in senior 2 of the Lower secondary level. Therefore, making forecasts on enrolment growth for planning and budgeting purposes and determining teacher recruitment needs is a big challenge. The assumptions on this are: (a) there are a lot of internal migrations in local governments; (ii) there are many un-registered refugees/foreigners infiltrating our

education system; and (iii) schools may not be having proper records of the pupils within their schools.

3) Majority of the pupils study on empty stomachs the whole day. The study established that only 17% of the total pupils get at least a meal at school. At regional level, the Northern region had the highest percentage share of pupils (24%) given meals at school. This is attributed to a number of programs being run by international organizations such as the World Food Program, World Vision and UNICEF among others. Generally, lack of lunch ccontinues to affect pupil concentration especially in the afternoon.

4) Generally, pupil absenteeism is still very rampant in all schools across the country. This may be attributed to pupils walking long distances in rural areas. Pupils in some cases find it difficult to walk more than 2km to reach school and back home in the evening after spending the whole day on empty stomachs. As a result, some do not reach school.

5) Repetition rates are still very high in all schools. It should be noted that repetition of pupils is resource wastage on the side of government given the already constrained budget on which government is running the UPE program. To curb this done, there should be measures put in place that augment a pupils' learning and comprehension abilities, as well as those that help slow learners to catch up with the rest.

The nature and magnitude of all these challenges and constraints varied from region to region, although, on the whole, the Acholi and Elgon regions are almost invariably more disadvantaged than their Ankole and Buganda counterparts. The MoES thus recognizes that making headway in addressing these challenges is an on-going and long-term processes, which require critical investments in physical and material infrastructure in schools across the country, well trained and equipped human resource, awareness-building, institutional liaison, capacity building and systems adjustment. This requires both policy consultations and operational action on several fronts. The most critical short-term policy suggestions that have been made basing on the findings of this study include:

1) Carrying out a net enrolment Survey, to establish the causes of the deviations in enrolment figures from the population of the school age going children in LGs, as well as ascertain the challenges that these LGs are facing in keeping proper pupil records.

2) Establish a Pupil Identification Number (PIN) system to keep track of the movements within and out of the school system.

3) Lobby development partners for the support of the School Feeding Program in all schools across the country.

4) There is need for national gender mainstreaming in the education sector, starting at the national level then down to all schools.

5) Government to continue establishing a government school in every sub-county across the country.

6) Government to continue construction of classrooms and procurement of instructional materials across the country.

THE STRUCTURE OF THIS REPORT

This report consists of nine chapters.
In the first chapter, a brief description of Uganda's demography and structure of the schooling system have been given. It also highlights the core checks of the country's education policy as well as the background information about SACMEQ.

Chapter 2 gives a detailed description of the data collection process used and the overall Methodology used to conduct the survey.

In Chapter 3 the focal concern is on pupil characteristics and their learning environments.

Chapter 4 presents a description of teachers' characteristics and their views regarding their work, classroom resources, professional support and job satisfaction.

In Chapter 5 focus has been placed on school heads' characteristics and their opinions about school infrastructure, organization, operations, and behavioral problems of pupils and staff.

In Chapter 6, an analysis of equity in the allocation of human and material resources across the regions and within schools has been presented.

In Chapter 7, the achievement results, of both pupils and teachers in reading and mathematics have been reported.

Chapter 8, gives a general overview of the HIV/AIDS status in Uganda's education system, the intervention that have been put in place to counter its spread and the resultant effects, as well as the challenges that the sector is facing in light of the control of HIV/AIDS spread.

Finally, in Chapter 9, a summary of the major policy suggestions has been made together with a proposed agenda for action.

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CHAPTER ONE:

Background of the Study

1.1 Introduction

For over three decades since the Jomtien Declaration (1990), many African states have been working together to address the challenges of ensuring "quality" in their education system. The Southern Africa Consortium for Monitoring Educational Quality (SACMEQ) provides an International platform for addressing most these challenges. SACMEQ establishes long-term strategies for building the capacity of educational planners to monitor and evaluate the quality of their basic education systems. SACMEQs main mission is to generate baseline data pertaining to the general conditions of schooling and learning achievement with a view to: (i) Expand opportunities for educational planners to gain the technical expertise required for holistic monitoring and auditing of the quality of the schooling process; and (ii) Build a dependable data bank that can be used by decision makers to plan improvements in their respective education systems. The findings, lessons learnt and areas of good practice are then shared and widely used for policy and planning purposes.

Adoption of SACMEQ by Uganda

Uganda joined the SACMEQ consortium in 1998 after three years of its existence and has thus far participated in two SACMEQ projects (i.e. SACMEQ II, III & IV).

The SACMEQ's two specific objectives (i.e. which are to; (i) track changes in the quality of education of member states; and (ii) generate research-based policy advice that can guide decisions on improving the quality of Education in Africa) fit into Uganda's holistic approach of enhancing quality in the education sector. For instance, Uganda has a semi-autonomous body called the Uganda National Examination Board (UNEB), which is mandated with quality assurance. To achieve this, UNEB as has part of its core functions conducts assessment of learners at Primary level through the national level examinations called Primary Leaving Examinations (PLE) at the end of the primary cycle. On the other hand, UNEB also has two modalities of monitoring/assessment of public learning achievement, this is through the Continuous Assessment (CA) and the National Assessment of progress in Education (NAPE). CA is used mainly to determine the progress of an individual pupil for the purpose of making immediate instructional decisions. NAPE on the other hand, aims at monitoring the performance of a system or sub-system as reflected by the proficiency levels of the pupils in especially English and mathematics.

The National Context of Uganda

To understand clearly the Education System of Uganda, one ought to first appreciate the political, economic, demographic and the geographical set-up in which it operates because these directly and indirectly influence it.

Geographical

Uganda is located in the Eastern part of the African Continent. It is a land locked country, with a total surface area of 241,039 Sq/km. The Country lies 200m above sea level along the Equator between Latitudes 4°12' to the North and 1°9' to the South, and between Longitudes 29°34' to the East and 35°0' to the West. It is bordered by Sudan to the North, Kenya to the East, Tanzania to the South, Rwanda to the Southwest and the Democratic Republic of Congo to the west.

Uganda has two alternating climatic seasons based on its location and altitude. The Central, Eastern and Western parts of the country have two rainy seasons a year (i.e. March up to May is characterized by heavy rains, while the months of September to December has light rains). On the other hand, the Northern part of the Country is slightly dry, with one rainy season per year. In addition, Uganda also has variations in soil fertility, which influence the country's vegetation. The Central and Western axes have more fertile soils and thus have mainly the tropical rain forest vegetation, while the Eastern and Northern parts have Savannah Woodlands and Semi-Desert type of vegetation.

1.3.1 The political set-up

Since gaining independence in 1962, Uganda's political system has been evolving and can be categorized into two; that is the pre-national resistance era (1971-1985) and the National resistance era (1986-todate).

After gaining independence, Uganda got involved into two decades of civil war (i.e. 1971-1985). This period among others is remembered for loss of lives, brain drain, devastation the country's economy and infrastructure leading to scarcity of goods and services. In the education sector, the government expenditure on education fell from more than 4% of GDP to 1.2%. Budgetary allocations of the total national budget to education declined from 3.4% to 1.4%. About 40% of teachers in the primary sub-sector were untrained and even those who were trained lacked basic skills and motivation.

When the National Resistance Movement (NRM) government came to power in 1986, a number of reforms geared towards social transformation and national development have taken place. Key among the policy developments was the adoption of the Poverty Eradication Action Program (PEAP), Poverty Action Fund (PAF), and the restructuring of government parastatals. In the education sector specifically, the reform program began with the appointment of the Education Policy Review Commission (EPRC 1989), which analyzed the entire education sector at the time and made recommendations. These recommendations were subsequently integrated into the Government White Paper on Education (GWPE 1992), which now gives leverage to all policy developments in the entire education sector.

1.3.2 Demography

Uganda has a very fast growing population. Since 1948, Uganda's population has increased from 5m to 9.5m in 1969, 16.7m in 1991, 24.7m in 2002 and is currently stands 32.4m according to the Uganda Bureau of Statistics (UBOS). Between 1948 and 2002, Uganda's population has increased nearly fivefold (see Figure 1). Uganda's population growth rate stands at 3.4% (i.e. one of the highest in the world), and a fertility rate of 6.9%.

Figure 1.1: Population of Uganda since 1948 (in millions)

Source: UBOS

The population is predominantly young; that's to say, the 0-14years constitute 50%, 15-64 years (47.9%) and 65 years and above (2.1%). This implies that Uganda has to invest heavily in education in terms of infrastructural and human resource development in order to ensure equitable access for this young population.

The females continue to be under-represented in the education sector due to the social cultural marginalization and stigmatization of the females by the males. However this has progressively been improving since the adoption of Universal Primary Education (UPE) in 1997. For instance, in 2000, Uganda attained gender parity at primary level.

1.3.3 The economy of Uganda

For decades, Uganda's economy suffered from devastating economic policies and instability, leaving it as one of the world's poorest. Soon after the ascending to power of the Movement government, vigorous economic reforms were ushered in. Since then, growth has been robust and diverse. While agriculture accounted for 56% of the economy in 1986, with coffee as its main export, it has now been surpassed by the services sector, which accounted for 52% of percent GDP in 2007, and is currently estimated at 11%.

Uganda has substantial natural resources, including fertile soils, regular rainfall, and sizable mineral deposits of copper and cobalt. In addition, the country is also rich in both crude oil and natural gas.

Uganda has a large diaspora–residing mainly in the United States and the United Kingdom. This diaspora has contributed enormously to Uganda's economic growth through remittances and other investments (especially property). According to the World Bank, in 2010/2011, Uganda got $694 million in remittances from Ugandans abroad, the highest foreign exchange earner for the country. Uganda also serves as an economic hub for a number of neighboring countries like the Democratic Republic of Congo, South Sudan and Rwanda.

1.3.4 Conclusion

As earlier mentioned, the national context invariably influences the growth and development of an education system. Politically, government-will provides the basis for national development in any country. The ruling government has power to use the resources of the country as it pleases. On the other hand, the sound and vibrant economy provides resources that can be channeled to education development, while the population growth patterns influences the country's investments in its education system.

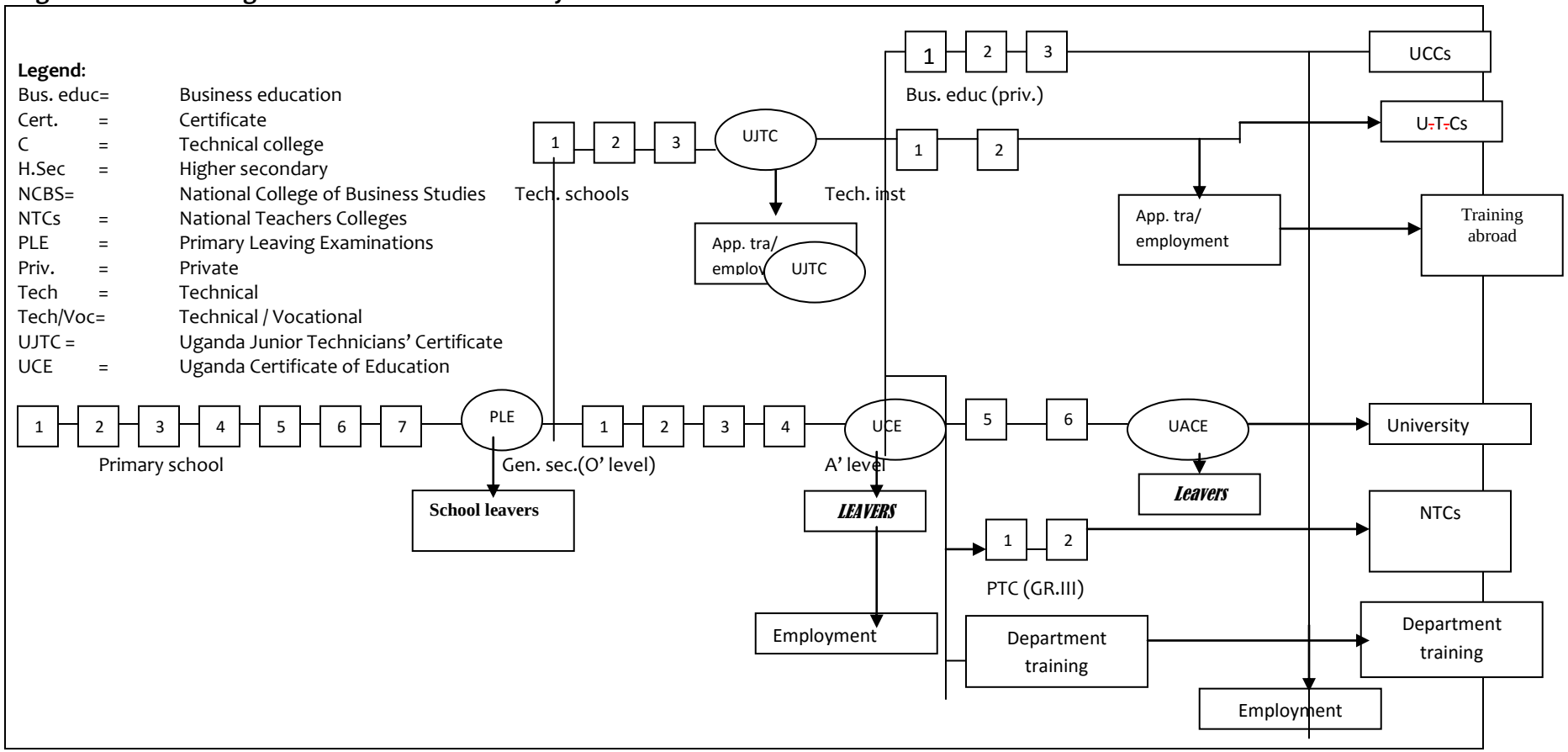
The Structure of Uganda's Education System

Uganda has a four-tier model education system. It consists of seven (7) years of Primary education, followed by a four (4) years of lower secondary, and two (2) years of upper secondary, and is two (2) to five (5) years of tertiary education depending on the course one pursues, see Figure 1.2

There are three national examinations; Primary Leaving Examination (PLE), Uganda Certificate of Education (UCE), and Uganda Advanced Certificate of Education (UACE), which learners sit for at end of each cycle from primary to upper secondary.

The PLE provides a basis/foundation for progression into formal education. However, there many career paths that one can take after completing primary education. For instance, one can either continue with the main cycle of formal education (i.e O'level for 4 years), or may opt to join Business Technical Vocational and Education Training (BTVET) for 2 years, see Figure 1.2. After 4 years of lower secondary, some students join BTVET and Primary Training Colleges (PTCs), while others continue to upper secondary (A' Level). Students who successfully complete upper secondary join Universities and other tertiary institutions for training in different fields.

Figure 1.2: The existing structure of the education system



Source: Government White Paper on Education, 1992

The Administration of Education in Uganda

Following the decentralization process of the civil service (1998) management and provision of basic education is now largely in the hands of the Local Governments (LGs). The Ministry of Education and Sports (MoES) remains responsible for policy formulation and maintenance of standards through teacher training, curriculum development and examinations. This enhances flexibility, transparency & accountability. It can also allow local administrators to be creative in seeking solutions to problems that are unique to their own localities.

In terms of leadership, the overall responsibility of the education sector lies under the leadership of a Cabinet Minister for Education. The Cabinet Minister is assisted by three (3) State Ministers who are responsible for Primary, Higher and Physical Education and Sports. These are mainly political heads that are mandated with the task of seeing that government goals and aspirations in education are achieved. They do not engage in the day-to-day administrative affairs of the sector, they act as opinion leaders. The overall administration of the day-to-day affairs of the sector lies in the hands of the Permanent Secretary (PS), who is the Chief accounting officer.

The MoES has eight (8) technical departments headed by Commissioners. The departments include; (i) Pre-primary and Primary Education; (ii) Secondary Education; (iii) Technical, Vocational and Business Education; (iv) Higher Education; (v) Special Education and Career Guidance; (vi) Teacher Education; (vii) Education Planning and Policy Analysis; and (viii) Physical Education and Sports.

There are support sections operating under the leadership of the Under Secretary Finance and Administration, who reports directly to the Permanent Secretary. These include: Accounts, Procurement, Personnel and Administration. In addition, there are also semi-autonomous institutions under the Ministry, these include: National Curriculum Development Centre (NCDC), Uganda National Examinations Board (UNEB), Education Standards Agency (ESA), Education Service Commission (ESC), National Health Service Training Colleges, and Public Universities.

All Commissioners, except the one for the Education Planning and Policy Analysis department (EPPAD), are supervised by and answerable to the Director of Education. The Director of Education, the Under Secretary and the Commissioner of Education Planning, report to the Permanent Secretary who is the accounting officer and overall supervisor of the education sector.

The Education Policy thrust

The key policy thrust of the education sector is ***"Quality equitable education for all Ugandans of school going age"*** for social transformation and national development. To achieve this goal, government continues to address challenges associated with the teaching and learning process across the sector.

The Government White Paper on Education (GWPE 1992) is the foundation for the overall policy formulation in the education sector. The GWPE has given leverage for the development of the Education Sector Strategy Plan (ESSP 2004-2015), which is the sectoral development framework provides the basis for planning and investment over the medium term.

The ESSP (2004-2015) replaces the Education Strategic Investment Plan (ESIP of 1998-2003), whose broader objectives were: (a) achieving equitable access to education at all levels; (b) Improving quality of education particularly at the primary level; (c) Enhancing the management of education service delivery at all levels; and (d) developing the capacity of MoES to plan, program and manage an investment portfolio that will effectively develop the education sector.

ESSP (2004-2015) builds on the successes of ESIP (1998-2003), particularly in the implementation of Universal Primary Education (UPE), while addressing the weaknesses /gaps in ESIP such as providing adequate treatment of the post primary and other sub-sectors in addition to primary. The objectives of the ESSP are to:

a) Build an education system that is relevant to Ugandan's national development;
b) Ensure that all children participating in the education system achieve education goals; and;
c) Maintain an effective and efficient education sector.

ESSP (2004-2015) is directly linked to broader national policies as Uganda Vision 2025 and the Poverty Eradication Action Plan (PEAP 1997), and government international such as Education for All (EFA) and the Millennium Development Goals (MDGs).

The education sector developed a Medium Term Budget Framework (MTBF) as an operational tool to achieve its desired goals (outputs) in the medium term. The MTBF is a three-year annual rolling budget plan with resources derived from a Medium Term Expenditure Framework (MTEF) designed, by the Ministry of Finance, Planning and Economic Development (MoFPED). The MTBF is an outcome/output-based instrument, which highlights the most cost-efficient strategies, and expenditure plans. The MTBF has particularly been an important tool in relating the ESSP to the available resources and in restructuring priorities and phasing expenditure.

CHAPTER TWO:

The Conduct of the SACMEQ IV Project by Uganda

2.1 Design of the project

The design of the project was based on twenty one (21) policy concerns that the SACMEQ National Research Coordinators (NRCs) came up with in the series of the preparatory meetings held. The twenty one policy concerns were grouped into six (6) themes namely:

1) The characteristics of Primary 6 pupils, including their home, background and learning environments
2) Teachers' characteristics and their views about teaching, classroom resources, and professional support
3) School head's characteristics and their views about educational infrastructure, School Operation and problems
4) Equity in the allocation of human and material resources among regions
5) The reading and mathematics achievement levels of learners and their teachers.
6) HIV and AIDS Education

The general policy concerns were thus categorized under respective themes and specific research questions were developed that guided the study, see figure below.

SN	**Theme**	**Policy concerns**
1	The Characteristics of Primary 6 pupils, including their home background and their learning environments	**General Policy Concern 1:** What were the personal characteristics (for example, age and gender) and home background characteristics (for example, parent education, regularity of meals, home language, etc.) of Primary 6 learners that might have implications for monitoring equity, and/or that might impact upon teaching and learning? **General Policy Concern 2:** What were the school context factors experienced by Pupils (such as location, absenteeism (regularity and reasons) grade repetition, and homework (frequency, amount, correction, and family involvement) that might impact upon teaching and learning and the general functioning of schools?

		General Policy Concern 3: Did the Pupils have sufficient access to classroom materials (for example, textbooks, readers, and stationery) in order to participate fully in their lessons? **General Policy Concern 4:** Did Pupils have access to library books within their schools, and (if they did have access) was the use of these books being maximized by allowing learners to take them home to read? **General Policy Concern 5:** Has the practice of Primary 6 learners receiving extra lessons in school subjects outside school hours become widespread, and have these been paid lessons?
2	What are Reading, Mathematics and Health Teachers' Characteristics and their Views on Classroom Resources and Professional Support	**General Policy Concern 6:** What were the personal characteristics of Primary 6 teachers (for example, age, gender, and socio-economic level), and what was the condition of their housing? **General Policy Concern 7:** What were the professional characteristics of Primary 6 teachers (in terms of academic, professional, and in-service training), and did they consider in-service training to be effective in improving their teaching? **General Policy Concern 8:** How did Primary 6 teachers allocate their time among responsibilities concerned with teaching, preparing lessons, and marking? **General Policy Concern 9:** What were Primary 6 teachers' viewpoints on (a) assessment procedures, and (b) meeting and communicating with parents? **General Policy Concern 10:** What professional support (in terms of education resource centres, inspections, advisory visits, and school head inputs) was

		given to Primary 6 teachers?
3	What are the characteristics of School Heads and their Views on Educational Infrastructure, Schools Operation and Problems?	**General Policy Concern 11:** What were the personal characteristics of school heads (for example, age and gender)? **General Policy Concern 12:** What were the professional characteristics of school heads (in terms of academic, professional, experience, and specialized training)? **General Policy Concern 13:** What were the school heads' viewpoints on (a) daily activities (for example, teaching, school-community relations, and monitoring learner progress), (b) organizational policies (for example school magazine, open days, and formal debates), (c) inspections, (d) community input, (e) problems with learners and staff (for example, learner lateness, teacher absenteeism, and lost days of school)?
4	Is there Equity in the Allocation of Human and Material Resources among Regions?	**General Policy Concern 14:** What were the Levels of essential classroom and school resources, and trends between 2000 and 2007? **General Policy Concern 15:** Was the distribution of human resource attributes considered desirable in 2007 and trends between 2000 and 2007?
5	What ate the Reading and Mathematics Achievement Levels of Pupils and their Teachers, and what are trends between 2000 and 2007?	**General Policy Concern 16:** What were the levels (according to descriptive levels of competence) and variations (among schools and regions) in the achievement levels of Primary 6 learners and their teachers in reading and mathematics – for Uganda and for all other SACMEQ countries? **General Policy Concern 17:** What were the reading and mathematics achievement levels of important sub-groups of Primary 6 learners and their teachers (for example, learners and teachers of different genders, socio-

		economic levels, and locations)?
6	HIV and AIDS Education	**General Policy Concern 18:** How much did teachers and pupils know about HIV and AIDS? General Policy Concern 19: What are the attitudes of Primary 6 Pupils, teachers and school principals towards HIV and AIDS? General Policy Concern 20: Are HIV and AIDS information and services accessible to Primary 6 Pupils, Teachers and school principals? **General Policy Concern 21:** Do teachers and school heads receive specialized training on HIV-AIDS and do they give lessons on HIV-AIDS?

2.2 Data collection tools and coverage

Data collection instruments included; (i) School Head Booklets, (ii) School Information Forms, (iii) Teacher Booklets, (iv) Pupil Booklets and (v) Pupil Name Forms.

Each participant received print-ready copies from the National Research Coordinator (NRC). The pupil booklets and the teacher booklets had each four different parts namely, mathematics, reading, HIV/AIDS and Home tests all bound into one booklet.

2.3 The Study Population

The definition of the study population included the desired, the defined and excluded populations.

(a) Desired Target Population

The desired target population definition for the SACMEQ IV Project was as follows:
"All learners at Primary 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

Not more than 5% of the learners in the desired target population were excluded from the defined target population. Like in SACMEQ III, special schools which provide education to learners with severe educational needs were excluded from the SACMEQ IV sample. "Small" mainstream schools which had less than 15 learners enrolled in Primary 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.

(c) Defined Target Population

The "defined target population" was constructed by removing the "excluded target population" from the "desired target population".

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 NRC submitted to the SACMEQ Coordinating Centre. The PPS sampling technique meant that relatively large schools had a higher probability of being selected than smaller schools. In the second stage of sampling, learners were sampled from all the Grade 6 classes in each of the sampled schools using computer-generated random numbers. The twenty five (25) learners (minimum cluster size) sampled. Where the number of Primary six learners was 25 or less than 25 in a school, all the Primary six 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, refer to Ross and Saito (in press). The numbers of schools and learners in the planned and actually achieved Ugandan sample have been presented in Table 2.2.

Table 2.2: Planned and Achieved Samples for SACMEQ IV in Uganda

Region	Planned		Achieved		Percent Response rate	
	Schools	Pupils	Schools	Pupils	Schools	Pupils
Acholi	15	375	15	347	100.0%	92.5%
Ankole	15	375	15	345	100.0%	92.0%
Buganda	50	1,250	50	1,074	100.0%	85.9%
Bukedi	16	400	16	333	100.0%	83.3%
Bunyoro	14	350	14	282	100.0%	80.6%
Busoga	25	625	25	546	100.0%	87.4%
Elgon	15	375	15	345	100.0%	92.0%
Karamoja	15	375	15	307	100.0%	81.9%
Kigezi	15	375	15	342	100.0%	91.2%
Lango	18	450	18	430	100.0%	95.6%
Teso	15	375	15	333	100.0%	88.8%
Toro	16	400	16	281	100.0%	70.3%
West Nile	16	400	16	296	100.0%	74.0%
National	***245***	***6,125***	***245***	***5,261***	***100.0%***	***85.8%***

From Table 2.2 it can be seen that the planned Ugandan sample was 245 schools in SACMEQ IV 2013 compared 164 schools in 2007 and 6,125 primary six learners in 2013 compared to 3,280 learners 2007. The achieved sample comprised of 245 schools and 5,261 learners compared to 2,642 learners in 2007. Non-participation of some targeted pupils is attributed to pupil absenteeism in the selected schools.

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 the SACMEQ III project in Uganda have been presented in Table 2.3.

The figures in 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 Uganda in SACMEQ IV

	Response Rate (%)		*Design Effect*			*Effective Sample Size*		
	Schools	*Pupils*	*Reading*	*Maths*	*HAKT*	*Reading*	*Maths*	*HAKT*
Uganda	100%	85.8%	42.6	33.0	25.6	1,102	5,120	1,864

The following observations can be made from Table 2.3:

a) 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%. In light of this, Uganda's overall response rates for schools and learners were 100% and 85.8%, respectively. The overall response rate in SACMEQ IV was higher than in SACMEQ III which stood at 100% for schools and 85.8% for learners compared to 99% and 79% in 2007 for SACMEQ III (ie schools and learners respectively).

b) 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. Applied to SACMEQ III, this means that for Reading the achieved two-stage sample had a variance (of the sample mean) which was 10.6 times the variance that would be realized if a simple random sample of the same size was used. For Mathematics this ratio was 33.0 while for HAKT it was 25.6. 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.

c) 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. For Reading in this case, a simple random sample of 6125 learners would have given the same level of accuracy as the two-stage sample of 8,086 learners. The "Effective Sample Size" is calculated by dividing the sample size using multi stage by the design effect. Inaccuracies in this calculation may be due to the fact that not all 8,086 pupils in Uganda took all three tests. The "Effective Sample Sizes" of each of Mathematics and HAKT can be calculated in the same way provided care is taken to use the correct values. Generally, the "Effective Sample Size" will be smaller than the given actual multi-stage sample.

According to the International Association for the Evaluation of Educational Achievement (IEA), the set standards that were used in SACMEQ IV required that sample estimates of important learner population parameters in multi-stage designs should have sample accuracy that was at least equivalent to a simple random sample of 6,125 learners (thereby guaranteeing 95% confidence limits for sample means of plus or minus one tenth of a learner standard deviation unit). In SACMEQ IV, unlike in SACMEQ III, the Ugandan sample sizes exceeded this threshold in all the three tests that were administered.

2.6 The Main Data Collection

(a) Communication to schools

A Circular was sent to all sampled schools from the Office of the Permanent Secretary, through the District Education Officers (DEO), Centre Coordinating Tutors (CCTs) and Head teachers of the respective schools at the beginning of 2013. DEOs were then tasked to identify a coordinator for data collection and teams of data collectors. The teams were responsible for distributing data collections schedules, intensifying and monitoring communication to schools in their respective districts.

(b) Training of data collectors

A total of one hundred (100) data collectors were trained. On the first day of training, the NRC presented a "simulated" data collection exercise in which he/she 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 set down, in sequential order, all of the actions to be taken by the data collector from the time of receiving packages of data collection instruments from the Ministry of Education& Sports 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 were shared and discussed during a later meeting so that all data collectors understood the procedures to be completed within schools.

(c) Actual Data Collection

Data was collected in November 2013 in 245 sample schools. At least two trained data collectors were assigned to each sampled school to administer the instruments. 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 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.

Two days of data collection were required for each sample 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 learner questionnaire, the HAKT and the Reading test. On the second day they were given the Mathematics test. Part of the learner questionnaire required learners to get confirmation of the accuracy of the information from their parents and so the questionnaire was taken home 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 Orientation (for the HIV and Aids test) also completed the relevant tests.

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 data collectors also checked all completed questionnaires (learner, teacher, and School Head) and, if necessary, obtained any missing or incomplete information on the second day before they left the school. The materials were then handed over to the field coordinator for safekeeping, "hand editing" and dispatching to the National Research Coordinator (NRC) in Kampala as soon as all data collection was completed.

2.7 Data entry, Data checking and Data cleaning

The following steps were followed at national level to check, enter and clean data:

a) Data Checking and Data Entry

The Ugandan NRT received the completed materials from the field coordinators and kept these safely while they were being checked, entered into computers, and then "cleaned" to remove errors prior to data analysis. Data checking involved the "hand editing" of data collection instruments by a team of trained staff. The staff checked that: (i) all expected questionnaires, tests, and forms had been received, (ii) the identification numbers on all instruments were complete and accurate, and (iii) certain logical linkages between questions made sense (for example, they had to verify if the two questions to School Heads concerning "Do you have a school library?" and "How many books do you have in your school library?" were answered consistently). Trained data capturers, supervised by the NRT, entered data into computers using the WINDEM software that was supplied by the SACMEQ Coordinating Centre. Data were "double entered" in order to monitor accuracy. Individual data capturers worked for maximum of eight hours per day, and the whole data entry operation for Uganda was estimated to involve around 90 person days of data entry work.

(b) Data Cleaning

After attending the December 2013 training for NRCs, organized by the SACMEQ Coordinating Centre (i.e. that involved taking them through the step-by-step of the required data cleaning procedures), the NRC trained and closely supervised a select team that carried out data cleaning.

Data was cleaned using the WINDEM software, the select team 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.

The team followed a "cyclical" process whereby data files were cleaned and then emailed to the Coordinating Centre by the NRC for checking. After going through, the Coordinating Centre emailed back to the NRC for further cleaning. The entire data cleaning process in Uganda lasted seven months. This was much shorter than the 23 months taken to clean the data for the SACMEQ II project.

(c) Merging and Weighting

When data cleaning was complete, the select team merged the data from all the sources. The 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 and 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 and Reading teacher, (c) the questionnaire data for his/her School Head, and (d) school and learner "tracking forms" that were required for data cleaning purposes.

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. 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 (2003).

2.8 Analysing the data

The data analysis was very clearly defined and 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 learners' homes and the number of possessions in learners' homes. Second, the Coordinating Centre's specialized data analysis software, IIEPJACK, was used to "fill" the Dummy Tables with appropriate estimates and corresponding sampling errors.

CHAPTER THREE

3.1 Pupils Characteristics and their Learning Environments

Pupil characteristics and their learning environment influence pupils' schooling process and their learning achievement. For instance gender and its associated cultural misconceptions can directly or indirectly influence attendance of pupils, while the presence of a good or bad schooling environment also influences learners' morale and concentration. Thus this study collected data on a number of pupil characteristics and learning environment to ascertain how they influence the teaching and learning process. The key variables of interest in this study included: region, gender/sex, age of pupils, availability of textbooks in pupils' homes, parent's education levels, the frequency with which learners speak English outside school, the place where pupils reside, availability of meals for the pupils at school and the wealth status of households. A detailed analysis of each variable is given below.

3.2 Age distribution of primary 6 pupils

Pupil's age is an important indicator in assessing the level of access and participation in education. It should be noted that the official age entry into the Primary cycle in Uganda is six (6) years, and a learner is expected to be in Grade 6 at the age of eleven (11). In addition, a learner is expected to be completing the primary cycle at the age of twelve (12). Thus this helps government to plan for the bulge of learners joining the cycle for the first time and those that are joining post-primary level. However, because of the socio-economic, political and cultural challenges *(i.e. poverty, lack of interest in education…among others)*, achieving Net Enrolment Ratio (NER) is still a big challenge of the Educator Sector.

Table 3.1: Descriptive statistics for pupils' age by Region

	SEX					
REGION	**Male (Years)**	**Std Error**	**Female**	**Std Error**	**Overall**	**Std Error**
Acholi	170.81	1.54	170.96	1.46	170.86	1.22
Ankole	160.13	1.87	155.63	2.96	157.89	2.30
Buganda	156.33	1.43	151.18	1.60	153.59	1.42
Bukedi	163.94	2.28	159.64	2.20	162.29	2.09
Bunyoro	166.60	1.94	157.88	2.13	162.88	1.99
Busoga	160.81	1.97	157.43	1.75	159.43	1.70
Elgon	163.27	3.23	158.29	2.06	160.72	2.21
Karamoja	165.22	2.58	166.27	2.79	167.30	2.70
Kigezi	164.05	3.28	160.76	2.19	162.07	2.49
Lango	167.12	2.26	167.84	2.93	167.47	1.86
Teso	167.74	3.49	161.44	2.19	164.67	2.52
Toro	165.00	2.21	160.97	2.31	162.88	2.04
West Nile	167.77	1.58	171.73	3.21	169.52	2.20
Total	***162.91***	***0.68***	***158.80***	***0.69***	***160.85***	***0.61***

At the national level, the mean age of primary 6 pupils is 13 years and 4 months (160.85 months). On average primary 6 pupils were 3 years older than expected. The youngest primary 6 pupils on average are in the Central Region, where the average age is 13 years and 3 months. This is because the schools are relatively close to one another and the parents in the region appreciate the value of education.

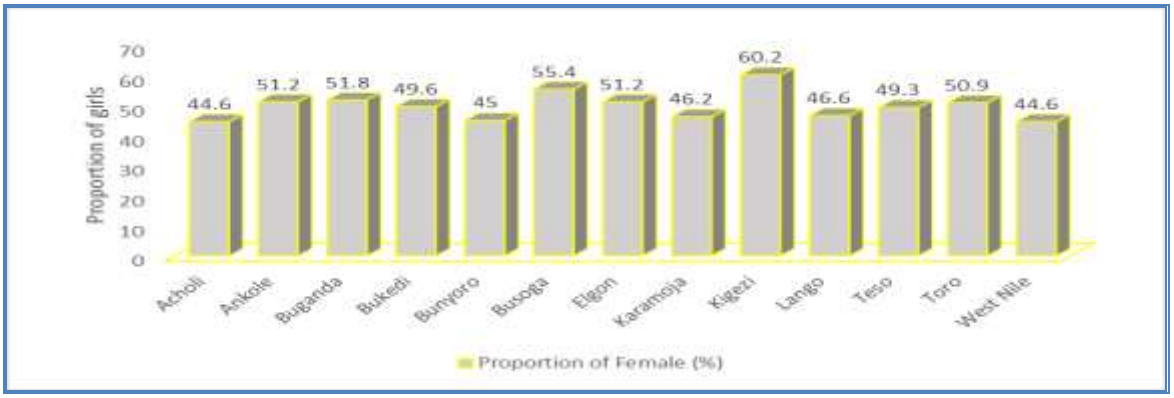
In contrast, the oldest pupils are found in the Acholi region where the mean age is 14 years and 2 months old and 14 years and 1 month in West Nile. In addition it was found that boys' age were higher than girls by 2 months on average.

High numbers of "over age" children in Uganda is attributed to high repetition rates in primary 6, socio-cultural stigmatization of the girl child, child headed families, pupils walking long distances to school, poverty and lack of interest in education.

3.3 Gender distribution of pupils

Uganda is committed to achieving gender parity in primary education. As such, various policy strategies have been developed to bridge the gap between boys and girls, and to ensure equal participation at all levels of learning. The key milestone in achieving this was the adoption of Universal Primary Education (UPE) in 1997. Since then, enrolment has continuously been growing especially for girls. In addition, various independent studies and monitoring exercises have been conducted to address key gender specific concerns to ensure equity. Figure 3.2 presents percentage share of primary six girls in the schools visited.

Figure 3.2: Percentage share of female pupils in primary six by region



There has been a significant improvement in gender distribution in P.6 from 44.5% in SACMEQ II to 50.2% in SACMEQ III and finally to 50.4% in SACMEQ IV in tandem with the EFA gender parity target of 50% enrolment share for females. The Acholi and West Nile Region had the lowest number of females (44.6%) in primary six while the Kigezi region had the highest (60.2%). The reason for poor participations of girls in the Acholi and West Nile Region is among others attributed to conflicts, early

marriages and pregnancies, challenges of dealing with sex maturation and menstruation in particular.

3.4 Attendance of ECD before primary one

The already muddy research on whether it's better to hold back struggling pupils or promote them to the next grade just got muddier. Studies with the strongest research methods compare students who were retained with similar students who were not retained. SACMEQ IV also looked at the number of times pupils of primary six repeated preschool, kindergarten, nursery, reception, ECD before primary one, the results indicated as below.

Table 3.4 Number of pupils by region and number of times they attend ECD before Primary one.

How long did you attend ECD before P.1						
Region	Never	A few months	1 year	2 years	3 years or more	Total
Acholi	163	23	37	26	62	311
Ankole	62	11	80	70	116	339
Buganda	212	52	250	229	280	1023
Bukedi	103	20	100	35	64	322
Bunyoro	83	14	74	25	62	258
Busoga	169	40	127	70	103	509
Elgon	116	24	74	30	85	329
Karamoja	147	14	36	26	60	283
Kigezi	139	11	37	47	98	332
Lango	256	20	35	18	82	411
Teso	229	8	37	10	46	330
Toro	89	15	85	36	40	265
West Nile	157	17	37	24	45	280
Nationals	***1,925***	***269***	***1,009***	***646***	***1,143***	***4,992***

A total of 4,992 primary six responded to this question and majority of pupils (1,925) indicated that they have never attended a preschool, kindergarten or ECD. Only 22.9% (i.e. 1,143 pupils) of p.6 pupils reported having attended ECD for more than 3 years.

3.5 Is your biological (natural) mother/father alive?

Parental involvement in children's education from an early age has a significant effect on educational achievement, and continues to do so into adolescence and adulthood. In SACMEQ IV we asked primary six pupils whether their biological (natural) mother/father were still alive, and pupils' responses were computed as below.

Table 3.5: Proportion of pupils with their parents alive.

	Mother Alive			***Father Alive***		
Region	No	Yes	Don't know	No	Yes	Don't know
Acholi	13.9%	85.8%	0.3%	23.8%	75.3%	0.9%

Ankole	7.6%	92.4%	0.0%	14.0%	85.9%	0.0%
Buganda	10.0%	89.7%	0.3%	18.2%	81.4%	0.5%
Bukedi	22.0%	78.0%	0.0%	26.4%	73.6%	0.0%
Bunyoro	8.2%	91.4%	0.4%	9.7%	89.9%	0.4%
Busoga	21.8%	78.0%	0.2%	26.1%	73.1%	0.8%
Elgon	5.8%	94.2%	0.0%	7.3%	92.7%	0.0%
Karamoja	29.0%	71.0%	0.0%	33.1%	66.9%	0.0%
Kigezi	5.3%	94.7%	0.0%	13.1%	86.9%	0.0%
Lango	17.6%	82.0%	0.5%	25.0%	74.8%	0.2%
Teso	5.7%	94.0%	0.3%	9.4%	90.3%	0.3%
Toro	4.8%	94.8%	0.4%	10.6%	89.4%	0.0%
West Nile	11.3%	88.7%	0.0%	15.2%	84.5%	0.3%
National	***12.7%***	***87.2%***	***0.2%***	***18.4%***	***81.3%***	***0.3%***

The results shows that on average 84.3% (Mother alive; 87.2%: Father alive: 81.3%) of the pupils have both biological (natural) parents alive. Regional analysis indicates that Karamoja region had the highest number of primary six pupils with no biological parents alive at 31.1% (Mother alive; 29%: Father alive; 33.1%). This can be attributed to low life expectancy and previous instabilities in the region.

3.6 Speaking English outside school

English has long been the international language and globalization has made it more important than ever. Due to globalization, media from around the world is more readily available through a variety of sources such as the internet, television and radio. SACMEQ IV indicated proportions of the pupils who use English outside the school in the table 3.6 below.

Table 3.6 Portion of pupils who use English outside school by Region

Speaking English outside school					
Region	**Never**	**Sometimes**	**Most of the time**	**All of the time**	**Prop. Of Pupils who can speak English outside school**
Acholi	21.2%	47.2%	10.7%	20.9%	25.0%
Ankole	14.6%	62.6%	11.1%	11.7%	25.0%
Buganda	10.3%	64.4%	10.9%	14.4%	25.0%
Bukedi	3.0%	76.7%	8.8%	11.5%	25.0%
Bunyoro	9.9%	52.9%	14.1%	23.2%	25.3%
Busoga	9.9%	60.3%	14.9%	14.9%	25.0%
Elgon	7.7%	64.6%	11.6%	16.1%	25.0%
Karamoja	4.6%	60.4%	12.6%	22.5%	25.3%
Kigezi	10.7%	69.7%	7.1%	12.5%	25.0%
Lango	9.5%	66.1%	11.0%	13.4%	25.0%
Teso	9.4%	78.2%	6.6%	5.7%	24.98%
Toro	13.5%	50.9%	9.4%	26.2%	25.0%
West Nile	9.5%	51.6%	13.3%	25.6%	25.0%
National	***10.3%***	***62.7%***	***11.0%***	***16.0%***	***25.0%***

At national level 25.0% of the pupils in the schools spoke English outside their schools, 62.7% of the pupils sometimes spoke English and 10.3% never spoke English outside school, this is due the introduction of the thematic curriculum in most schools in Uganda, where pupils learn in their mother tongues. Generally Teso region proved to be one of the regions encouraging thematic curriculum where all the time 5.7% of the pupils use English outside school.

3.7 Place where pupils reside during the school week

Some areas in Uganda have low population density, which makes 100% school access a challenge due to un-walkable distances from home to school by pupil. Information was thus sought on places where pupils commute during the school week so as to gauge the home to school distance as well as the conduciveness of pupil's learning environment. The responses obtained are laid out in Table 3.2.7.

Table 3.2-1: Place where pupils stay during the school week

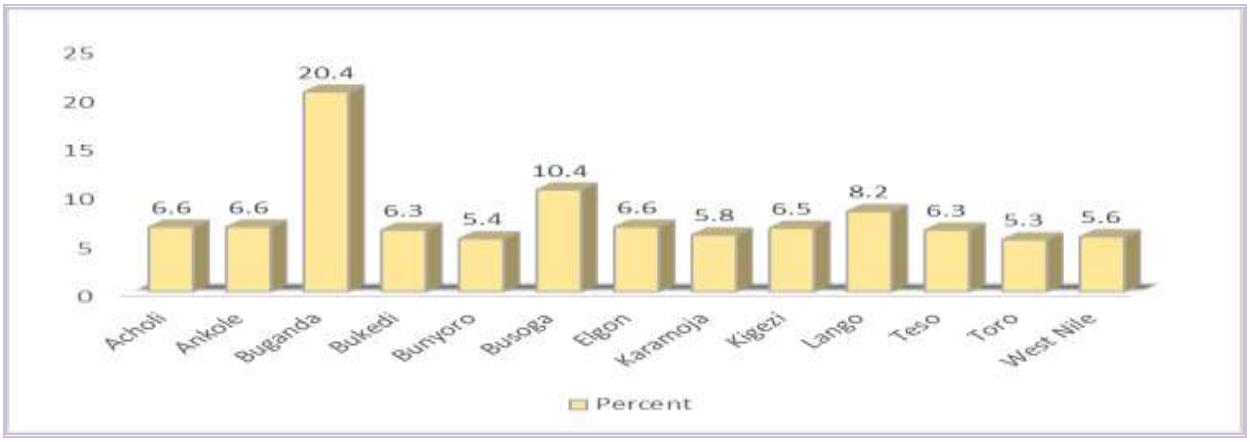
REGION	PLACE OF STAY DURING SCHOOL WEEK									
	Home with Family	Std Error	Home with Other People who are not Family	Std Error	Hostel / Boarding School	Std Error	Orphanage or Children's Home	Std Error	Other	Std Error
Acholi	69.6	5.14	11.8	2.58	11.1	3.97	5.2	1.62	2.3	1.10
Ankole	75.7	5.75	5.2	1.36	16.5	5.23	1.3	0.59	1.2	0.55
Buganda	69.6	3.19	9.9	1.35	16.2	2.61	2.9	0.62	1.4	0.56
Bukedi	72.6	5.85	8.2	1.72	14.9	5.37	2.7	1.04	1.6	1.00
Bunyoro	72.6	5.64	9.6	2.71	11.8	3.90	6.1	2.42	0.0	0.00
Busoga	71.3	4.01	11.6	2.41	11.7	2.22	2.8	1.15	2.6	1.25
Elgon	69.5	4.70	7.8	2.02	18.4	4.42	3.4	0.85	0.9	0.48
Karamoja	53.7	6.01	14.3	4.41	25.4	7.07	4.7	1.80	2.0	1.12
Kigezi	84.5	2.67	5.6	1.31	6.7	2.26	2.4	0.86	0.8	0.58
Lango	69.4	5.50	9.5	1.39	15.1	5.09	4.3	1.86	1.7	0.81
Teso	80.6	3.18	9.3	1.89	8.2	2.62	1.5	0.85	0.3	0.34
Toro	78.4	5.43	6.9	2.60	10.4	3.43	3.5	1.84	0.7	0.72
West Nile	73.9	3.70	11.0	1.87	14.6	3.66	0.3	0.29	0.3	0.26
Total	**72.6**	**1.37**	**9.3**	**0.59**	**13.8**	**1.12**	**2.9**	**0.34**	**1.3**	**0.24**

Results reveal that 72.6% of primary 6 pupils nationwide stayed with their parents or guardians, while 13.8% stayed in a hostel, 9.3% in home with other people who are not their family members and 2.9% in orphanages. The results showed considerable variation between the regions with the Karamoja region contributing the biggest share (25.4%) of pupils in hostel/boarding.

3.8 How regularly did pupils eat meals

The health and nutritional condition of pupils can affect teaching and their learning out comes. A child who gets the whole three meals a day (i.e. breakfast, lunch and supper) has the ability to concentrate fully with vigor on his/her academics, and the reverse is also true. Accordingly, a question was asked about how many times in a week the primary 6 pupils had meal at school, (see Figure 3.8).

Figure 3.8: Percentage of pupils given meals at school by region



7.7% of the total Primary six pupils get at least a morning meal at school. At regional level, the Buganda region had the highest percentage share of pupils (20.4%) given morning meals at school. This attributed to efforts of parents in Buganda region who afford to pay for break and lunch time meal fees asked by schools especially private and some few government aided primary schools. In regions like Lango, Karamoja, west Nile, Busoga, the number of pupils who can given meals at schools are attributed to a number of programs being run by international organizations such as the World Food Program, World Vision and UNICEF among others.

3.9 Socio-economic status of pupils' parents

Socio-economic status of individuals can be measured various parameters in a given society. These include material household possessions, housing, parents' education, type of lighting at home, availability of books and other study materials at home. For instance families that can afford to have all the above at their disposal can be regarded as an average family. This also implies that a pupil in such a home will be highly advantageous in various capacities to one who lives without any or most of these in terms of education. Possession of light in a home will enable a pupil to do homework and to revise their books after school. Thus information concerning the type of lighting used in pupils' homes was collected and is reported in Table 3.9 below:

Table 3.9: Percentages for the source of lighting in pupils' homes

	Source of Lighting At Home											
REGION	***Fire***	***Std Error***	***Candle***	***Std Error***	***Paraffin / Oil***	***Std Error***	***Gas Lamp***	***Std Error***	***Electricity***	***Std Error***	***None***	***Std Error***
Acholi	19.4	3.20	14.8	3.17	48.4	4.39	7.4	1.22	6.5	1.60	3.4	0.92
Ankole	2.5	1.04	6.8	1.68	49.6	7.45	5.1	1.57	34.8	7.24	1.2	0.71
Buganda	5.7	1.24	12.8	2.15	36.2	3.30	5.0	0.83	39.2	4.68	1.2	0.41
Bukedi	7.9	2.25	22.2	6.80	39.5	6.73	2.3	0.75	27.5	7.80	0.6	0.40
Bunyoro	11.1	3.66	22.5	5.11	32.7	5.00	4.6	1.98	26.4	6.42	2.8	1.34
Busoga	8.4	2.37	40.3	5.36	26.3	5.03	3.8	1.30	18.7	5.05	2.5	0.95
Elgon	9.4	2.24	26.2	4.77	27.6	3.86	3.5	0.85	29.7	6.99	3.5	1.46
Karamoja	30.7	5.80	20.5	4.06	19.6	4.23	3.3	1.08	20.2	4.85	5.7	1.10
Kigezi	16.1	4.15	17.7	3.77	48.5	5.35	2.5	0.70	13.3	4.89	1.9	1.07
Lango	12.0	2.30	9.0	2.26	50.6	5.17	7.9	1.80	17.7	4.78	2.9	1.03
Teso	13.0	3.22	17.8	4.47	45.9	4.08	5.4	1.40	14.5	5.31	3.4	1.13
Toro	14.3	3.37	19.2	4.74	44.4	6.48	4.3	1.23	15.9	5.20	1.9	1.49
West Nile	12.0	5.11	12.3	3.76	51.0	4.97	6.5	1.63	16.5	3.79	1.8	1.37
National	**9.9**	**.76**	**18.5**	**1.22**	**39.8**	**1.51**	**4.9**	**.39**	**24.8**	**1.76**	**2.1**	**.27**

The results from Table 3.9 indicate that only 2.1% of pupil's had no provision for lighting at their homes, this marks a very big improvement as compared to 12.2% in 2007. 26.5% used candles, 49.6% used paraffin/oil and only 12.0% relied on electric lighting, in 2013 there are has been improvement in the homes using electricity from 12.0% in 2007 to 24.8% in 2013. The households in the Buganda Region had the best provision for lighting while the Acholi region had the smallest share on the national grid of electricity supply.

Besides, Pupils were asked about the structure of floors in their homes. The information collected has been summarized in Table 3.10

Table 3.10: Percentages for structure of floors in pupils' homes

Floor Material						
Region	**Earth**	**Canvas**	**Wooden**	**Cement**	**Carpet**	**Overall**
Acholi	11.90%	7.40%	4.30%	2.40%	5.40%	6.28%
Ankole	6.00%	1.90%	6.80%	7.30%	10.00%	6.40%
Buganda	9.50%	20.80%	14.60%	29.20%	39.50%	22.72%
Bukedi	5.20%	4.60%	4.80%	9.10%	3.70%	5.48%
Bunyoro	5.20%	9.70%	7.30%	4.30%	5.20%	6.34%
Busoga	9.10%	13.90%	13.50%	11.40%	6.60%	10.90%
Elgon	6.50%	7.90%	10.50%	5.40%	5.40%	7.14%
Karamoja	5.70%	5.60%	11.60%	3.40%	1.40%	5.54%
Kigezi	7.00%	5.10%	5.90%	6.20%	7.40%	6.32%
Lango	11.20%	5.10%	6.80%	6.80%	4.00%	6.78%
Teso	9.90%	4.60%	2.50%	5.10%	2.30%	4.88%
Toro	6.00%	9.70%	7.10%	4.00%	2.90%	5.94%
West Nile	6.70%	3.70%	4.10%	5.30%	6.00%	5.16%
National	***7.68%***	***7.69%***	***7.68%***	***7.68%***	***7.68%***	***7.68%***

Nationwide the pupils indicated that the floors in their homes were not sealed (7.68%) on average. Once again, it is the better advantaged Buganda Region which had the largest number of pupils' (22.72%) reporting the existence of sealed floors in their homes on average.

Similarly, information concerning structures of walls in pupil's homes has been presented in Table 3.10.

Table 3.11: Percentages for structure of walls in pupils' homes

Region	**Wall Material**							
	Cardboard	**Grass**	**Mud & sticks**	**Stones**	**Metal sheets**	**Wood**	**Cut stones**	**National Average**
Acholi	12	42	64	129	12	19	62	48.57
	3.50%	12.40%	18.80%	37.90%	3.50%	5.60%	18.20%	14.3%
Ankole	16	15	125	76	40	8	61	48.71
	4.70%	4.40%	36.70%	22.30%	11.70%	2.30%	17.90%	14.3%
Buganda	79	52	86	266	91	78	375	146.71
	7.70%	5.10%	8.40%	25.90%	8.90%	7.60%	36.50%	14.3%
Bukedi	17	33	65	114	9	20	72	47.14
	5.20%	10.00%	19.70%	34.50%	2.70%	6.10%	21.80%	14.3%
Bunyoro	17	23	93	45	11	22	54	37.86
	6.40%	8.70%	35.10%	17.00%	4.20%	8.30%	20.40%	14.3%
Busoga	21	42	50	173	47	47	143	74.71
	4.00%	8.00%	9.60%	33.10%	9.00%	9.00%	27.30%	14.3%
Elgon	23	29	96	64	20	38	53	46.14
	7.10%	9.00%	29.70%	19.80%	6.20%	11.80%	16.40%	14.29%
Karamoja	15	40	77	43	18	23	30	35.14

	6.10%	16.30%	31.30%	17.50%	7.30%	9.30%	12.20%	14.3%
Kigezi	24	28	109	86	16	34	33	47.14
	7.30%	8.50%	33.00%	26.10%	4.80%	10.30%	10.00%	14.29%
Lango	19	45	76	159	11	13	92	59.29
	4.60%	10.80%	18.30%	38.30%	2.70%	3.10%	22.20%	14.29%
Teso	21	89	52	82	8	11	68	47.29
	6.30%	26.90%	15.70%	24.80%	2.40%	3.30%	20.50%	14.3%
Toro	19	31	49	80	18	25	36	36.86
	7.40%	12.00%	19.00%	31.00%	7.00%	9.70%	14.00%	14.3%
West Nile	30	32	41	95	11	17	61	41.00
	10.50%	11.10%	14.30%	33.10%	3.80%	5.90%	21.30%	14.3%
National	***313***	***501***	***983***	***1,412***	***312***	***355***	***1,140***	***716***
	6.20%	***10.00%***	***19.60%***	***28.10%***	***6.20%***	***7.10%***	***22.70%***	***14.27%***

Table 3.11 shows that nationally, 14.27% of the pupils in 2013 revealed that the structures of the walls in their homes were made of cardboard/Reeds/Sticks/Grass compared to 25.0 % of SACMEQ III, while 28.1% said that they were sealed with stones as the largest. While pupils who came from homes their structure wall covered/sealed with cardboards and wood were the least with 6.2% in Uganda. Regional variations reflect differences in the socio-economic status of the respective communities in Uganda.

The Data concerning the structure of roofs in pupil's homes is similarly summarized in Table 3.11.

Table 3.12: Percentages for structure of roofs in pupils' homes

	Roof Material					
Region	**Cardboard**	**Grass**	**Metal sheets**	**Cement or concrete**	**Tiles**	**Total**
Acholi	6.5%	73.3%	16.1%	2.9%	1.2%	100.0%
Ankole	5.0%	5.0%	75.2%	11.4%	3.5%	100.0%
Buganda	6.3%	9.2%	59.0%	19.0%	6.5%	100.0%
Bukedi	6.1%	32.0%	45.7%	13.1%	3.0%	100.0%
Bunyoro	7.8%	25.1%	53.7%	9.8%	3.5%	100.0%
Busoga	6.9%	20.5%	57.7%	11.9%	3.1%	100.0%
Elgon	10.0%	26.6%	51.2%	9.1%	3.1%	100.0%
Karamoja	8.2%	55.9%	22.4%	11.0%	2.4%	100.0%
Kigezi	6.4%	15.3%	63.6%	10.7%	4.0%	100.0%
Lango	7.0%	54.8%	30.8%	5.5%	1.9%	100.0%
Teso	4.6%	62.3%	24.3%	6.4%	2.4%	100.0%
Toro	10.3%	16.9%	57.9%	11.1%	3.8%	100.0%
West Nile	6.3%	55.7%	20.9%	15.0%	2.1%	100.0%

Uganda	***6.8%***	***30.9%***	***47.1%***	***11.6%***	***3.6%***	***100.0%***

Results from Table 3.6-6 indicate that, on the whole the majority of the pupils (47.1 percent) had metal/asbestos roofing in their homes, 11.6 percent had concrete roofing and 3.6 percent had tiled roofs.

3.13 Pupils' absenteeism in the previous month.

Pupils' absenteeism and its effect on academic performance concerns all stakeholders in education. Schools have recorded high levels of absenteeism. Attending school regularly is a vital factor in school success for both pupils and teachers. Excessive school absenteeism is often linked to poor school academic achievement, so school attendance by both teachers and pupil plays an integral role in the success and educational advancement levels of any academic institution and all students enrolled.

Table 3.13: Percentages of pupils absent by region

Region	Days Absent							
	0-2	**3-5**	**6-9**	**10-13**	**14-17**	**18-20**	**21-23**	**Proportion**
Acholi	18.2%	10.0%	2.9%	0.8%	0.1%	0.1%	0.3%	4.6%
Ankole	27.3%	4.7%	1.1%	0.2%	-	-	-	4.8%
Buganda	25.6%	5.6%	0.9%	0.4%	0.2%	0.2%	-	4.7%
Bukedi	22.2%	6.8%	2.4%	0.7%	0.2%	0.2%	-	4.6%
Bunyoro	25.6%	5.3%	0.7%	0.8%	0.2%	0.1%	-	4.7%
Busoga	24.3%	5.8%	1.5%	0.6%	0.3%	-	0.1%	4.7%
Elgon	26.2%	5.0%	1.1%	0.2%	0.2%	-	0.3%	4.7%
Karamoja	23.9%	5.1%	1.7%	0.3%	0.2%	-	1.4%	4.6%
Kigezi	29.8%	3.1%	0.4%	-	-	-	-	4.7%
Lango	20.5%	9.2%	1.8%	0.6%	0.3%	-	0.1%	4.6%
Teso	19.5%	7.2%	2.0%	1.3%	1.0%	0.8%	0.2%	4.6%
Toro	21.0%	7.9%	2.5%	0.6%	0.1%	-	0.3%	4.6%
West Nile	23.4%	6.5%	1.6%	0.7%	0.2%	0.1%	0.1%	4.6%
Uganda	***23.9%***	***6.3%***	***1.5%***	***0.5%***	***0.2%***	***0.1%***	***0.2%***	***4.7%***

Majority of pupils were absent between 0-2 days at 23.9% on average whereas Kigezi region had the bigger percentage of pupils missing school between 0-2 days followed by Ankole region at 27.3%, Acholi and Teso region had fewer cases of pupils absent. National absenteeism rate stood at 4.7% and Karamoja region had 1.4% of the pupils absent for 21-23 days.

There were several reasons put forward to explain why pupils missed school on some days. First some children were expected to take care of sick parents or siblings where malaria and HIV-AIDS

pandemics prevalent rates were high. Even the children themselves fall sick and thus fail to attend regularly. Some children stayed out of school due to failure of their parents to pay school fees, and other obligations.

3.14 Borrow books from the school library by Pupils.

A recent World Bank report (May 2015) emphasizes the urgent need to get textbooks into the hands of every student/pupils in sub-Saharan Africa. This report is part of a growing body of evidence reinforcing the efficiency and efficacy of putting the right books in the hands of Ugandan learners.
No other input is likely to be more cost effective than making high-quality learning materials available to all students/pupils. By providing access to information resources, academic libraries play a significant role in the student experience. The table below shows the proportion of pupils who are allowed to borrow textbooks in the school by region.

Table 3.15: Percentage of pupils allowed to borrow textbooks in the school

Borrow Books-School Library				
Region	***No library***	***Not allowed***	***Allowed***	***Total***
Acholi	42.4%	0.0%	57.6%	100.0%
Ankole	27.8%	14.2%	58.0%	100.0%
Buganda	34.3%	4.2%	61.4%	100.0%
Bukedi	40.8%	0.0%	59.2%	100.0%
Bunyoro	28.5%	0.0%	71.5%	100.0%
Busoga	32.7%	8.7%	58.6%	100.0%
Elgon	64.3%	0.0%	35.7%	100.0%
Karamoja	28.9%	6.2%	64.9%	100.0%
Kigezi	24.5%	5.9%	69.6%	100.0%
Lango	21.4%	0.0%	78.6%	100.0%
Teso	59.8%	0.0%	40.2%	100.0%
Toro	31.4%	0.0%	68.6%	100.0%
West Nile	46.4%	0.0%	53.6%	100.0%
Uganda	**36.5%**	**3.4%**	**60.1%**	**100.0%**

At national level SACMEQ IV 2013 revealed 60.1% compared to 76% in 2007 of the pupil's admitted having access to the library books. There was no considerable variation across the regions except Lango region, which had the highest tally (78.6%).

3.15 Other reading materials and electronic media did pupils have at home.

Primary 6 pupils were also asked to indicate the availability of the following items in their homes: Newspaper, Magazine, Clock, Piped Water, Bore Hole, Bed, Private Study Area, Bicycle, Horse Cart,

Car, Motorcycle, Tractor, Electricity, Refrigerator/Freezer, Air Conditioner, Electric Fan, Machine, Vacuum Cleaner, Computer, Internet, Radio, Television Set, VCR, DVD/VCD, CD Player, Cassette Player, Camera (Ord), Camera (Digital), Video Camera and Telephone/Mobile Phone and a table to write on.

The number of possessions owned in the home was summed for each pupil. The lowest score possible was zero and the highest was 31. The scores obtained have been presented in annex 2. At the national level, the average number of possessions was 7 items. Homes with the highest number of possessions owned were in the Central region with an average of 8 items and lowest in the Northern Region with an average of 5 items. This differential was mainly due to greater possession of items such as telephone, TV sets, and refrigerators in the urban areas, with good electricity supply.

3.16 Education level of pupils' parents

Separate questions were designed for the mother and father in SACMEQ IV 2013, and the results were scored on a 20-point scale. The values obtained were summed up and the national average was found to be 9.1% and 9.4% respectively as compared to 8.3% & 5.8% for SACMEQ III 2007. The biggest numbers of educated parents were located in Ankole and Buganda Region at 14.1% of the parents who completed university. The other regions had their means ranging from 5.5% to 7.8% national wide.

3.17 Total distance moved by pupils from their homes to school.

The distance between pupil's homes and their schools is thought to have association with school access levels as well as learners outcomes. Learners whose homes are near school are more likely to report for school on time. In this study, pupils were asked to indicate the average distance they cover from their homes or residences to get to school and the findings are presented in Table 3.9.

Table 3.17: Percentage of pupils in schools by distance moved to school

Travel Distance to School												
Region	**Up to 0.5 km**	**0.5-1 km**	**1-1.5 km**	**1.5-2 km**	**2-2.5 km**	**2.5-3 km**	**3-3.5 km**	**3.5-4 km**	**4-4.5 km**	**4.5-5km**	**5-10 Km**	**>10 Km**
Acholi	24.6%	18.8%	13.2%	8.8%	10.6%	5.9%	3.8%	1.8%	3.5%	2.6%	6.5%	
Ankole	32.0%	16.1%	12.7%	9.6%	8.7%	4.3%	4.3%	1.6%	3.7%	0.3%	6.5%	
Buganda	30.7%	10.8%	14.8%	7.3%	9.4%	4.9%	4.3%	3.2%	2.6%	2.9%	9.1%	
Bukedi	27.9%	13.3%	16.1%	5.6%	9.9%	5.0%	3.1%	2.8%	3.1%	4.0%	9.3%	
Bunyoro	27.9%	15.4%	9.9%	4.4%	8.8%	5.5%	8.8%	2.6%	3.7%	4.0%	8.8%	
Busoga	24.4%	14.6%	16.0%	8.5%	9.6%	5.4%	5.6%	2.7%	3.8%	3.3%	6.2%	
Elgon	26.8%	19.3%	15.1%	6.0%	10.5%	4.2%	3.6%	1.8%	3.3%	3.6%	5.7%	
Karamoja	32.8%	10.7%	8.2%	6.6%	3.7%	9.8%	4.1%	3.7%	5.7%	5.7%	9.0%	
Kigezi	19.8%	15.6%	17.1%	7.8%	7.2%	7.2%	5.7%	1.8%	2.7%	2.1%	12.9%	
Lango	24.2%	15.6%	16.5%	11.3%	11.0%	4.1%	4.6%	2.4%	1.9%	2.2%	6.0%	0.2%
Teso	28.0%	17.0%	16.1%	7.3%	11.9%	4.0%	2.4%	2.1%	2.1%	3.3%	5.8%	
Toro	15.8%	15.8%	16.6%	6.9%	11.6%	6.6%	7.3%	3.1%	3.5%	5.0%	7.7%	
West Nile	19.5%	16.7%	16.0%	8.4%	11.1%	4.5%	4.5%	1.7%	4.5%	4.5%	8.4%	
National	***26.4%***	***14.8%***	***14.7%***	***7.7%***	***9.6%***	***5.3%***	***4.7%***	***2.5%***	***3.2%***	***3.2%***	***7.9%***	***0.1%***

Results revealed SACMEQ IV 2013 that only 14.8% of the pupils cover one kilometer or less as compared to SACMEQ III 2007 of 43%, this is explained by the increased number of primary schools in the country. Only 11.2 percent pupils covered 1-2 kilometers in SACMEQ IV 2013 compared to 25 percent in SACMEQ III while 4.75 percent covered 2-5+ kilometers in 2013 down from 32% in 2007.

Table 3.18: Means of transport pupils used to school from their places of residence.

How travel to School						
Region	**Walk**	**Bicycle**	**Car**	**Bus, taxi, truck or van**	**Train**	**Other (specify)**
Acholi	83.9%	12.0%	1.2%	2.3%	0.3%	0.3%
Ankole	92.4%	3.6%	1.8%			2.1%
Buganda	87.9%	6.2%	3.6%	1.8%	0.2%	0.3%
Bukedi	89.0%	8.8%	1.2%	0.9%		
Bunyoro	77.9%	13.7%	3.0%	2.7%	2.3%	0.4%
Busoga	84.2%	9.3%	2.9%	2.9%	0.4%	0.4%
Elgon	84.2%	6.7%	3.0%	3.9%	1.2%	0.9%
Karamoja	78.7%	7.8%	7.8%	5.0%	0.4%	0.4%
Kigezi	91.2%	4.6%	2.4%	1.2%		0.6%
Lango	90.7%	6.4%	1.0%	1.4%	0.2%	0.2%
Teso	93.2%	5.5%	0.6%	0.3%	0.3%	
Toro	88.4%	6.7%	1.5%	2.2%	1.1%	
West Nile	90.0%	6.5%	2.1%	0.3%	0.3%	0.7%
Uganda	***87.3%***	***7.3%***	***2.5%***	***1.9%***	***0.4%***	***0.5%***

In Uganda, although most pupils either walk, are driven by parents, or take regular public transit to school, many of them walk (87.3%) to their schools, this implies that 22.7% of the remaining proportion of pupil use other means like public/private cars, bicycles, train, Bus/ taxi, truck or van . At regional level 7.3% ride their bicycles to schools and it is indicated that pupils in Bunyoro and Acholi region pupils ride to and fro their schools.

The implication of 87.3% (pupils who walk to school) indicates the government effort to construct more primary schools per parish which reduce the distance of schools, this helps the pupils to walk to these schools during school days.

3.18 Adequacy of supply of basic classroom to pupils

Under the instructional material unit (IMU), the government has endeavored to consistently supply instructional materials especially textbooks in government aided primary schools.

The pupils were also asked questions about their possession of basic classroom materials such as exercise books, note books, pencils, sharpeners, erasers, rulers and files. The data generated have been summarized in Table 3.20.

Table 3.20: Mean and sampling errors for availability of basic classroom materials: Exercise books, notebook, and pencil.

REGION	ACCESS TO LEARNING MATERIALS									
	Sitting and Writing Place	Std Error	Exercise Book, Pen, Ruler	Std Error	Own Reading Textbook	Std Error	Own Math Textbook	Std Error	Notebooks not Marked	Std Error
Acholi	100.0	0.00	84.9	3.17	15.8	4.49	10.8	3.36	80.9	4.27
Ankole	100.0	0.00	95.6	1.20	19.7	3.46	12.4	3.62	74.0	4.89
Buganda	100.0	0.00	92.4	0.92	21.9	2.81	13.2	1.93	71.5	3.33
Bukedi	100.0	0.00	90.9	3.14	19.9	5.32	12.7	2.95	69.9	6.21
Bunyoro	100.0	0.00	93.5	1.87	20.9	6.27	12.4	3.28	82.4	5.39
Busoga	100.0	0.00	88.2	2.47	19.1	3.12	15.1	3.00	73.0	4.24
Elgon	100.0	0.00	92.3	1.43	20.4	3.62	19.2	5.89	74.4	5.66
Karamoja	100.0	0.00	88.2	2.32	11.6	2.03	6.4	2.78	85.5	3.33
Kigezi	100.0	0.00	92.5	2.13	32.5	5.54	25.9	5.54	66.6	7.69
Lango	100.0	0.00	87.3	2.60	13.9	2.73	9.5	2.14	63.8	6.20
Teso	100.0	0.00	81.3	5.29	15.2	2.89	11.0	3.10	66.9	5.52
Toro	100.0	0.00	89.7	3.57	13.7	4.48	10.3	3.07	79.3	5.25
West Nile	100.0	0.00	91.2	2.58	20.9	4.38	12.4	3.38	63.8	9.24
National	**100.0**	**0.00**	**90.0**	**0.74**	**19.4**	**1.15**	**13.4**	**0.95**	**71.9**	**1.58**

At national level 100.0% of the pupils in the schools had adequate sitting and writing space. At regional level, Akole, Bunyoro, Buganda, Elgon, Bukedi and West Nile regions had the highest number of pupils with adequate Exercise Book, Pen, Ruler above the national average of 90.0%, while Teso region had the lowest number of about 81.3%. However, in Kigezi region primary six pupil owned Maths and Reading textbooks at 25.9% and 32.5% compared to Karamoja region with 6.4% for Math textbooks and 11.6% for Reading textbooks.

The lack of library facilities has often been cited as a major reason for low educational quality. Pupils were requested to indicate the extent to which they had access to library facilities and whether they were permitted to take library books home.

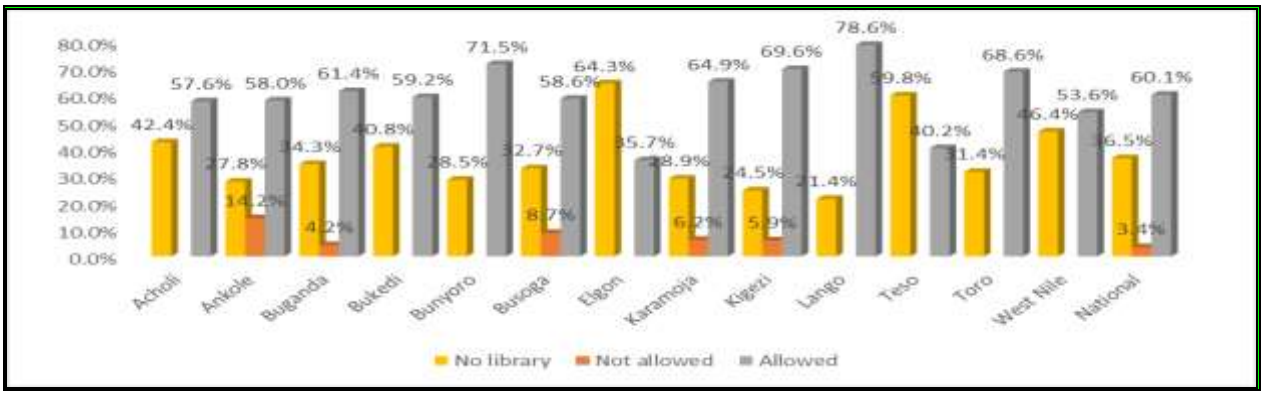
3.21 Pupils with access to library facilities.

Libraries are social institutions created to safeguard knowledge, preserve the cultural heritage and provide information for education and research purposes to different users. According to Elaturoti (1990), school library can be defined as an area designed for provision of all types of learning and teaching resources. Oniovosa (2004) notes that, in a survey around the world on the reading ability of the children that, one of the factors that positively influence children's reading attainment is the availability and accessibility of books and other non-books resources in their immediate surroundings, at home, in the classroom and in the library. Accessibility and utilization of library information resources are key factors in the provision of quality services in different types of libraries. SACMEQ IV findings revealed that most pupils in Lango region (78.6%) were allowed in the library, 71.5% in Bunyoro and the least was found in Elgon and Acholi region which were below the average.

Primary schools Bunyoro and Teso regions had no library and therefore primary six pupils could access the textbooks they wanted for reading and Maths subjects.

Figure 3.21 shows the proportions of pupils who had access to library facilities have been presented.

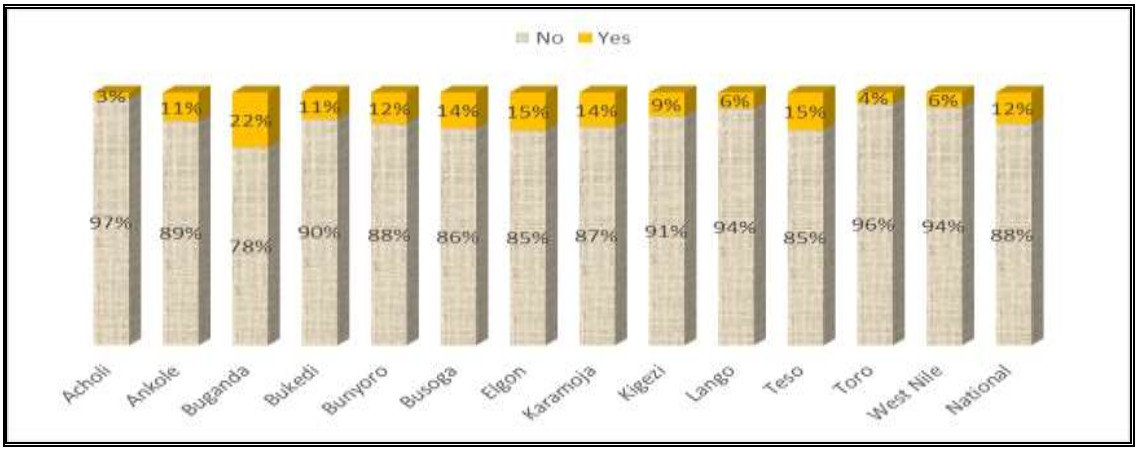
Figure 3.21: Utilization of school library textbooks by pupils



3.22 Utilize ICT facilities by Pupils

Information Communication Technology (ICT) plays a key role in learner performance in primary schools (Banerjee 2004), and (Angrist and Lavy, 2002). It is also worth noting that pupils who have access to computers tend to get learning concepts faster as compared to those without. However, in the Ugandan setting, most pupils including the teachers do not have access to ICT facilities. In this study, pupils were asked if they have ever used a computer and the findings are presented in the Figure 3.23

Figure 3.23: Use of Information Communication Technology by pupils



On average in SACMEQ IV, only 12% of the primary six pupils had ever used a computer compared to 8% in SACMEQ III 2007 and 88% who had never used a computer before. The Acholi and Toro regions had the least percentages of pupils who had used a computer before while the Buganda region had the highest percentage (22%) compared in 2007 SACMEQ III (12%).

3.19 Conclusion

From the above discourse, the following can be deduced:

7) Realizing Net Enrolment Ratio (NER) at primary level is still a big challenge of the Education Sector. The primary cycle is still infiltrated with over-aged pupils. For instance in grade 6, the average age was 14 years (i.e. 3 years older), yet learners at this age should have been in senior 2 of the Lower secondary level. Therefore, making forecasts on enrolment growth for planning and budgeting purposes and determining teacher recruitment needs is a big challenge. The assumptions on this are: (a) there are a lot of internal migrations in local governments; (ii) there are many un-registered refugees/foreigners infiltrating our education system; and (iii) schools may not be having proper records of the pupils within their schools.

Policy suggestions:

Carry out a Net Enrolment Survey to: establish the causes of the deviations in enrolment figures from the population of the school age going children in LGs; and ascertain the challenges that these LGs are facing in keeping proper records for pupils.

8) Majority of the pupils study on empty stomachs the whole day. This continues to affect their concentration especially during afternoon lessons, and also is the leading cause of pupil afternoon absenteeism.

Policy suggestions:

Government should start-up schooling feeding programs, where by pupils are given porridge during breakfast and posh at lunch time. Parents should also be encouraged to work together with schools to provide meals for their children.

9) Uganda is almost at parity at primary level. Therefore a lot of effort should be put on cementing the good practices that have made it possible to realize this. In addition, attention should also be put on addressing the key minority gender concerns that do threaten retention.

Policy suggestions:

There is need to improve on gender mainstreaming at all levels of education. More gender policy documents should be printed and distributed in all schools in Uganda.

10) Generally, pupil absenteeism is still very rampant in all schools across the country. This may be attributed to pupils walking long distances in rural areas. Pupils in some cases find it

difficult to walk more than 2km to reach school and back home in the evening after spending the whole day on empty stomachs. As a result, some do not reach school.

Policy suggestions:
Government should ensure that there is at least two government school in every parish to cut down on pupil movements.

11) Repetition rates are still very high in all schools. It should be noted that repetition of pupils is resource wastage on the side of government given the already constrained budget on which government is running the UPE program. To curb this done, there should be measures put in place that augment a pupils' learning and comprehension abilities, as well as those that help slow learners to catch up with the rest.

Policy suggestions:
Recruit more teachers. Construct more classrooms to ensure that teachers can easily reach out on all pupils in class. With a low PTR, quality can be enhanced.

CHAPTER FOUR:
TEACHERS' CHARACTERISTICS

Improving the quality of teaching and learning in schools in Uganda still remains a challenge and a priority area of investment. There are significant factors that influence the quality of teaching and learning namely; pupil teacher ratio, availability and use of teaching resources, and teachers' personal characteristics among others.

This chapter explores the interaction effect of these factors on primary six pupils' learning achievement in reading, mathematics and health. Several important characteristics of teachers were measured namely; age, sex, academic qualifications, professional qualifications, teaching experience, and continuous teacher development programs (in-service courses attended). The findings are presented item by item as follows:

4.2 Professional teaching qualifications attained by primary 6 teachers

Teachers' qualifications and Training is a necessity of adequate training for teachers has been emphasized by MoES, however, different countries may view the training requirements of teachers differently. In Uganda a basic educational qualification is provided by the government which is deemed sufficient for all teachers, regardless of the age they will be teaching. In addition, teachers are given a more specialized training aimed at equipping them with the specific requirements of their future career.

Table 4.2: Qualification of Grade 6 Teachers by Region and Subject

		HIGHEST LEVEL OF QUALIFICATION				
REGION	Subject	Primary	Junior Secondary	Senior Secondary	A-level or further study	Tertiary
Acholi	Reading	13.7	0.0	43.4	37.9	4.9
	Mathematics	7.3	0.0	33.3	44.0	15.4
	Health	8.6	0.0	47.3	44.1	0.0
Ankole	Reading	12.3	0.0	44.2	35.2	8.3
	Mathematics	17.9	0.0	28.4	53.7	0.0
	Health	14.9	0.0	26.8	50.6	7.7
Buganda	Reading	25.8	2.7	21.8	35.6	14.0
	Mathematics	18.2	0.0	33.2	41.0	7.5
	Health	5.1	0.0	41.4	46.8	6.6
Bukedi	Reading	24.7	0.0	37.9	24.0	13.3
	Mathematics	24.3	0.0	41.6	34.1	0.0

	Health	17.4	0.0	55.2	19.9	7.4
	Reading	8.4	0.0	28.4	46.6	16.5
Bunyoro	Mathematics	0.0	0.0	17.5	63.5	19.1
	Health	9.6	0.0	16.5	62.8	11.0
	Reading	4.2	6.6	29.8	50.4	9.0
Busoga	Mathematics	9.0	0.0	39.2	47.0	4.8
	Health	23.3	0.0	21.5	49.2	5.9
	Reading	28.9	0.0	43.5	27.6	0.0
Elgon	Mathematics	9.6	0.0	41.7	40.3	8.4
	Health	26.2	0.0	33.7	40.1	0.0
	Reading	18.8	0.0	45.5	31.1	4.6
Karamoja	Mathematics	29.7	0.0	38.7	28.4	3.3
	Health	12.7	0.0	56.1	22.3	8.9
	Reading	28.1	0.0	23.1	42.1	6.7
Kigezi	Mathematics	18.1	0.0	32.8	40.2	8.8
	Health	19.4	0.0	36.5	44.1	0.0
	Reading	30.7	0.0	21.2	41.1	7.0
Lango	Mathematics	22.6	0.0	53.2	24.2	0.0
	Health	6.1	0.0	44.6	45.7	3.5
	Reading	0.0	0.0	47.7	40.9	11.5
Teso	Mathematics	13.6	0.0	70.4	9.5	6.6
	Health	20.1	0.0	74.6	5.4	0.0
	Reading	28.9	20.8	14.7	35.6	0.0
Toro	Mathematics	49.4	0.0	27.3	6.7	16.7
	Health	24.2	3.1	40.0	17.0	15.7
	Reading	40.1	0.0	51.1	8.9	0.0
West Nile	Mathematics	13.6	0.0	62.1	24.4	0.0
	Health	13.8	0.0	39.5	39.2	7.5
	Reading	**20.1**	**2.5**	**32.2**	**36.4**	**8.8**
Uganda	**Mathematics**	**17.1**	**0.0**	**40.6**	**35.9**	**6.4**
	Health	**14.7**	**0.2**	**40.6**	**39.1**	**5.5**
Overall National(Average)		**17.3**	**0.9**	**37.8**	**37.1**	**6.9**

The table shows 37.8% of the school teachers countrywide completed senior secondary education (i.e. O-Level, A – level) while tertiary education of primary six teachers indicated 37.1%. The importance of good or quality teachers is no secret or it cannot be overemphasized. Schools have always sought out the best teachers they could get in the belief that their students' success depends on it.

There were some variations across regions in the levels of academic educational attainment.

However, it is observed that fewer primary 6 pupils had school teachers that had primary level education as the highest they attained (17.3%) for Primary and junior secondary (0.9%). This is so

because before 1980 the minimum academic qualification for a teacher was primary seven. Those who entered teacher education had to complete four years in a teacher training college and then graduate as a grade II teacher. When grade II was phased out in 1980 all grade II teachers were allowed to up-grade to grade III and even beyond. Most of the primary 6 teachers (28.4%) were for reading, (27.5%) for mathematics and 25.8 percent for health and these had their qualification between senior secondary to tertiary. This trend of teacher academic qualifications is due to government efforts to carry teacher training reforms in Uganda.

At regional level West Nile region have 7.5% reading teachers for tertiary with no for reading and mathematics.

4.2 Exposure to professional teacher training courses by Primary 6 teachers.

Information concerning the frequency of exposure to professional teacher training courses by primary 6 teachers including the duration of such courses and the teachers' work experience is presented in Table 4.2

Table 4.2: Average Teaching Experience (in years) of Grade 6 Teachers by Region and Subject

	Experience (Years)					
	READING		MATHEMATICS		HEALTH	
REGION	Experience	Std Error	Experience	Std Error	Experience	Std Error
Acholi	10.6	2.7	8.2	1.3	6.7	1.0
Ankole	7.7	1.6	6.5	1.5	10.7	2.0
Buganda	10.8	1.1	10.4	1.0	9.3	0.9
Bukedi	12.6	2.1	12.2	2.2	9.8	1.5
Bunyoro	7.6	1.2	12.5	1.7	8.6	1.0
Busoga	9.3	1.4	10.6	1.0	9.6	1.4
Elgon	13.2	2.2	13.0	1.1	15.0	3.0
Karamoja	6.0	1.1	10.7	2.3	6.2	1.3
Kigezi	9.9	2.2	12.9	1.9	10.7	2.4
Lango	13.4	1.7	12.9	1.9	13.9	1.9
Teso	16.4	2.2	14.8	2.3	11.9	2.2
Toro	9.4	2.4	9.2	1.4	8.3	2.0
West Nile	10.4	1.4	13.9	2.3	14.8	2.3
Uganda	***11.2***	***0.5***	***11.3***	***0.5***	***10.7***	***0.5***

Basing on the table it can be seen that, the Mathematics teachers, on average, had an impressive work experience of 11.3 years, with the Ankole region having the least experienced teaching force (6.5 years). The Teso Region had the most experienced workforce (14.8 years). This means that for every 2-6 years of teaching on average, there was a training session. The health teachers had a slightly lower work experience (10.7 years) with the Elgon region having the most experienced

category (15.0 years). The relative inexperience of the teaching force can be attributed to the post-1986 reforms, recruitment drive and capacity building by Ministry of Education and Sports.

4.3 Exposure to professional in-service training courses attended by Primary 6 teachers

The frequency of teachers' participation in in-service training courses was assessed and the findings are presented in the Table 4.3 below:

Table 4.3: Period of In-service training (in days) for Grade 6 Teachers by Region and Subject

	In-Service training (in days)					
	READING		MATHEMATICS		HEALTH	
REGION	In-service training	Std Error	In-service training	Std Error	In-service training	Std Error
Acholi	51.3	40.5	47.0	37.1	77.2	38.0
Ankole	8.5	2.5	13.1	4.4	91.1	65.5
Buganda	38.2	14.4	31.8	8.3	40.4	10.6
Bukedi	7.5	1.8	34.8	17.3	8.0	2.9
Bunyoro	23.4	16.1	6.3	2.0	26.0	18.9
Busoga	30.3	20.7	29.2	18.2	7.8	2.1
Elgon	4.1	1.4	11.0	6.8	13.1	6.3
Karamoja	21.9	9.8	12.3	4.4	32.0	13.8
Kigezi	53.4	41.6	14.4	4.6	57.8	52.4
Lango	17.2	6.7	41.2	31.1	17.1	8.7
Teso	40.2	28.8	58.4	32.3	42.8	28.6
Toro	56.2	47.2	38.8	23.8	25.6	16.7
West Nile	18.8	12.1	20.1	15.2	50.4	29.0
National	***28.8***	***6.1***	***30.7***	***5.7***	***34.6***	***6.5***

An average of 35 days of in-service training sessions in Health subject, 31 days for Maths and 29 days for Reading in 2013. Health teachers had more number of days for training compared to reading and mathematics teachers. On regional level Teso had majority mathematics primary 6 teachers trained.

4.4 In-Service training

Many active teachers (although mainly private) are un- or underqualified, and need further training to upgrade their competencies to the required certification level. The main focus of in-service training to date has been to ensure that all public teaching staff achieve the minimum required Grade III Certificate.

The Role of In-Service Training There are several in-service teacher education programs for teachers who want to upgrade. While initial teacher education programmes offer basic knowledge and skills

required in the teaching profession, teachers have the possibility to specialize and upgrade, after initial training. For instance, primary teachers might upgrade from a Grade III Teaching Certificate to a Diploma in Primary, to then a Bachelor in Education or even a master.

4.4.1 In-service training courses attended by primary 6 teachers?

Teachers were asked to assess the quality and effectiveness of the training sessions that they had attended. The findings are as summarized in Table 4.4 below.

Table 4.40: In-service training courses attended by teachers

In-Service Training Effectiveness							
REGION	**Subject**	**Did not Attend**	**Not effective**	**Reasonably effective**	**Effective**	**Very effective**	**Proportion Teachers who received In-service Effec. Training**
Acholi	Reading	51.5	0	0	28.5	20	20.00
	Mathematics	37.1	0	0	40.4	22.5	20.00
	Health	42.2	5.6	9.5	30.3	12.4	20.00
Ankole	Reading	37.4	0	0	19	43.6	20.00
	Mathematics	23.6	0	7.6	19.8	49	20.00
	Health	8.9	0	13.9	49.5	27.7	20.00
Buganda	Reading	27.2	0	13.4	33.6	25.8	20.00
	Mathematics	26.5	0	12.4	36.2	24.9	20.00
	Health	21.9	0	10.8	31.1	36.2	20.00
Bukedi	Reading	26.3	0	0	32.2	41.5	20.00
	Mathematics	27	0	0	56.3	16.6	19.98
	Health	46.5	0	14.2	21.2	18	19.98
Bunyoro	Reading	34.9	0	19.5	3.5	42.1	20
	Mathematics	36.1	0	14.8	24	25	19.98
	Health	33.2	0	11.9	15	39.9	20
Busoga	Reading	21.4	0	15.6	32	31.1	20.02

	Mathematics	31.2	0	10.2	33.1	25.5	20.00
	Health	25.7	0	20.7	33.8	19.8	20.00
Elgon	Reading	44.6	0	16.8	21	17.7	20.02
	Mathematics	44	0	0	20.1	36	20.02
	Health	28.9	0	0	14.4	56.7	20.00
Karamoja	Reading	20.5	0	25.5	16.9	37.2	20.02
	Mathematics	20.7	9.7	9.1	35.8	24.6	19.98
	Health	29.8	5.6	0	34.8	29.9	20.02
Kigezi	Reading	13.2	7.3	37.1	20.2	22.2	20.00
	Mathematics	22	0	9.8	45.1	23.1	20.00
	Health	22.2	0	7.3	19.8	50.7	20.00
Lango	Reading	30	0	9.2	39.5	21.2	19.98
	Mathematics	6.9	0	6.8	44.6	41.7	20.00
	Health	30.4	0	11.4	31.5	26.7	20.00
Teso	Reading	4.5	0	26.2	33.7	35.6	20.00
	Mathematics	11.6	0	7.5	45.6	35.3	20.00
	Health	13.2	0	23.7	40	23.1	20.00
Toro	Reading	34	0	0	47.1	18.9	20.00
	Mathematics	25.1	0	16.3	36.1	22.4	19.98
	Health	29	0	14	12.4	44.6	20.00
West Nile	Reading	36.8	0	22.3	22.6	18.3	20.00
	Mathematics	49.8	0	6.2	27	17	20.00
	Health	50.1	0	6.2	43.7	0	20.00
National	**Reading**	**28.4**	**0.3**	**13.3**	**29.7**	**28.3**	**20.00**
	Mathematics	**27.1**	**0.1**	**8.3**	**36.3**	**28.3**	**20.02**
	Health	**27.5**	**0.4**	**12.3**	**30**	**29.8**	**20.00**
Overall National		**27.7**	**0.3**	**11.3**	**32.0**	**28.8**	**20.0**

From the table, 32.0 percent of the reading teachers indicated that the training they received was indeed effective. While 56.3 percent of teachers of Maths teachers from the Bukedi region indicated their satisfaction with the in-service courses was effective, majority of teachers of reading, Maths and health subjects did not attend the training.

Therefore teachers do realize the importance of in-service training (compare Hustler D, 2003), demonstrating, in most cases, their honest interest in the events of in-service education. To promote deficiencies in the background preparation of teachers and others professional workers in education.

4.5 Total Hours Marking & Lesson Plan Preparations

Lesson planning is a vital component of the teaching learning process. Proper classroom planning will keep teachers organized and on track while teaching, thus allowing them to teach more, lesson plans according MoES help pupils reach objectives more easily and manage less. The better prepared the teacher is, the more likely a teacher will be able to handle whatever unexpectedly happens in the lesson since the plan helps to provide coherent framework for smooth efficient teaching.

Table 4.5: Total hours marking and Lesson Plan

	READING		MATHEMATICS		HEALTH	
REGION	Mean	Std Error	Mean	Std Error	Mean	Std Error
Acholi	8.0	1.6	8.3	2.0	7.2	1.4
Ankole	10.6	2.0	8.7	1.8	12.5	1.9
Buganda	9.5	1.2	9.2	1.1	9.4	1.1
Bukedi	9.1	2.0	9.8	1.3	8.1	1.0
Bunyoro	5.3	1.4	6.5	2.0	5.3	2.2
Busoga	8.5	1.1	6.8	1.0	7.7	1.0
Elgon	6.1	1.2	5.6	1.8	6.9	1.3
Karamoja	8.8	2.1	6.4	1.3	7.1	1.8
Kigezi	8.6	1.8	9.4	2.2	6.7	1.5
Lango	11.2	2.1	8.6	1.8	9.3	1.5
Teso	7.9	1.3	8.2	1.6	7.7	1.2
Toro	5.6	1.7	8.8	2.1	11.4	1.9
West Nile	7.3	1.8	8.1	1.7	11.0	1.8
Uganda	**8.6**	**0.5**	**8.3**	**0.5**	**8.7**	**0.4**

From the table majority of reading teachers (11.2) spent most of their time in marking and planning for the lessons in class. Health knowledge had most teachers marking and preparing lesson plans, Bunyoro region had few teachers (5.3 hours) preparing lessons and marking. This calls for

intervention by the government through MoES to train teachers in preparing lesson plans and marking pupils work.

4.6 Total number of Teaching periods per week

Physical interface of pupils with their teachers is very critical in pupils' learning achievement. This is when pupils get exposed the different dynamics of the education curricular. This is also the time they get to ask teachers questions as well as teachers helping the weak pupils to learn. In this case, average numbers of periods per week were assessed per teacher and the duration per period. The results of the analysis are presented in Table 4.6.

Table 4.6: Mean of Total number of teaching periods per week

REGION	READING		MATHEMATICS		HEALTH		Overall	
	Mean	Std Error	Mean	Std Error	Mean	Std Error	Mean	Std Error
Acholi	23.4	3.6	47	37.1	15.8	2.6	28.7	14.4
Ankole	24.4	3.5	13.1	4.4	24.8	3.1	20.8	3.7
Buganda	23.2	2	31.8	8.3	23.1	1.8	26.0	4.0
Bukedi	19.8	3.4	34.8	17.3	23.1	3.4	25.9	8.0
Bunyoro	17.1	3.6	6.3	2	23	4.9	15.5	3.5
Busoga	19	3.3	29.2	18.2	17.8	2.7	22.0	8.1
Elgon	22.4	4.1	11	6.8	30.4	3.8	21.3	4.9
Karamoja	16.1	3.1	12.3	4.4	23.6	3.1	17.3	3.5
Kigezi	16.1	2.9	14.4	4.6	17.6	3.3	16.0	3.6
Lango	30.9	4.2	41.2	31.1	30.6	4.2	34.2	13.2
Teso	27.6	3.5	58.4	32.3	21.3	3.7	35.8	13.2
Toro	24.2	4.4	38.8	23.8	21.2	4.1	28.1	10.8
West Nile	14.9	4	20.1	15.2	20.6	4.3	18.5	7.8
Uganda	**22.6**	**1**	**30.7**	**5.7**	**22.8**	**0.9**	25.4	2.5

Results indicate that the average time for a teaching period is 25.4 minutes in primary schools. On the other hand, the average number of periods for both reading and health teachers is 22.7 hours. In addition, teachers of reading and health tests in all regions were found to have a difference in the teaching periods of 7 to 8 days on average.

4.7 Reasons for visiting the resource center

Learning resource centers benefit pupils by supplementing the learning process. They function as a place to introduce, reinforce and expand pupil learning, and can be school or community based. Centers can provide access to learning materials or serve as a peer learning center. There are a various types of learning centers, each geared toward providing pupils with resources to expand their educational experience. The report discusses the different reason why teachers adopted to library use as in table 4.7 below.

Table 4.7: Reasons for visiting the resource center

REGION	Subject	REASONS FOR VISTING THE RESOURCE CENTER					
		Looking for materials	Borrowing materials	Making materials	Attend training courses	Exchange Ideas	Seek Advice
Acholi	Reading	100.0	100.0	0.0	100.0	100.0	55.2
	Mathematics	100.0	0.0	48.7	100.0	48.7	48.7
	Health	72.9	27.1	28.5	89.0	71.8	29.8
Ankole	Reading	83.0	64.0	83.0	100.0	100.0	83.0
	Mathematics	56.5	69.2	38.4	86.2	100.0	87.8
	Health	65.9	80.5	49.1	100.0	100.0	68.3
Buganda	Reading	83.0	68.5	82.9	82.7	96.6	91.3
	Mathematics	72.8	63.6	67.4	98.5	87.2	77.1
	Health	73.4	58.1	62.6	84.1	91.6	76.2
Bukedi	Reading	100.0	48.2	65.9	100.0	83.3	70.2
	Mathematics	83.5	89.4	58.8	89.3	89.3	84.4
	Health	87.1	86.3	86.6	71.8	100.0	87.1
Bunyoro	Reading	89.6	67.1	66.1	85.5	89.6	89.6
	Mathematics	91.7	64.1	73.7	100.0	100.0	91.7
	Health	81.0	60.7	59.7	83.6	90.6	81.0
Busoga	Reading	77.1	86.8	74.3	89.2	100.0	95.6
	Mathematics	64.4	39.9	48.2	93.8	86.7	79.3
	Health	71.5	90.7	70.9	77.4	79.2	80.2
Elgon	Reading	100.0	62.1	100.0	100.0	100.0	100.0
	Mathematics	100.0	68.6	84.4	71.4	87.0	71.4
	Health	100.0	100.0	70.2	100.0	100.0	82.1
Karamoja	Reading	89.8	89.8	76.7	100.0	100.0	100.0
	Mathematics	51.1	100.0	42.0	100.0	100.0	100.0
	Health	100.0	100.0	100.0	100.0	100.0	100.0
Kigezi	Reading	82.7	82.7	24.9	100.0	90.2	44.2
	Mathematics	79.6	79.6	79.6	100.0	79.6	100.0
	Health	80.1	68.7	52.3	81.3	77.6	57.7
Lango	Reading	64.5	47.7	30.7	94.2	92.6	75.9
	Mathematics	83.0	69.2	55.8	100.0	77.5	64.8
	Health	62.4	35.8	64.5	87.7	100.0	100.0

	Reading	100.0	80.6	84.8	100.0	100.0	100.0
Teso	Mathematics	100.0	75.7	58.5	100.0	84.0	75.7
	Health	87.0	49.6	48.3	100.0	100.0	89.1
	Reading	75.6	75.6	40.0	68.3	100.0	100.0
Toro	Mathematics	82.6	45.3	53.9	84.1	84.1	100.0
	Health	81.8	100.0	73.4	55.2	73.4	73.4
West Nile	Reading	85.6	85.6	52.2	100.0	85.6	88.9
	Mathematics	52.3	52.3	100.0	100.0	52.3	52.3
	Health	59.0	44.1	100.0	85.2	44.2	59.0
National	***Reading***	***85.5***	***69.9***	***72.4***	***90.7***	***95.6***	***87.7***
	Mathematics	***78.5***	***63.2***	***62.5***	***93.9***	***85.3***	***78.4***
	Health	***76.4***	***66.4***	***64.6***	***86.1***	***90.5***	***78.4***

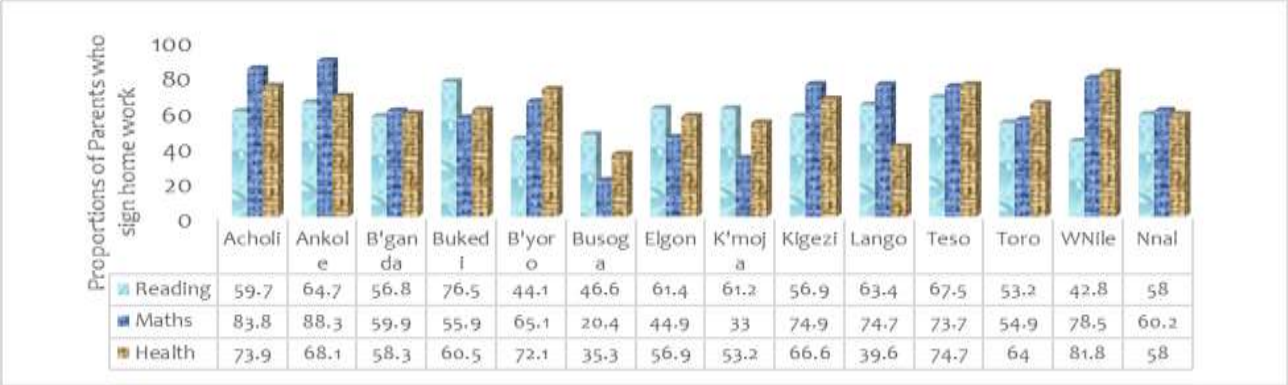
Teachers cannot acquire knowledge only through text books or classrooms, they refer to other school resources Centre too, it is of great help in fulfillment of their information needs. It does not only save their time but also cost of energy. The results above show that most of primary 6 teachers visited resource centres for exchanging ideas (95.6%) were for reading, 90.5% Health and 85.3% Maths subject. In Acholi region reading and mathematics teachers could not access resource center due lack of materials for making materials and borrowing them respectively.

4.8 Proportions of Parents who sign home work

It is vital that parents actively engage and participate in the learning of their pupils through provision of books, uniforms, and pens/pencils among others. In addition, it is also mandatory that parents also monitor what pupils learn at school by appraising their homework books as well as visiting schools to assess pupils learning. Parent contribution can hence be seen in motivating pupils to embark on academic seriousness especially back at home. Such contribution can be through assisting pupils on their take-home assignments and to ensure that pupils finish the assigned tasks for them. Teachers also are tasked to make provisions in pupils' homework books where parents are supposed to sign. Teacher response over this issue was analyzed and an illustration of findings presented in Table 4.8.

Table 4.8: Proportion of parents who sign homework

	READING		MATHEMATICS		HEALTH	
REGION	**Proportion**	**Std Error**	**Proportion**	**Std Error**	**Proportion**	**Std Error**
Acholi	59.7	13.4	83.8	13.4	73.9	13.4
Ankole	64.7	13.3	88.3	13.3	68.1	13.3
Buganda	56.8	7.3	59.9	7.3	58.3	7.3
Bukedi	76.5	11.8	55.9	11.8	60.5	11.8
Bunyoro	44.1	15.5	65.1	15.5	72.1	15.5
Busoga	46.6	10.8	20.4	10.8	35.3	10.8
Elgon	61.4	13.1	44.9	13.1	56.9	13.1
Karamoja	61.2	12.5	33.0	12.5	53.2	12.5
Kigezi	56.9	14.2	74.9	14.2	66.6	14.2
Lango	63.4	12.1	74.7	12.1	39.6	12.1
Teso	67.5	13.5	73.7	13.5	74.7	13.5
Toro	53.2	16.2	54.9	16.2	64.0	16.2
West Nile	42.8	14.8	78.5	14.8	81.8	14.8
National	**58.0**	**3.5**	**60.2**	**3.3**	**58.0**	**3.5**



On average 59 of the teachers indicated that parents signed in conformity that a pupil has completed homework. The Ankole region with 88.3% had the highest number for Maths subject. And the West Nile 42.8 had the lowest mean in reading subject who reported having had signature on pupils' work by parents.

From the responses given by the maths teachers, 60.2 of the teachers indicated that they had parents to sign upon pupil completion of take-home assignments. The Busoga region with 20.4 had the lowest tally of maths teachers who reported having had parents' signatures on take-home assignments followed Karamoja region still had the lowest tally of only 33. In general, more mathematics teachers had parents' signature acknowledging pupil completion of school take-home assignments.

4.9 Conclusion on the key Findings on Teacher Characteristics

This chapter intended to study teacher characteristics and how they affect the quality of Education. A number of questions were asked in the data collection tool on different aspect s including age, sex, education level, work experience, and housing conditions among others. Below is a summary of the key findings.

i) Age

a) The mean age was 35.3 years for both reading, mathematics and health teachers.
b) The Karamoja region had the lowest average teacher age (with 29.5 years, 34.0 years and 29.8 years for reading, mathematics and health teachers respectively).
c) The Teso region registered the highest average age for reading teachers (40.2 years) with 42.2 years, 41.3 years and 37.0 years for reading, mathematics and health teachers respectively).

ii) Sex

a) Female teachers composed of only 34.4%, 7.0% for reading, mathematics and health teachers respectively.
b) Female percentage share for reading teachers was highest in Buganda region at 61.7% and lowest in Busoga region at 9.0%
c) Still female mathematics teachers were more in the Buganda region with over 17.4% while the Acholi, Karamoja, Lango, Toro and West Nile regions had the lowest tally of no female mathematics teachers.

iii) Teacher Academic levels

a) At least 74.9% of the teachers had the minimum qualification of secondary level
b) For tertiary level education attainment, the Bunyoro region had an edge over other regions with 15.8% whereas the West Nile region registered no tertiary level teacher for reading and mathematics.

iv) Working Experience

a) The Mathematics teachers, on average, had an impressive work experience of 11.3 years; whereas it was lower for health teachers at 10.7 years.
b) The Ankole region had the least experienced teaching force with 6.5 years, while the Teso region had the most experienced workforce 14.8 years for mathematics teachers.

c) The Elgon region however had the most experienced workforce of 15.0 years with the Karamoja having the least at 6.0 years.

v) In-service Training Sessions

a) An average of 28.8, 30.7 and 34.6 in service training courses had been attended by reading, mathematics and health teachers respectively in the last seven years.

b) Teachers from the Acholi region attended more training sessions on average (over 58.5 sessions) than the rest of the regions.

c) More training sessions were conducted for mathematics teachers in the Teso region with over 58.4 sessions in the last seven years.

vi) Teaching Hours spent

a) On average, a mathematics teacher spent 30.7 periods of teaching per week each period/lesson averaging to 30 minutes. A reading teacher on the other hand taught for lesser weekly periods of 22.6 each averaging to 30 minutes.

b) The Teso region registered the highest number of teaching periods at 35.7 periods per week for reading teachers. The Bunyoro registered the lowest average number of weekly periods taught by all subject teachers at 15.5 on average.

CHAPTER FIVE:

SCHOOL HEADS' CHARACTERISTICS

The School Head is often said to be the driving force of a school. The quality of the leadership offered by a Head teacher is contingent on many factors including his/her personal characteristics and other environmental variables.

This chapter presents data describing the school heads and the schools, which the primary 6 pupils attended. As explained earlier, the analysis of Head teachers' data is linked to the analysis of information about pupils. Therefore all figures relating to school heads is interpreted in terms of percentages of pupil's having school heads with specific characteristics.

5.2 School heads age distribution and percentage of the female

Information concerning the age of school heads has been presented in the first column of figures in Table 5.2 together with the standard errors of school heads by region.

Table 5.2: Estimates, and sampling errors for school head age.

REGION	AGE (Years)		No. of School Heads		
	Estimate	Std Error	Male	Female	Std Error
Acholi	46.2	2.64	94.6	5.4	5.50
Ankole	41.0	2.14	86.6	13.4	9.24
Buganda	45.2	1.29	61.3	38.7	7.07
Bukedi	44.1	1.83	72.4	27.6	12.14
Bunyoro	44.8	2.05	81.0	19.0	10.53
Busoga	46.6	2.00	82.1	17.9	8.34
Elgon	45.1	1.99	63.7	36.3	13.20
Karamoja	48.0	2.24	56.5	43.5	13.72
Kigezi	47.2	1.91	93.3	6.7	6.74
Lango	50.1	1.31	87.9	12.1	8.30
Teso	45.6	1.92	62.4	37.6	13.08
Toro	45.9	1.91	72.4	27.6	12.25
West Nile	46.3	1.41	89.6	10.4	7.68
Uganda	**45.7**	**0.55**	**75.0**	**25.0**	**2.93**

At the national level the average age for school heads was 45.7 years. There was not much variation among the regions except that the school heads in Lango region were slightly older (50.1 years) than those in the other Regions while Ankole recorded school heads who were slightly younger than (41.0 years) those in the other regions.

Table 5.2, presents the percentage of school heads that were male and female. On the whole, about 25.0% of the schools have school heads who are female. There was some variation among regions

with Acholi and Kigezi registered the smallest on 5.4% and 6.7% female heads, while Buganda recorded the highest of 38.7%.

5.3 Experience (Years) school heads had as either a school head or an acting school head.

The results in this section have shown the under-representation of females in school leadership positions has slightly increased from SACMEQ III as the female representation has increased from 21.2% to 25.0%. However, still with the increase of female teachers entering the profession it may well be possible to still narrow the imbalance.

Table 5.2: Means and sampling errors for the teaching experience, teacher training and specialized training of school heads.

REGION	Experience (Years)	
	Estimate	Std Error
Acholi	20.9	2.39
Ankole	17.2	1.96
Buganda	22.0	1.30
Bukedi	19.9	1.83
Bunyoro	22.9	2.02
Busoga	22.1	1.99
Elgon	19.3	1.42
Karamoja	25.2	2.43
Kigezi	24.4	1.75
Lango	24.6	1.41
Teso	21.5	2.08
Toro	21.9	2.01
West Nile	21.5	1.48
National	**21.7**	**0.54**

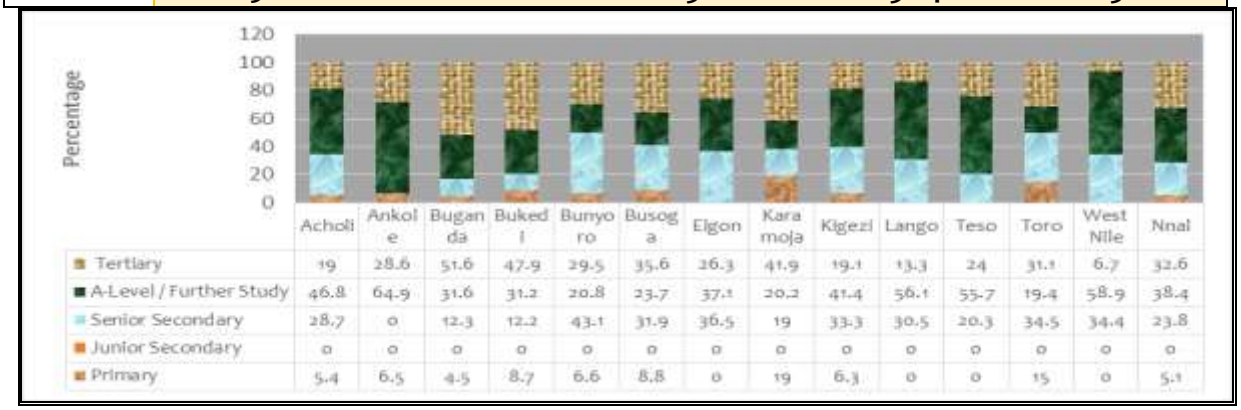
It can be seen that the average school in Uganda had a school head that had 21.7 years of teaching experience. The lowest number of years of experience was recorded in Ankole region (17.2 years) and the highest was recorded in Karamoja region (25.2 years).

5.4 School heads' academic qualification

Information generated concerning specialized training school heads in management and health issues. The average number of days and percentage of those that received the specialized training is summarized in Table 5.3.

Table 5.3: Means of school heads' academic qualification.

REGION	*Qualification*				
	Primary	Junior Secondary	Senior Secondary	A-Level / Further Study	Tertiary
Acholi	5.4	0.0	28.7	46.8	19.0
Ankole	6.5	0.0	0.0	64.9	28.6
Buganda	4.5	0.0	12.3	31.6	51.6
Bukedi	8.7	0.0	12.2	31.2	47.9
Bunyoro	6.6	0.0	43.1	20.8	29.5
Busoga	8.8	0.0	31.9	23.7	35.6
Elgon	0.0	0.0	36.5	37.1	26.3
Karamoja	19.0	0.0	19.0	20.2	41.9
Kigezi	6.3	0.0	33.3	41.4	19.1
Lango	0.0	0.0	30.5	56.1	13.3
Teso	0.0	0.0	20.3	55.7	24.0
Toro	15.0	0.0	34.5	19.4	31.1
West Nile	0.0	0.0	34.4	58.9	6.7
National	**5.1**	**0.0**	**23.8**	**38.4**	**32.6**



At least 67.3% of the school heads countrywide completed senior secondary education (i.e O-Level, A – level) in Primary schools. The results also indicate that the few schools (5.1%) have school heads with Primary qualifications as their academic education received.

There were some variations across regions in the levels of academic educational attainment. However, these regional figures tended to be associated with quite high sampling errors.

The good news was that fewer primary 6 pupils had school heads that had primary level education. This is so because before 1980 the minimum academic qualification for a teacher was primary seven. Those who entered teacher education had to complete four years in a teacher training college and then graduate as a grade II teacher. When grade II was phased out in 1980 all grade II teachers were allowed to up-grade to grade III and even beyond.

5.5 General School Condition

School heads were asked if in their view their school buildings needed to be completely rebuilt, needed major repairs, a lot of minor repairs, only a few minor repairs or if the building was in a good condition. Proportions of school heads in schools with the different categories repairs were calculated and the results have been summarized in the table 5.4.

Table 5.4: General condition of buildings

	GENERAL SCHOOL CONDITION				
REGION	Needs Complete Rebuilding	Some classrooms need major repairs	Most or all classrooms need minor repairs	Some classrooms need minor repairs	All classrooms are in good condition
Acholi	5.8	71.5	16.6	6.1	0.0
Ankole	9.9	42.6	20.1	0.0	27.5
Buganda	14.9	33.3	10.2	31.8	9.8
Bukedi	4.0	58.1	0.0	37.9	0.0
Bunyoro	20.4	21.8	36.0	21.7	0.0
Busoga	25.2	52.2	4.9	15.6	2.1
Elgon	20.0	32.6	5.1	42.2	0.0
Karamoja	0.0	42.1	17.3	30.4	10.2
Kigezi	13.3	43.9	21.5	21.3	0.0
Lango	12.1	56.0	6.2	25.7	0.0
Teso	20.1	60.9	11.9	7.1	0.0
Toro	16.4	37.8	0.0	45.8	0.0
West Nile	26.4	44.0	13.4	16.2	0.0
Total	**16.1**	**44.9**	**10.6**	**24.0**	**4.4**

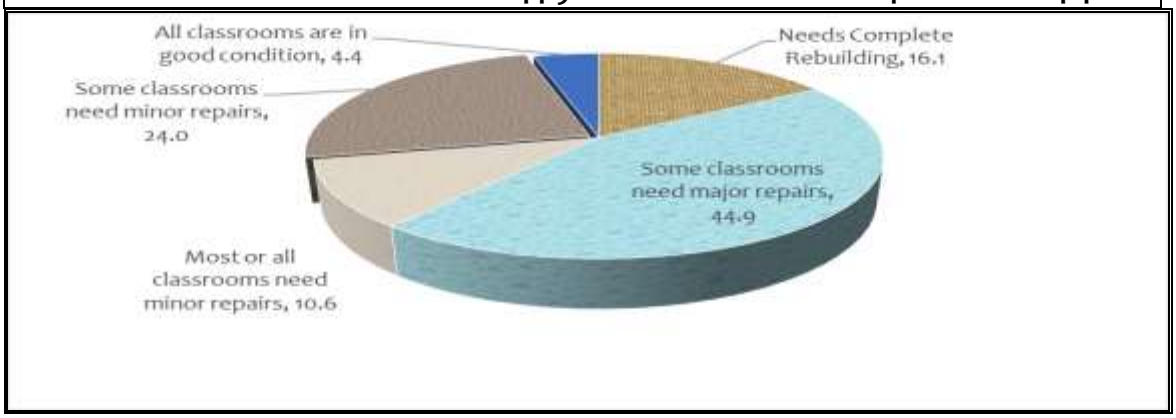


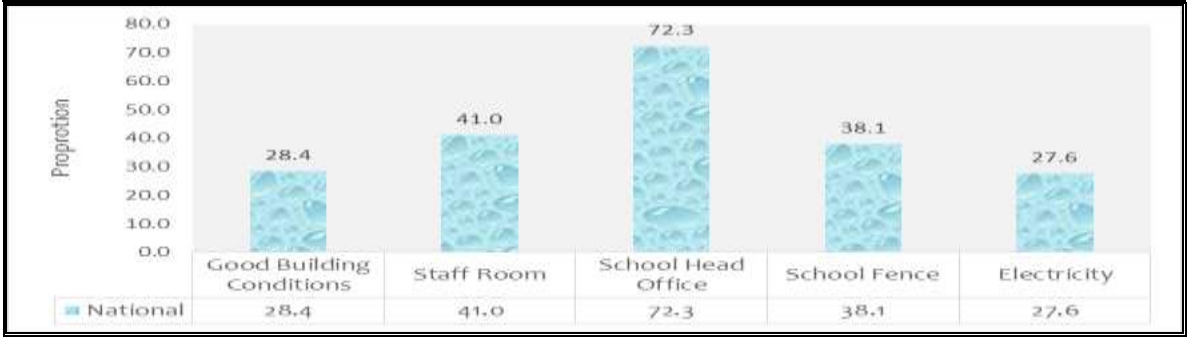
Figure 5.4 shows 44.9% of the classrooms needed major repairs for those where most or all classrooms needed minor repairs were a tune of 24.0 percent, 16.1% needed complete rebuilding, and only 4.4% were in good condition. This indicates that at least 95.6% of the classrooms require to some extent repair.

5.5 School Physical Resources

The percentage of primary 6 schools which had specific facilities and equipments in their schools has been summarized in Table 5.5.

Table 5.5: General school conditions by region

	SCHOOL PHYSICAL RESOURCES				
REGION	Good Building Conditions	Staff Room	School Head Office	School Fence	Electricity
Acholi	6.1	48.3	78.3	27.0	20.3
Ankole	27.5	78.0	72.0	83.2	39.2
Buganda	41.6	58.2	80.4	35.2	42.0
Bukedi	37.9	45.6	70.2	59.9	43.1
Bunyoro	21.7	33.1	78.1	36.7	21.9
Busoga	17.7	28.7	69.9	25.2	28.9
Elgon	42.2	14.5	65.6	47.6	15.8
Karamoja	40.6	48.3	60.7	59.1	18.8
Kigezi	21.3	79.1	71.0	58.2	20.4
Lango	25.7	25.4	83.4	12.9	24.6
Teso	7.1	6.6	54.4	31.3	11.9
Toro	45.8	38.6	63.2	46.6	14.6
West Nile	16.2	28.9	65.2	23.8	6.7
Total	**28.4**	**41.0**	**72.3**	**38.1**	**27.6**



Results in Table 5.5 indicate that generally the majority of schools have head teachers' offices (72.3%), staff room (41.0%), school fence (38.1%), good buildings (28.4%) and electricity (27.6%).

5.5 School Human Resource

Human resource issues have come to be seen as central to every policy initiative in education around the world. While the hot issues in education consistently focus on student achievement, funding for education, and issues of access and quality, the factors which concern the recruitment, preparation, hiring, assessment and professional development of the workforce are key to understanding the issues themselves. Below were some of the issues under school human resource with primary six school heads. Thus, the contribution of this study for academics and practitioners is that HRM

practices in educational sector will affect teachers' performance through HRM outcomes to increase the excellence of teachers as well as quality of education.

Table 5.6: School Human Resource by region

REGION	SCHOOL HUMAN RESOURCES			
	1 year or more of teacher training	Academic Qualification	Management Course	HIV and AIDS Course
Acholi	100.0	94.6	80.7	44.5
Ankole	94.0	93.5	100.0	71.6
Buganda	97.9	95.5	86.7	79.2
Bukedi	100.0	91.3	100.0	52.3
Bunyoro	93.9	93.4	92.8	42.5
Busoga	90.8	91.2	69.7	65.1
Elgon	100.0	100.0	84.8	53.9
Karamoja	100.0	81.0	95.9	59.6
Kigezi	100.0	93.7	74.2	79.3
Lango	94.6	100.0	91.1	70.4
Teso	92.4	100.0	92.5	60.9
Toro	93.2	85.0	82.6	41.1
West Nile	100.0	100.0	100.0	48.4
National	**96.2**	**94.9**	**87.3**	**63.2**

5.7 Pupils Behavioral Problems

Questions were asked about many types of behavioral problems that are sometimes encountered in schools. School Heads were asked how frequently the problem occurred. The results have been presented in Figure and Table 5.7 **(Annex)** the figures reflect the percentages of pupils in schools where the Head teachers indicated total absence of a given type of behavioral problem.

Table 5.7: Pupils Behavioral Problem

REGION	PUPILS BEHAVOURIAL PROBLEMS																	
	Late arrival	Absenteeism	Skipping Class	School Dropout	Classroom Disturbance	Cheating	Use of abusive language	Vandalism	Theft	Intimidation or bullying	Intimidation or verbal abuse of teachers	Physical Injury to Staff	Sexual Hasassment of Pupils	Sexual Hasassment of Teachers	Drug Abuse	Alcohol Abuse or Possession	Fighting	Pupil Health
Acholi	0.0	0.0	41.8	0.0	0.0	16.6	0.0	22.0	0.0	0.0	22.2	89.4	22.8	87.8	52.0	38.4	0.0	0.0
Ankole	8.1	15.9	33.9	14.3	24.9	24.9	5.5	5.5	5.5	38.9	39.2	70.1	37.0	62.2	64.8	64.8	5.5	0.0
Buganda	3.3	0.0	37.8	3.9	16.9	27.7	23.7	38.6	13.0	52.3	60.5	75.9	49.8	79.8	73.3	74.8	7.0	0.0
Bukedi	0.0	0.0	22.9	6.2	4.0	10.0	9.3	11.6	0.0	20.5	36.5	66.7	26.3	61.5	31.5	54.7	11.1	0.0
Bunyoro	0.0	0.0	17.5	8.1	0.0	4.1	0.0	0.0	0.0	16.9	32.8	80.2	31.0	67.8	59.2	59.2	0.0	0.0
Busoga	0.0	4.6	26.5	2.1	9.0	23.3	11.9	28.0	11.9	23.3	43.9	70.1	35.6	73.9	53.0	71.3	9.0	0.0
Elgon	0.0	0.0	28.9	0.0	22.3	28.8	22.0	31.6	11.8	18.6	49.3	62.2	43.5	65.0	62.7	64.0	11.8	0.0
Karamoja	0.0	0.0	31.4	8.1	6.8	31.4	0.0	14.9	0.0	14.0	44.6	67.9	46.0	75.8	63.9	51.2	0.0	0.0
Kigezi	0.0	0.0	13.6	25.7	5.9	6.7	0.0	14.3	0.0	20.3	24.9	63.2	44.8	76.1	46.0	48.4	0.0	0.0
Lango	0.0	0.0	19.1	0.0	1.5	9.3	0.0	6.4	11.4	12.9	9.0	55.3	34.9	69.7	34.9	38.0	0.0	0.0
Teso	6.2	6.2	30.3	0.0	6.2	18.4	6.2	20.1	6.2	18.4	29.1	56.6	18.6	50.9	30.7	25.4	0.0	0.0
Toro	0.0	0.0	36.5	6.2	17.3	32.1	30.6	29.9	12.1	34.9	50.3	76.5	40.9	76.5	49.6	48.5	0.0	0.0
West Nile	0.0	0.0	10.1	0.0	0.0	16.3	17.4	20.8	0.0	17.4	34.6	59.0	47.4	59.0	42.7	51.5	0.0	0.0
Total	**1.8**	**2.1**	**28.8**	**4.3**	**10.5**	**20.8**	**13.1**	**23.0**	**8.0**	**28.2**	**41.1**	**69.2**	**38.4**	**70.7**	**53.8**	**57.6**	**4.7**	**0.0**

With a scale where 1: Never, 2: Sometimes and 3: Often, it can be seen that on average the pupils were in schools where the Heads said that the problem sometimes or often occurred. This implies

that pupils were in school where the problem occurred sometimes or often. The major problems were; Sexual harassment of teachers, physical injury to staff, Alcohol Abuse or Possession, drug abuse, Intimidation or verbal abuse of teachers and Sexual harassment of Pupils at school.

Some heads may have overemphasized the problems but there are sufficient numbers of pupils in schools where the above-mentioned problems occurred frequently to warrant a special inquiry into the nature of this felony with a view to finding practically feasible remedies **(details in annex 5).**

5.8 Teachers Behavioral Problems

Heads were also asked about behavioral problems associated with teachers. The results have been presented in Table 5.8

Table 5.8: Teachers' behavioral Problems by region and category

	TEACHERS BEHAVOURIAL PROBLEMS										
REGION	Late arrivals	Absenteeism	Skipping Class	Intimidation of Pupils	Sexual harassment of teachers	Sexual hasassment of pupils	Use of abusive language	Drug abuse	Alcohol abuse or Possession	Health problems	Conflict between parents and teachers
Acholi	0.0	7.2	27.6	36.6	83.7	66.2	30.4	58.7	13.9	12.2	8.0
Ankole	19.6	27.5	24.9	55.0	64.3	67.7	37.0	57.9	50.6	14.1	37.0
Buganda	5.3	10.8	37.5	70.8	78.3	85.3	42.8	79.2	72.0	18.5	29.4
Bukedi	11.1	11.2	27.0	53.6	60.5	60.5	25.6	74.5	70.5	11.6	27.8
Bunyoro	0.0	0.0	27.0	56.3	73.7	67.9	55.9	67.9	59.2	8.1	34.1
Busoga	14.1	7.5	36.3	47.8	66.5	65.4	53.9	73.1	65.8	6.8	20.3
Elgon	14.1	8.4	64.8	63.7	77.8	66.0	38.1	66.6	71.7	16.4	40.0
Karamoja	0.0	0.0	25.3	46.9	72.4	61.5	11.7	60.6	41.2	0.0	38.1
Kigezi	0.0	13.6	24.2	36.3	70.3	70.3	24.1	64.8	35.4	3.9	6.7
Lango	8.3	14.7	37.0	43.6	61.0	66.6	40.5	53.2	42.2	0.0	16.8
Teso	6.2	20.8	38.0	38.3	66.9	61.3	36.4	54.8	37.3	0.0	28.9
Toro	5.2	5.2	46.5	65.4	65.4	65.4	58.6	65.4	58.3	0.0	45.6
West Nile	0.0	0.0	29.7	59.0	64.6	64.6	39.4	64.6	40.7	6.1	26.8
Total	**7.4**	**10.7**	**36.1**	**55.3**	**70.4**	**70.1**	**41.3**	**67.6**	**56.3**	**9.7**	**27.5**

Regarding the major problems posed to the school, school heads noted that teachers are always sexually harassed (70.4%), sex harassment of pupils (70.1%), and Drug abuse (67.6%). Furthermore, 56.3% of the school heads highlighted the teacher's alcohol abuse or possession is yet another problem. However, late arrival was not common among teachers as it scored the least of only 7.4%.

5.9 Conclusion

In abridgment, this chapter clarifies that about 25.0 percent of the schools had a female school head, but this percentage varied between 5.4% in the Acholi region and 38.7 percent in the Buganda region. School heads were on average found to be 45.7 years old and to have 21.7 years of teaching experience as well as having been Head teachers or acted for 15 years.

Sexual harassment, Physical Injury and drug abuse of both teachers and pupils were cited as major problems.

School heads' ratings prioritized the performance of Administrative tasks and the monitoring of pupil's progress as the most important pre-occupations of Head teachers.

CHAPTER SIX:

Equity in the Allocation of Human and Material Resources among the Regions and among Schools within Regions.

One of the Education and Sports Sector strategic objectives is to achieve equitable distribution of human and material resources among both regions and schools within the regions. This is aimed at ensuring that all children of school going age have an equal opportunity to quality learning. This chapter examines the existing pattern of resource allocation across the schools in the different regions. Such inter and intra-regional analysis will help locate the level at which decisions must be taken in order to address any uneven distribution of resources. The key variables that were analyzed include distribution of teachers and school heads by qualification and experiences, classroom materials and school facilities.

6.2 Approaches used to measure equity

Two statistical techniques have been used to explore variations in human and material resources in the education system where the primary 6 pupils in Uganda participated in 2013. The first technique uses the ratio of standard deviations to compare the variation of resources among schools in a region with the variation among schools at the national level. The second technique uses a coefficient of interclass correlation called rho (ℓ) to determine the percentage of variation in a resource distribution- among schools in a region- that can be ascribed to variation among the regions.

(a) Variations among Regions

The coefficient of interclass correlation (ℓ) is used to measure the amount of variation that can be attributed to variation among the regions.

The value of the coefficient (rho) varies between zero and one. A numerical value of zero percent in the variation means that none of the variation among the schools can be attributed to variation among the districts or. A rho value of 100 percent in the variation means that all the variation in the allocation of a particular resource among schools can be attributed to variation among the districts.

(b) Variations among schools within Regions

It is also possible to quantify the differences among schools within a particular region by making a comparison with the variation among schools at the national level. This can be achieved by using the following formulae;

$$\text{Variation among schools} = \frac{\text{Standard deviation for schools in a region}}{\text{Standard deviation for schools in the country}}$$

The standard deviation of an indicator/ resource index for a particular region measures the amount of variation among schools within that region, whereas the standard deviation for the whole country measures the amount of variation among schools in the country. The ratio of the two standard deviations, expressed as a percentage, provides a measure of equity in the region compared to the national picture.

CHAPTER SEVEN:

7.0 INTRODUCTION

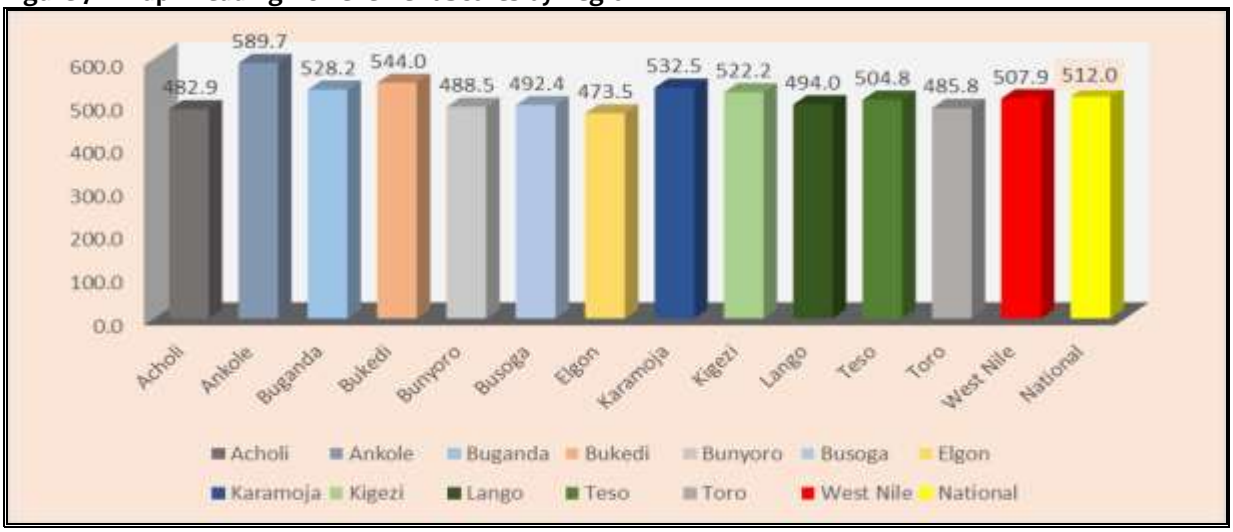
7.1 The Reading and Mathematics Achievement levels of pupil and their teachers.

Outcomes of the SACMEQ reading, mathematics and health tests for both pupils and teachers have been presented in this chapter. Data has been represented in terms of Means, Standard Errors (SE), frequencies, graphs and percentages. Reading and Numeracy scores, competencies have been calculated by regions, gender (male and female), and urban and rural and socio-economic backgrounds for pupils.

As indicated in chapter 2, the developments of the test instruments were based on the syllabi of several countries. Each country to allow its own English reading, mathematics and health specialists to identify those reading and Numeracy items that a learner/pupil should be able to master if he or she is to be able to undertake a successful program of study at primary 7. This criterion was chosen as it was urged that in the tenth month of the school year, primary 6 pupils should have acquired the reading and numeracy skills that would allow them to continue their studies successfully in primary 7. Similarly, tests in both reading, mathematics and health were developed for teachers. Some of the items were the same as for the pupils in order to bring both sets of scores onto a common scale. However, the teacher items were basically meant to show the variation among teachers in these achievements.

7.2 Pupil Reading Achievement Scores

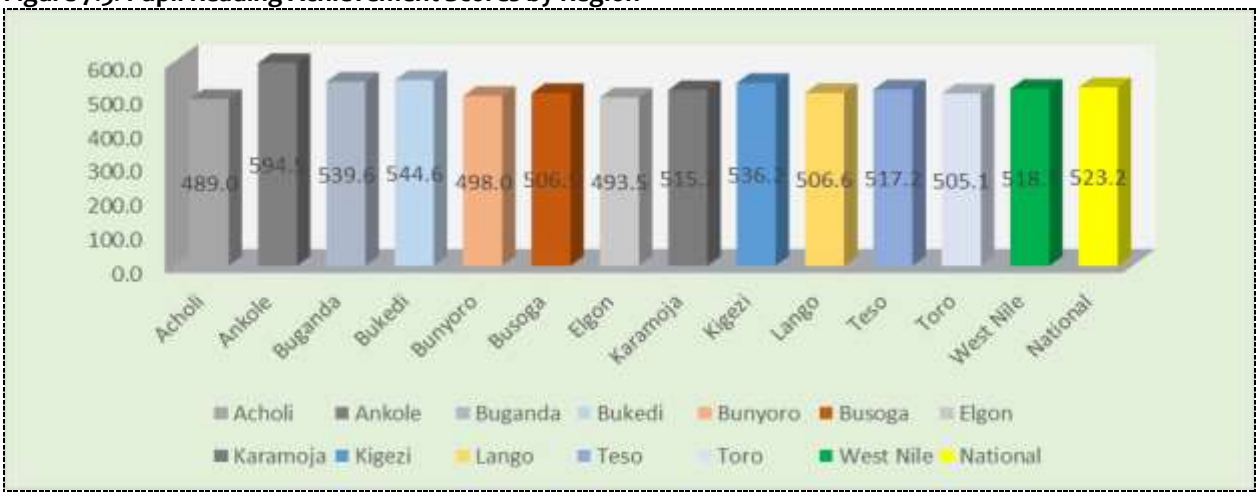
Figure 7.2: Pupil Reading Achievement Scores by Region



In reading, primary 6 pupils in the Ankole and Bukedi region had higher mean scores of 589.7 and 544.0 respectively above the SACMEQ mean of 512. The two regions did not differ statistically because the sampling errors were relatively the same (12.84 Ankole and 17.4 Bukedi region) On the other hand, the primary 6 pupils in the Elgon, Acholi and Toro regions registered the least mean reading scores of 473.5, 482.9 and 485.8 respectively amongst other regions and lower than that of the SACMEQ mean of 512. On average reading scores improved from 476.2 from 2009 to 512.0 in 2013. The improvement in reading is put to the government and other stakeholder program of recruiting more qualified teachers and also supply and distribution of teaching materials like textbooks in schools (***See annex for reading achievements***).

7.3 Pupil Mathematics Achievement Scores

Figure 7.3: Pupil Reading Achievement Scores by Region



From the figure above, it evident that primary 6 pupils in the Ankole and Bukedi region had higher mean scores in mathematics with 594.5 and 544.6 respectively above the SACMEQ mean average of 523.2. The two regions did not again differ statistically because the sampling errors were relatively the same (12.4 Ankole and 17.4 Bukedi region) On the other hand, the primary 6 pupils in the Acholi, Bunyoro and Elgon regions registered the least mean mathematics scores of 489.0, 498.0 and 493.5 respectively amongst other regions and lower than that of the SACMEQ mean of 523.2. On average mathematics scores improved from 480.7 in 2009 to 523.2 in 2013. The improvement in mathematics is put to the government and other stakeholder program of recruiting more qualified teachers and also supply and distribution of teaching materials like textbooks in schools.

Figure 7.3: Mean scores of primary 6 pupils by gender and subject

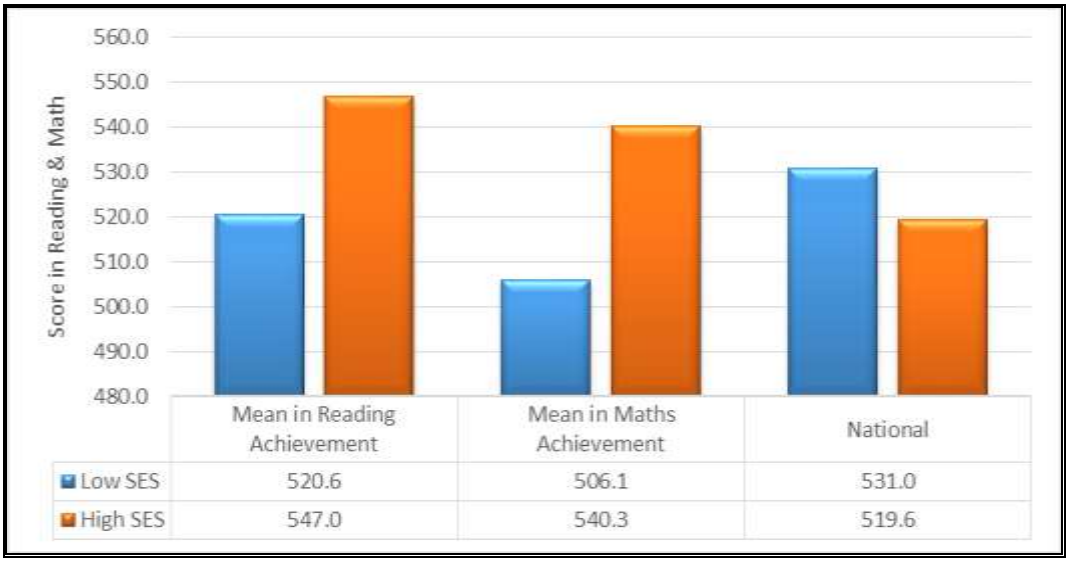


Figure 7.3 Indicate that pupils of performed better in reading with a mean score of 520.6 in Low Social Economic Status than in mathematics with national average of 531.0 and the mean score of reading was 547.0 of Pupils from High Economic Status (HES) performed better than those from Low Economic Status on average in Maths than in reading as presented in the figure above.

The higher socio-economic group scored higher in reading (547.0) than pupils in the lower economic status with (520.6) than the lower as indicated in the figure above.

Table 7.4: Means score for the reading and mathematics test scores of pupils by gender

Category/Competencies	Mean/S.E	PUPIL READING ACHIEVEMENT			PUPIL MATH ACHIEVEMENT		
		Boys	**Girls**	***National***	**Boys**	**Girls**	***National***
Transformed Scores	Mean	518.62	506.46	512.49	532.40	514.84	523.56
	SE	4.80	4.30	4.32	4.69	3.94	4.09
Acceptable Reading/Math Skills	%	71.68	68.84	70.25	N/A	N/A	N/A
	SE	1.88	1.80	1.67	N/A	N/A	N/A
Reading/Math Level 1	%	3.53	3.85	3.69	2.41	3.05	2.73
	SE	0.51	0.65	0.47	0.45	0.44	0.36
Reading/Maths Level 2	%	8.11	8.03	8.07	17.16	18.84	18.01
	SE	0.88	0.81	0.69	1.25	1.18	1.07
Reading/Maths Level 3	%	16.68	19.28	17.99	36.64	42.01	39.34
	SE	1.12	1.22	1.02	1.34	1.49	1.21
Reading/Maths Level 4	%	18.19	20.62	19.41	18.88	19.21	19.05
	SE	0.94	1.03	0.80	1.02	1.06	0.87
Reading/Maths Level 5	%	22.49	22.37	22.43	13.02	10.74	11.87
	SE	1.15	1.12	0.94	0.96	0.91	0.77
Reading/Maths Level 6	%	16.81	15.35	16.07	7.84	4.36	6.09
	SE	1.07	1.09	0.92	0.93	0.77	0.77
Reading/Maths Level 7	%	10.78	8.94	9.85	3.25	1.45	2.34
	SE	1.12	1.12	1.04	0.58	0.48	0.48
Reading/Maths Level 8	%	3.41	1.57	2.48	0.80	0.33	0.57
	SE	0.63	0.39	0.47	0.26	0.12	0.16

Reading

Table 7.4 indicates that on average, boy's performance in reading was better than that of girls. The average transformed score performance for boys was 518.62 yet that for girls was 506.46.

Mathematics

Similar to Mathematics, the performance of boys in mathematics (532.4) was better than for girls (514.84). The performance of boys was above the national average (523.56) while that of girls was less than the national average.

Table 7.5: Means score for the reading and mathematics test scores of pupils by location

Location	Transformed Scores in Reading		Transformed Scores in Maths	
	Mean	SE	Mean	SE
Rural	488.4	3.82	504.3	4.19
Urban	557.9	8.25	560.1	7.59
National	**512.0**	**4.29**	**523.2**	**4.08**

Performance results and school locations showed that the best performing schools were those closest to the urban areas; while mathematics performance in rural-isolated areas was poor; and urban (560.1) as presented in Table 7.4. In most recent studies UNEB, urban schools performed better than rural schools in most years due to accessibility of learning materials, attitude of rural parents towards study of their children and also the time committed to books of urban pupils to books than their counterparts, with non-UPE candidates shown to have performed better than their UPE counterparts.

7.7 Competency levels in reading, mathematics for primary 6 pupils by region

The different levels of achievement for reading, mathematics and health for primary 6 pupils and their teachers have been presented in this section.

Table 7.7: Competency level in reading and mathematics for primary 6 pupils

	Transformed Scores in Reading				Transformed Scores in Maths				Acceptable Reading Skills			
	Boys		Girls		Boys		Girls		Boys		Girls	
Region	Mean	SE	Mean	SE	Mean	SE	Mean	SE	%	SE	%	SE
Acholi	487.3	9.64	478.8	12.05	498.9	5.58	479.3	8.70	66.4	5.99	55.9	7.27
Ankole	601.9	13.01	579.2	12.76	618.7	14.85	571.3	10.06	97.4	2.01	95.7	2.13
Buganda	535.4	12.02	522.8	10.81	547.9	10.96	533.3	8.94	74.3	4.33	73.2	4.20
Bukedi	557.3	18.13	532.3	16.92	563.8	19.09	525.4	16.41	86.0	4.16	79.6	4.92
Bunyoro	502.9	18.67	470.7	20.23	518.5	15.95	476.3	12.97	68.9	6.82	56.4	8.46
Busoga	490.8	16.29	493.5	13.83	505.4	16.34	506.4	12.38	57.2	6.87	61.4	5.69
Elgon	475.9	15.77	471.8	12.87	497.2	19.70	489.5	18.92	52.9	7.59	54.7	7.04
Karamoja	553.3	10.10	520.5	16.77	535.1	8.24	500.9	13.25	87.1	3.48	79.0	6.54
Kigezi	541.0	20.37	510.1	14.15	556.6	19.46	522.7	16.12	76.0	7.96	71.3	6.21
Lango	496.8	13.40	491.2	14.10	513.5	11.13	498.8	10.69	66.4	5.47	60.0	5.57
Teso	512.1	17.95	497.6	16.30	528.4	16.89	505.7	11.02	74.0	7.20	66.3	7.63
Toro	492.9	11.73	480.2	10.62	513.9	19.77	497.3	22.58	64.8	8.93	66.1	8.01
West Nile	514.3	13.27	499.6	9.67	520.3	12.46	515.6	6.98	77.6	6.50	75.8	4.83
Uganda	**518.6**	**4.80**	**506.5**	**4.30**	**532.4**	**4.69**	**514.8**	**3.94**	**71.7**	**1.88**	**68.8**	**1.80**

On average 70.3% (71.7% Boys: 68.8% Girls) pupils have acceptable reading skills, pupils of the Ankole region and Karamoja recorded the highest 96.6% (97.4%Boys: Girls 95.7%) competency level in reading

with 25.113, 27.116, 39.451 pupils attaining level 5, 6, 7 and 8, while 80.25 and 83.877 pupils in the Busoga and Toro respectively attained the least competency levels of 5, 6, 7 and 8 in reading.

7.8 Competency levels in reading and mathematics for primary 6 pupils and their teachers

The different levels of achievement for reading and mathematics for primary 6 pupils and their teachers have been presented in this section.

7.8.1. Competency levels in Reading and Mathematics for primary 6 pupils by location

Basing on level 1 as lowest competence level and level 8 as the highest competence and a scale of 80 as the maximum, 84.5% of pupils attained reading competencies in level 1, 2, 3 and 4. The performance was poor in the reading competencies of primary 6 pupils because only 22.1%- level 5, level 6 (13.3%), level 7 (4.8%) and level 8 (0.5%).

Table 7.8: Means and sampling errors for the reading and mathematics test scores of pupils by sub groups.

Category		Rural	Urban	National
Transformed Scores	Mean	488.45	557.94	511.95
	SE	3.82	8.25	4.29
Reading Level 1	%	4.89	1.39	3.71
	SE	0.60	0.62	0.46
Reading Level 2	%	10.84	3.01	8.19
	SE	0.89	0.58	0.68
Reading Level 3	%	21.70	10.84	18.03
	SE	1.15	1.77	1.01
Reading Level 4	%	21.82	14.97	19.51
	SE	0.86	1.59	0.80
Reading Level 5	%	22.14	22.77	22.35
	SE	1.11	1.75	0.94
Reading Level 6	%	13.26	21.19	15.95
	SE	1.03	1.62	0.91
Reading Level 7	%	4.82	19.65	9.83
	SE	0.78	2.35	1.03
Reading Level 8	%	0.52	6.17	2.43
	SE	0.17	1.22	0.46
Acceptable Reading Skills	%	62.56	84.75	70.07
	SE	1.98	2.33	1.67

Table 7.8 presents that pupils of the urban area recorded the highest competency level in reading with 22.646% pupils attaining level 6, (35.767%), level 7 and 4.517% for level. While 1.39% and 6.17% pupils

in the urban area attained the least competency levels of 1, and 8 in reading. This is compared 0.4% and 0.245% scored by primary six pupils in SACMEQ III.

Level	Low SES	High SES	National
Pupil math level 1	0.1	0.3	0.2
Pupil math level 2	3.2	3.1	3.2
Pupil math level 3	25.8	20.1	23.4
Pupil math level 4	30.9	25.1	28.5
Pupil math level 5	25.4	24.4	25.0
Pupil math level 6	8.9	16.5	12.0
Pupil math level 7	4.4	7.9	5.8
Pupil math level 8	1.2	2.6	1.8
National	***87.9***	***91.6***	***89.4***
Level	***Low SES***	***High SES***	***National***
Pupil reading level 1	0.2	0.4	0.3
Pupil reading level 2	1.5	1.0	1.3
Pupil reading level 3	10.4	7.0	9.0
Pupil reading level 4	20.8	13.5	17.8
Pupil reading level 5	31.4	25.1	28.8
Pupil reading level 6	19.8	20.5	20.1
Pupil reading level 7	15.3	28.6	20.8
Pupil reading level 8	0.6	3.9	2.0
National	***12.5***	***12.5***	***12.5***

7.3.3 Competency levels in reading and mathematics for primary 6 pupils by sub-groups

a) Competency levels in reading and mathematics for primary 6 pupils by Gender

Following the same criterion of level 1 having the lowest competence and level 8 having the highest competence and a scale of 80 as a maximum;-

Table 7.9: Pupil Reading Competency level by gender.

Pupils' Reading Level								
Gender	**level 1**	**level 2**	**level 3**	**level 4**	**level 5**	**level 6**	**level 7**	**level 8**
Boy	0.20	1.74	8.37	17.26	27.03	21.34	21.82	2.24
Girl	0.37	1.29	10.35	20.64	29.21	19.74	16.89	1.51
Total	0.29	1.51	9.37	18.98	28.14	20.53	19.32	1.87

Reading

Boys performed better than girls in reading competency. 71.0% of the boys achieved level 1,2,3,4 and 51.1% boys attained level 5, 6, 7 and 8. The female counterparts as; 63.2% females attained level 1,2,3,4 while only 69.0.% achieved level 5,6,7 and 8 as indicated in table 7.6.

Table 7.9: Pupil Reading Competency level by gender.

Mathematics Level									
Gender	**level 1**	**level 2**	**level 3**	**level 4**	**level 5**	**level 6**	**level 7**	**level 8**	**Pupil has acceptable reading skills**
Boy	0.29	3.02	22.3	26.93	26.26	11.93	7.45	1.83	89.69
Girl	0.25	3.88	27.81	30.26	23.25	9.86	3.38	1.3	87.99
Total	0.27	3.46	25.07	28.6	24.75	10.89	5.4	1.57	88.83

Mathematics

As presented in table 7.9, 7.45% pupils achieved level 7 and 8. Only 17.82% pupils (both sex) attained level 6 and 5 in mathematics competency. However, despite the poor performance in mathematics competencies, boys (19.1%) performed better than girls (16.6%) in levels 5and6 26.3% boys and 31.1% girls attained level 1,2,3,4.

b) Competency levels in reading and mathematics for primary 6 pupils by School location

Reading

Boys performed better than girls in reading competency. 69% of the boys achieved level 1,2,3,4 and 31% boys attained level 5, 6, 7 and 8. The female counterparts as; 73% females attained level 1,2,3,4 while only 29% achieved level 5,6,7 and 8 as indicated in table 7.8.

Table 7.9: Pupil Reading competency level by gender

Pupils' Reading level								
School location	**level 1**	**level 2**	**level 3**	**level 4**	**level 5**	**level 6**	**level 7**	**level 8**
Rural	0.407	2.213	12.839	25.036	30.442	19.302	9.516	0.245
Urban	0.075	0.286	3.82	8.488	24.401	22.646	35.767	4.517
Total	0.283	1.492	9.465	18.846	28.182	20.553	19.337	1.843

Pupils' Mathematics level									
School location	**level 1**	**level 2**	**level 3**	**level 4**	**level 5**	**level 6**	**level 7**	**level 8**	**Pupil acceptable reading skills**
Rural	0.424	4.572	31.192	30.98	22.398	6.602	2.814	1.018	84.542
Urban	0	1.516	14.869	24.746	28.789	17.879	9.57	2.631	95.819
Total	0.267	3.44	25.146	28.671	24.765	10.779	5.317	1.616	88.761

On the location of schools the figures confirmed that pupils who attended schools in urban cities performed slightly much better than those from rural schools. Finally, the analysis have shown that there is need for the Ministry of Education and Sports (MoES) to allocate more resources to the disadvantaged schools.

c) Competency levels in reading and mathematics for primary 6 pupils by Social economic status

Table 7.10: Pupils reading competency level by socio-economic status

Pupils' Reading competence level								
Socio-economic status	**level 1**	**level 2**	**level 3**	**level 4**	**level 5**	**level 6**	**level 7**	**level 8**
%Freq.	%	%	%	%	%	%	%	%
Low SES	0.119	3.249	25.777	30.939	25.425	8.895	4.395	1.202
High SES	0.272	3.136	20.075	25.069	24.446	16.477	7.881	2.644
Total	0.182	3.202	23.429	28.522	25.022	12.017	5.83	1.796

Pupils' Mathematics competence level									
Socio-economic status	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Pupil has acceptable reading skills**
% Freq	%	%	%	%	%	%	%	%	%
Low SES	0.157	1.52	10.436	20.81	31.39	19.807	15.302	0.58	87.888
High SES	0.423	1.009	7.015	13.47	25.113	20.472	28.591	3.907	91.553
Total	0.267	1.309	9.024	17.78	28.799	20.081	20.788	1.953	89.401

The results from the Tables 7.10 also indicated that pupils from low socio-economic level had less chances of achieving higher levels of competence in both tests. 60.0% and 48.5% of pupils from high and low economic status respectively attained level 1,2,3,4 in reading while 34.3% and 40.9% of the pupils from high and low economic status respectively at level 5 and 6 in reading. 4.4% pupils irrespective of the social economic status achieved level 7 and 8 in reading competencies. Whereas in mathematics the scenario changed for level 7 and 8 where pupils attained 15.9% and 32.5%.

CHAPTER EIGHT:

PUPIL AND TEACHER KNOWLEDGE ABOUT HIV AND AIDS IN UGANDA

8.1 Introduction

HIV/AIDS still remains a burden to Uganda's education system. The pandemic does not only affect the supply side (i.e. the workforce) but also the demand side (pupils and students) who fall in the most sexually active age group of 15 – 24 years (Youth).

The resultant effect of the HIV/AIDS scourge is poor health leading to frequent absenteeism from school by both pupils and teachers. On the side of the pupils, frequent absenteeism results into repetition, poor performance, and at times dropout from school. On the side of teachers, absenteeism due to poor health makes other teachers take on extra loads to cover the work of absent teachers.

As a response to this challenge, the Education Science Technology and Sports Sector has put in place initiatives to counter the negative impact of the pandemic in the medium and long term. These include the sector workplace policy (targeted at the teaching workforce, non-teaching staff and auxiliary staff); the Presidential Initiative on Aids Strategy for Communication to the Youth (PIASCY), which is being implemented in both primary and secondary schools/institutions; capacity building activities for HIV and AIDS; as well as advocacy, counseling and voluntary testing priority initiatives. These priority initiatives have increased awareness about the dangers of HIV/AIDS and created reasonable capacity for sector's response to the pandemic.

This chapter highlights the state of Pupil and Teacher knowledge about HIV/AIDS in Uganda Education Science Technology and Sports Sector.

8.1.1 Education Sector Response to HIV/AIDs in Schools

HIV/AIDS impacts on the sector through quality loss, quantity loss, and increased or unplanned expenditure. It affects both the supply and demand sides of the sector. On the supply side, it leads to constant recruitment, training and deployment of teachers to replace

those that leave the Sector as a result of death or constant sicknesses. On the demand side, it is responsible for the learner psychological stress, morbidity, sickness, absenteeism and mortality.

Currently, there are 38,789 (i.e. 18,848 males & 19,941 females), about 0.5% of the total enrolment living with HIV/AIDS. About 2,769 teachers in primary schools (i.e 683 males & 2,086 females) are living with HIV/AIDS (EMIS 2014).

Commensurate with the above, the Ministry of Education and Sports (MoES) has responded by developing policies and strategies to address the scourge of HIV/AIDS. Key policies and strategies adopted thus far include:

(i) The Sector National Policy Guides on HIV/AIDS (2006), whose major objective is to ensure that learners, students, education managers, educators and other sector employees access HIV/ AIDS prevention, treatment, care and support services. It also provides a guide for HIV/AIDS prevention, care treatment and support program, interventions and initiatives in the sector;

(ii) The Sector HIV/AIDS workplace policy (2006). This policy ensures that students, teachers and staff have full access to HIV/AIDS prevention, treatment, care and support services. It also aims at eliminating stigma and discrimination of staff, pupils and teachers in education sector with HIV in order to deal with issues that hinder access to education. The policy also promotes the adoption of behavior change practices, increased access to quality HIV and AIDS prevention, care, support and treatment services, empowerment of schools and other education work places to sustainably play their role in ensuring a healthy and safe learning and working environment;

(iii) In 2002 the Presidential Initiative on AIDS Strategy for Communication to Youth (PIASCY) was launched to sensitize children and the youth on HIV/AIDS. Currently the MoESTS, with stakeholders, is producing age-appropriate HIV education materials for teachers of P3-4 and P5-7 in all primary schools, public and private. Research by

partner NGOs confirms the positive impact teachers have on pupils' behavior. Pupils who first learn correct facts about sex in the classroom from teachers are much more likely to abstain than pupils for whom peers and siblings are the first source of information about sex; and,

(iv) Strengthening Guidance and counseling in all primary schools.

8.2 SACMEQ Findings on HIV/AIDs

8.2.1 Knowledge about HIV/AIDS in schools

Information is power! It is power to adopt. It is also power to make self-reflection. Thus, the availability of HIV/AIDS information to learners has far reaching impact to enhancing behavioral change in schools, teachers, and the community in which pupils stay.

The SACMEQ HIV/AIDS Knowledge Test (HAKT) was designed to provide a valid assessment of pupil and teacher knowledge about HIV/AIDS, with respect to the topics specified in the official school curriculum frameworks, textbooks, and teaching materials used by the SACMEQ countries. The 86 HAKT test items covers 43 curriculum topics, and focus on the assessment of "the basic knowledge about HIV/AIDS that is required for protecting and promoting health". The topics are categorized into five main areas namely: definitions and terminology; transmission mechanisms; avoidance behaviors; diagnosis and treatment; and myths and misconceptions.

The HAKT was administered to Grade 6 pupils and teachers in the sampled primary schools. Table.8.1 shows pupils and teachers score by sex, location, region and school type

Table 8.1: Mean and Standard Deviation of pupil's performance in the Health Subject by sex, Region, Location and School type

		Scores	
		Pupils Mean Score (SE)	**Teachers Mean Score (SE)**
Region	Central	487(2.9481)	712 (2.503)
	Eastern	484 (2.6707)	698(2.6443)
	Northern	472 (2.7843)	728(3.2330)
	North Eastern	473(4.4479)	737(4.8153)
	Western	503(3.3874)	671(7.5881)
	South Western	523 (3.8763)	713(4.4129)
Location	Isolated	456(11.6975)	723 (15.0745)
	Rural	480(1.5921)	712 (1.5501)

	Small Town	501(2.9914)	690 (4.9092)
	Large City	527(4.0266)	743 (4.2879)
School type	Government	483 (1.4162)	711 (1.4209)
	Private	522 (3.7985)	699 (8.0629)
Sex	Male	493 (1.9083)	715 (1.9325)
	Female	482 (1.8718)	698 (2.2274)
	National	**487 (97.1771)**	**709 (100.5707)**

Teacher's average score was higher than that of the students. However, students in urban centers performed better than those in rural schools. At regional level, the South Western and Western regions were the best. Performance by sex among pupils was relatively the same while private schools out competed the government schools on average.

The average HAKT Score for teachers was 708 at the national level, and was in the range of around 670 to 740 for all regions. The national percentage of teachers that reached SACMEQ's minimal knowledge benchmark of mastering at least one half of the official school curriculum was 100%. This also applied to all regions.

The "knowledge gap" between pupils and teachers is still persistent despite all teachers reaching the SACMEQ's minimal knowledge benchmark of mastering at least one half of the official school curriculum. This further provides room for research in order to provide an explanation for the substantial.

8.2.2 Source of HIV/AIDS information in Schools

During the study, teachers, head teachers and pupils were asked to indicate the key sources of HIV/AIDS information available to them. Table 8.2 presents the findings.

Table 8.2: Source of HIV/AIDS information in Schools

Source of HIV Information by school Heads	Head Teachers	Teachers	Pupils
Radio	96%	92%	86%
T.V	66%	55%	36%
Video	64%	58%	39%
Internet	7%	8%	9.3%
Computer	11%	13%	13%
Posters/Billboards	88%	82%	44%
Books	96%	89%	74%
Magazines/Newspapers	93%	87%	58%
Drama	92%	87%	65%
Cinema	71%	66%	65%
School Clubs	83%	81%	40%

Reaction Activities	65%	56%	34%
Pre-service training	55%	59%	-
In Service Training	84%	82%	
Hospital	81%	80%	70%
Friends	90%	80%	67%
Counselor	83%	77%	48%
Peer Educator	85%	79%	49%
Doctor	79%	68%	59%
Community Health Worker	87%	85%	57%
Religious Person	90%	85%	55%
People Leaving with HIV	78%	70%	45%
Relatives	86%	83%	72%

The most popular sources of HIV/AIDS information across the board *(for teachers, head teachers and pupils)* include: hospitals, relatives, In-Service training, books, and radios.

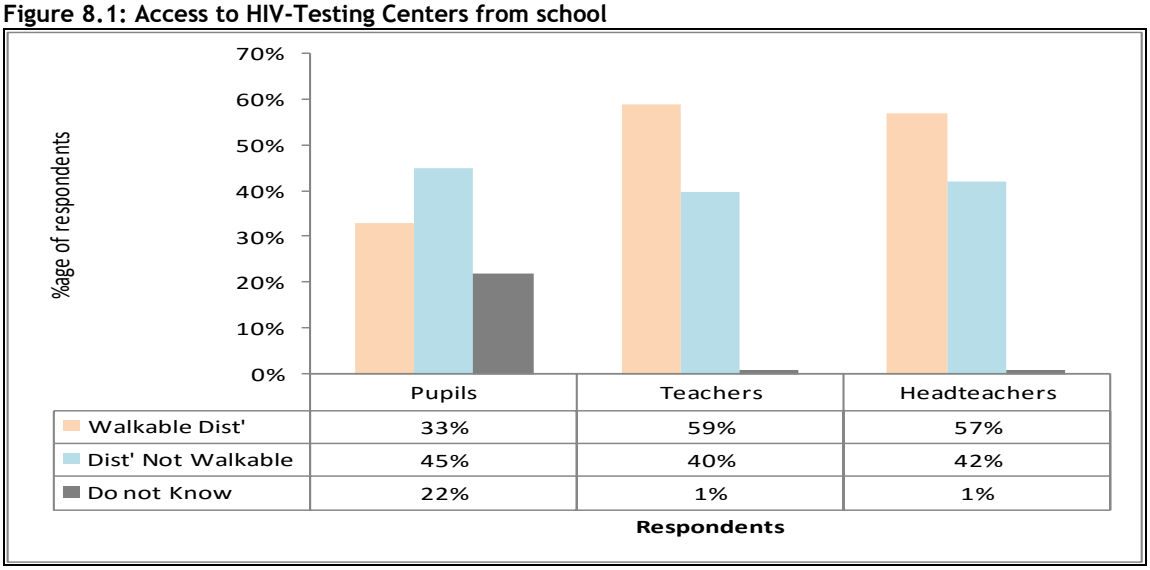
8.2.3 Access to HIV/AIDS Testing services

8.2.3.1 Accessibility to HIV/AIDS Testing Centers

Access to HIV-Testing Centers is critical in the fight against HIV/AIDs. Testing is essential in establishing the status of a person. It thus forms the basis and institution of necessary support services for both prevention, and caring for the infected and affected.

Testing is one of the most important strategies recommended by CDC for reducing the spread of HIV/AIDS. It is also an integral part of the National HIV/AIDS Strategy for prevention of the spread of the disease, and the health improvement of those who are already infected. Figure 8.1 highlights the levels of accessibility to HIV/AIDS centers by both pupils, teachers and head teachers.

Figure 8.1: Access to HIV-Testing Centers from school



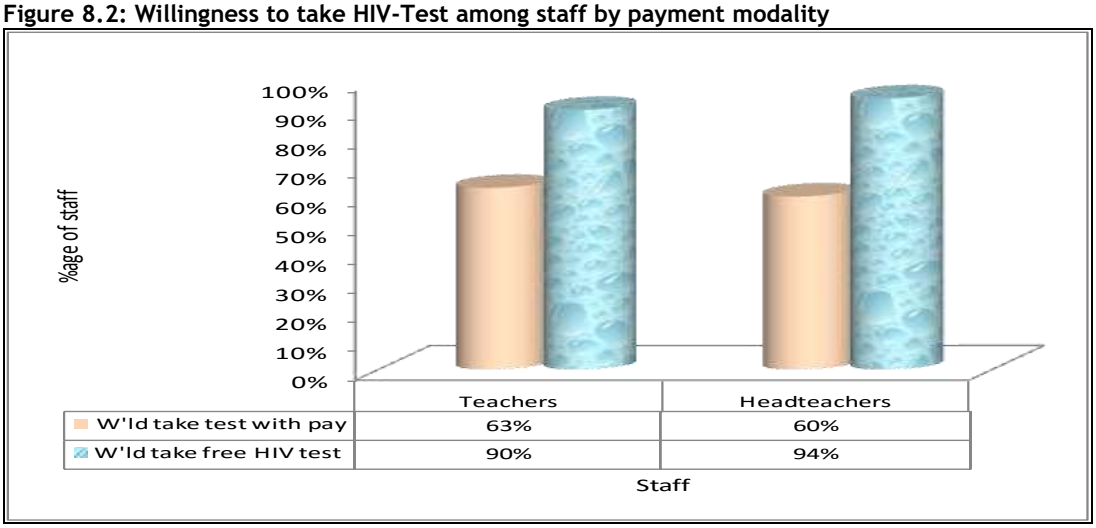
Only 33% of the pupils, 59% teachers, and 57 head teachers have access to HIV/AIDS Testing centers.

8.2.3.2 Willingness to take HIV/AIDS Test among staff

In this study, teacher's willingness to take HIV/AIDS, and what would prompt them to take a test was investigated. A question of whether a staff would test freely or after payment was posed to staff. Findings are presented in Figure.8.2below.

Findings reveal that majority of the teachers and Head teachers were willing to take an HIV/AIDS test that was free. For every 100 teachers and Head teachers, only 10 teachers and 6 Head teachers would not take an HIV/AIDS test even if it was free of charge. In addition, it was further noted that 63% and 60% of the total teachers and head teachers would take an HIV test with pay. This shows the relevancy which the teachers and Head teachers attach to their lives. Given time and interventions, it is hoped that more teachers and head teachers would take tests regardless of whether it is free or for paying.

Figure 8.2: Willingness to take HIV-Test among staff by payment modality



8.2.4 Effect of HIV/AIDS in the Education Sector

8.2.4.1 Pupil's attitude towards HIV/AIDS Positive Friends

During the study, pupils' attitude towards fellow pupils who are HIV positive was ascertained and the findings are presented in Table 8.3.

Table 8.2: Pupils attitude towards HIV +Ve Friend

Pupils attitude towards HIV +Ve Friend	Frequency	Percent
Be More Friendly	1516	28.6
Same as Before	1290	24.3
Avoid Him/her	1543	29.1
Not Sure	958	18.1
Pupils Take Care of AIDS Relative		
No	1114	21.0
Yes	3570	67.3
Not Sure	623	11.7
HIV Infected Pupil allow in school		
No	1317	24.8
Yes	3388	63.8
Not Sure	602	11.3
Allow HIV Infected Teacher To school		
No	1448	27.3
Yes	3240	61.1
Not Sure	619	11.7
P/Attended HIV & AIDS Classes		
No	922	17.4
Yes	4385	82.6

Total	**5,307**	**100**

The research findings reveal that majority of the pupils have positive attitudes towards HIV/AIDS positive friends. However, there were some pupils whose attitude towards friends with HIV/AIDS was negative in that they could avoid them (29.1%), deny them care (21%) and disassociate them from school (24.8%).

8.2.4.2 HIV/AIDs related death in Primary Schools Among teachers and pupils.

HIV/AIDs continue to claim the lives of both the pupils and the teachers. This has in addition affected the overall performance of schools. During the study, HIV/AIDs related death tolls were established among pupils and teachers by sex and the findings are presented in Table 8.3 and 8.4 below.

Table 8.3: HIV/AIDs related death in Primary Schools Among teachers

	Male Teachers who Died of AIDS			Female Teachers Who Died of AIDS		
Year	**2010**	**2011**	**2012**	**2010**	**2011**	**2012**
Mean	1.00	1.00	1.00	1.00	1.00	1.00
Std. Error	.000	.000	.000	.000	.000	.000
Median	1.00	1.00	1.00	1.00	1.00	1.00
Mode	1	1	1	1	1	1
Std. Deviation	.000	.000	.000	.000	.000	.000
Variance	.000	.000	.000	.000	.000	.000
Range	0	0	0	0	0	0
Minimum	1	1	1	1	1	1
Maximum	1	1	1	1	1	1
Sum	**5307**	**5307**	**5307**	**5307**	**5307**	**5307**

Table 8.4: HIV/AIDs related death in Primary Schools among Pupils

	Boys who died of HIV/AIDS			Girls who died of HIV/AIDS		
Year	2005	2006	2007	2005	2006	2007
Mean	1.08	1.04	1.00	1.03	1.02	1.01
Std. Error	.006	.004	.001	.003	.002	.002
Median	1.00	1.00	1.00	1.00	1.00	1.00
Mode	1	1	1	1	1	1
Std. Deviation	.426	.281	.067	.219	.153	.150
Variance	.181	.079	.005	.048	.024	.022
Range	4	3	1	2	1	2
Minimum	1	1	1	1	1	1
Maximum	5	4	2	3	2	3

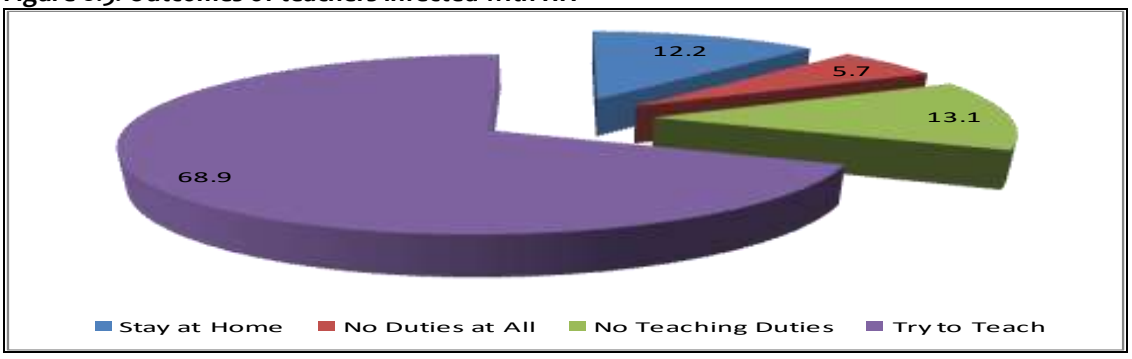
Sum	**5724**	**5504**	**5331**	**5461**	**5435**	**5377**

Results show that schools have lost more pupils as compared to teachers in terms of absolute numbers. However, in terms of proportions, that of teachers is high as compared to that of the pupils. In one of the schools, the death toll for girls was as high as 9 and 6 for boys.

8.2.4.3 Impact on teaching staff

Results in Figure 8.3 show 68.9% indicated willingness to stay on teaching. However the remaining 31.1% of the teachers who are unwilling to stay in school, create a staffing gap as such teachers are left on the pay roll until further notice.

Figure 8.3: Outcomes of teachers infected with HIV



CHAPTER NINE:

POLICY RECOMMENDATIONS

(i) There is an abundance of evidence that ECD can be a key tool for addressing gender inequality, building confidence in children, and setting a solid foundation for literacy (Bartlett et al., 2003). Therefore to enhance retention and improve on literacy and life skills amongst learners, there is need to: (a) universalize pre-school access by attaching a community based ECD center on all rural primary schools both government and private; (b) Increase advocacy and public awareness campaigns about ECD and its benefits to an individual, the family, the community and to the nation in order to bring positive change in attitudes and behaviors towards children's survival, protection and development within the context of the National Early Childhood Development Policy; and (c) enhance the capacities (technical & financial) of national and district local government staff especially the ECD focal point officers and the Sub-County Chiefs to enable them to play their role of guiding, supervising, monitoring and ensuring that basic requirements and minimum standards are maintained in the delivery of ECD services and programs.

(ii) There is need for more funding across all sub-sectors, as well as enhanced management of those resources; The World Bank analysis of low-income countries states that countries that are on track to achieve 100% enrolment and 80% of children completing Grade 5 by 2015, exhibit a "powerful combination of relatively high education spend on primary education (2-3% of GDP).

According to the NDP II, budget allocations to the Education sector is expected to rise to 19.1% in 2014/15, but will continue to face pressure from competing priority sectors such as energy, infrastructure among others (NPA, 2015). Currently, schools under the Universal Primary Education (UPE) program receive a threshold of Ug.Shs. 150,000/= per month for nine months, totaling to about Ug.sh 16.5bn. In addition, schools also share about Ug.shs 33.2bn on the basis of enrolment (i.e. uh.sh 8,100/= a year per pupil). According to the capitation grant guidelines, 35% of the grant is for extra instructional materials, 20% for co-curricular activities 15% for school maintenance and management, 10% for administration.

Well as the money is significant in absolute terms, it is very minimal in terms of unit cost per pupil per annum, and also in terms of the rate at which the shilling is fluctuating against the dollar. Consequently, schools are unable to adequately provide for both school consumables, and equipment.

(iii) Create an independent Pre-primary Department within the Ministry of Education, Science Technology and Sports. The department should be tasked to handle the whole aspect of Early Childhood Development (ECD) in the education sector (i.e. from Kindergarten/ pre-school, up to Grade 3). The department should act as a link between the education sector, and other line ministries handling the different aspects of children. In line with its mandate, the department should in collaboration with key line ministries design and manage a consolidated and comprehensive Child Management and Information System with information and data regarding child development and delays, implications and opportunities especially in the early years consolidated from the various policies, programs and practices by different government sectors, international agencies and civil society organization.

(iv) **There is need for a universal school feeding program.** Although the Education Act (2008), and the UPE and UPPET guidelines, obligates parents/ guardians to provide food to their children, as prerequisite for effective learning, available evidence *(i.e in monitoring reports by the MoESTS, World Bank, and independent researchers)* reveal that parents in many areas of the country cannot afford due to high poverty levels. Currently through bilateral agreement with World Food Program has been providing food to education institutions in Karamoja Sub-region. However, this needs to be rolled out to all districts, and fully prioritized in the government budgeting process. Without a universal school feeding program, challenges of retention, absenteeism, and lack of moral for learning will continue to persist in the education sector.

(v) Government should consider supplying sanitary pads to all school as this is a detriment to girls stay in school. Currently, there are two types of sanitary pads in Uganda: disposable pads, and re-usable pads. A disposable pad is a sanitary napkin of absorbent material won by girls and women during menstruation and thrown away after use. On the other hand, re-usable pads are washable fabric /pad worn by girls during monthly menstruation and not

thrown away but are instead properly washed and used again. There are two types of re-usable sanitary pads: Homemade re-usable pads, made from locally available materials including cloth and cotton (see Figure 2), and factory made re-usable pads (see Figure 3)

Figure 2: Homemade re-usable pad

Figure 3: Factory re-usable pads

(vi) To minimize expenditure on sanitary ware, government should partner up with local firms manufacturing re-usable pads namely AFRIpads Uganda, to supply pads to schools, as well as train school girls in how to make homemade re-usable pads. For instance, AFRIpads in conjunction with UNICEF, Plan Uganda, Marie Stopes Uganda, Child Fund International, Concern for the Girl Child, Norwegian Refugee Council, and numerous Rotary Clubs, has trained girls in Masaka and parts of the Northern region in how to make their re-usable pads.

(vii) Effective implementation of the Monitoring Learning Achievement model in schools. ESR 2011 acknowledged that whereas there are different levels of assessments (namely: national assessment which evaluates the effectiveness of the education system; & classroom based assessment which occurs simultaneously with learning designed to improve the learners ability to learn), the school level assessment seeks to evaluate individual schools and leads to the development of action plans to address identified problems.

The school based strategy unlike what has been in place places emphasis on: (a) identifying what skills each student possesses, and challenges; (b) community's critical thinking of the existing education system and their aspirations based on their social, cultural, political, geographical and economic thinking; (b) individual school based good practices and thus progressively builds on this foundation. On the other hand, the school based model also introduces a shift in the inspection methodology, and focuses on the learner as opposed to the clinical approach of lesson observation

Annex 1 : Education qualifications for Pupils' Parents

Region	No school, no adult education	Some adult education	Some primary education	Completed primary education	Some education after primary	Some secondary education	Completed secondary	Some education after secondary	Some university education	Completed university education	I do not know	I do not have	Total
Acholi	19%	9%	31%	16%	4%	4%	4%	2%	2%	2%	7%	1%	100%
Ankole	3%	4%	23%	20%	3%	12%	7%	4%	4%	13%	7%	1%	100%
Buganda	6%	3%	14%	15%	5%	13%	13%	5%	3%	13%	11%	1%	100%
Bukedi	7%	5%	30%	16%	3%	17%	4%	4%	1%	8%	5%	0%	100%
Bunyoro	13%	6%	13%	15%	5%	11%	15%	3%	2%	2%	15%	0%	100%
Busoga	10%	5%	21%	18%	3%	12%	10%	5%	2%	10%	6%	0%	100%
Elgon	8%	5%	27%	19%	4%	8%	8%	2%	3%	9%	7%	0%	100%
Karamoja	24%	9%	15%	14%	4%	7%	6%	4%	2%	7%	8%	0%	100%
Kigezi	10%	7%	25%	18%	5%	8%	7%	4%	2%	9%	6%	1%	100%
Lango	9%	9%	36%	18%	4%	9%	3%	4%	2%	3%	5%	1%	100%
Teso	16%	8%	29%	18%	3%	6%	5%	5%	1%	5%	4%	1%	100%
Toro	21%	8%	27%	19%	4%	4%	5%	3%	1%	5%	4%	0%	100%
West Nile	10%	7%	35%	12%	7%	7%	7%	3%	1%	5%	6%	0%	100%
National	11%	6%	24%	17%	4%	10%	8%	4%	2%	8%	7%	1%	100%

Region	No school, no adult education	Some adult education	Some primary education	Completed primary education	Some education after primary	Some secondary education	Completed secondary	Some education after secondary	Some university education	Completed university education	I do not know	I do not have	
Acholi	7%	7%	23%	22%	6%	9%	8%	4%	3%	4%	6%	3%	100%
Ankole	2%	4%	21%	18%	4%	9%	10%	5%	5%	15%	6%	2%	100%
Buganda	3%	3%	11%	12%	5%	13%	12%	6%	4%	16%	12%	3%	100%
Bukedi	4%	3%	19%	17%	5%	17%	10%	7%	1%	10%	5%	1%	100%
Bunyoro	6%	3%	20%	12%	4%	12%	16%	5%	3%	4%	13%	1%	100%
Busoga	7%	3%	16%	16%	6%	11%	10%	8%	4%	12%	6%	1%	100%
Elgon	3%	6%	20%	16%	7%	11%	10%	6%	3%	10%	7%	1%	100%
Karamoja	22%	2%	11%	9%	5%	14%	8%	6%	4%	12%	7%	1%	100%
Kigezi	4%	3%	21%	16%	5%	13%	8%	5%	4%	11%	9%	3%	100%
Lango	4%	4%	20%	20%	9%	15%	8%	7%	3%	4%	3%	1%	100%
Teso	9%	4%	26%	17%	4%	13%	6%	8%	2%	7%	5%	0%	100%
Toro	18%	5%	21%	17%	5%	9%	8%	3%	1%	6%	5%	3%	100%
West Nile	5%	4%	19%	17%	6%	10%	7%	11%	4%	7%	10%	1%	100%
National	***6%***	***4%***	***18%***	***16%***	***5%***	***12%***	***10%***	***6%***	***3%***	***10%***	***8%***	***2%***	***100%***

Annex 2: Things found in the place (home) where pupils stay during the school week

Items	Proportion (Yes) %	Mean	Std. Deviation
Daily Newspaper	0.350	1.35	0.477
Weekly or Monthly magazine	0.204	1.20	0.403
Clock	0.660	1.66	0.472
Piped Water	0.338	1.34	0.473
Bore Hole	0.530	1.53	0.499
Table	0.709	1.71	0.454
Bed	0.784	1.78	0.411
Private Study Area	0.367	1.37	0.482
Bicycle	0.686	1.69	0.464
Donkey/Horse Cart	0.103	1.10	0.305
Car	0.250	1.25	0.433
Motorcycle	0.345	1.34	0.475
Tractor	0.124	1.12	0.329
Electricity	0.400	1.40	0.490
Refrigerator or Freezer	0.113	1.11	0.317
Air Conditioner	0.093	1.09	0.291
Electric Fan	0.125	1.13	0.331
Washing Machine	0.087	1.09	0.282
Vacuum Cleaner	0.093	1.09	0.290
Computer	0.130	1.13	0.336
Internet	0.140	1.14	0.347
Radio	0.350	1.35	0.477
TV	0.261	1.26	0.439
Video tape player (VCR)	0.177	1.18	0.382
Video disc player (DVD or VCD, etc.)	0.200	1.20	0.400
Audio disc player (CD)	0.204	1.20	0.403
Audio Cassette Player	0.160	1.16	0.366
Ordinary Camera for photographs	0.123	1.12	0.329
Digital Camera for photographs	0.119	1.12	0.324
Video Camera	0.130	1.13	0.331
Telephone (Landline)	0.250	1.25	0.431
Mobile (Cell) Phone	0.280	1.28	0.450

Annex 3: Distribution of Pupils' place of stay during school week

	PLACE OF STAY DURING SCHOOL WEEK									
REGION	Home with Family	Std Error	Home with Other People who are not Family	Std Error	Hostel / Boarding School	Std Error	Orphanage or Children's Home	Std Error	Other	Std Error
Acholi	69.6	5.14	11.8	2.58	11.1	3.97	5.2	1.62	2.3	1.10
Ankole	75.7	5.75	5.2	1.36	16.5	5.23	1.3	0.59	1.2	0.55
Buganda	69.6	3.19	9.9	1.35	16.2	2.61	2.9	0.62	1.4	0.56
Bukedi	72.6	5.85	8.2	1.72	14.9	5.37	2.7	1.04	1.6	1.00
Bunyoro	72.6	5.64	9.6	2.71	11.8	3.90	6.1	2.42	0.0	0.00
Busoga	71.3	4.01	11.6	2.41	11.7	2.22	2.8	1.15	2.6	1.25
Elgon	69.5	4.70	7.8	2.02	18.4	4.42	3.4	0.85	0.9	0.48
Karamoja	53.7	6.01	14.3	4.41	25.4	7.07	4.7	1.80	2.0	1.12
Kigezi	84.5	2.67	5.6	1.31	6.7	2.26	2.4	0.86	0.8	0.58
Lango	69.4	5.50	9.5	1.39	15.1	5.09	4.3	1.86	1.7	0.81
Teso	80.6	3.18	9.3	1.89	8.2	2.62	1.5	0.85	0.3	0.34
Toro	78.4	5.43	6.9	2.60	10.4	3.43	3.5	1.84	0.7	0.72
West Nile	73.9	3.70	11.0	1.87	14.6	3.66	0.3	0.29	0.3	0.26
Uganda	**72.6**	**1.37**	**9.3**	**0.59**	**13.8**	**1.12**	**2.9**	**0.34**	**1.3**	**0.24**

Annex 4: Whom Do You Stay With During School Week

	WHOM DO YOU STAY WITH DURING SCHOOL WEEK																	
REGION	Biological Parents	Std Error	Guardian	Std Error	Grandparents	Std Error	Siblings	Std Error	Other Relatives	Std Error	Another Family	Std Error	Other Children	Std Error	My friend	Std Error	Myself	Std Error
Acholi	71.81	4.61	29.76	4.22	33.04	4.67	45.42	7.31	27.28	5.57	30.31	3.92	29.04	3.96	40.69	5.99	23.69	4.01
Ankole	63.72	5.82	20.98	2.70	26.09	4.42	60.07	5.32	24.45	4.04	18.16	3.33	27.88	4.13	36.12	5.84	24.16	4.95
Buganda	63.87	3.09	32.44	2.71	38.69	3.53	64.11	3.14	33.54	2.46	27.08	2.82	33.40	2.71	44.83	3.67	28.35	2.91
Bukedi	55.11	6.77	29.77	6.23	33.87	6.35	61.26	6.28	41.22	4.94	25.54	3.44	28.83	4.83	39.58	6.34	34.97	7.57
Bunyoro	71.03	4.76	37.78	5.50	46.09	6.58	65.09	4.48	44.74	5.30	39.51	5.92	35.93	6.44	57.76	6.64	29.77	5.92
Busoga	58.25	5.36	30.38	3.75	37.60	4.65	55.82	4.55	31.20	3.76	23.81	3.85	34.20	5.41	38.85	5.73	29.14	4.16
Elgon	65.33	5.00	45.76	3.63	49.27	5.34	64.32	5.00	45.27	5.11	31.32	2.79	41.16	4.91	61.79	5.55	47.66	5.16
Karamoja	56.85	7.22	41.33	5.28	53.19	6.64	59.27	6.53	37.33	5.25	29.41	5.26	39.30	5.96	49.92	6.67	40.07	5.57
Kigezi	79.12	3.22	47.11	5.30	46.71	4.97	78.42	3.21	44.99	5.37	25.02	4.55	34.11	4.82	51.95	6.52	49.35	6.45
Lango	59.95	6.37	33.80	4.23	30.56	4.42	56.85	6.99	35.71	5.63	30.52	4.47	40.13	5.44	56.01	6.94	29.96	4.68
Teso	74.71	4.05	27.22	4.89	38.64	8.10	65.80	4.63	28.98	5.38	22.19	5.34	30.14	5.48	40.16	6.57	30.87	7.09
Toro	75.03	6.55	28.99	4.70	38.91	5.27	67.66	5.93	46.73	4.40	42.92	5.74	43.43	8.17	54.59	7.48	37.16	7.01
West Nile	69.32	3.83	40.99	3.98	40.83	4.04	60.83	5.37	41.57	4.70	33.51	3.55	32.63	4.18	62.11	7.19	28.68	4.61
Total	**65.48**	**1.49**	**32.91**	**1.24**	**38.03**	**1.55**	**61.80**	**1.51**	**35.73**	**1.29**	**28.14**	**1.23**	**34.15**	**1.43**	**47.23**	**1.78**	**31.54**	**1.49**

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