

The SACMEQ III project in

ZAMBIA

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



Southern and Eastern Africa Consortium for Monitoring Educational Quality

SPECIAL NOTE ON THIS INTERIM REPORT

During the implementation of SACMEQ III Project in Zambia there were major data losses due to loss of instrument. At the national level, the coverage of pupils was quite good - however, at the school level there were major problems due to loss of school information questionnaires. School information data were obtained from only 61 percent of the school selected.

This level of data loss was far larger than had been set down as part of the quality-control standards for the SACMEQ III Project. In all other countries involved in the project, response rate at the school level was 98 to 100 percent.

It was beyond the scope of this report to conduct detailed analyses of the degree of bias that may have occurred in Zambian data due to high levels of loss of instruments. Therefore, this report must be treated as an 'Interim Report' until further analyses of the data have been undertaken and reported by the authors of this report.

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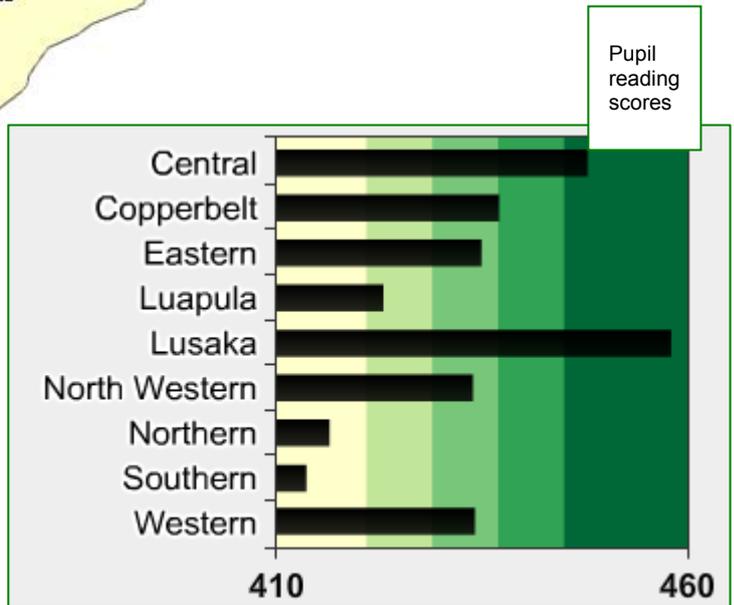
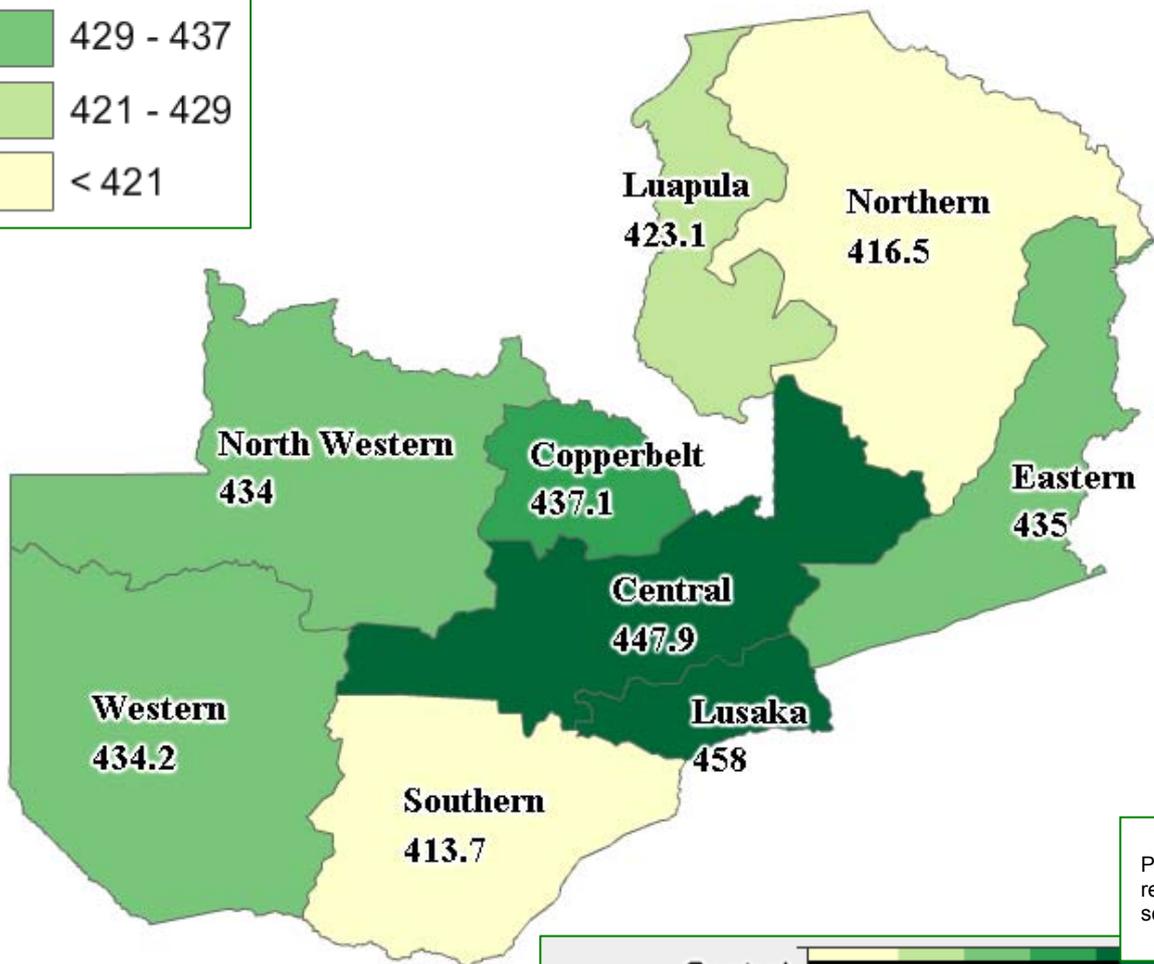
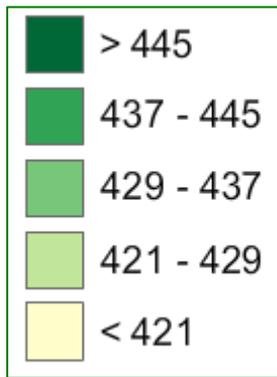
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Source: SACMEQ Data, 2007.

Grade 6 Learner Reading Scores across Provinces in Zambia (SACMEQ III)

Chapter 1

Setting of the Study

1.1 Introduction

The provision of quality education is the responsibility of every government. The core mandate of the Ministry of Education is to provide education to all Zambians. Ministries of Education in the region share similar experiences in improving educational delivery. This has made the participation of Zambia in the SACMEQ project particularly meaningful. The SACMEQ surveys provide Zambia, and other countries, with a useful platform for using evidence-based research to address concerns in their education systems. This chapter outlines the context in which the Ministry of Education provides education services to the country's learners. The chapter begins with a profile of the country, which is followed by a summary of its socioeconomic development. The reason for describing the pace of economic development is because of it will influence the funding of education. The chapter also reviews policy and curriculum developments as well as information on the financing of the education system.

1.2 Brief description of Zambia

Zambia is a landlocked country situated in sub-Saharan Africa. It shares its boundaries with eight countries: Malawi, Mozambique, Zimbabwe, Botswana, Namibia, Angola, Democratic Republic of the Congo and Tanzania. The country covers a land mass of 752,612 square kilometres. Zambia is administratively divided into nine provinces and 72 districts. The provinces are Central, Copperbelt, Eastern, Luapula, Lusaka, Northern, North-Western, Southern and Western. Lusaka is the capital city and the seat of government. Zambia is one of the most urbanised countries in sub-Saharan Africa, with about 40 percent of the population living in urban areas. The population has grown steadily from 5.7 million in 1980 to 7.8 million in 1990 and 9.7 million in 2000. The average population growth rate is 2.4 percent per annum. The country is sparsely populated with an overall population density estimated at 16.6 persons per square kilometre. Poverty and HIV/AIDS are serious challenges facing Zambia. although there have been signs of improvement in recent years. The poverty levels have reduced from 70 percent in 1991 to 64 percent in 2006. The HIV/AIDS prevalence rate has declined from 16 percent in 2003 to 14.3 percent in 2007. Zambia lies between 8 and 18 degrees south latitude and 20 and 35 degrees east longitude. Its vegetation is composed mainly of savannah woodlands and grasslands. Zambia has a tropical climate

with three distinct seasons. The cool and dry season is between May and August. It is followed by a hot and dry season between September and November and a hot wet season that continues until April. The country has some of the best wildlife and game reserves in the region, with vast potential for the expansion of tourism. Among the notable game parks are the Kafue National Park and the South Luangwa National parks. The Victoria Falls is another major tourist attraction centre on the mighty Zambezi river bordering Zimbabwe in the Southern part of the country.

1.3 Economic overview

Upon attaining independence in 1964, the political leadership embraced a socialist path to steer the country's economic development. This plan involved nationalising many foreign-owned companies and culminated in a government takeover as the majority shareholder in key mining companies in 1969. The economy was also managed on the basis of centralised planning, where economic programmes were elaborated in five-year development plans. However, due to a number of factors, including the oil price shock of the mid 1970s and a sharp decline in copper prices, the country plunged into economic decline.

The country has a mixed economy in which copper mining constitutes the backbone of the economy. It accounts for over 70 percent of total export earnings. Zambia has, in recent years, experienced high investment in the copper mining industry, which is expected to lead to increased economic growth. There has also been massive investment in copper exploration, which has led to copper discoveries in the North Western Province. This area is viewed as the new Copperbelt of the country and has the potential to sustain the economic development of the country.

With the change of government in 1991 came a shift in economic policy. Many state-owned enterprises were privatised and exchange controls were relaxed. Centralised economic planning was replaced by sector-focused investment programmes. By 2001 it became clear that in order for growth and development to be effective, a structured sector investment programmes needed to be developed. This resulted in the formulation of the Poverty Reduction Strategy Paper (PRSP) and later the Transitional National Development Plan (TNDP).

The performance of the economy in Zambia improved considerably during the period of implementing the PRSP and TNDP between 2002 and 2005. Real GDP grew by an average of

4.8 percent, which exceeded the 4 %target set in the PRSP/TNDP. This improvement in economic performance greatly helped to reverse the stagnation trend evident in the 1990s when the GDP growth averaged a paltry 2.3 % per annum.

Despite the rapid economic growth noted above, there has not been a corresponding decline in poverty. This is because of the lack of significant growth in agriculture upon which the majority of Zambians depend for their livelihood. However, the Government, through its various declared national development frameworks, such as Vision 2030 and the Fifth National Development Plan (FNDP) 2006-2010, is committed to implementing policies, programmes and projects which will promote rapid economic growth and reduce poverty. Accurate statistics are required to achieve evidence-based policy formulation. The FNDP includes a chapter on Education, Science and Technology that guides the delivery of the MoE during the plan period.

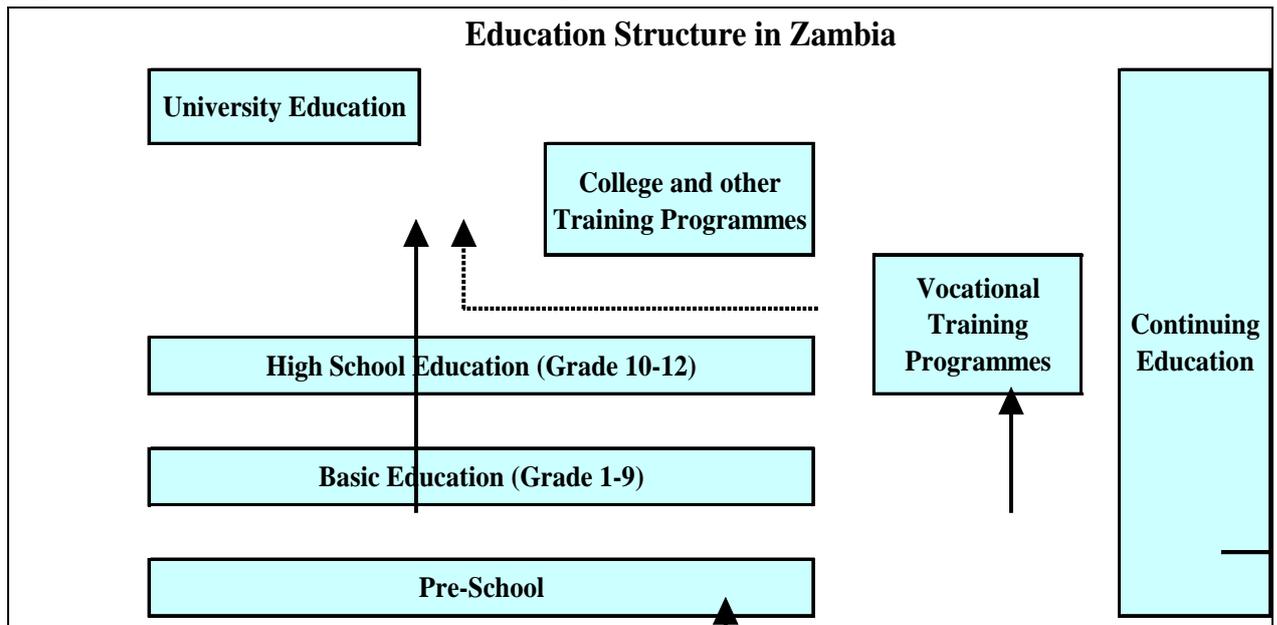
1.4 The fifth national development plan

The government has adopted a long-term planning instrument entitled “Vision 2030” whose aim is to aspire to be a ‘prosperous middle-income country by the year 2030’. The Vision 2030 identifies a number of development goals that include: (a) reaching middle – income status; (b) significantly reducing hunger and poverty; and (c) fostering a competitive and outward-oriented economy. The vision is to be operationalised through five-year medium term planning instruments, which contain specific policies, programmes and projects. The Fifth National Development Plan, which covers the period 2006 to 2010, was prepared after the Transitional National Development Plan (TNDP) which covered the period 2002 to 2005.

Zambia’s Education System consists of academic learning at the primary, secondary and professional and tertiary levels. The early phase of schooling has been re-organized into two levels. The first level is basic education and runs from grades 1 to 7 and high school education, which covers Grades 10 to 12. Basic education can be broken down further into 7 years of primary education and 2 years of upper basic schooling. This gives the 7-3-4 structure but the plan of the ministry is to provide 9 years of basic education, 3 years of high school education and 4 and above years of tertiary education, focussing on a 9-3-4 education structure.

Successful completion of upper basic school leads to the award of the Junior Secondary School Leaving Examination (JSSLE), and completion of high school leads to the award of either the Joint Examination for School Certificate (SC) or General Certificate of Education (GCE) ordinary level. Some secondary schools are still in transition and run from grades 8 to 12.

Figure 1.1: Structure of the Education System



The MoE has also been mandated to develop Early Childhood Care Development and Education (ECCDE) and the MoE is putting in place measures to implement the directive. Since the provision of ECCDE has mostly been in the Ministry Local Government and the private sector, the MoE has been working with these partners in the development of the policy.

Tertiary Education includes schooling at universities, colleges of commerce, technical colleges, and teacher training colleges. Both universities and colleges require the SCE for admission. Technical and vocational colleges train craftsmen, technicians, and other skilled workers for the industry. These colleges include an intermediate level for students who have completed primary school and an advanced level for students who have completed secondary school. Students studying to become teachers enrol in teacher training colleges after completing the SCE.

In addition to the formal system, there is a non-formal education system that operates to serve among others, persons with disabilities, displaced persons, school-age children who have either dropped out of school or have never attended formal school, children living in geographically isolated areas, orphans, and street and working children. The Ministry of Education officially recognizes the alternative approach to primary or basic schooling, which is offered through Interactive Radio Instruction (IRI) offered at Centres run by the Ministry's Education Broadcasting Services Unit. It is also important to indicate that the establishment of community schools as another mode of education delivery through community initiative has been recognised by the MoE and to this effect, developed operational guidelines.

Trends in pupil enrolment

Access to Basic education has recorded a remarkable increase from 1,806,754 in 2000 to 3,166,310 in 2007, representing an increase of 75 percent. The increase in pupil enrolment can be attributed to the introduction of the Free Primary Education Policy. The increase in girls' participation has been equally remarkable, increasing from 864,682 in 2000 to 1,547,715 in 2007 representing an increase of 79 percent.

Figure 1.2: Enrolment in Grades 1 - 9 by Year and Gender

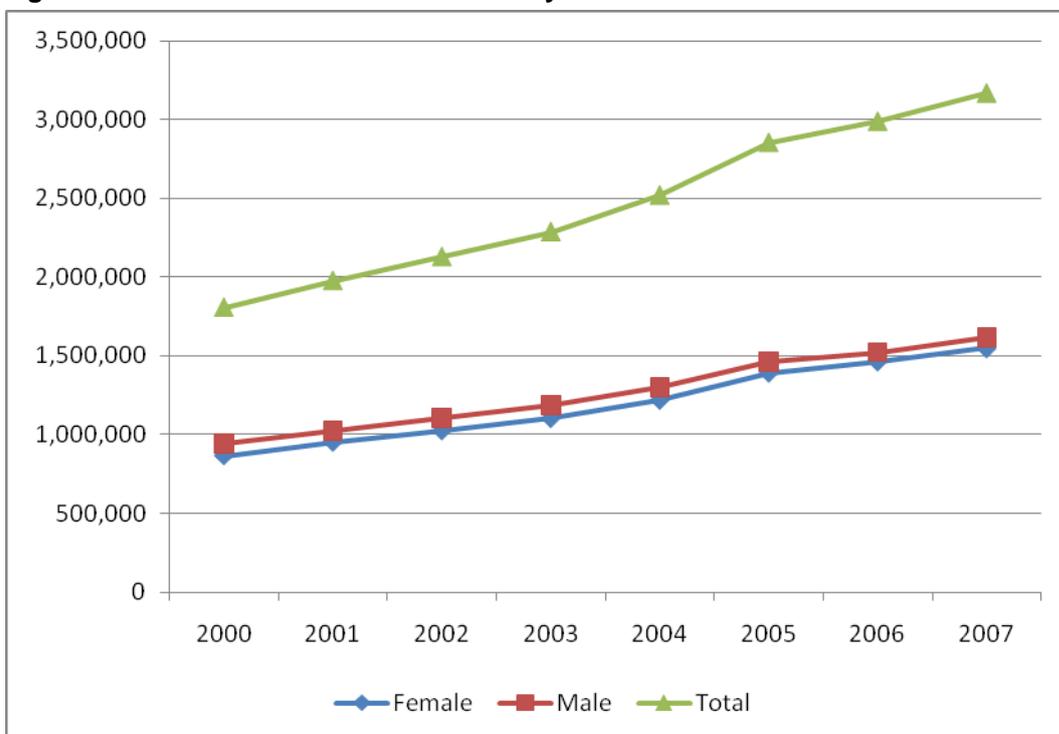
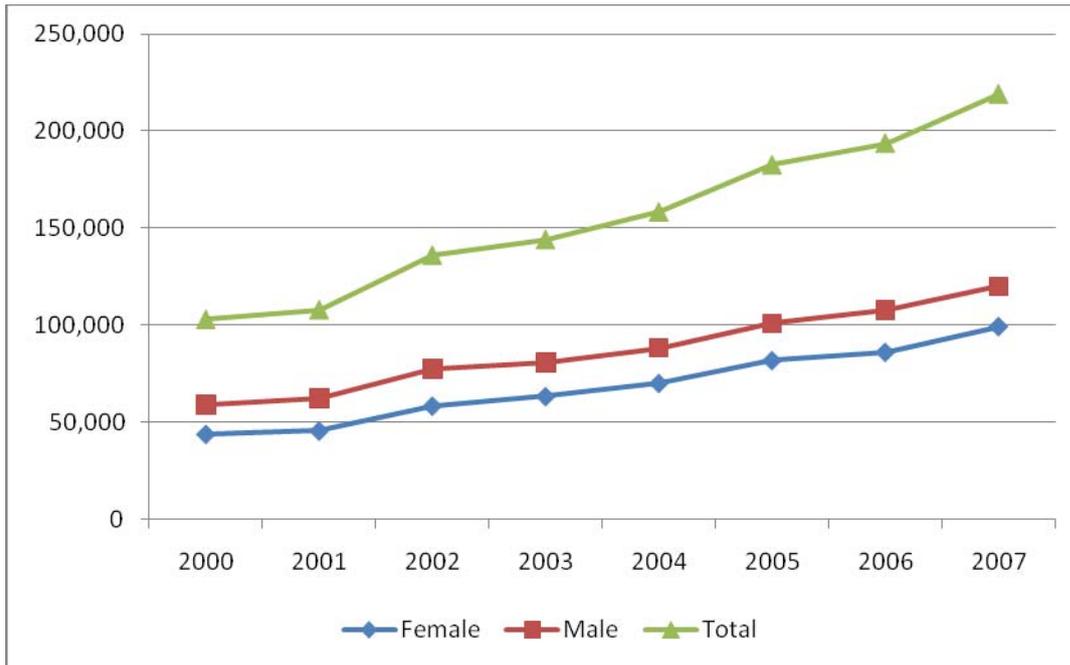


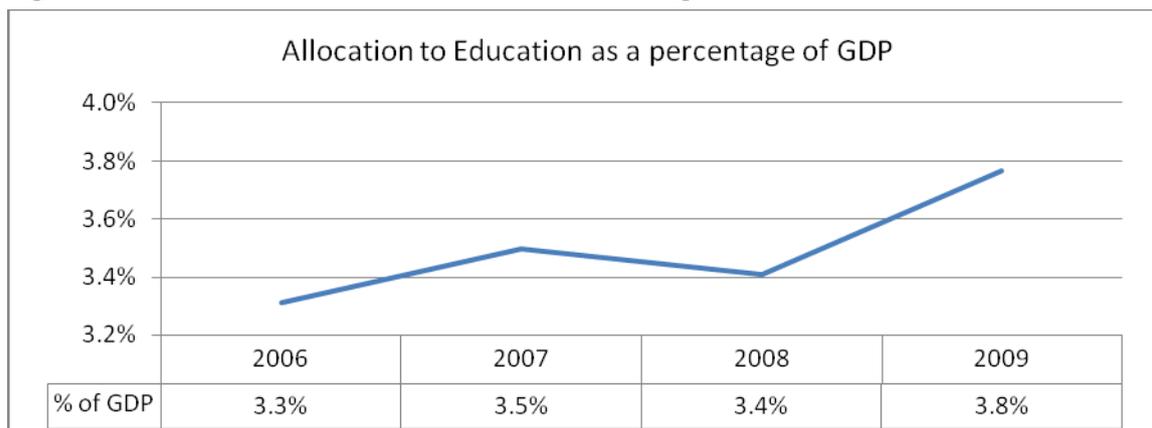
Figure 1.3: Enrolment in Grades 10 - 12 by Year and Gender



Similarly, a significant increase in high school enrolment was recorded between 2000 and 2007 from 102,839 to 225,549, which an increase of 119 percentage points.

1.5 Education finance

Funding for education has historically been from a variety of sources, ranging from individual households to public investments through the Government of the Republic of Zambia (GRZ) national budgetary allocations. Sources of education funding and investments include government annual budgetary allocation, multilateral and bilateral donor agencies, corporate and private investors, local communities, parents, faith-based organisations and others. Donor funding to the sector was enhanced during the 2003-2007 Sector Plan when different organizations combined their resources for education into a single ‘basket’ of pooled funds. While acknowledging the positive impact of debt relief that was granted in 2006, the GDP allocation to education still remains below the recommended 5 percent for the region. This is further compounded by the fact that Zambia’s revenue collection is about 18 percent of GDP compared to countries, like Kenya, whose revenue collection contributes 22 percent towards GDP. Although allocations to the education sector remain relatively low, there has been a slight increase from 2.6 percent in the period 2000 – 2002 to about 3.5 percent in the 2007-2009 periods. These gains are attributed to the increased pace of economic growth in the country.

Figure 1.4: Allocation to Education as a Percentage of GDP

1.6 Allocation to education as a percentage of GDP

The following are the modes of funding used by the various groups of stakeholders funding the education sector

- *Stand-Alone Projects* are the traditional aid modality whereby a donor funds a set of activities that it identifies, often with very little or no input from the recipient government. The donor usually sets up a Project Implementation Unit (PIU) that is managed as a parallel structure to the existing Ministry structures and procedures.
- *A Sector-Wide Approach (SWAp)* involves donors supporting a single sector policy and expenditure programme, under recipient government leadership, adopting common approaches across the sector and relying on government procedures to disburse and account for all funds.
- *General Budget Support (GBS)* involves the transfer of funds from a donor government directly into the government budget of a recipient country. The donor funds are merged with the recipient government's own funds, disbursed through the government's own financial systems.

1.7 Education policy reforms and other major initiatives

Background

The Zambian education system has undergone a number of reforms since the 1990 Jomtien Conference on Education For All. The decline in learner achievement levels during the late 1980s, coupled with low standards of education delivery prompted government to re-evaluate strategies to improve educational access and quality. From 1991 to 1999 several plans were

formulated. Three major policy documents on education were developed, namely, *Educational Reforms in 1977*; *Focus on Learning of 1992* and *Educating Our Future of 1996*. The “*Educational Reforms of 1977*” depicted education as an instrument for personal and national development. The document had recommendations to guide the provision of education in Zambia. Although it included proposals for expanding educational access and improving quality, emphasis was on expansion at the expense of quality, as was the case in many African countries after attaining independence.

The “*Focus on Learning of 1992*” document stressed the mobilization of resources for the development of school education and goals of improving access, equity, efficiency and quality of education. The document was very specific to addressing the concerns of 1990 Jomtien Declaration of Education for All (MOE 1996; Kelly, 1999). The Ministry produced a more detailed policy document entitled ‘*Educating our Future of 1996*’. The policy focused on equitable access to quality education at all levels. One of the outcomes of *Educating Our Future* was the adoption of a sector wide approach to the development of basic education through, firstly, the Basic Education Sub Sector Investment Program (BESSIP) and later Ministry of Education Sector Plan (MoESP) (Kanyika, 2003; MOE (a), 2003). BESSIP was initiated in 1998 (World Bank, 1999) and the actual implementation of the policy had, since 2003, been based on the Education Sector Strategic Plan, 2003-2007.

The strategic plan 2003-2007

The Strategic Plan 2003-2007 addressed all phases of schooling including the early childhood level, basic, high school and tertiary levels. The main priority remained Grades 1 to 9, with the goal of expanding enrolments in Grade 8 and 9. Much of the investments and reform in high school education began in 2005 (MOE a, 2003). The strategic plan also incorporated cross-cutting issues such as gender equity, HIV and AIDS, and special educational needs. Assessment and evaluation activities were also outlined.

From 2007 onwards, the MoE focus has been outlined in the education chapter of the Fifth National Development Plan (FNDP) operationalised by the National Implementation Framework (NIF) from 2007 to 2010. The FNDP has elaborated strategies for attainment of the EFA goals and Millennium Development Goal (MDGs) up to 2015. The FNDP was drawn up to reinforce macro and national planning practices in order to improve the country’s macro economic performance.

Curriculum reviews

In terms of the overall system reform, curriculum reform in Zambia has received the least attention. Following the 1977 education reforms, there have been partial curriculum reviews, which have been criticized as lacking in the area of interconnectedness and linkages across levels. Reports indicate that attempts made on curriculum review addressed very specific concerns, hence lacked a holistic and synergized approach to curriculum review¹. For example, at the lower and middle basic school (Grades 1 to 7) curriculum was reviewed four times, (1984, 1993, 1997 and 2003). At the upper basic school (8 to 9) curriculum was revised once in 1984 and 2002 to 2003 but was not aligned with the changes that took place at lower and middle basic levels in 1993, 1997 and 2003. The stated goals of primary education were to be extended to junior secondary education but the curriculum and other activities were to be more diverse in range, depth and breadth. At the high school level (10 to 12), the curriculum was only revised in 2000 as part of the localisation process of the Cambridge University Local Syndicate Examinations system.

Besides the attempts at reviewing the basic curriculum, there have been a number of programmes aimed at improving quality at middle basic school level but most were criticized for the fragmented nature of their implementation and failure to fully institutionalize them. These changes include the following;

- Zambia Education Rehabilitation Program ZERP (1993-1996): provided support to conduct the revision of textbook and syllabi materials so that they reflected the recommendations of the curriculum reform (World Bank 1999).
- The Action to Improve English, Mathematics and Science (AIEMS): helped to provide short courses in teaching skills for improved teaching of English, mathematics, and sciences and also teaching materials. laid the foundation for the in-service provisions in the country; the School Based In -Service Program for the Term-SPRINT (World Bank 1999; Kelly & Kanyika 2000).
- Primary Reading Program (PRP): was based on known benefits of learning to read and write first in the tongue fostering better learning of reading and writing in English. The final outcome was the introduction of literacy courses aimed at improving literacy in the first four grades. (World Bank 1999; Kanyika 2002).

¹ MoE 2008, *The Concept Paper of the National Symposium on the Review of the Curriculum in Zambia*,

There have been similar attempts at reviewing the curriculum at the tertiary level, although many lack documentation. In particular, the basic education teacher education curriculum was revised in 1984-86 and 1997 as part of the Field Based Activity Teacher Attainment (FIBATA), which was being piloted side by side with the main courses. FIBATA was later changed into the Zambia Accelerated Teacher Education Course (ZATEP). The curriculum was again revised in 2000 which transformed ZATEP into ZATEC. Further reviews were done in 2006 to 2007 under the same programme. The high school teacher training curriculum review was undertaken during the period 2001-2002.

The pre-service training for teachers takes two years after which graduates are awarded either a Primary Teachers Certificate to teach at the basic education level (1-7) or a Secondary Teachers Diploma to teach at the upper basic level (8-9). However, the majority of teachers handle the high schools level because of a shortage of university graduates. Plans have been underway to improve this trend by upgrading two colleges of education into university colleges that offer degree programmes and the other twelve to offer diploma programmes and provide a three year training period.

In-service programmes include the Continuous Professional Development for serving teachers. This includes school based and zonal based programmes. The establishment of resource centers was meant to strengthen the in-service teacher development programmes.

In view of the curriculum reform dilemma, the Ministry of Education was compelled to revise the entire curriculum in order to synchronize it at all levels and realize the national vision known as Vision 2030. The curriculum review process was to be guided by two overriding principles as stipulated by the NIF, namely: 1) To design a comprehensive and diversified curriculum that is interlinked throughout all educational levels, 2) To provide relevant educational materials (FNDP). The process of curriculum review was set into motion with a National Symposium which was held from 1st to 3rd June 2009. The expected outcomes of the symposium were: 1) The creation of consensus on the match between education and the national vision 2030, 2) Development of an agreed framework upon which a national curriculum reform at all levels of education will be undertaken and lastly, 3) Collection of information on the type of graduates the general citizenry expect from the Zambian education system.

The draft report on the curriculum review symposium highlighted the following;²

- Commission a research on ECCDE to tertiary levels of education to find out the nature of the current curriculum content, methodologies and assessment, the learners, the teachers, infrastructure, teaching resources, syllabi course outlines and the public views of the programme.
- Development of a comprehensive ECCDE to tertiary syllabi which is interlinked
- The school curricula should be based on subjects of academic, professional and technological content, athletic and sports content, instruments and music content and entrepreneurship content, and enable learners to proceed to the next level of education or become self employed.
- A closer examination of the basic school curriculum framework and rethink on the worthiness of outcomes based curriculum, in view of the challenges faced by South Africa.
- Commission outcomes based curriculum reform and determine whether it should it run from Grade 1 to 12?
- Vocationalisation of high school curriculum, how should links function?
- Teacher training colleges to re-align their curriculum to the changes at basic school levels and revise standards standards.
- Assessment system that combines internal (CA) and external (FE) forms especially at the high school level.
- Infuse in the school curricula aspects of education for sustainable development and indigenous education.
- Provision of enough learning and teaching resources.
- Provision of adequate and relevant infrastructures
- The training of curriculum developers.
- Re-align the teacher qualifications with the levels to teach.

▪ **Free basic education (1-7)**

In 2002, the Government announced the introduction of the policy of free education at the primary level. Although it was seen as a political pronouncement, the Poverty Reduction Strategy Paper (1992) had recommended the removal of fees at the basic level of education. The initiative was also seen as poverty reduction strategy as it was considered that most

² Report still its draft form, prepared by Professor Cephas D.R. Yandila, Curriulum Consultant.

parents were failing to enroll their children because of the cost of education. The policy was meant to address the low enrolment levels that characterized the education sector. The free education policy came with the package that included:

- Uniform not a compulsory requirement to access education
- Removal of user fees
- Unconditional readmission of learners that had dropped out of school
- Provision of free education requisites such as exercise books, pencils/pens/erasers etc.

The policy was, however, not followed by immediate increase in the budgetary allocation to the sector but had increased enrolment of learners at the basic education level from 1, 806,754 in 2000 to 3,116,310 in 2007

Decentralized textbook procurement

In addition, the policy on decentralization of the textbook supply was another area that would help in the provision of adequate learning resources.³ Under the decentralized textbook procurement, funds are released to the district offices, which procure the books that are needed by the individual institutions. In this case, schools identify the materials that they need and this is procured locally. Book publishers have also allocated zones in which to supply the required text books. This has facilitated easy and efficient procurement of materials. However there still challenges that need to be addressed to ensure that the entire procurement process is carried out effectively.

1.8 The structure of the report

The rest of this report is devoted to supplying information from the SACMEQ study. Chapter 2 provides information about the methodology of the conduct of the study. This involves the clarification of the research questions, the development of the instruments and the subsequent scaling procedures, the description of the population, sampling procedures and the calculation of sampling errors, data collection procedures, data entry and the cleaning and weighting of the data.

Data on pupils' characteristics and their learning environments is reported in Chapter 3. Information on teachers' characteristics and their viewpoints on teaching, classroom resources, professional support, and job satisfaction are presented in Chapter 4. The analyses

³ More information in the Textbook Supply Review Report: Consultancy on the Review of the System for Decentralized Textbooks Procurement and Distribution in Zambia

of the extent to which school heads' characteristics and their viewpoints on educational infrastructure, the organization and operation of schools, and problems with pupils and staff are presented in Chapter 5. In Chapter 6, the results of the analysis of the equitable allocation of educational inputs to regions and also to schools within regions are discussed. The achievement results of both pupils and teachers in reading and mathematics are reported in Chapter 7 while Chapter 8 presents findings about the HIV/AIDS knowledge test for both pupils and teachers. In Chapter 9 the major results are summarised and suggestions for action by the Ministry are made.

Chapter 3

Characteristics of Pupils and their Learning Environment

3.1 Introduction

This chapter describes the general background of Grade 6 pupils and how these characteristics have changed over time. The focus is on the home background environment of pupils as well as school-related factors. It is widely accepted that the school environment has a substantial impact on a pupil's academic development. The Zambian government recognizes that education is a key driver in the country's development. While the Ministry of Education has effectively addressed the issues of access and participation, there are still serious challenges in the area of educational quality.

In Zambia, like in many countries, considerable evidence links academic achievement to socioeconomic status. Results from the Zambian living conditions monitoring surveys have shown a positive link between years of schooling and earnings (LCMS 2008).

3.2 Personal characteristics of pupils

General Policy Concern 1:

What were the personal characteristics and home background characteristics of Grade 6 pupils that might have implications for monitoring equity, and/or that might impact upon teaching and learning?

Preliminary findings from independent studies like the Impact Evaluation on Primary Education in Zambia (IOB: 2008) and many other reports attest to the strong relationship between the general background of pupils and their performance. Therefore, it is important to describe the home background characteristics of pupils and attempts are being made to explain variations in learning achievements. The analysis of the SACMEQ III data will be done in line with the suggested questions that were given in the guidelines.

What was the age and gender distribution of pupils?

In Zambia, the official school going age is 7 years for Grade 1. In some cases, especially in urban areas, underage children are allowed to enrol in schools. The opposite often occurs in

rural areas, where children start school late. There are several reasons for children starting school early. Wealthy parents often encourage this practise by enrolling children in school as soon as they have completed a pre-school programme. The reasons for enrolling late include inadequate classroom space, long distances to schools, socio-economic, cultural beliefs and a lack of appreciation for education by some parents.

Grade 6 pupils who were at an appropriate age for their grade should have been 12 years at the time of the SACMEQ III survey. However, the average age of the Grade 6 pupils for Zambia was 14 years as summarised in Tables 3.1a (SACMEQ II) and 3.1b (SACMEQ III) below.. On average, the oldest learners were from Northern, Eastern and Luapula provinces. The province with the youngest learners was the Copperbelt. When the 2007 sample was broken down according to gender, there was a slight underrepresentation of female pupils. The Grade 6 sample consisted of 48.4 percent girls and 51.3 percent boys. This minor disparity in percentage portrays the exact scenario on the ground in 2007, as the Annual School Census data also showed that of the total Grade 6 enrolments, 48 percent were female.

Table 3.1a: Personnel and Home Background Characteristics of Grade 6 Pupil (SACMEQ II 2000)

	Age (Years)		Sex (Female)		Parental Education (Index)		Meals (Per day)	
	Mean	SE	%	SE	Mean	SE	Mean	SE
Central	14.1	2.89	47.4	2.26	6.8	0.35	11.1	0.16
Copperbelt	13.2	1.11	56.2	2.44	8.5	0.18	11.1	0.18
Eastern	14.7	2.66	44.4	6.9	6.4	0.27	10.9	0.27
Luapula	14.6	2.56	44.8	4.6	7.2	0.37	9.7	0.37
Lusaka	13.6	1.37	51.4	2.84	8	0.23	10.6	0.23
N/Western	13.8	2.25	44.1	4.49	7	0.34	9.8	0.34
Northern	14.9	6.96	41.7	3.81	6.2	0.37	10.8	0.37
southern	14	2.67	43.9	3.26	7.6	0.33	11.2	0.33
Western	14.2	3.4	53.5	3.94	7.2	0.3	10.5	0.3
Zambia	13.9	1.39	48.4	1.19	7.4	0.11	10.7	0.11

Table 3.1b: Personnel and Home Background Characteristics of Grade 6 Pupil (SACMEQ III 2007)

	Age (Years)		Sex (Female)		Parental Education (Index)		Meals (Per day)	
	Mean	SE	%	SE	Mean	SE	Mean	SE
Copperbelt	13.3	0.69	50.4	2.59	8	0.22	10.8	0.14
Eastern	14.6	1.43	49.8	2.46	6.1	0.33	10.4	0.28
Luapula	14.7	1.5	42.7	4.39	6.6	0.28	9.9	0.22
Lusaka	13.5	1.06	48.9	3.04	7.6	0.25	11.2	0.18
N/Western	14.6	1.7	47.4	3.62	5.6	0.28	9.7	0.24
Northern	14.6	1.06	43.5	2.30	5.8	0.30	10.1	0.26
southern	14.2	1.07	54.5	3.15	6.2	0.29	10.4	0.22
Western	14.1	1.68	50.6	3.20	7	0.34	10.2	0.41
Zambia	14.1	0.4	48.7	1.04	6.8	0.10	10.5	0.08

Unlike in the National Assessments Surveys (1999, 2001, 2003 and 2006), and the Annual School Census (ASC) from 2000 to 2006, where the gender gap in school access favouring boys had been widening, the 2007 ASC recorded a reduction in the gender gap. This improvement in the 2007 ASC data is an indication that it is possible for Zambia to completely bridge the gender gap. When these figures are compared to the total national enrolments of Grade 5 pupils of 392, 498 in 2007 (out of which 200,662 were boys and 191,836 were girls)⁴ it translates into approximately the same proportion of boys to girls (51 percent for boys and 49 percent for girls). This is a reflection of the country's attainment of near gender parity in terms of education access at middle basic education level.

Six provinces had a percentage of female pupils that was above the national average in SACMEQ III of 48.7 percent. In fact, in the Southern province, girls outnumbered boys. More effort needs to be put in place to support the retention of female pupils in school. Studies have shown that female dropout begins as early as Grade 4.

Policy Suggestion 3.1:

The Policy and Research Unit of the Directorate of Planning and Information (MOE) in conjunction with provincial staff need to research why girls drop out of school starting from as early as Grade 3.

3.3 Pupil home background

Parental education

What was the highest level of parents' education?

Parental education may influence the type of support that children receive outside school. Such support takes the form of help with extra lessons and home work, the language used by parents to communicate to their children as well as material support provided to learners.

Pupil responses to questions about parental level of education were coded on a scale of 1 to 12, and the values are summarised in Tables 3.1a and 3.1b above. The average education level of parents from the sampled pupils was 6.8 in SACMEQ III as compared to 7.4 in SACMEQ II. This value corresponds to the secondary education phase. Parents from urban areas (Lusaka and Copperbelt), which are more economically active compared to other provinces,

⁴ Ministry of Education 2008 EMIS data

were more educated. Most of them had completed some education beyond the secondary level. Children living in North Western province had the least educated parents during SACMEQ III. The situation may improve in the future as a result of massive investment in the mining sector that has been steadily attracting other qualified personnel to work in expanding industrial areas.

Meals eaten

How regularly did pupils eat meals and /or have free meals at school?

The role of nutrition in learning has been established. The intake of food contributes favourably to the levels of concentration of pupils. The implementation of health and nutrition interventions has been carried out through teachers, who distribute de-worming tablets and micronutrients supplements to learners.

Measurements of pupils showed 44 percent were stunted, 38 percent were underweight, and 31 percent were wasted⁵. The School Health Nutrition (SHN) programme was initiated after the MoE and its stakeholders, The World Health Organisation (WHO) realized that the poor health and nutritional status of school children was having negative effects on educational outcomes. The pilot was carried out over a period of three years. In each year, 40 schools were selected in three districts (Chadiza, Chama and Chipata), half of which were intervention schools. The responsibility for implementing the School Feeding Programme (SFP) rests with the Ministry of Education. This includes all aspects of programme management including control, distribution of food to all participants and preparation at school level. MoE. The Ministry of Community Development and Social Services (MCDSS) jointly carried out community sensitization and mobilization exercises with the support from UNICEF and World Food Programme (WFP).

Pupil responses on the number of meals they ate during SACMEQ II and SACMEQ III were almost identical, with the latter average 10.5 while the former was 10.7 (Tables 3.1a and 3.1b).

The responses from pupils regarding the meals they ate during SACMEQ III survey are tabulated in the Tables (3.2a 3.2b, 3.2c) below, and are broken down according to the type of meals. It should be noted that the majority of the pupils in 2000 (97.5%) and in 2007 (87.6%)

⁵ MoE, 2004

only took the evening meal compared to other meals of the day. For the growing child this should be of concern to the nation. In addition, there was an observed decline in the percentage of pupils taking a particular meal since 2000.

Table 3.2a: Percentage of Pupils who had the Morning Meal

	2000								2007							
	not at all		1 or 2 days per week		3 or 4 days per week		everyday		not at all		1 or 2 days per week		3 or 4 days per week		everyday	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Central	9.1	3.17	12.1	2.76	13.8	2.68	65.0	5.32	14.7	3.48	9.9	2.78	13.8	2.99	61.5	6.98
Copperbelt	7.1	2.11	8.7	2.05	11.2	2.01	73.1	4.25	10.2	1.76	7.3	1.42	12.4	1.85	70.2	3.73
Eastern	10.5	3.48	20.8	4.34	13.8	3.42	54.8	6.78	20.2	4.15	14.2	2.22	10.4	2.07	55.2	4.14
Luapula	39.0	7.20	23.6	4.85	16.8	3.55	20.6	5.53	37.6	7.01	22.1	4.04	14.1	2.47	26.2	5.27
Lusaka	12.5	3.01	10.5	2.15	6.9	1.36	70.1	5.17	7.5	2.65	6.4	2.07	7.6	1.50	78.5	4.95
Northern	38.9	3.98	17.9	6.62	8.9	3.97	34.3	8.96	24.3	5.76	22.8	4.77	11.1	3.01	41.9	7.11
N/Western	16.3	4.11	21.4	4.35	12.4	3.37	50.0	7.58	27.8	4.50	15.5	2.48	13.3	1.65	43.4	5.61
Southern	7.9	3.34	13.2	3.04	6.4	2.54	72.5	5.34	27.4	5.89	11.3	2.27	9.0	1.87	52.3	6.15
Western	10.4	2.55	9.9	2.19	14.0	2.98	65.7	4.58	21.2	5.34	19.0	3.78	13.1	3.69	46.7	5.03
Zambia	16.2	1.74	14.0	1.29	10.5	1.04	59.3	1.89	19.9	1.54	13.4	1.02	11.5	0.82	55.2	1.95

Table 3.2b: Percentage of Pupils who had lunch

	2000								2007							
	not at all		1 or 2 days per week		3 or 4 days per week		everyday		not at all		1 or 2 days per week		3 or 4 days per week		everyday	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Central	2.9	1.97	1.6	0.68	2.2	1.26	93.2	3.09	1.5	0.73	6.0	1.57	6.0	1.44	86.5	2.97
Copperbelt	3.0	0.83	3.5	0.92	6.8	1.64	86.7	1.80	5.3	0.90	6.7	1.14	6.5	1.40	81.5	2.26
Eastern	2.2	1.23	3.7	1.84	1.1	0.63	93.0	2.77	7.1	2.42	5.3	1.67	5.3	1.26	82.3	3.39
Luapula	3.4	1.29	4.9	1.24	7.6	2.99	84.1	3.79	2.3	1.07	4.6	1.24	4.8	1.42	88.3	2.31
Lusaka	7.8	2.14	5.0	1.56	5.4	1.21	81.8	3.84	2.9	0.93	4.3	1.30	5.1	1.96	87.7	2.94
Northern	3.9	1.09	8.7	3.13	6.2	2.53	81.2	4.40	4.5	1.71	9.0	2.04	7.0	2.29	79.5	4.34
N/Western	1.1	1.13	3.7	1.21	4.5	2.19	90.6	2.76	7.9	2.62	11.3	2.71	6.0	1.35	74.8	4.22
Southern	2.3	1.07	4.9	1.57	2.7	1.50	90.2	2.77	3.6	1.01	3.5	1.29	6.3	1.54	86.5	2.48
Western	7.5	2.63	4.6	1.69	5.1	1.96	82.8	4.48	6.4	4.59	5.4	1.69	4.9	1.59	83.2	5.35
Zambia	3.9	0.52	4.7	0.66	4.8	0.63	86.5	1.16	4.4	0.54	6.1	0.54	5.9	0.58	83.6	1.11

Table 3.2c: Percentage of Pupils who had the evening meal

	2000								2007							
	not at all		1 or 2 days per week		3 or 4 days per week		everyday		not at all		1 or 2 days per week		3 or 4 days per week		everyday	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Central	1.7	0.79	0.7	0.42			97.6	0.94	2.1	0.90	1.5	0.72	4.0	1.20	92.4	1.98
Copperbelt	2.8	0.85	1.8	0.85	2.7	0.63	92.8	1.27	4.3	1.05	3.6	1.06	7.7	1.32	84.4	1.98
Eastern	4.0	1.87	0.6	0.41	2.0	0.84	93.4	2.15	5.2	1.79	3.0	2.61	5.3	1.33	86.5	3.88
Luapula	1.5	0.99	2.7	1.02	6.9	2.24	88.8	3.01	3.1	1.82	2.8	0.89	6.4	1.73	87.7	3.56
Lusaka	5.9	2.00	3.0	1.08	4.7	1.57	86.4	3.24	2.6	1.07	2.0	0.80	3.8	1.12	91.6	2.13
Northern	2.3	1.27	4.5	1.11	2.5	1.27	90.7	1.72	3.9	1.17	3.6	1.12	5.6	1.81	86.9	2.72
N/Western	0.9	0.75	1.2	0.82	1.3	0.83	96.6	2.32	9.2	2.37	6.4	1.26	5.7	1.57	78.7	2.87
Southern	1.6	0.76	2.4	1.07	3.5	1.42	92.6	2.23	6.6	1.63	1.3	0.51	3.0	1.00	89.1	2.37
Western	7.9	2.67	2.9	1.27	4.0	1.80	85.2	3.17	5.9	4.08	2.4	0.89	3.3	1.52	88.3	4.74
Zambia	3.1	0.47	2.4	0.39	3.0	0.45	91.5	0.79	4.4	0.52	2.8	0.42	5.2	0.49	87.6	0.93

In Zambia the standard number of learning hours for Grade 6 pupils is 5 hours. However, due to several factors, such as teacher shortages and classroom space, most schools have between 4 to 5 hours. Due to the nature of the school sessions, in almost all schools, the Grade 6 pupil sessions begin either in the morning (0700am or 0730am) or in the afternoon (1200pm or 1230pm).

Just like in most other indicators, the percentage of pupils who did not have the morning meal in a week was higher in the rural provinces than the urban provinces. To this effect, it was highest in Luapula province at 37.6 percent followed by North Western and Southern provinces at 27.8 and 27.4 percent respectively. The lowest was Lusaka province, which is the most urbanised, at 7.5 per cent. The national percentage of pupils who had no meal at all in the morning was 19.9 percent and varied from province to province from 7.5 to 37.6 percent. There are several reasons for pupils in rural areas not having the morning meal, ranging from the poor socio-economic status of the parents to long distances to schools that require pupils to leave home very early.

It follows from the analysis given above that the urban provinces had the highest percentage of pupils who reported having morning meals everyday with Lusaka at 78.5 and Copperbelt at 70.2 percent. The rural provinces were the lowest, with Luapula at 26.2 percent and Northern Province at 41.9 percent. From the table, only 55.2 percent of the pupils had morning meals every day.

With regards to the lunchtime meal, there was very little difference in the percentage of pupils who did not have their lunch, ranging from 1.5 to 7.9 percent with the National average being 4.4 percent. The spread was almost the same for pupils who reported having lunch meals every day ranging from 74.8 percent to 88.3 percent with the national average being 83.6 percent. The most likely reason is that most pupils who attend school in the morning eat their lunch after school. Similarly, if they report to school in the afternoon, they eat their lunch before going to school.

The response from the pupils on the evening meals was almost the same, with pupils reporting having meals every day ranging from 78.7 percent to 92.4 percent with the national average being 87.6 percent. Those pupils who reported not having the evening meal at all was almost the same and ranged from 2.1 to 9.2 percent with the national average being 4.4 percent. In

Zambia most families would prefer an evening meal to other meals if the resources are inadequate and this is reflected in the high number of pupils who reported having the meals every day.

Speaking English at home

What percentage of pupils spoke the language of the test (English) outside the school?

English is the official language of instruction even though pupils are taught a second (vernacular Zambian) language. There are many challenges in reading as many pupils resort to using their Zambian language once they are out of the school environment. In all surveys so far conducted (National Assessment, Living Conditions Monitoring Survey, SACMEQ II, High School Sub Sector Review), the percentage of the sampled pupils who were recorded as pupils who spoke English at home has been consistently higher in urban than in rural areas. This is because there are more educated parents in urban areas as opposed to rural area.

From Table 3.4a below, it is clear that Lusaka, Copperbelt and Central provinces had above 85 percent of pupils using English outside of school compared to the national average of 78.4 percent in SACMEQ III. The other six provinces were below the national average. This was an improvement from the SACMEQ II results that had a national average of 73.5 percent. The result was as expected because urban areas are more cosmopolitan and multilingual. Hence people resort to using English.

Table 3.4: Percentage of Pupils Speaking in English between SACMEQ II (2000) and III (2007)

	2000		2007	
	%	SE	%	SE
Central	76.9	5.63	87.8	4.52
Copperbelt	87.0	2.19	88.2	2.17
Eastern	65.0	6.53	71.1	4.49
Luapula	40.1	9.2	71.8	5.42
Lusaka	86.1	2.84	85.2	4.77
Northern	67.3	10.32	70.8	7.03
N/western	62.0	7.55	58.3	5.89
Southern	68.1	7.77	65.7	6.96
Western	70.9	6.29	59.8	8.14
Zambia	73.5	2.19	74.8	1.77

Policy Suggestion 3.2:

The Provincial Education Officers for Northern, Southern and Western provinces must conduct research on why the percentage of pupils using English has declined.

Where pupils live

Where did pupils live during the school week?

The support that a pupil receives at home usually correlates positively with a pupil's performance. Thus, it is important that information about where the pupil stays during the school week is known, especially with the rising trend of single parents and orphans due to the HIV and AIDS pandemic.

Table 3.5a: Whom Pupils Stayed with During School Week (SACMEQ II 2000)

	with parents		with relatives		in a hostel		myself	
	%	SE	%	SE	%	SE	%	SE
Central	85.0	3.62	12.2	2.95	1.3	0.96	1.4	1.17
Copperbelt	86.4	2.18	10.6	1.60	1.5	0.70	1.5	0.49
Eastern	81.8	2.7	16.2	2.71	0.7	0.53	1.2	0.96
Luapula	92.9	2.25	6.7	2.21	0.4	0.40	0.0	
Lusaka	70.9	4.14	15.8	2.38	6.3	1.59	6.9	1.58
Northern	89.4	2.65	8.8	1.59	0.0		1.9	1.35
N/western	88.9	2.6	9.2	2.63	1.5	0.78	0.4	0.42
Southern	78.8	2.57	17.2	2.45	2.9	1.43	1.1	0.53
Western	74.4	6.69	17.4	5.65	3.8	1.35	4.4	1.86
Zambia	82.8	1.07	12.7	0.82	2.2	0.39	2.3	0.39

Table 3.5b: Whom Pupils Stayed with During School Week (SACMEQ III 2007)

	With family		With other people		Hostel/ boarding sch		Orphanage		Others	
	%	SE	%	SE	%	SE	%	SE	%	SE
Central	92.4	2.00	3.4	0.96	1.6	0.95	62.4	0.44	1.9	0.99
Copperbelt	87.7	3.58	5.1	1.00	1.7	1.01	0.0		5.5	2.86
Eastern	88.4	2.70	7.3	1.44	0.6	0.45	58.1	0.41	3.1	1.28
Luapula	86.3	2.91	3.5	1.04	1.1	0.60	0.0		9.1	2.75
Lusaka	91.1	1.99	4.3	1.37	1.0	0.53	0.0		3.6	1.15
N/western	80.7	5.01	15.3	5.08	0.0		0.0		4.0	1.44
Northern	91.8	1.94	3.4	0.98	0.3	0.35	37.5	0.37	4.1	1.49
Southern	88.8	2.35	5.3	1.38	1.7	1.13	76.4	0.43	3.5	1.10
Western	92.0	2.55	4.8	1.41	0.7	0.44	0.0		2.5	1.46
Zambia	89.2	0.98	5.2	0.54	1.1	0.29	29.4	0.10	4.2	0.68

Tables 3.5a and 3.5b above give a breakdown of where pupils stayed during the school week. The results show that 89.3 percent lived either with family or relatives. A further 5.2 percent lived with other people who are not members of the family, and only about 5.5 percent stayed in an orphanage, hostel or in other accommodation. There was a 6 percent improvement in pupils who lived with their families when results are compared to SACMEQ II. However, there was a decline for pupils in Luapula, Lusaka and Northern provinces. There is still a need to ensure that wherever possible, pupils remain with their family so that they get the care and support that is required for good performance

The National Assessment Survey of 2006 also examined factors that may affect the performance of pupils. Results suggested that pupils who lived with both parents constituted 60.7 percent of population. In terms of pupils living with single parents, those living only with their mother were 16.1 percent of the total, while those living with only their father were 3.1 percent of respondents.

Policy Suggestion 3.3:

The Directorate of Standards and Curriculum should review the weekly boarding practice and recommend abolishing it for grades 1-7 pupils. This will ultimately compel government to build more schools near the villages and within walking distance to avoid pupils staying at school during the week.

Books at home

How many books and other reading materials or electronic media were there in pupils' homes (where they lived)?

The number of books and other reading materials that pupils have access to where they live could enable them to read more and develop a reading culture which ultimately enhances their performance.

Table 3.6a Number of Books and Other Reading Materials and Home Possessions at Pupils' Home (SACMEQ 2000)

	Books at home		Reading material & electronic media at home (7)		Home possessions(13)	
	Mean	SE	Mean	SE	Mean	SE
Central	13.5	2.74	2.0	0.19	3.8	0.31
Copperbelt	25.5	3.99	3.1	0.25	5.8	0.44
Eastern	9.4	2.08	1.7	0.24	3.6	0.45
Luapula	11.3	3.22	1.6	0.24	3.2	0.40
Lusaka	32.1	4.19	2.4	0.26	4.3	0.49
Northern	14.2	2.37	1.4	0.11	2.7	0.24
N/western	7.7	1.30	1.0	0.17	2.5	0.28
southern	15.5	3.67	2.3	0.29	4.2	0.50
Western	25.9	7.30	1.5	0.26	2.59	0.39
Zambia	19.1	1.32	2.1	0.09	4.0	0.18

Table 3.6b Quantity of Books and Other Reading Materials and Home Possessions at Pupils' Home (SACMEQ 2007)

	Books at home number		Reading material & electronic media at home (14) index		Home possessions(13) index	
	Mean	SE	Mean	SE	Mean	SE
Central	13.5	3.70	4.11	0.55	5.2	0.53
Copperbelt	23.4	4.55	5.53	0.25	6.4	0.27
Eastern	8.8	1.29	3.25	0.41	4.3	0.41
Luapula	9.6	2.92	2.84	0.34	3.8	0.36
Lusaka	16.7	3.85	5.49	0.32	6.4	0.31
Northern	16.1	3.09	4.11	0.37	4.8	0.36
N/western	24.5	4.75	2.08	0.22	3.1	0.25
southern	8.7	2.01	2.65	0.30	3.8	0.30
Western	16.2	2.39	3.13	0.52	4.1	0.50
Zambia	16.0	1.30	3.78	0.12	4.8	0.12

These materials could either be a hard or soft copy. Tables 3.6a and 3.6b summarise the distribution of books and other reading materials or electronic media that pupils had at home. The average number of books at national level declined from 19.1 in SACMEQ II to 16.0 in SACMEQ III. There was a general decline in the number of books at home in almost all the provinces with the exception of Northern and North Western provinces. There was, however, an increase in the reading materials and electronic media available in the home between SACMEQ II and SACMEQ III. The national average for reading materials and electronic media increased from 2.1 to 3.8 between SACMEQ II and SACMEQ III.

The availability of resources at home where pupils can get information and learn on their own has an effect on their performance. In the SACMEQ III survey, the other reading materials or electronic media included 14 items such as a table to write on, newspapers, magazines, computer, telephone/mobile phone, and other electronic equipment. The mean gives the average number of other reading materials. Because the SACMEQ II data was restricted to 7 additional reading materials, the analysis here will dwell more on the SACMEQ III data.

Possessions at home and housing conditions

What was the socio-economic status of pupils' parents in terms of housing conditions?

The socioeconomic status of the Grade 6 pupils was based on information about household possessions, housing conditions and other assets in a pupil's home. Many household possessions (such as television sets) are more common among urban households. Similarly, urban areas use vehicles more often than rural areas that tend to use bicycles, motor cycles or even donkeys. Housing conditions have a direct effect on whether or not pupils are able to

study and complete their homework. From Tables 3.6a and 3.6b, the average number of possessions for the country was 8.4 in SACMEQ III. This implies that out of the 31 possessions, on average pupils came from homes that had only 8 of them.

Additionally, the urban provinces (Copperbelt and Lusaka) had a greater percentage of pupils whose parents had a higher socio-economic status based on the possessions index. These two urban provinces were followed by rapidly expanding North Western Province that has witnessed an economic boom with the expansion of mining.

The objective of this policy concern was to examine the school characteristics that may influence pupil performance. These factors include the location of the school, patterns of absenteeism, pupil repetition rates and homework given to pupils. The location of the school may determine how easily accessible the school is to the local education authorities or even how easily the school authorities can gain assistance from other schools or the district education offices. The policy concern will also highlight whether pupils are being assisted with their homework. The three main geographical classifications in Zambia are city, peri-urban (equivalent to small town) and rural.

3.4 School factors that impact on pupils

General Policy Concern 2:

What were the school context factors experienced by Grade 6 pupils (such as location, absenteeism, grade repetition, and homework) that might impact upon teaching/learning and the general functioning of the school?

School location

What was the location of the school?

From Tables 3.7a and 3.7b, some spaces are blank on city as these provinces do not have cities. The number of schools in rural areas increased from 47.9 percent in 2000 to 64.7 percent in 2007, while the number of peri-urban and city schools declined from 18.9 percent and 33.2 percent to 15.6 and 19.7 percent respectively. The scenario of the distribution of schools was also the same in the 2007 Annual School Census that had 84.6 percent of schools in rural areas while 15.4 percent were in urban areas. This is as a result of Government

building more schools in rural areas to reduce the distance that children have to walk to school.

Table 3.7a: Distribution of Schools by Location (SACMEQ II 2000)

	Isolated Rural		Small Town		City	
	%	SE	%	SE	%	SE
Central	66.8	11.51	18.5	9.88	14.7	8.13
Copperbelt	21.1	7.82	16.8	7.14	62.1	9.46
Eastern	71.8	12.96	24.5	12.72	3.7	4.00
Luapula	87.9	11.32	12.1	11.32		
Lusaka	14.7	7.07	16.6	7.75	68.8	9.58
N/Western	59.8	10.37	8.5	10.37	31.8	
Northern	84.5	20.83	15.5	6.60		22.88
Southern	45	11.84	38.3	11.45	16.7	8.95
Western	71.2	14.30	17.3	11.73	11.5	10.85
Zambia	47.9	4.38	18.9	3.34	33.2	4.83

Table 3.7b: Distribution of Schools by Location (SACMEQ III 2007)

	Isolated Rural		Small Town		City	
	%	SE	%	SE	%	SE
Central	75.6	11.07	11.9	8.27	12.5	8.57
Copperbelt	29	9.95	25.1	9.59	45.9	11.1
Eastern	72.1	12.41	8.9	8.62	19	10.6
Luapula	80.5	10.53	19.5	10.53		
Lusaka	25.8	11.59	13.2	9.05	61	13
N/Western	64.3	12.93	35.7	12.93		
Northern	89.4	7.19	10.6	7.19		
Southern	88.3	8	4.8	4.9	6.9	6.66
Western	74.6	11.56	20.7	10.97	4.7	4.89
Zambia	64.7	3.59	15.6	3.04	19.7	3.09

Policy Suggestion 3.4:

The Directorate of Planning and Information through the School Infrastructure Section should build more schools and ensure that pupils do not walk more than 7 kilometres as articulated in Education Policies.

Days absent

How many days were pupils absent in the previous month, and what were the reasons for these absences?

Table 3.8a: Frequency of Pupil Absenteeism and Reported Reasons in the Previous Month (SACMEQ II 2000)

	Days Absent		Illness		Family Reason		Work		Fees	
	Mean	SE	%	SE	%	SE	%	SE	%	SE
Central	2.7	0.29	40.1	6.36	4.6	1.32	4.3	1.77	7.1	2.56
Copperbelt	2.3	0.25	42.1	4.55	10.4	2.12	2.9	0.84	14.1	3.39
Eastern	3.4	0.42	48.2	7.3	10.8	3.68	4.2	2.03	10.2	3.47
Luapula	2.4	0.25	45.5	9.53	9.6	2.16	3.7	1.48	4.5	2.08
Lusaka	2.4	0.3	27.4	4.11	9.3	1.91	9.7	1.76	19.3	2.95
Northern	2.4	0.38	40.4	11.56	9.5	2.24	8.2	3.61	8.5	1.95
N/western	3	0.34	53	6.08	19.3	4.01	10.8	3.1	10.7	3.13
southern	2.2	0.3	38.8	5.51	14.9	3.48	10.8	3.01	6.7	2.06
Western	3.1	0.47	36.3	8.62	10.7	3.59	8.8	1.88	4.4	2.11
Zambia	2.52	0.12	39.7	2.75	10.2	0.9	6.8	0.95	10.5	1.00

Table 3.8b: Frequency of Pupil Absenteeism and Reported Reasons in the Previous Month (SACMEQ II 2007)

	Days Absent		Illness		Family Member ill		Visit Doctor		Care For Bro/Sis		Go To Funeral		Other	
	Mean	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Central	2.24	0.23	74.1	5.45	17.6	3.03	20.4	2.38	16.4	3.35	10.6	2.38	15.7	3.66
Copperbelt	2.08	0.22	72.2	4.07	24.7	4.06	33.6	3.89	26.8	3.95	14.9	2.88	30.9	3.41
Eastern	2.49	0.26	78.2	4.89	17.0	2.72	25.7	4.33	19.9	4.03	15	3.02	24.3	4.51
Luapula	2.70	0.34	79.2	3.13	19.1	3.14	18.6	4.63	21.3	3.92	13.1	3.20	26.9	3.77
Lusaka	1.86	0.19	72.7	3.34	19.7	3.58	25.7	5.24	19.7	5.27	17.0	3.92	21.6	3.60
Northern	2.27	0.23	86.7	2.33	20.2	3.93	18.5	4.02	21.0	4.34	20.2	3.70	23.8	3.41
N/Western	2.97	0.36	80.6	2.89	13.2	4.50	9.9	2.65	11.7	2.41	9.5	3.60	8.60	2.18
Southern	3.00	0.34	69.9	5.14	28.2	4.93	19.8	2.86	19.8	3.75	8.7	1.87	24.1	5.61
Western	3.72	0.84	85.1	2.94	23.7	5.35	19.3	5.89	14.9	4.21	12.3	4.07	12.0	4.22
Zambia	2.53	0.11	76.2	1.51	20.6	1.41	21.8	1.3	19.3	1.33	12.9	1.04	21.3	1.4

The number of days that a pupil attends school has an effect on the pupil's performance. In Zambia, the average number of learning days in a month and in a year is 22 and 190 days respectively. When the SACMEQ II and SACMEQ III data are compared in Tables 3.8a and 3.8b, there were minimal differences in the average number of days that pupils were absent. In SACMEQ II the average number was 2.52, while for SACMEQ III was 2.53. Although the situation was almost the same at national level, there were provincial differences with some improving while others deteriorated. Though the 2.53 days average absenteeism per month may appear small, this translates into about approximately 11 percent of the total number of days in a month, which is very significant. Hence, measures should be put in place to reduce pupil absenteeism. The reasons for absenteeism in both SACMEQ II and SACMEQ III

included: personal illness, illness of a family member, visiting a doctor, caring for siblings, and attending a funeral.

Grade repetition

What percentages of pupils had repeated grades?

Grade repetition takes place when a pupil remains in the same grade for an extra year instead of progressing to the next grade. Grade repetition can have a negative effect on the internal efficiency of the educational system. Grade repetition, it is one of the key measures for analysing and projecting pupil flows from grade to grade within the educational cycle. It has been argued that making pupils repeat a grade may not improve performance.

In the SACMEQ surveys, pupils were asked if they had repeated a grade since Grade 1. From Tables 3.9, it is clear that repetition rates reported in SACMEQ III were considerably lower than for SACMEQ II. The national repetition rate for SACMEQ II was 51.5 percent compared to 33.5 percent during SACMEQ III survey. The repetition rates also dropped in all the provinces. However, there is still need to reduce the culture of repetition as 33.5 percent is still very high. There were no differences between urban and rural provinces in terms of repetition history.

Table 3.9: Percentage of Pupils Repeating a Grade and Repeating Grade 6 (SACMEQ II and III)

	SACMEQ II (2000)				SACMEQ III (2007)			
	Repetition		Repeating Grade 6		Repetition		Repeating Grade 6	
	%	SE	%	SE	%	SE	%	SE
Central	55.6	3.64	26.2	4.99	31.2	4.81	7.1	1.92
Copperbelt	41.3	3.26	16.7	2.93	28.2	2.27	6.9	1.78
Eastern	52.5	4.59	16.1	4.24	35.1	3.69	11.8	2.79
Luapulu	54.8	4.74	26.1	4.25	40.1	3.90	6.1	1.69
Lusaka	50.0	4.19	25.5	3.47	28.6	3.60	6.4	1.98
Northern	59.3	4.95	32.4	5.29	40.8	4.62	3.8	1.36
N/western	63.0	5.35	14.8	2.84	36.3	3.41	6.5	2.09
southern	49.2	4.99	23.6	3.96	39.6	4.51	16.7	2.8
Western	54.3	5.31	25.2	5.80	17.8	3.80	1.2	0.85
Zambia	51.5	1.56	23.5	1.70	33.5	1.39	7.8	0.71

The SACMEQ survey also asked whether or not pupils had repeated Grade 6. The number of pupils who reported having repeated Grade 6 also declined between SACMEQ II and SACMEQ III from 23.5 percent to 7.8 percent. Generally, there was a decline in the number of pupils repeating Grade 6 in all provinces as shown in Tables 3.9. The pattern of SACMEQ

III pupils repeating Grade 6 was the same as in the Annual School Census for 2007, which reported a repetition rate of 7.2 percent. Among the reasons for a reduction in repetition rates are: increased teacher recruitment and deployment, procurement of teaching and learning material, and infrastructure expansion.

Policy Suggestion 3.5:

The Directorate of Standards and Curriculum should research on why pupils repeat a grade and put measures to reduce the repetition rate.

Homework given

How frequently did pupils receive homework?

Table 3.10: The Frequency of Homework (SACMEQ II and III)

	SACMEQ II		SACMEQ III	
	%	SE	%	SE
Central	29.6	6.38	21.7	6.24
Copperbelt	27.6	5.25	42.4	5.34
Eastern	23.0	4.22	31.8	8.23
Luapula	22.7	5.15	45.8	7.44
Lusaka	39.5	4.56	34.7	5.91
Northern	26.5	7.50	26.7	7.25
N/ Western	22.5	7.04	24.1	5.10
Southern	13.7	4.78	23.9	8.02
Western	31.5	6.89	19.5	8.82
Zambia	27.0	2.14	31.1	2.37

Homework is a key component of teaching and learning. It provides teachers with a mechanism to gauge pupil understanding of what was taught. Most teachers use it to strengthen pupil understanding of what they have learnt in class as well as to engage parents or guardians to monitor their children’s performance. In fact, Zambia has a homework policy and most schools implement it and require parents or guardians to sign their children’s homework books every day. Thus, overlooking homework in reading and mathematics may deny pupils an opportunity to learn and to reinforce what was learnt in class, thereby impacting negatively on pupils’ achievements.

From Table 3.10 the number of pupils that received homework increased from 27.0 percent in the SACMEQ II to 31.1 percent in the SACMEQ III survey. All the provinces recorded an

increase in the number of pupils receiving homework except for Western province, which fell from 31.5 to 19.5 percent. The most significant improvement was made by Luapula province, where the use of homework increased from 22.7 to 45.8 percent.

Policy Suggestion 3.6:

The Directorate of Standards and Curriculum should ensure all schools comply with the homework policy by requesting information on implementation of homework policy during their monitoring visits to schools.

Homework corrected

Did the teachers correct assigned homework?

Correcting homework by teachers is one way of giving feedback to pupils on the work they did as well as recognizing the efforts that they make. Once corrected, pupils have a clearer picture of what they may not have understood. In SACMEQ II, 72.7 percent of pupils responded that they had their homework corrected by the teacher but this dropped to 54.3 percent in SACMEQ III as shown in Tables 3.8a and 3.8b. All provinces reported a decline, with the exception of Luapula where there was an increase from 40.7 percent to 57.3 percent. The most notable decline in on this indicator was in Lusaka province where it dropped from 80.3 percent to only 49 percent.

Although lower, the percentage of pupils who responded that their homework was always explained by a teacher was similar to the figures reported for teachers correcting home work. There was no unusual pattern based on geographical location and the indicator ranged from 20.8 percent to 45.5 percent with the national average being 36.8 percent. Four provinces were above the national average and a further five were below the average.

Possible reasons for not correcting homework included: inadequate supervision of teachers by the school heads, teachers not adequately motivated, large classes, teachers giving attention to Academic Production Unit classes (where they were paid extra income for teaching such classes) and teachers concentrating on private tuition where they were getting some extra income.

Table 3.11a: Percentage of Teachers Correcting Pupils Homework and Pupils Assisted with Homework by a Family Member (SACMEQ II 2000)

	Teacher corrects HW (always)		Family member assist HW (sometimes & most times)	
	%	SE	%	SE
Central	69.3	9.37	26.4	5.54
Copperbelt	72.3	5.88	23.6	3.97
Eastern	76.5	3.93	22.2	5.14
Luapula	41.0	12.88	19.1	3.70
Lusaka	80.4	4.27	37.1	4.29
Northern	74.2	9.63	24.4	5.05
N/ Western	74.1	5.82	21.4	7.15
Southern	68.3	5.99	14.0	4.44
Western	78.3	6.05	25.4	4.72
Zambia	72.7	2.97	24.5	1.69

Table 3.11b: Percentage of Teachers Correcting Pupils Homework and Pupils Assisted with Homework by a Family Member (SACMEQ III 2007)

	Teacher corrects HW (always)		HW explained by teacher (always)		Family member assist HW (sometimes & most times)	
	Percent	SE	Percent	SE	Percent	SE
Central	43.7	6.75	26.6	6.49	25.6	5.03
Copperbelt	63.7	4.99	41.7	5.02	46.1	4.57
Eastern	65.8	6.70	44.1	7.44	38.4	6.01
Luapula	57.3	5.97	35.4	6.55	34.9	6.91
Lusaka	49	6.70	32.5	6.26	36.5	5.84
N/ Western	38	4.56	20.8	3.60	26.5	5.56
Northern	49.6	7.57	37.3	7.66	27.3	5.56
southern	59.3	9.00	45.5	9.20	31.1	5.33
Western	49.7	11.48	36.2	10.66	36.3	7.99
Zambia	54.3	2.43	36.8	2.45	34.3	1.98

Homework help at home

Did family members assist pupils with their homework at home?

By family members monitoring and assisting the pupil with homework, pupils get a broader understanding of issues from different people helping with the homework, thereby having an in-depth understanding of the subject. However, for such assistance to occur, other family members should be in a position to offer this kind of assistance and understand the subject themselves. From Tables 3.11a and 3.11b, we observe that there was an increase in the percentage of pupils who responded that they were helped by family members from 24.5 in the SACMEQ II survey to 34.3 in the SACMEQ III survey. This practice was more common in urban provinces although the rural Eastern province was an exception. Homework support declined in the urban Lusaka province.

Policy suggestion 3.7:

The Directorate of Planning in conjunction with the Lusaka Provincial Education Office should research on why there was a reduction on family members assisting with homework.

3.5 Pupil access to textbooks and basic learning materials

General Policy Concern 3:

Did Grade 6 pupils have sufficient access to classroom materials (such as textbooks, readers, and stationery) in order to participate fully in their lessons?

As earlier alluded to in this report, the number of books and other reading materials that pupils have access to enables them to read more and to develop a reading culture, which ultimately enhances their performance.

Reading and mathematics textbook

What percentage of pupils had Reading and Mathematics textbooks?

Table 3.12a: Percentage of Pupils with Exercise Books, Mathematics and English Textbooks (SACMEQ II 2000)

	Math Textbook		English Textbook		Exercise Book	
	%	SE	%	SE	%	SE
Central	6.3	2.71	9.1	3.74	92.3	4.83
Copperbelt	6.0	2.07	9.1	2.73	91.7	3.22
Eastern	14.3	4.22	18.1	4.45	89.8	4.83
Luapula	11.5	7.23	22.9	10.75	91.8	2.36
Lusaka	15.9	4.00	14.7	2.39	70.9	6.15
Northern	22.5	8.55	17.8	5.3	91.1	3.13
N/western	25.0	8.83	23.4	8.29	95.4	1.56
southern	5.8	2.78	8.6	3.47	91.7	2.65
Western	18.9	6.31	24.4	6.13	84.3	5.99
Zambia	12.7	1.65	14.3	1.5	88.0	1.51

Table 3.12b: Percentage of Pupils with Exercise Books, Mathematics and English Textbooks (SACMEQ III 2007)

	Math Textbook		English Textbook		Exercise Book	
	%	SE	%	SE	%	SE
Central	10.6	3.55	26.5	6.98	90.5	2.51
Copperbelt	12.4	2.14	20.4	2.54	60.4	4.49
Eastern	10.5	3.88	28.9	7.36	96.4	1.67
Luapula	12.6	5.81	22.1	5.94	88.9	3.27
Lusaka	13.2	2.95	18.6	4.94	93.9	1.63
Northern	12.9	2.6	18.1	4.17	94.7	1.99
N/Western	12.2	4.34	29.2	6.69	92.4	3.45
Southern	10.6	2.9	22.6	6.48	82.5	4.53
Western	4.7	2.19	14.7	5.47	95.9	1.73
Zambia	11.4	1.20	23.1	2.00	85.7	1.38

This part of the policy concern analyses not only the availability of reading and mathematics textbooks, but also provides the pupil to-book ratio that shows whether pupils have adequate access to the textbooks. The SACMEQ III percentage of 23.1 pupils who had access to reading materials was an increase from the SACMEQ II percentage of 14.3, while the percentage for mathematics declined from 12.7 to 11.4 percent as shown in Tables 3.12a and 3.12b. The availability of textbooks for reading increased in all the provinces except for Luapula and Western. In contrast, mathematics textbook availability decreased in all provinces except for Central, Copperbelt and Luapula. The pupil-to-book ratio in 2007 (during SACMEQ III) stood at 1.9:1 while that for 2000 (during the SACMEQ II) stood at 2.2: 1, thereby confirming that there was very little change in the availability of reading and mathematics text books.

The Ministry of Education has made a massive investment in the procurement of teaching and learning materials,. Moreover, the reading textbooks come in many forms, and as such pupils have easier access to them. The procurement of mathematics textbooks might not have matched that for reading. In its quest to improve on the number of teaching and learning materials in schools, the Ministry of Education decentralized the book procurement system and started sending money directly to the schools and districts so that they could procure the teaching and learning materials based on their needs. The Ministry also abolished the zoning of book manufacturers and suppliers to lessen the difficulty of schools procuring books.

Basic learning materials

What percentage of pupils had adequate basic classroom supplies for writing, ruling and erasing?

Availability of basic classroom supplies such as writing, ruling and erasing materials may influence the effectiveness of learning. In the event that a pupil does not have some of these basic materials, they might not be able to complete class work. Ultimately, the performance of the pupil may fall if they do not have the basic materials.

The availability of all classroom materials increased from the SACMEQ II to the SACMEQ III with the greatest increase being in rulers. There were 53 percent of the pupils with rulers in SACMEQ II but the percentage increased to 63 in the SACMEQ III. The increase is mainly

due to the free basic education policy, which included the provision of free materials such as pencils, erasers and writing books.

Table 3.13a: Percentage of Pupils with a Pencil, Ruler, Eraser and Pencil (SACMEQ II 2000)

	Pencil		Ruler		Eraser		Pen	
	%	SE	%	SE	%	SE	%	SE
Central	85	5.41	51.4	7.13	57.7	6.98	86.7	5.88
Copperbelt	77.5	4.79	61.4	4.93	54	4.77	73.2	5.63
Eastern	75.1	5.03	48.1	5.36	51.9	7.15	83.3	4.49
Luapula	81	4.12	47.8	6.63	53.8	6.28	86	3.83
Lusaka	56.5	5.76	46.4	5.36	29.3	4.54	51.9	6.06
Northern	75.8	5.9	57.5	12.71	57	13.35	85.4	4.31
N/western	85.2	3.56	50	7.04	42.6	8.03	92.6	1.76
Southern	80	2.87	51.3	4.19	39.4	4.45	76.9	4.94
Western	77.2	5.69	41.7	6.05	42.5	6.62	69.3	7.33
Zambia	75.4	1.91	52.5	2.91	47.7	3.13	76	2.14

Table 3.13b: Percentage of Pupils with a Pencil, Ruler, Eraser and Pencil (SACMEQ III 2007)

	Pencil		Ruler		Eraser		Pen	
	%	SE	%	SE	%	SE	%	SE
Central	84.4	3.51	61.6	4.65	48.1	5.79	84.4	2.48
Copperbelt	59.2	5.69	49.7	5.19	44.6	5.36	55.9	5.58
Eastern	91.5	2.51	70.2	4.18	56.7	6.03	92.8	2.05
Luapulu	82.4	4.4	52.7	5.57	45	3.65	80.9	4.33
Lusaka	92.6	2.1	84.6	2.23	74.9	4.61	89.1	1.85
N/Western	84.2	2.88	69	5.21	53.8	4.36	78.2	4.75
Northern	89.2	4.15	74.6	4.77	63.5	6.89	88.2	3.62
Southern	69.2	4.72	46.2	3.11	39.6	3.45	73.2	4.75
Western	84	4.14	75.3	4.59	65.7	6.67	89.3	2.66
Zambia	79.9	1.56	63	1.62	53.4	1.91	79.3	1.46

Policy suggestion 3.8:

The Directorate of Standards and Curriculum should ensure continuity of free basic education and that teaching and learning materials are provided on time.

3.6 Pupil access to school library books

General Policy Concern 4:

Did Grade 6 pupils have access to library books and, if they did have access, was the use of these books maximized by allowing pupils to take them home to read?

The importance of libraries in schools cannot be overemphasized. Libraries can provide pupils with access to a variety of different books (textbooks inclusive) especially those that are scarce. The library can also offer an environment which is conducive for studies and also affords the pupils a chance to have somewhere to sit and study after school. The library is also

the only place that that may have a system to allow pupils to borrow books and take them home.

Table 3.14a: Reports on Pupils Access to School or Class Library Books (SACMEQ II 2000)

	Access to school or class library		Permitted to take books (pupil)		Permit Pupils to take books (head)	
	%	SE	%	SE	%	SE
Central	69.3	11.70	48	13.85	16.1	15.48
Copperbelt	53.6	9.36	50.4	10.65	0	0.00
Eastern	43.8	14.13	25.6	12.83	84	16.73
Luapula	67.9	13.23	73.5	16.39	100	0.00
Lusaka	55.6	10.30	53.9	10.13	100	0.00
Northern	69.1	13.46	59.3	17.96	91.3	10.01
N/western	69.3	12.26	58.4	14.61	100	0.00
Southern	50.4	11.16	26.2	10.55	62	22.23
Western	81.7	11.58	45.5	14.89	81	17.26
Zambia	59.7	4.42	47.7	5.42	66.9	7.47

Table 3.14a: Reports on Pupil's Access to School or Class Library Books (SACMEQ III 2007)

	Access to school or class library		Permitted to take school library books		Permitted to take class library books		Permitted to take class library books (teacher)		Permitted to take school library books (head)	
	%	SE	%	SE	%	SE	%	SE	%	SE
Central	61.26	12.67	6.1	6.1	49.71	12.85	51.44	12.54	100	0
Copperbelt	33.19	11.54	0		35.07	10.09	30.52	9.29	0	
Eastern	64.76	13	15.7	8.94	55.3	13.17	55.26	13.31	100	0
Luapula	74.99	10.54	19.8	10.66	60.78	12.97	55.09	12.48	100	0
Lusaka	57.08	14.82	26.5	11.8	38.56	12.43	40.29	12.86	100	0
N/Western	52.84	12.84	19.3	10.83	38.97	12.76	33.2	12.56	100	0
Northern	53.05	12.91	26.7	10.44	35.98	11.02	36.7	11.23	100	0
Southern	55.34	12.02	19.9	9.4	45.36	11.61	45.03	11.76	100	0
Western	69.81	12.06	27.6	12.73	58.96	12.63	54.67	13.23	100	0
Zambia	56.54	4.33	16.1	2.94	44.91	4.13	43.44	4.09	100	0

What percentage of pupils had access to (school and classroom) library facilities?

As highlighted in Table 3.14a and 3.14b the percentage of pupils who had access to school or classroom library facilities decreased from the SACMEQ II percentage of 59.7 to the SACMEQ III percentage of 52.8 percent. It is also noted that the pupils from rural provinces had greater access to school or classroom libraries when compared to the urban provinces (Lusaka and Copperbelt). One possible explanation could be that pupils from urban areas are now accessing public libraries from the townships or even visiting internet cafes as opposed to the rural pupils that rely more on school libraries.

Were pupils allowed to take library books home?

Permitting pupils to take library books home increases their chances of understanding what was discussed in class because they will have more time for revision. As shown in Table 3.8a and 3.8b, the percentage of pupils who were allowed to carry books home increased from 47.7 during the SACMEQ II study to 57.5 percent during SACMEQ III. It is also noted that urban provinces declined in the percentage of pupils allowed to carry books home.

3.7 Extra tuition

General Policy Concern 5:

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

The practice of teachers giving extra lessons has become widespread to the extent where even children in Grades 1 to 7 are affected. Whilst in the 1980s, a few extra lessons were offered as remedial lessons, the trend has changed as teachers are offering extra lessons for monetary gain. Some pupils only take part in extra lessons because of peer pressure. Thus, the practice of extra lessons should be considered carefully as motives may differ from pupil to pupil.

What percentage of pupils received extra tuition and was payment made for the extra lessons?

Table 15: The Percentage of Pupils Taking Extra Lessons between SACMEQ II (2000) and III (2007)

	SACMEQ II (2000)				SACMEQ III (2007)			
	Extra lessons		Paid for extra lessons		Extra lessons		Paid for extra lessons	
	%	SE	%	SE	%	SE	%	SE
Central	32.2	8.05	38.0	9.85	9.8	4.56	3.7	2.06
Copperbelt	56.9	5.29	69.4	4.25	26.9	4.46	18.9	3.6
Eastern	61.1	8.03	28.0	5.02	20.0	8.69	7.2	3.87
Luapula	36.3	7.73	36.2	10.32	6.5	2.24	6.1	2.28
Lusaka	75.0	5.86	60.6	5.00	9.0	2.52	7.7	2.48
Northern	57.3	15.64	49.6	9.56	11.8	5.91	6.0	2.96
N/western	59.3	10.37	36.5	7.67	0.6	0.44	0.6	0.44
Southern	50.0	8.45	41.7	7.00	5.6	3.61	3.5	2.34
Western	52.0	6.13	41.5	8.06	8.8	3.89	4.7	1.83
Zambia	55.2	3.49	50.8	2.56	12.7	1.69	7.6	1.03

From Tables 3.15 we observe that the trend of giving extra lessons had drastically reduced from the SACMEQ II figure of 55.2 percent of the pupils who responded that they had extra lessons to only 12.7 percent in SACMEQ III. Equally, the percentage of pupils who responded that they had paid for the extra lessons also fell drastically from 50.8 percent to 7.6 percent.

Policy Suggestion 3.9:

The Directorate of Standards and Curriculum should ban all paid for extra lessons and should only allow remedial lessons especially for poor performing learners.

3.8 Conclusion

This chapter provided the reader with some baseline data relating to Grade 6 pupils' characteristics, the circumstances of the homes they came from, and their interaction with their parents or guardians in 2007.

Female pupils constituted slightly below half of the total Grade 6 pupils. About three quarters of the pupils spoke English sometimes in their homes, and their attendance levels were good. The main factor accounting for pupil absence was illness. Three quarters of the pupils cited illness as the reason for being absent from school. About a third of the pupils had repeated a grade at least once, and this raises some concerns as to why.

During term time, almost nine tenths of Grade 6 pupils stayed with their parents or guardians, and 5 percent lived with other people. Only 1.1 percent of of pupils were in hostels. The average grade 6 pupil came from a home with 16 books and with 5 out of the 13 household possessions.

Less than half of the pupils had someone to ensure that they had done their homework. More than half of the Grade 6 pupils had their home work corrected by the teacher while fewer pupils received assistance with homework by a family member. In short, the data presented in this chapter revealed that, on the whole, Zambia's education system has several positive characteristics that should be maintained. These include the School Health and Nutrition programme's provision of a school meal that has led to pupils' very high rates of attendance and the removal of fees at lower levels which acted as barriers to participation. The Ministry should also be commended for the gender parity achieved in pupils' school participation. However, there is also need for the Ministry to attend to the serious problem of repetition and parents' lack of involvement in their children's schoolwork.

Chapter 4

Teachers' Characteristics and their Views on Classroom Resources and Professional Support

4.1 Introduction

This chapter deals with teachers' characteristics, such as age, gender, academic and professional qualifications, teaching experience and participation in in-service training. This chapter also looks at teachers' use of education resource centres and the availability of teaching and learning materials and various classroom resources.

In this chapter, the term 'pupil' refers to a Grade 6 pupil specifically and 'teacher' to an individual who teaches Grade 6 pupils.

4.2 Personal characteristics of teachers

General Policy Concern 6:

What were the personal characteristics of teachers?

Age of teachers

Table 4.1: Age distribution of Teachers

	SACMEQ II		SACMEQ III	
	Years	SE	Years	SE
Central	35.1	1.65	31.5	1.57
Copperbelt	33.0	1.15	32.5	1.09
Eastern	37.6	2.50	32.2	2.15
Luapula	36.5	2.99	30.5	1.47
Lusaka	36.1	1.60	31.9	1.16
Northern	36.3	2.24	30.9	1.87
North western	33.9	3.28	29.5	1.93
Southern	37.4	2.22	33.4	1.92
Western	33.9	2.03	33.7	2.65
Zambia	35.6	0.73	31.8	0.58

Table 4.1 present the recorded results for the age of teachers for SACMEQ II and III respectively. In SACMEQ III the overall mean age of teachers in the different provinces was 31.8 years. There was very little variation in the mean age across the provinces. The youngest mean age of 29.5 years was in the Northern province and the oldest mean age of 33.0 years

was in Southern and Western provinces. The overall mean age of teachers was higher in SACMEQ II (35.6 years) than in SACMEQ III (31.8 years).

On average, teachers were young at the time of the SACMEQ III study and this can be attributed to a common practice in Zambia that encourages older and more experienced teachers to teach lower grades in order for pupils to build a good academic foundation. The teachers' youth could also be linked to the fact that primary school teachers often 'upgrade' from primary to secondary schools. Teachers believe the teaching of secondary school has a higher status than the teaching of primary school. Moving from a primary school to a secondary school is treated as a promotion. The youth of teachers may also be a result of the recruitment and deployment of new teachers after the recruitment and wage freeze between 2002 and 2005.

Gender of teachers

More than 50 percent of the Grade 6 pupils in Zambia were taught by female teachers. The percentage of female teachers in Lusaka Province (88.7%) was higher than that for Zambia as a whole (52.9%). Most teachers prefer to move to urban areas where there are better social services.

Table 4.2: Gender Distribution of Teachers

	SACMEQ II		SACMEQ III	
	%Female	SE	%Female	SE
Central	45.5	11.42	41.0	12.14
Copperbelt	75.5	6.53	67.6	9.07
Eastern	30.8	10.93	58.0	11.53
Luapula	23.6	9.01	44.1	11.22
Lusaka	73.7	7.59	88.7	6.83
Northern	50.5	18.21	59.1	12.33
North western	22.2	9.78	33.0	10.36
Southern	44.7	10.21	38.6	10.78
Western	39.7	13.69	44.1	11.45
Zambia	52.8	4.17	52.9	3.67

Table 4.2 present the gender distribution of teachers for SACMEQ II and III respectively. Female teachers constituted 52.8 percent of teachers while male teachers 47.2 percent. The gender distribution of teachers remained the same at almost 53 percent females in SACMEQ II and SACMEQ III. There was however, a great variation among the provinces, with the highest percentage of female teachers in Lusaka province (88.7%) and the lowest in Northern province (33.0%). Copperbelt province had the highest percentage of female teachers with

75.5 percent in SACMEQ II, whereas North Western had the lowest percentage with 22.2 percent.

There was a higher concentration of female teachers in more urbanised provinces such as Lusaka and Copperbelt in both SACMEQ II and SACMEQ III. Female teachers are usually more attracted to urban areas than rural areas because of personal commitments. Furthermore, rural areas suffer from a lack of good teacher accommodation and many other social amenities and hence tend to be shunned especially by the young teachers.

Policy Suggestion 4.1:

Government should provide attractive incentives and adequate social amenities (proper accommodation, a good communication system and good transport and road network) to attract female teachers to rural areas.

4.3 Professional characteristics of teachers

General Policy Concern 7:

What were teachers' professional characteristics and did they consider in-service training effective in improving their teaching?

Academic education

Teachers were asked about the highest level of academic education they had acquired, and academic qualifications of teachers in 2000 and 2007. Their responses have been summarized in Table 4.3.

Table 4.3: Teachers Academic Qualifications

	Academic Education(G12)			
	SACMEQ II		SACMEQ III	
	%	SE	%	SE
Central	77.0	9.3	62.3	11.69
Copperbelt	67.9	6.64	31.3	6.67
Eastern	56.3	12.97	52.9	12.08
Luapula	75.8	10.92	39.3	13.02
Lusaka	61.2	6.45	58.5	10.21
Northern	77.2	11.16	40.9	12.36
North western	96.3	2.51	72.0	9.39
Southern	79.1	8.45	37.7	10.75
Western	67.2	12.46	72.9	10.06
Zambia	71.7	3.36	50.7	3.54

Table 4.3 present data for teachers' education for SACMEQ II and III respectively. In SACMEQ III the overall percentage of teachers who received twelve years of academic education (seven years of primary school and five years of secondary school) was 50.7 percent, a massive decline from the SACMEQ II result of 71.7 percent. In SACMEQ III, 49.3 percent of teachers overall had not completed secondary education. There were some variations among provinces. Western had the highest percentage (72.9 %) of teachers who had completed secondary education, whereas Copperbelt had the lowest percentage (31.3%).

Years of teacher training and experience

Experience is considered pertinent for professional development in terms of enhancing the mastery and application of pedagogical skills. In SACMEQ II and III, teachers were asked about the number of years of teaching experience and teacher training that they had received. This information is available in Table 4.4.

Table 4.4: Years of Teacher Training and Experience

	SACMEQ II				SACMEQ III			
	Teacher training (Years)		Teaching experience (Years)		Teacher training (Years)		Teaching experience (Years)	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Central	1.9	0.05	11.0	1.80	2.2	0.19	5.1	1.49
Copperbelt	2.0	0.05	8.9	1.20	2.1	0.12	6.9	0.84
Eastern	1.9	0.06	12.9	2.72	2.1	0.10	6.5	1.68
Luapula	2.0	0.04	12.6	2.64	1.8	0.13	4.0	0.99
Lusaka	2.0	0.03	12.1	1.5	2.0	0.06	6.8	0.97
Northern	1.9	0.15	12.3	1.76	2.1	0.14	5.2	1.43
North western	1.8	0.11	10.0	2.53	1.9	0.18	4.7	1.32
Southern	2.2	0.15	13.6	1.76	2.1	0.08	7.7	1.89
Western	2.1	0.13	9.5	1.47	2.1	0.17	8.3	2.23
Zambia	2.0	0.04	11.5	0.63	2.0	0.05	6.1	0.48

The average number of years for teacher training remained the same at 2 years during SACMEQ II and SACMEQ III. However, the number of years for teaching experience dropped from 11.5 years reported in SACMEQ II to 6 years in SACMEQ III. This low average suggests that teachers in the education system were young at the time of the SACMEQ III study. Western province reported the highest number of experienced teachers (8.3 years),while teachers in Luapula reported the least with 4 years.

Number of in-service courses attended

In-service training for teachers is important for skills improvement and the acquisition of new knowledge for tackling emerging issues in education. Teachers were asked to indicate the number of in-service courses related to the teaching of reading and mathematics that they had attended in the last three years, and the total number of days taken up by these courses. The results have been presented in Tables 4.5(a) and 4.5(b).

Table 4.5: Means and Sampling Errors for Classroom Teacher In-Service Courses and Days Attended in the Last Three Years

	SACMEQ II				SACMEQ III			
	No. of in-service courses attended		No. of days of in-service course attendance in last 3 yrs		No. of in-service courses attended		No. of days of in-service course attendance in last 3 yrs	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Central	3.3	1.07	25.7	10.19	1.2	0.52	9.1	5.65
Copperbelt	1.3	0.41	48.9	25.63	1.3	0.38	51.4	35.03
Eastern	2.4	0.87	13.5	6.78	1.7	0.40	17.4	12.60
Luapula	1.0	0.33	19.0	7.60	0.2	0.16	1.2	0.97
Lusaka	2.1	0.72	25.9	11.13	1.7	0.49	12.1	7.48
Northern	2.0	0.52	43.2	21.47	0.8	0.21	10.4	6.84
North western	0.7	0.26	14.7	7.15	0.7	0.30	8.0	4.92
Southern	1.7	0.56	121.0	63.37	1.9	0.87	32.4	18.24
Western	1.4	0.65	32.4	24.56	2.6	0.62	15.5	5.50
Zambia	1.9	0.23	45.1	11.41	1.3	0.17	20.6	7.03

Table 4.5 present SACMEQ II and III data for the number of in-service courses teachers attended. In SACMEQ III teachers in Zambia overall attended 1.3 in-service courses, a decline from 1.9 days in SACMEQ II. The average number of in-service courses across the provinces did not vary much. The average number of attendance days for in-service courses in the three years preceding 2007 was 20.6. However, the attendance for the average number of days varied greatly (1.2 for Luapula versus 51.4 for Copperbelt). The average number of days for in-service courses declined to 20.6 in SACMEQ III from 45.1 in SACMEQ II.

Effectiveness of in-service training

The number of in-service courses attended might not be as important as the content covered in the training. The value of the content of training can be judged by the value it adds to teachers' instructional capacity. Therefore, in addition to counting the number of in-service courses and their duration, a question was asked for the teachers' opinion on whether or not they thought that the courses they had attended had improved their teaching. The results have been presented in Tables 4.6(a) and 4.6(b).

Table 4.6 Effectiveness of In-Service Training

	SACMEQ II		SACMEQ III	
	%	SE	%	SE
Central	67.0	15.54	26.2	10.28
Copperbelt	58.5	13.21	34.0	9.15
Eastern	69.6	17.18	49.7	12.84
Luapula	59.4	21.57	10.3	8.24
Lusaka	80.3	9.52	23.5	7.71
Northern	27.3	15.75	42.7	12.1
North western	19.3	13.55	25.9	10.23
Southern	79.1	10.08	45.7	11.33
Western	29.6	16.54	52.1	12.01
Zambia	57.6	7.59	33.4	3.57

Table 4.6 present the effectiveness of in-service courses, as rated by teachers. In SACMEQ III, 33.4 percent of teachers stated that the in-service courses were useful, a rise from 29.1 percent in SACMEQ II. Teachers' views on how they rated the effectiveness of in-service training varied from 10.3 percent in Luapula province to 50 percent in Eastern province.

Policy Suggestion 4.2:

- Through the Research Unit, the Ministry should explore the effectiveness of current teachers' in-service programmes.
- The Directorate of Teacher Education and Specialised Services should strengthen the implementation of all in-service courses for teachers.

4.4 Teaching load, lesson preparation and marking

General Policy Concern 8:

How did teachers allocate their time among responsibilities concerned with teaching, lesson preparation and marking?

Number of periods taught per week

The average number of periods teachers are supposed to teach in Zambia is 40 periods per week and teachers were asked to state the number of periods they actually taught per week. The results have been presented in the Table 4.7.

Table 4.7: Number of Periods Taught Per Week and Period Duration

	SACMEQ II				SACMEQ III			
	Periods per week (Number)		Periods duration (Minutes)		Periods per week (Number)		Periods duration (Minutes)	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Central	37.8	2.05	39.2	0.45	30.2	2.78	39.7	0.31
Copperbelt	32.3	2.50	39.8	0.17	31.2	1.77	39.9	0.11
Eastern	38.5	0.97	40.0	0.00	37.1	1.84	40.0	0.00
Luapula	38.2	3.10	39.7	0.31	26.1	2.94	40.3	0.34
Lusaka	34.6	1.37	39.2	0.42	29.7	1.63	40.1	0.13
Northern	34.3	3.15	40.0	0.00	29.3	3.28	40.0	0.00
North western	34.1	2.59	39.9	0.14	28.5	2.34	39.9	0.50
Southern	36.6	0.91	40.0	0.00	33.7	1.95	40.0	0.00
Western	36.4	2.28	40.0	0.00	35.2	2.40	40.0	0.00
Zambia	35.3	0.85	39.7	0.09	31.1	0.77	40.0	0.09

The national average number of periods teachers taught per week was 31.1, a decline from 35.3 periods in SACMEQ II and below the minimum 40 periods per week. The variations across the provinces were quite significant with the lowest number of periods in Luapula (26.1) and the highest in Eastern (37.1).

The standard duration of periods in Zambia is 40 minutes and the average number of periods reported was 40 in both SACMEQ II and SACMEQ III. All teaching periods in all the provinces were a standard 40 minutes, which is in line with policy.

Lesson planning and marking

Table 4.8: Number of Hours per Week that Teachers Spent on lesson Planning and Marking

	SACMEQ II		SACMEQ III	
	Mean	SE	Mean	SE
Central	20.0	3.23	12.5	1.98
Copperbelt	15.7	2.78	10.0	1.32
Eastern	19.3	5.96	9.6	1.02
Luapula	13.2	2.93	12.7	1.83
Lusaka	12.9	1.55	9.7	1.38
Northern	12.5	2.40	13.3	2.26
North western	25.7	7.03	14.9	1.69
Southern	11.7	1.94	9.5	1.47
Western	11.8	2.05	10.0	1.62
Zambia	15.0	1.02	11.3	0.55

The average number of hours that teachers spent in lesson planning and marking in SACMEQ III was 11.3 hours per week, a decline from 15 hours in SACMEQ II. This decline could probably be attributed to teachers diverting lesson preparation time to other activities for their financial benefit. There were no significant variations among provinces in the hours teachers

spent for lesson planning and marking, 9.5 hours in Southern to 14.9 in North Western province.

Policy Suggestion 4.3:

The Directorate of Standards and Curriculum, through school heads, should strengthen its policy on external and internal monitoring systems to ensure that teachers prepare lesson plans and mark pupils' work.

4.5 Pupil reports and communication with parents

General Policy Concern 9:

What were the teachers' views on: (a) pupil classroom activities; (b) teaching goals; (c) teaching approaches/strategies; (d) assessment procedures; and (e) meeting and communicating with parents?

Pupil reports

Table 4.9: School Reports for Reading and Mathematics

	SACMEQ II				SACMEQ III			
	Comment section for reading in school report		Comment section for maths in school report		Comment section for reading in school report		Comment section for maths in school report	
	%	SE	%	SE	%	SE	%	SE
Central	75.5	9.61	71.0	10.57	71.1	11.5	71.1	11.5
Copperbelt	97.2	1.74	89.4	3.79	88.8	4.13	80.5	7.2
Eastern	75.2	11.82	65.1	12.96	96.7	3.27	86.3	10.07
Luapula	75.9	9.27	68.3	11.89	80.1	9.65	80.1	9.65
Lusaka	92.3	4.60	90.6	5.11	70.4	10.97	77.1	9.96
Northern	31.2	8.77	50.5	18.23	88.7	7.74	88.7	7.74
North western	51.3	13.89	51.4	13.63	73.9	9.44	71.6	9.37
Southern	83.3	9.26	77.4	10.24	84.5	8	84.5	8
Western	84.8	9.28	91.8	6.40	97.4	2.56	97.4	2.56
Zambia	75.6	3.97	74.7	3.37	82.5	2.85	80.3	3.15

Table 4.9 presents information on teachers' responsibilities for SACMEQ II and III respectively. In SACMEQ III a large percentage of teachers (82.5%) nationally reported having a specific section for making comments on the pupil's reading progress on the report card and 80.3 percent for the pupil's mathematic progress. Generally most of the provinces had good results for the percentage of report cards with a reading comment section. Of report cards with a reading comment section, Western province showed the highest percentage (97.4%) and Lusaka the lowest (70.4%). There was a large variation among provinces for

report cards with a specific comment section for mathematics. Central province had the lowest percentage (71.1%) and Western, the highest (97.4%).

The SACMEQ III results show an improvement in the average percentage of school reports with a reading and mathematics comment section in the report card. In SACMEQ II the percentage of report cards with a reading comment section was 75.6 percent and mathematics, 74.7 percent.

Asking parents to sign homework

It has been noted that the education of pupils is most effective when parents are involved in their children’s learning. Parents or guardians can help in the educational process by ensuring that their children complete their homework assignments. Questions were asked on whether the teacher asked parents to sign their pupils’ homework, and the responses obtained have been summarized in Tables 4.10(a) and 4.10(b)

Table 4.10: Parents Signing Pupils’ Homework

	SACMEQ II				SACMEQ III			
	Parents asked to sign maths homework		Parents asked to sign reading homework		Parents asked to sign maths homework		Parents asked to sign reading homework	
	%	SE	%	SE	%	SE	%	SE
Central	56.3	12.13	63.0	11.25	96.8	3.17	71.9	11.11
Copperbelt	81.4	5.69	79.0	6.08	100	0.00	89.8	5.04
Eastern	34.2	13.55	49.8	14.37	74.0	10.93	71.8	10.64
Luapula	39.5	11.89	61.1	10.30	97.5	2.54	61.8	11.75
Lusaka	79.4	6.86	60.0	7.66	100	0.00	61.4	11.79
Northern	48.8	18.64	43.4	20.04	84.9	8.65	53.9	12.94
North western	16.3	9.61	8.0	7.91	82.2	8.71	28.3	9.73
Southern	35.7	9.65	36.3	9.73	86.2	7.84	41.9	10.61
Western	46.3	13.19	40.4	13.02	90.1	7.09	72.9	10.49
Zambia	55.7	4.08	54.1	4.13	90.9	2.07	62.2	3.45

Table 4.10 provides SACMEQ II and III data on the percentage of teachers that requested parents to sign their children’s homework. In SACMEQ III, at national level, 90.9 percent of teachers asked parents to sign their children’s maths homework assignments while 62.2 percent were asked to sign reading homework.

Policy Suggestion 4.4:

The Directorate of Standards should reinforce homework policy in schools.

4.6 Classroom furniture, equipment and teaching aids

General Policy Concern 10:

What was the availability of classroom furniture and equipment in classrooms?

Sitting and writing places in classrooms

In order to learn effectively, pupils need to have a sitting and writing place that offers them reasonable comfort. Where pupils had to sit on the floor, it can be expected that their concentration will be frequently interrupted. Similarly, if they have no place to write on, they cannot do their best in written work. Teachers' responses to questions on the provision of sitting and writing places for pupils in the classroom have been summarized in Table 4.11

Table 4.11: Pupil sitting and writing places

	SACMEQ II				SACMEQ III			
	Sitting places		Writing places		Sitting places		Writing places	
	%	SE	%	SE	%	SE	%	SE
Central	85.7	7.65	73.1	8.54	78.9	10.09	93.7	6.09
Copperbelt	96.6	1.21	94.9	1.34	93.6	3.57	97.9	1.11
Eastern	97.0	1.18	94.7	1.76	94.7	1.58	94.4	1.88
Luapula	91.2	4.0	87.0	4.42	71.4	11.01	93.4	5.52
Lusaka	88.0	2.73	87.0	2.74	85.6	7.92	96.9	1.56
Northern	87.8	4.15	82.9	4.62	85.8	5.75	84.5	4.83
North western	98.9	0.72	98.6	0.95	68.3	8.68	75.6	9.47
Southern	97.0	1.03	94.9	1.72	60.3	10.74	86.2	8.12
Western	97.2	1.19	90.9	3.66	93.4	3.43	90.3	1.84
Zambia	92.5	1.25	88.8	1.48	80.7	2.77	90.6	1.99

It can be seen that nearly 81 percent of pupils had sitting places while 91 percent had writing places. Southern Province was least resourced in terms of sitting places while North Western had the greatest shortage of writing places. It is clear, therefore, that there is a problem in the provision of both writing and sitting places, with a fifth of pupils not having a place to write on and a tenth having no place to sit. The Ministry will need to take action on this to ensure that all adequate writing and sitting places are made available to all pupils.

The national average percentage of pupils with adequate sitting places was 80.7 percent, a decline from 92.5 percent in SACMEQ II. The decline in SACMEQ III suggests that schools are unable to accommodate increased pupil enrolments. In SACMEQ III the variation among provinces for pupil sitting places ranged from 60.3 percent in Southern Province to 94.6 percent in Copperbelt Province. This implies that on average about 20 percent of pupils did not have adequate sitting places.

Almost 91 percent of the pupils had an adequate writing place, an improvement from 88.7 percent in SACMEQ II. The percentage of pupils with a writing place varied from (75.6%) in North Western being the least provided to 97.9 percent in Copperbelt Province.

Policy Suggestion 4.5:

The Directorate of Planning and Information should match the provision of sitting spaces with pupil enrolments.

Classroom furniture

For much the same reasons as pupils', teachers also need chairs to sit on and a table to write on. In addition to these, there are some key resources that teachers need in order to teach effectively, and these are: a usable writing board, chalk, a wall chart, a cupboard, one or more bookshelves and a classroom library or book corner. Responses on the teachers who had each of these have been presented in Table 4.12.

Table 4.12(a): Classroom Furniture (SACMEQ II)

	Teacher table		Teacher chair		Cupboard		Bookshelves	
	%	SE	%	SE	%	SE	%	SE
Central	40.8	11.39	48.7	12.35	26.4	10.10	18.8	10.17
Copperbelt	73.6	7.96	65.5	9.14	11.1	5.22	17.9	7.66
Eastern	25.2	10.10	24.4	9.66	11.0	7.32	5.2	5.01
Luapula	28.0	11.49	27.6	11.37	35.9	14.10	0.0	0.00
Lusaka	62.3	8.87	64.0	8.86	8.4	5.78	3.6	2.76
Northern	49.3	18.54	50.9	18.12	7.1	6.05	10.1	7.00
N/Western	67.3	11.54	66.7	11.69	36.4	13.40	14.8	10.17
Southern	57.1	11.36	49.2	11.40	2.8	1.95	12.9	6.70
Western	66.9	13.30	55.7	14.17	35.9	13.00	13.5	8.98
Zambia	54.4	4.38	52.6	4.53	14.1	2.53	11.1	2.54

Table 4.12(b): Classroom Furniture (SACMEQ III)

	Teacher table		Teacher chair		Cupboard		Bookshelves	
	%	SE	%	SE	%	SE	%	SE
Central	47.1	12.19	47.1	12.19	12.2	8.36	14.7	8.49
Copperbelt	54.2	10.02	47.7	9.65	1.7	1.18	3.2	2.04
Eastern	21.1	10.46	43.3	12.73	12.7	8.69	17.2	9.77
Luapula	40.1	11.99	53.1	12.14	29.9	11.00	20.3	8.44
Lusaka	64.6	12.25	64.6	12.25	18.9	8.83	22.7	9.50
Northern	54.8	12.16	56.5	11.99	24.6	9.88	21.7	10.01
N/Western	30.9	10.21	47.8	11.59	13.2	7.40	0.0	0.00
Southern	42.7	10.99	53.4	10.95	15.6	8.47	16.1	8.85
Western	88.1	8.09	90.6	6.55	54.9	11.60	53.0	12.53
Zambia	47.0	3.83	53.3	3.95	16.5	2.68	15.1	2.52

Access to teaching aids

Teaching aids (maps, dictionaries, geometrical instruments, teachers' guides etc) are basic teaching materials. Without these aids teachers have difficulty teaching lessons properly and pupils have difficulty understanding lessons

Table 4.13(a): Teachers' Access to Teaching Aids (SACMEQ II)

	Map		English dictionary		Geometrical		English teach guide		Maths teach guide	
	%	SE	%	SE	%	SE	%	SE	%	SE
Central	92.2	4.15	68.7	10.30	67.6	10.23	89.2	6.89	99.2	0.75
Copperbelt	87.9	5.01	59.1	8.54	54.0	7.63	80.8	6.90	81.7	5.50
Eastern	43.3	14.35	28.7	11.40	47.6	14.01	53.0	14.17	49.5	14.68
Luapula	95.8	4.34	67.1	10.70	74.1	10.70	100.0	0.00	100.0	0.00
Lusaka	80.6	6.47	52.4	8.78	37.9	8.31	59.4	8.04	64.3	7.97
Northern	89.1	7.03	60.6	15.50	74.5	11.32	63.9	14.67	81.5	9.21
N/Western	98.0	2.08	67.3	12.50	61.3	12.57	95.0	5.10	92.5	7.45
Southern	89.4	7.62	77.4	7.92	75.6	9.19	87.4	7.61	99.2	0.77
Western	86.2	9.98	76.6	11.10	67.7	12.40	100.0	0.00	100.0	0.00
Zambia	84.9	2.65	61.1	3.99	61.0	3.88	76.8	3.27	83.1	2.60

Table 4.13(b): Teachers' Access to Teaching Aids (SACMEQ III)

	Map		English dictionary		Geometrical		English teach guide		Maths teach guide		Health guide	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Central	50.9	12.28	69.7	11.70	28.1	11.31	65.8	11.31	70.0	11.68	32.8	11.62
Copperbelt	66.3	7.96	75.7	8.82	18.6	7.50	77.7	7.40	75.5	7.59	59.2	8.10
Eastern	55.9	12.51	57.8	12.80	29.3	11.14	54.4	12.53	52.5	12.82	41.0	12.06
Luapula	63.6	11.02	63.6	11.00	31.1	10.13	65.6	11.28	68.6	10.53	33.9	10.84
Lusaka	70.0	10.06	75.1	10.70	40.8	11.67	62.8	11.43	67.8	11.38	49.6	11.84
Northern	64.1	11.84	67.7	11.70	53.3	11.97	74.2	10.76	74.2	10.76	33.0	12.36
N/Western	77.3	9.29	80.2	9.17	46.9	10.69	70.3	9.87	66.5	10.18	58.8	11.05
Southern	69.1	10.36	73.2	9.53	47.7	11.33	78.8	9.67	67.8	10.82	47.5	10.78
Western	88.4	6.49	90.9	5.31	58.4	11.89	76.9	10.86	72.7	11.30	55.7	13.11
Zambia	66.4	3.57	72.6	3.57	35.5	3.65	69.9	3.55	68.4	3.65	47.2	3.76

Tables 4.13(a) and 4.13(b) present data for teachers' access to teaching aids for SACMEQ II and III respectively. Unfortunately, SACMEQ III shows that many teachers were not adequately equipped with teaching aids. An average of 66.4 percent of teachers had access to maps, 72.6 percent to English dictionaries, 35.4 percent to geometrical instruments, 69.9 percent to teachers' guides for English and 68.4 percent to teachers' mathematics guide. SACMEQ III shows a sharp decline in teachers' access to basic teaching materials from SACMEQ II.

In order to provide the right environment for teaching and learning to take place well, several items should be available for both the teacher and the pupils. Examples of these are: a sitting

place, a writing place, a chalkboard, a wall chart etc. Teachers were therefore asked about the availability of both classroom furniture and equipment in their classrooms. The results have been summarised in Table 4.14(a) and 4.14(b)

Table 4.14(a): Prevalence of Teaching Materials and Furniture in Classrooms (SACMEQ II)

	Chalk board		Chalk		Wall chart	
	%	SE	%	SE	%	SE
Central	99.2	0.75	99.2	0.75	80.5	9.38
Copperbelt	86.6	5.85	86.1	5.84	73.1	7.59
Eastern	60.4	14.39	60.4	14.39	58.1	13.80
Luapula	100.0	0.00	100.0	0.00	89.4	6.69
Lusaka	81.5	7.16	75.4	8.14	61.7	9.14
Northern	90.3	6.96	82.2	9.30	76.1	11.50
N/Western	100.0	0.00	100.0	0.00	83.7	9.40
Southern	92.9	6.96	92.9	6.96	91.1	7.08
Western	84.5	11.15	84.5	11.15	81.3	11.20
Zambia	87.9	2.57	85.4	2.81	75.7	3.49

Table 4.14(b): Prevalence of Teaching Materials and Furniture in Classrooms (SACMEQ III)

	Chalk board		Chalk		Wall chart	
	%	SE	%	SE	%	SE
Central	80.0	9.28	90.0	7.03	75.3	10.20
Copperbelt	79.8	6.66	81.3	6.72	67.8	7.32
Eastern	57.8	12.76	57.8	12.76	57.8	12.80
Luapula	72.1	10.46	72.1	10.46	58.8	11.90
Lusaka	80.1	10.69	80.1	10.69	73.5	11.80
Northern	70.4	11.23	75.9	10.48	68.7	11.20
N/Western	74.9	10.01	80.2	9.17	72.4	10.20
Southern	71.7	10.41	80.2	9.23	73.3	9.37
Western	95.1	4.88	100.0	0.00	85.9	7.66
Zambia	75.5	3.36	79.5	3.14	70.0	3.50

In SACMEQ III there were only three items constantly available in classrooms. These items were: writing boards, in 75.5 percent of classrooms; chalk (79.5%) and wall charts (70%). However, on average, 25 percent of pupils were learning in classrooms without a chalkboard and 20 percent in classrooms without chalk. In Western province 95.3 percent of classrooms had a chalkboard and all classrooms had chalk. In Eastern province, only 57.7 percent of classrooms had chalk and chalkboard. Nationally, only 16.5 percent of classrooms had cupboards/lockers; 15.1 percent had bookshelves; 45.8 percent had classroom libraries; 47.0 percent had a teacher's table, and 53.2 percent had a teacher's chair.

The findings of SACMEQ II and III showed that Zambia has to address the challenge of equipping classrooms with basic teaching and learning materials. The lack of these basic

teaching and learning materials will continue to impact negatively on Zambia's quality of education.

Policy Suggestion 4.6:

- The Directorate of Standards and Curriculum should ensure that adequate teaching materials and classroom furniture are provided to schools.
- Government policy should dedicate a portion of the GDP and the total public budget to public education.

4.7 Professional support

General Policy Concern 11:

What professional support did teachers receive?

Education resource centres

If teachers have constantly improved their performance in the classroom and acquire a sense of professional growth and development, then they must be provided with professional support. Such professional support usually takes the form of provision of teachers' resource centres, as well as professional guidance by school inspectors and head teachers. Teacher resource centres are of paramount importance in enhancing the quality of education delivery as they provide opportunities for teachers to sharpen their knowledge and skills. Information on the availability of teacher resource centres, the degree to which teachers have visited them and whether they have used them has been presented in Table 4.15(a) and 4.15(b)

Teachers usually visit the centres to borrow teaching/learning materials, gain skills in making teaching/learning materials using available local materials, exchange and share ideas with colleagues from other schools, and attend training courses.

Over 80 percent of pupils were taught by teachers who had used teacher resource centres. Sixty percent of teachers borrowed materials from the resource centres while about 60 percent used the resource centres to prepare materials and training and 57 percent of teachers used the resource centre to exchange ideas.

The Ministry of Education constructed resource centres to be used by teachers for continuous professional development. In 2007 there were fourteen provincial resource centres, 72 district resource centres and 814 zonal resource centres countrywide. These facilities were meant to help teachers research their lessons and keep themselves abreast of current pedagogical

trends. Additionally, sessions were held where teachers could discuss teaching methodology and practice.

Table 4.15(a) . Utilisation of Education Resource Centres by Teachers (SACMEQ II)

	General use of resource centres		Borrow materials		Prepare materials		Attend training		Exchange ideas	
	%	SE	%	SE	%	SE	%	SE	%	SE
Central	85.1	9.64	40.3	11.20	48.8	11.26	30.6	10.84	58.3	11.48
Copperbelt	77.5	7.74	42.5	7.64	41.5	8.24	26.9	7.17	50.2	7.87
Eastern	76.0	10.85	27.6	11.90	31.0	11.78	53.4	12.53	52.8	12.40
Luapula	71.5	10.50	20.9	11.70	16.0	11.07	15.4	10.87	20.9	11.68
Lusaka	74.5	8.68	26.8	8.06	28.2	8.43	22.7	7.29	42.6	9.34
Northern	85.1	8.87	38.9	21.10	38.2	16.06	61.2	11.07	56.3	12.03
N/Western	79.5	12.20	37.8	12.50	10.8	8.39	30.1	12.60	50.6	13.38
Southern	93.7	4.61	62.5	10.30	44.6	10.69	71.6	7.89	78.2	8.46
Western	79.9	13.11	54.0	13.10	48.5	14.03	37.2	13.06	65.0	12.17
Zambia	81.5	3.16	39.7	4.67	36.6	4.20	40.6	3.87	53.9	3.75

Table 4.15(b) Utilisation of Education Resource Centres by Teachers (SACMEQ III)

	General use of resource centres		Borrow materials		Prepare materials		Attend training		Exchange ideas	
	%	SE	%	SE	%	SE	%	SE	%	SE
Central	88.8	7.98	65.4	12.10	56.2	12.26	63.1	11.54	63.7	12.21
Copperbelt	96.0	4.04	76.9	7.66	80.5	7.05	70.4	8.72	67.3	8.10
Eastern	93.5	6.46	79.8	10.20	74.4	10.89	82.2	8.89	79.8	10.16
Luapula	88.6	8.87	49.8	11.90	49.8	11.90	45.9	11.59	48.4	11.77
Lusaka	75.7	12.45	42.7	11.90	42.7	11.89	45.9	10.93	43.1	11.17
N/Western	100.0	0.00	83.6	8.31	77.1	9.95	69.3	12.14	76.6	10.48
Northern	59.6	12.31	41.1	10.80	41.1	10.79	44.6	10.60	41.1	10.79
Southern	68.3	12.23	48.2	11.80	48.2	11.83	47.1	11.40	47.1	11.40
Western	72.7	10.06	62.8	10.40	59.2	11.79	51.7	12.95	55.6	12.34
Zambia	83.0	3.10	60.5	3.70	58.8	3.70	58.1	3.69	57.5	3.71

Policy Suggestion 4.7:

Provincial Education Officers should conduct research on why teachers in their provinces are not using the resource centres.

School head advising teachers

Head teachers' involvement in the professional development and supervision of teachers is an important aspect of an education system. It provides professional support to teachers and also motivates them to improve and maintain effective teaching skills. Data from the study indicates that both reading and mathematics teachers received advice from their head teachers. The teachers' responses are summarised in Table 4.17.

Table 4.17: School Heads Advising Teachers

	SACMEQ II				SACMEQ III			
	never %	once a term %	once or more a month %	I am the school head %	never %	once a term %	once or more a month %	I am the school head %
Central	7.6	10.9	65.8	15.6	0.0	18.5	79.2	0.0
Copperbelt	4.9	21.7	73.4	0.0	0.0	25.1	74.9	0.0
Eastern	15.7	7.1	62.6	14.6	0.0	31.0	61.1	7.8
Luapula	2.5	11.5	66.2	19.7	9.1	17.1	73.8	0.0
Lusaka	5.0	33.1	53.7	8.2	0.0	17.4	82.6	0.0
N/Western	3.5	4.0	81.0	11.5	0.0	4.7	90.0	5.3
Northern	7.4	25.0	48.1	19.4	5.8	15.9	78.3	0.0
Southern	0.0	29.2	55.4	15.3	0.0	31.6	54.6	13.8
Western	0.0	34.8	53.0	12.2	7.1	14.8	74.0	4.1
Zambia	4.9	19.5	64.8	10.8	2.0	21.1	73.4	3.2

The SACMEQ III data shows that only 2 percent of teachers never received advice from their school heads while 21 percent received advice once a term and 73 percent received advice at least once in a term. There was an improvement from SACMEQ II for school heads providing advice to the teachers.

4.8 Conclusion

The average age of Grade 6 teachers' was 32 and more than 50 percent of the Grade 6 teachers were female. Grade 6 pupils were taught by teachers with an average of 2 years of teacher training and 6 years of teaching experience.

Teachers were teaching an average of 31 periods per week, which was lower than the standard 40 periods per week. Similarly, teachers of Grade 6 pupils were spending less hours (11.7) in lesson planning and marking compared to 15 hours in SACMEQ II.

The provision of teaching and learning materials including furniture for both pupils and teachers was inadequate and this could result in ineffective teaching and learning in the classroom.

The SACMEQ results revealed that education delivery was inadequate. The results showed that the majority of teachers were young with little teaching experience. Teachers were fairly evenly distributed across all provinces. Generally, there were more female teachers in urban than rural areas. The national average number of hours teachers spent in lesson planning and marking had declined.

Chapter 5

Characteristics of School Heads and their Views on Educational Infrastructure, School Operation and Problems

5.1 Introduction

Over the years, the Zambian education sector's main challenge has been to ensure quality education for all. Current educational policies focus on improving teacher competency and school management, infrastructure and equipment. Investing in school heads improves school management and develops better education quality.

The quality of the school head has a sizeable effect on a school's learning achievements. This is because a school head with well-developed management skills creates a stimulating learning environment and holds teachers accountable. This, in turn, is likely to reduce teacher and learner absenteeism.

This chapter summarises the main characteristics of school heads as well as their views on school infrastructure, school operation and problems with pupils and staff.

In this chapter, the term 'pupil' refers to a Grade 6 pupil specifically and 'school head' to an individual who manages a school that Grade 6 pupils attend.

5.2 Personal characteristics of school heads

General Policy Concern 12:

What were the personal characteristics of school heads?

The age and gender distribution of head teachers have been presented in Table 5.1 below.

Table 5.1: Age Distribution and Gender of School Heads (SACMEQ II)

	SACMEQ II				SACMEQ III			
	Age		Female		Age		Female	
	Years	SE	%	SE	Years	SE	%	SE
Central	47.2	1.67	24.9	10.35	52.9	0.93	13.2	9.10
Copperbelt	50.1	1.13	47.4	9.96	50.1	1.14	47.6	13.10
Eastern	48.8	2.01	3.7	4.00	51.1	1.44	43.9	13.30
Luapula	51.6	1.13	0.0	0.00	49.0	1.86	21.4	11.30
Lusaka	49.5	1.40	24.3	8.99	46.7	2.68	36.0	14.90
Northern	48.7	1.03	4.0	4.08	50.8	1.98	16.0	10.60
N/Western	46.2	2.51	8.7	8.63	48.7	2.09	39.2	12.70
Southern	46.9	1.54	5.0	5.13	50.9	1.38	31.7	11.40
Western	48.5	1.68	35.6	14.84	49.4	1.77	19.4	10.40
Zambia	48.7	0.51	19.3	3.18	50.2	0.55	31.5	4.20

In SACMEQ III school heads were 50.2 years old on average, contrast to SACMEQ II when the average age for school heads was 48.7 years. In both SACMEQ II and III, there was little variation in the age of school heads across the nine provinces.

In terms of gender, only 19.3 percent of school heads were female in SACMEQ II, with an improved average of 31.5 percent in SACMEQ III, in line with the SADC Protocol of Gender and Equality of having women in 30 percent of leadership positions at all levels by 2015. Eastern province recorded the highest improvement in the number of female school heads from 3.7 percent in SACMEQ II to 43.9 percent in SACMEQ III.

Policy Suggestion 5.1:

- The Directorate of Teacher Education and Specialised Services must monitor the gender balance among school heads in all provinces.
- The Directorate should provide information on school heads' gender to the Teaching Service Commission to promote more female school heads, especially in North Western, Central and Western provinces.

5.3 Professional characteristics of school heads

General Policy Concern 13:

What were the professional characteristics of school heads?

School heads' professional preparation determines their capacity to support their staff in all teaching endeavours. School heads were asked to state the number of years they had spent as school heads in their current schools as well as the accumulated experience that they had in

the position of school head in the current school as well as other schools. The results have been presented in Tables 5.2(a) and 5.2(b).

Please refer to Tables 5.2(a) and 5.2(b) for the professional characteristics of school heads for SACMEQ II and III respectively. In SACMEQ III, 67.6 percent of school heads had completed Grade 12, an improvement over SACMEQ II where 62.4 percent of school heads had completed secondary school. Surprisingly the percentage of head teachers who had completed Grade 12 varied from 26.7 percent in Lusaka to 88.7 percent in Northern Province in SACMEQ III compared to 47.8 percent and 75.7 percent respectively in SACMEQ II.

Table 5.2(a): Professional Characteristics of School Heads (SACMEQ II)

	Academic education (Grade 12)		Management training		Duration of mgmt training (Weeks)		Heading experience	
	%	SE	%	SE	Mean	SE	Mean	SE
Central	63.6	11.62	56.5	12.21	18.8	5.36	7.2	1.30
Copperbelt	59.7	9.65	100.0	0.00	10.9	1.63	4.5	0.96
Eastern	62.7	13.47	90.4	13.98	7.5	2.15	7.6	0.94
Luapula	74.1	12.77	93.5	8.93	18.5	1.85	7.8	1.18
Lusaka	47.8	10.52	58.3	4.57	13.3	4.93	6.3	1.42
Northern	74.1	11.88	78.3	7.87	12.0	4.28	7.3	1.67
N/Western	75.7	12.37	86.8	8.98	12.9	1.51	9.9	1.82
Southern	58.9	11.69	87.3	9.83	12.9	1.57	7.7	1.24
Western	63.5	14.80	63.0	15.04	11.3	2.31	6.9	1.72
Zambia	62.4	4.37	82.7	2.98	13.6	1.34	7.2	0.47

Table 5.2(b): Professional Characteristics of School Heads (SACMEQ III)

	Academic education (Grade12)		Management training		Duration of mgmt training (Weeks)		Heading experience		Specialized training in health		Days training in health	
	%	SE	%	SE	Mean	SE	Mean	SE	%	SE	Mean	SE
Central	60.6	13.00	80.3	10.60	6.6	1.99	12.0	1.36	39.0	13.00	28.1	23.20
Copperbelt	70.4	11.90	77.0	10.80	22.7	9.99	3.9	0.80	90.0	7.02	8.2	1.58
Eastern	77.7	10.50	51.8	13.40	9.2	5.05	6.4	1.13	29.7	12.83	2.9	1.36
Luapula	52.7	13.40	34.7	12.90	2.4	1.68	5.3	0.96	67.4	12.48	6.6	2.05
Lusaka	26.7	13.70	63.6	15.10	5.8	4.69	6.1	0.99	81.7	12.11	14.8	10.67
North Western	70.6	11.90	50.9	13.30	17.0	8.83	6.4	1.40	32.7	12.12	2.9	1.14
Northern	88.7	7.90	33.2	12.30	7.3	5.07	5.3	1.28	31.7	12.10	5.4	3.29
Southern	83.6	9.30	62.1	11.80	4.6	1.73	6.9	1.20	66.2	11.65	6.2	2.66
Western	59.4	13.40	41.4	13.10	1.4	0.93	4.8	1.09	56.2	13.28	2.7	0.65
Zambia	67.6	4.00	57.3	4.30	9.1	1.98	6.5	0.40	56.0	4.11	9.4	3.42

The Ministry of Education put in place training programmes related to school management for school heads. These training programmes were meant to complement school heads' academic qualifications and teaching experience. Training in school management significantly dropped among school heads from 82.7 percent in SACMEQ II to 57.3 percent in SACMEQ III. However, the duration of school management training reduced from 13.56 weeks in SACMEQ II to 9.1 weeks in SACMEQ III.

In SACMEQ III, 56 percent of school heads received an average of 9.4 days of specialised health training. Specialised health training appeared to be most popular in Copperbelt province with 90 percent of school heads having attended training for an average of 8.2 days. Considering the numerous health challenges Zambia faces, it is important that specialised training in health be scaled up and include themes ranging from the environment to nutrition and HIV and AIDS.

In terms of school heads' experience in head leadership positions, the average number of years dropped slightly from 7.2 in SACMEQ II to 6.5 in SACMEQ III. Central province had the most experienced school heads with twelve years in SACMEQ III, a marked increase from 7.2 years in SACMEQ II.

Policy Suggestion 5.2:

- The Directorates of Human Resources and Administration and Teacher Education and Specialised Services must institutionalize the programme of leadership and management for school heads.
- Teacher Education and Specialised Services must integrate the training of teachers in basic health and nutrition skills in the inset school based programmes.

5.4 School heads view on school facilities, equipment and utilities

General Policy Concern 14:

What were the school heads' views on general school infrastructure and the condition of school buildings?

General school infrastructure and equipment

School buildings, equipment and other school supplies and amenities of acceptable quantities and quality are necessary for the creation of a learner-friendly environment. School heads were asked to indicate what infrastructure in terms of buildings, grounds, general services and

equipment they had in their schools, and the results have been summarised in Table 5.3(a) and 5.3(b).

Table 5.3(a): Availability of General Infrastructure (SACMEQ II)

	Library		Staff room		Store room	
	%	SE	%	SE	%	SE
Central	32.6	11.58	28.7	11.20	23.6	10.13
Copperbelt	32.2	9.56	49.8	9.94	68.0	9.09
Lusaka	23.1	11.10	38.3	13.65	38.8	13.74
Southern	45.3	13.97	2.8	2.92	44.2	13.82
Luapula	42.9	10.48	69.9	9.78	71.7	9.39
Northern	48.3	18.77	38.8	21.15	47.6	18.98
Eastern	34.3	14.18	29.8	13.13	23.7	12.38
N/Western	27.8	10.57	27.2	10.13	45.8	11.77
Western	40.5	14.75	15.2	10.35	48.0	15.09
Zambia	36.5	5.07	39.6	4.89	50.6	4.65

Table 5.3(b): Availability of General Infrastructure (SACMEQ III)

	Library		Staff room		Store room	
	%	SE	%	SE	%	SE
Central	6.5	6.49	19.7	10.61	48.2	13.38
Copperbelt	0.0	0.00	60.5	12.62	65.8	12.20
Lusaka	15.7	8.94	17.7	9.76	25.9	11.86
Southern	19.8	10.66	13.4	9.11	32.8	12.54
Luapula	36.4	15.07	63.6	15.07	54.2	15.56
Northern	19.3	10.83	9.9	7.41	18.2	10.04
Eastern	33.3	12.38	22.6	10.68	44.0	12.87
N/Western	21.2	9.92	10.5	7.64	33.6	11.30
Western	27.6	12.73	13.0	9.05	51.8	13.49
Zambia	18.2	3.29	27.0	3.85	42.9	4.41

The Zambian Government is generally responsible for supplying basic infrastructure – buildings, water, furniture, and electricity to public schools. However, there are other players such as Faith-Based Organisations (FBOs), Non-Governmental Organisations (NGOs) and the private sector that own and maintain their own schools. Owing to lack of funding some public schools have had to finance projects through the participation of local communities and other fundraising initiatives. This may account for the variations among schools with respect to resources and infrastructure status.

Tables 5.3(a) and 5.3(b) refer to the availability of general school infrastructure for SACMEQ II and III respectively. In terms of general facilities, 18.2 percent of school heads indicated the

availability of a library in their schools in SACMEQ III, a drop from 32.6 percent in SACMEQ II. The number of schools with a staff room was at 27 percent in SACMEQ III, a decline from 39.6 percent in SACMEQ II. In addition, 42.9 percent of school heads reported the availability of a store room at their school in SACMEQ III, a drop from 50.6 percent in SACMEQ II. These declines in the number of general facilities can be attributed to the conversion of many such rooms into classrooms to accommodate increased enrolments after Free Primary Education was initiated in 2002.

Availability of electricity, computers and water

In SACMEQ II, 42.7 percent of school heads indicated that their schools were supplied with electricity. This figure reduced to 38.8 percent in SACMEQ III. Copperbelt and Lusaka reported the highest number of schools connected to electricity with 79.2 percent and 82 percent respectively in SACMEQ III. Eastern province reported the least percentage of schools connected to electricity (14%) in SACMEQ III. Only 2.3 percent of school heads reported having a computer in their school in SACMEQ II. This figure increased to 13.8 percent in SACMEQ III.

Table 5.4(a): Availability of Equipment (SACMEQ II)

	Electricity		Computers		Water	
	%	SE	%	SE	%	SE
Central	25.4	10.36	0.0	0.00	68.2	11.55
Copperbelt	71.3	8.81	7.7	5.35	93.3	5.02
Eastern	8.6	8.48	0.0	0.00	79.9	10.40
Luapula	6.7	6.72	0.0	0.00	45.8	13.98
Lusaka	74.2	9.36	0.0	0.00	85.4	7.91
Northern	34.6	22.17	0.0	0.00	69.6	13.07
N/western	23.1	12.20	7.9	7.83	63.1	14.18
Southern	41.2	11.71	3.9	3.99	94.4	4.17
Western	10.2	9.90	0.0	0.00	77.2	12.18
Zambia	42.7	4.66	2.3	1.22	79.5	3.19

Table 5.4(b): Availability of Equipment (SACMEQ III)

	Electricity		Computers		Water	
	%	SE	%	SE	%	SE
Central	48.0	13.38	32.5	12.43	87.0	8.86
Copperbelt	79.2	9.93	26.2	11.77	85.3	8.30
Eastern	13.8	9.38	6.3	6.27	73.1	12.07
Luapula	33.0	12.54	0.0	0.00	65.6	12.84
Lusaka	81.7	12.11	26.7	13.72	81.7	12.11
Northern	0.0	0.00	6.8	6.76	67.6	12.19
N/western	39.4	13.09	0.0	0.00	48.8	13.27
Southern	19.0	10.04	7.2	7.07	62.4	11.52
Western	35.8	12.59	10.3	7.24	78.0	10.52
Zambia	38.8	3.92	13.8	3.15	73.4	3.80

A guaranteed supply of clean water is crucial to maintaining a healthy school environment. In SACMEQ III, 73.4 percent of school heads reported an adequate supply of water, a slight drop from 79.5 percent in SACMEQ II.

Policy Suggestion 5.3:

- The Directorate of Standards and Curriculum must create a policy that focuses on investing in general infrastructure in basic schools.
- The infrastructure section should ensure that water reticulation is improved in schools so as to create a friendly learning environment especially for girls.

Table 5.5(a): Nature and Provision of Toilets (SACMEQ II)

	BOYS				GIRLS				STAFF			
	flush toilets		Squat Toilets		flush toilets		Squat Toilets		flush toilets		Squat Toilets	
	Mean	SE										
Central	2.3	0.98	2.2	0.32	2.9	1.15	2.3	0.31	0.4	0.18	1.5	0.42
Copperbelt	8.6	1.08	1.1	0.38	9.1	1.16	1.4	0.43	2.8	0.42	0.7	0.26
Eastern	0.1	0.07	4.8	1.10	0.1	0.07	3.8	0.78	0.3	0.26	1.9	0.28
Luapula	0.0	0.00	3.4	0.50	0.0	0.00	3.4	0.55	0.0	0.00	1.6	0.24
Lusaka	6.0	1.13	2.0	0.62	8.5	1.68	1.8	0.61	2.7	0.43	0.7	0.17
Northern	6.8	4.46	2.3	0.52	6.7	4.49	2.2	0.48	2.0	1.33	1.5	0.22
N/Western	0.5	0.22	2.0	0.32	1.3	0.81	2.3	0.33	0.4	0.18	1.5	0.30
Southern	2.7	1.06	1.3	0.32	2.6	1.02	1.4	0.43	1.0	0.36	0.8	0.25
Western	0.6	0.60	4.3	0.64	0.6	0.60	4.0	0.70	0.1	0.10	2.0	0.18
Zambia	4.5	0.91	2.2	0.19	5.0	0.92	2.1	0.19	1.6	0.27	1.2	0.10

Table 5.5(b): Nature and Provision of Toilets (SACMEQ III)

	BOYS				GIRLS				STAFF			
	flush toilets		Squat Toilets		flush toilets		Squat Toilets		flush toilets		Squat Toilets	
	Mean	SE										
Central	4.6	3.48	5.1	3.21	2.6	1.69	3.5	1.03	0.0	0.00	1.4	0.40
Copperbelt	7.3	1.30	1.8	0.61	8.4	1.42	1.5	0.54	2.1	0.40	0.7	0.24
Eastern	0.5	0.45	3.8	0.67	0.6	0.60	3.8	0.82	0.3	0.30	1.6	0.27
Luapula	0.0	0.00	7.6	3.96	0.0	0.00	3.3	2.97	0.0	0.00	2.0	0.00
Lusaka	6.2	5.10	0.0	0.00	7.1	6.38	1.2	1.24	2.7	2.09	0.0	0.00
N/Western	0.7	0.50	2.7	0.43	0.7	0.50	2.9	0.48	0.3	0.29	1.4	0.20
Northern	0.0	0.00	4.0	1.01	0.0	0.00	3.9	0.89	0.0	0.00	1.2	0.43
Southern	1.0	0.97	3.1	0.41	1.2	1.19	3.8	0.53	0.5	0.45	1.5	0.22
Western	0.7	0.46	4.6	0.52	0.7	0.46	4.8	0.63	0.2	0.13	2.6	1.21
Zambia	2.9	0.52	3.1	0.34	3.2	0.54	3.0	0.27	0.9	0.17	1.3	0.14

Tables 5.5(a) and 5.5(b) refer to the nature and provision of toilets. The provision of adequate and good sanitation facilities is key to the enhancement of learner attendance in schools. The availability of such facilities should also cater for the staff and consider gender dynamics. It is

well known that lack of adequate sanitation facilities will affect the attendance of girls and is also a source of dropout for female pupils.

Schools that reported having flush toilets in SACMEQ II for boys and girls dropped from 4.5 and 5.0 respectively to 2.9 and 3.2 in the SACMEQ III. Although Copperbelt had the highest mean score of schools that reported to have flush toilets in the SACMEQ II (8.7 for boys and 9.2 for girls), this figure dropped to 7.3 and 8.4 in the SACMEQ III. Generally, none of the provinces showed an improvement in the provision of flush toilets for the learners. These facilities were mostly available in urban areas of Copperbelt and partly Central province. There was equally a reduction in the availability of flush toilets for staff with a mean of 1.6 in SACMEQ II to 0.9 in SACMEQ III.

In terms provision of squat toilets, the national mean provision for boys reduced from 5.0 in SACMEQ II to 3.1 in SACMEQ III while that of girls improved from 2.1 to 3.0 in the same period. The provision of squat toilets for staff only slightly improved from a mean of 1.2 in SACMEQ II to 1.3 in SACMEQ III. At the provincial level, the provision of squat toilets ranged from the highest mean of 4.8 for Eastern Province to the lowest mean of 1.1 on the Copperbelt in the SACMEQ II while Luapula recorded the highest mean of 7.6 for boys and Lusaka recorded the lowest in SACMEQ III, probably due to its urban status.

In case of girls, SACMEQ II indicated Western province to have recorded the highest mean (4.0) in the provision of squat toilets to learners and this increased to 4.8 in SACMEQ III. Predictably, both SACMEQ II and III indicated that urban provinces of Copperbelt (1.4) and Lusaka (1.2) recorded lowest mean provision of squat toilets. Western province recorded the highest mean provision of squat toilet to staff in both projects (2.0 in SACMEQ II and 2.6 in SACMEQ III) while the lowest mean was recorded in Lusaka and Copperbelt provinces.

Condition of school buildings

School heads were asked questions on the state of school buildings. The state of buildings ranged from: being 'in good condition', 'some minor repair', 'some major repair', and 'complete rebuilding' and the information is summarized in Tables 5.6(a) and 5.6(b) below.

Table 5.6(a): Condition of School Buildings (SACMEQ II)

	Complete rebuilding	Some major repair	Mostly minor repair	Some minor repair	Good condition	Total
	%	%	%	%	%	%
Central	42.1	31.6	0.0	26.3	0.0	100.0
Copperbelt	7.1	25.1	28.6	21.4	17.8	100.0
Eastern	0.0	46.9	6.6	33.2	13.3	100.0
Luapula	31.4	24.9	24.9	12.4	6.5	100.0
Lusaka	0.0	16.6	25.1	41.7	16.6	100.0
N/western	44.9	39.8	5.1	5.1	5.1	100.0
Northern	14.6	35.9	21.4	6.8	21.4	100.0
Southern	29.9	20.0	40.0	5.1	5.1	100.0
Western	7.9	61.4	22.9	0.0	7.9	100.0
Zambia	19.1	30.2	20.4	19.7	10.7	100.0

Table 5.6(b): Condition of School Buildings (SACMEQ III)

	Needs Rebuilding	Some major repair	Mostly minor repair	Some minor repair	Good condition	Total
	%	%	%	%	%	%
Central	32.3	21.6	19.9	13.2	12.9	100.0
Copperbelt	9.4	30.9	48.4	11.4	0.0	100.0
Eastern	28.1	61.4	4.2	6.2	0.0	100.0
Luapula	28.0	39.5	6.5	19.5	6.5	100.0
Lusaka	0.0	45.8	26.7	27.6	0.0	100.0
N/western	41.5	53.2	5.3	0.0	0.0	100.0
Northern	12.9	40.8	26.0	6.6	13.8	100.0
Southern	21.5	48.3	20.1	10.2	0.0	100.0
Western	0.0	71.2	6.5	17.6	4.7	100.0
Zambia	19.5	43.3	20.6	12.2	4.5	100.0

Tables 5.6(a) and 5.6(b) show the condition of school buildings for SACMEQ II and III respectively. The assessment of the general condition of school buildings by school heads indicated that 19.1 percent (SACMEQ II) and 19.5 percent (SACMEQ III) of schools required complete rebuilding. In most cases, these buildings were not safe for pupils. Copperbelt province had the least number of school buildings that needed complete rebuilding at 7.1 percent (SACMEQ II) and 9.4 percent (SACMEQ III).

Only 10.7 percent (SACMEQ II) and 4.5 percent (SACMEQ III) of school heads indicated that their school buildings were in good condition. In SACMEQ III, 43.3 percent of school buildings needed some major repairs. Western province had the highest number of schools (71.2%) that needed major repairs.

Policy Suggestion 5.4:

- Preventive maintenance in schools should be enhanced to improve the general condition of all school buildings in the country.
- The infrastructure development should embrace the provision of provision of water and sanitation facilities in all newly constructed schools.

5.5 Teaching load and views on school operations and problems

General Policy Concern 15:

What were the school principals' views on: (a) daily activities (teaching, school community relations and monitoring pupils progress); (b) organisational policies; (c) inspections; (d) community input; and (e) problems with pupils and staff (pupil lateness, teacher absenteeism and lost school days)?

School head teaching load

In SACMEQ II and III, school heads were asked how many periods a week they taught and the duration of each period. The results are recorded in Table 5.11. School heads indicated that on average they taught nineteen periods a week in SACMEQ II and sixteen periods in SACMEQ III. The number of periods that school heads taught per week ranged from 2.7 periods in Copperbelt province to 26.3 in Southern province in SACMEQ III. The number of periods taught by the school heads per week declined from SACMEQ II to III in all provinces, with the exception of the Southern province. School heads in the most urbanised provinces (Lusaka and Copperbelt) taught fewer periods than their counterparts in rural provinces.

Table 5.7(a) Number of School Periods Taught by School Heads (SACMEQ II and III)

	SACMEQ II		SACMEQ III	
	Mean	SE	Mean	SE
Central	23.6	4.45	15.3	3.96
Copperbelt	12.9	2.83	2.7	1.60
Eastern	26.2	3.87	18.9	3.72
Luapula	24.0	4.81	18.6	3.25
Lusaka	14.0	2.88	6.6	3.02
N/western	18.3	5.98	19.1	4.32
Northern	30.3	4.02	23.5	4.37
Southern	23.0	3.55	26.3	3.40
Western	22.6	4.42	15.8	2.89
Zambia	19.5	1.55	16.2	1.20

Table 5.7(b) Minutes Per Period (SACMEQ II and III)

	SACMEQ II		SACMEQ III	
	Mean	SE	Mean	SE
Central	37.2	1.09	28.9	4.62
Copperbelt	29.5	3.59	16.7	5.19
Eastern	38.6	1.03	32.1	3.81
Luapula	36.1	2.62	38.5	1.00
Lusaka	29.9	3.53	21.7	6.31
N/western	38.1	1.39	36.0	2.75
Northern	38.0	1.19	30.5	4.09
Southern	35.2	2.58	37.7	1.40
Western	36.6	1.66	35.0	3.11
Zambia	34.5	1.06	30.0	1.42

Table 5.12 shows the minutes per teaching period for SACMEQ II and III. In SACMEQ III the average period was 30 minutes, less than the average of 35 minutes in SACMEQ II. In SACMEQ III the number of minutes per period declined in all provinces, except for Luapula and Southern provinces. The average number of minutes varied from 17 minutes in Copperbelt to 39 minutes in Luapula. The average number of minutes per period was below the standard 40 minutes per period specified at both at provincial and national levels.

The important school activities

Table 5.8: Importance School Heads Attached to Activities (SACMEQ II and III)

School head tasks	Percentage rating as 'very important'			
	SACMEQ II		SACMEQ III	
	%	SE	%	SE
Contact with community	86.7	2.69	11.6	3.03
Monitoring learners progress	96.6	1.52	70.5	3.98
Administrative tasks	95.5	1.76	90.4	2.58
Discuss educational objectives with the teaching staff	89.9	2.36	81.3	3.41
Professional development (Teachers)	87.6	2.72	42.4	4.35
Professional development (School heads)	83.3	3.11	19.4	3.59

Table 5.8 shows the importance that school heads attached to activities such as community contacts, monitoring pupil progress and administrative tasks for SACMEQ II and III. Generally, the school heads' rating of the importance of all the activities dropped from SACMEQ II to III. The school heads' rating on contact with communities drastically dropped from 86.7 percent in SACMEQ II to 11.6 percent in SACMEQ III. The monitoring of pupils progress (an important aspect in the evaluation of effective teaching and learning) was not

rated as very important in SACMEQ III. The rating for monitoring pupils' progress dropped from 96.6 percent in SACMEQ II to a 70.5 percent in SACMEQ III.

School days lost

The school year in Zambia is 190 days, divided into three terms with an average of 63 days each term. When official school days are lost owing to participation in other non-learning activities, pupils are deprived of learning time, and the risk exists that they may not complete the syllabus.

Table 5.9: Number of School Days Lost Owing to Non School Events (SACMEQ II and III)

	SACMEQ II		SACMEQ III	
	Me.	SE		SE
Central	10.8	2.68	0.4	0.39
Copperbelt	10.8	1.95	3.0	1.21
Eastern	8.1	1.51	5.3	3.15
Luapula	9.9	1.32	0.0	0.00
Lusaka	6.3	1.48	0.6	0.62
N/Western	10.6	0.00	3.9	1.29
Northern	12.6	2.40	2.2	1.88
Southern	8.1	1.54	4.0	1.10
Western	4.8	2.28	7.3	2.07
Zambia	9.2	0.83	3.64	0.72

Table 5.9 above summarises the number of school days lost owing to non-school events for SACMEQ II and III. There was a significant decline from SACMEQ II to III for the number of lost school days. In SACMEQ II, an average of 9.16 days was lost compared to 3.64 in SACMEQ III. A decline was recorded in all the provinces, with the exception of Western province whose average increased from 4.77 in SACMEQ II to 7.34 in SACMEQ III. The number of school days lost in SACMEQ III varied from zero in Luapula to 7.34 in the Western.

School inspections

School heads, teachers and pupils all need to have their work monitored, supervised and supported by others from outside the school. The normal custom is that there are structures put in place for the supervision of schools, and these ensure that schools are visited at regular intervals. In Tables 5.10(a) and 5.10(b) the frequency of these visits, by region, has been presented.

Table 5.10(a): Frequency of School Inspections (SACMEQ II)

	Number of school inspections since 1998		Never been inspected by 1999	
	Mean	SE	Mean	SE
Central	4.7	0.95	12.8	7.75
Copperbelt	8.7	1.76	0.0	0.0
Eastern	4.7	0.91	25.2	12.91
Luapula	4.9	1.12	10.6	10.12
Lusaka	3.7	0.48	12.4	6.93
Northern	3.7	0.67	22.0	10.51
N/Western	7.1	2.05	10.5	8.54
Southern	6.4	1.14	23.2	10.51
Western	5.8	1.19	30.7	13.50
Zambia	5.5	0.46	14.8	2.94

Table 5.10(b): Frequency of School Inspections (SACMEQ III)

	Number of school inspections since 2006		Never been inspected by 2007	
	Mean	SE	Mean	SE
Central	2.8	1.43	19.5	18.18
Copperbelt	3.5	0.86	17.6	8.33
Eastern	6.8	3.59	5.5	5.52
Luapula	2.9	0.99	0.00	0.00
Lusaka	3.7	0.78	0.00	0.00
Northern	3.2	0.88	20.2	10.87
North/western	2.5	0.50	0.00	0.00
Southern	2.5	0.90	23.2	10.56
Western	3.8	1.09	0.00	0.00
Zambia	3.8	0.71	13.5	3.64

From Table 5.10(b) it can be seen that on average each school was visited or inspected about 4 times preceding 2007(that is about once every term). The frequency of visits since 2006 ranged from 2.5 visits per year in Southern and North Western to 6.8 in Eastern Province.

If the school visits are to achieve their planned purpose, specific objectives should be put in place.. The reasons for school visits include evaluating staff for promotion, providing advice to the school head or making routine inspections.

Policy Suggestion 5.5:

Ministry of Education's Inspectorate should develop norms and guidelines on the frequency and purpose of school visits in order to ensure that there is the correct balance of such visits, by purpose, across schools and provinces.

Community contribution to school

The provision of facilities, equipment and services in schools can improve considerably through contributions from parents and the local community. Community participation in the running and governance of schools is crucial to education delivery. Community participation creates a sense of ownership and accountability towards the school, and may lessen school crime and vandalism.

Table 5.11: Community Contribution to Schools (SACMEQ II and III)

	SACMEQ II		SACMEQ III	
	%	SE	%	SE
Building of school facilities	79.3	3.39	72.2	3.56
Maintenance of school facilities	82.5	3.06	72.6	3.97
Construction/maintenance/repair of furniture	62.2	4.07	47.9	4.31
Purchase of textbooks	33.1	5.06	12.9	3.02
Purchase of stationery	54.1	4.54	22.3	3.84
Purchase of other school supplies	59.3	4.35	32.3	4.15
Payment of exam fees	88.7	2.52	58.3	4.13
Payment of salaries of additional teachers	17.3	5.10	36.0	4.27
Payment of salaries for non-teachers	29	5.00	25.8	3.95
Assistance in Extra curricula activities	53.3	4.63	55.5	4.27
Assisting teachers in teaching/pupil supervision	22.6	5.06	23.3	3.80
Provision of school meals	10.38	2.60	12.6	2.82

Community contributions to schools for SACMEQ II and III have been presented in Table 5.11 above. The most common forms of community support in SACMEQ III, as expressed by school heads, was towards the building of school facilities (72.2%); the maintenance of school facilities (72.6%); the payment of exam fees (58.3%) and assistance in extra curricula activities (55.5%). Other contributions were the construction, maintenance and repair of school furniture (47.9%); the payment of salaries of additional teachers (36.0%), and the purchase of school supplies (32.3%).

There was a general decline in almost all community contributions from SACMEQ II to III, possibly owing to the Free Primary Education policy introduced in 2002. Furthermore, Grade 7 examination fees and all other related school payments were abolished.

There was a slight increase from 9.7 percent (SACMEQ II) to thirteen percent (SACMEQ III) in the community contribution for the provision of school meals owing to the introduction of the school feeding programme. In schools where there is a school feeding programme, mothers from the communities prepared the food for pupils. In some cases communities contributed the food for the programme to the schools.

Pupils' behavioral problems

Table 5.12: Pupil Behavioral Problems (SACMEQ II and III)

Pupil behavioral problems	SACMEQ II		SACMEQ III	
	%	SE	%	SE
Arriving late at school	98.6	0.97	100	0.00
Absenteeism	98.0	1.11	99.1	0.90
Skipping classes	75.0	3.68	71.1	3.83
Pupils dropping out	96.0	1.60	95.1	1.86
Classroom disturbances	72.1	3.87	80.4	3.52
Cheating by pupils	91.2	2.31	88.8	2.80
Use of abusive language	88.8	2.61	91.8	2.27
Vandalism by pupils	75.9	3.65	78.5	3.75
Theft by pupils	76.0	3.73	84.9	3.10
Intimidation or bullying of pupils	81.3	3.15	86.5	3.06
Intimidation/verbal abuse of teachers by pupils	39.3	4.96	50.5	4.51
Drug abuse	43.2	4.92	48.8	4.46
Alcohol abuse	46.1	4.73	62.4	4.34
Fights among pupils	91.3	2.18	93.5	2.20
Health problems	96.9	1.39	97.4	1.17

Table 5.12 presents pupils' behavioral problems for SACMEQ II and III. Notable increases in pupil behavioral problems from SACMEQ II to III were recorded. The late arrival of pupils increased from 98.6 percent to 100 percent; pupil absenteeism from 98.6 percent to 99.1. Virtually all pupil behavioral problems increased with the exception of skipping classes, pupils dropping out and cheating by pupils, where small declines were recorded. Pupil behavioral problems increased in the period between SACMEQ II and III in all the categories, except for classroom disturbances, fights and drug abuse, where there was a slight decline. High levels of pupil behavioral problems can seriously affect the learning environment.

Policy Suggestion 5.6:

The Ministry, together with provincial education authorities, must investigate the reasons for high levels of pupil behavioral problems, especially late arrivals and absenteeism.

Teachers' behavioral problems

The behavioral problems of teachers are a key concern for school heads and parents. Teachers are expected to carry out their duties and responsibilities professionally. Over and above this, they are expected to display role modeling behavior to pupils and fellow teachers. School heads were asked about behavioral problems associated with teachers. Schools where school heads perceived few or no behavioral problems provide a good learning environment.

Table 5.13: Teacher behavioral problems (SACMEQ II and III)

Teacher behavioral problems	SACMEQ II		SACMEQ III	
	%	SE	%	SE
Arriving late at school	95.7	1.65	92.5	2.37
Absenteeism	62.0	4.37	64.3	4.19
Skipping classes	43.9	4.93	44.2	4.42
Intimidation or bullying of pupils	37.3	4.39	38.3	4.33
Sexual harassment of teachers	6.0	1.97	12.6	3.04
Sexual harassment of pupils	11.2	2.55	20.1	3.56
Use of abusive language	45.1	4.62	51.3	3.56
Drug abuse	13.3	2.77	16.3	3.29
Alcohol abuse	38.4	4.41	45.2	4.53
Health problems	94.2	1.81	90.9	2.51

Table 5.13 shows teachers' behavioral problems for SACMEQ II and III. Almost all the teacher behavioral problems increased with the exception for late arrivals and teacher health problems which recorded slight declines. The percentage of health problems remained high at 90.9 percent for SACMEQ III. The slight decline in health problems from 94.2 percent can be attributed to the Ministry's HIV/AIDS intervention policies which provided support and care to teachers infected with HIV. The most prevalent teacher behavioral problems were: arriving late (92.5%) health problems (90.9%), absenteeism (64.3%), use of abusive language (51.3%), skipping class (44.2%) and intimidation or bullying of pupils (38.3%).

Policy Suggestion 5.7:

The Directorate of Human Resources should examine the impact of teacher behavioral problems (especially lateness and absenteeism) on the loss of contact hours, and should address these problems.

5.6 Conclusion

This chapter showed that Grade 6 pupils in Zambia are in schools with school heads whose average age was about 50 years, with only 31 percent of them being female. Slightly above two thirds of them had senior secondary school education and more than half of them underwent management training. The average number of years of experience of head teachers was 6 years. It is important to ensure that school heads are provided with professional, administrative and management skills in order to keep up with the modern world, and in this regard the Ministry needs to put in place benchmarks for school heads' specialized in-service training. On average, a school head taught 16 periods.

Many schools did not have adequate infrastructure such as libraries, staff rooms and store rooms. On the whole, less than 20 percent of schools were provided with libraries and less than 30 percent had staff rooms. Less than half of the schools had store rooms. The majority of schools that do not have these facilities need the urgent attention of the Ministry. In particular, the Ministry should ensure that schools have staff rooms because this is a place where teachers can meet, discuss and share ideas in a relaxed and comfortable atmosphere. More worrying, however, is the fact that only 18 percent of the schools had a school library. The Ministry of Education should ensure that all schools have libraries (especially classroom libraries) in order to improve pupil performance in general.

The general observation was that most of the schools had poor infrastructure. Only 4.5 percent of schools had buildings which were in good condition while 20 percent of the schools required rebuilding with 43 percent requiring major repairs. Conditions of the school buildings have an effect on the quality of teaching and learning and hence the Ministry should ensure that those schools with poor school buildings are improved.

Although 73 percent of the schools had water, it is important to provide all schools with a source of safe and clean water. Only about 39 percent of schools were connected to electricity and only 14 percent of the primary schools had computers. In this era of modern technology, it is also important to have all primary schools electrified so that they can benefit from Ministry of Education radio programmes and television programmes that are intended to keep teachers and pupils up to date with general life and health issues.

Parents made a variety of contributions to schools, top among them being maintenance and building of school facilities. Other forms of support included payment of exam fees and assistance with extra curricula activities. Despite these contributions, over 60 percent of pupils were in school buildings that needed major or minor repairs or rebuilding.

Almost all the pupil behavioural problems require attention. Over 90 percent of school heads reported that pupils arrived. Pupil absenteeism, health problems, pupils dropping out of school, and fights among pupils were also concerns. The less serious but frequent behavioural problems requiring attention were drug abuse and intimidation/verbal abuse of teachers by pupils. The most common teacher behavioural problems were: arriving late at school, health problems, absenteeism and use of abusive language. Sexual harassment of teachers and drug

abuse were less frequently reported, but may require attention in view of their seriousness. There might be need for a study that establishes the nature, seriousness and patterns of these behavioural problems.

Chapter 6

Equity in the Allocation of Human and Material Resources among Regions

6.1 Introduction

Every education system strives to ensure not only that all children in the country, have access to school and remain in school, but also that they have the opportunity to realize meaningful learning outcomes. In order to have effective teaching and learning, pupils require key resources such as school heads and teachers who are adequately educated, well-trained and with good experience, teaching and learning materials and equipment in the form of textbooks, exercise books, library books, charts and other audio-visual aids; and infrastructure and services such as classrooms, libraries, toilets, playgrounds, water and electricity. For this reason, education systems regularly develop and implement policies that facilitate the equitable distribution of resources across the provinces. Equitable allocation of resources contributes to redressing the differences in achievement among provinces and among schools within provinces.

The Zambian education system has witnessed unprecedented growth in the enrolment levels after the declaration of free basic education in 2002. Enrolment levels have been increasing exponentially at all levels in the last ten years (since 2000), at an average per annum of 6.9 percent for grades 1 to 7 and 9.5 percent for grades 1 to 9. A number of policy pronouncements (i.e., re-entry policy, formalization of community schools, etc) have also been introduced to ensure that education is accessible to all children. This has positively affected the country's attainment of Education for All (EFA) and Millennium Development Goals (MDGs) on universal access to basic education.

Besides putting in place measures to increase access, MoE also made commitments to ensure that there is equity in the provision of education (MoESP 2003 to 2007). The provision of quality equitable education calls for robust systems and policies on the provision of adequate human and material resources in schools. The rise in enrolments requires huge investments in both human and material resources. In this regard the Ministry of Education responded positively to the exponential enrolments by embarking on a more consistent teacher

recruitment in 2006 with 4,578 teachers, then 10,300 teachers in 2007, 6,400 in 2008 and 5,000 in 2009 (MOE 2009). This was also backed by a liberalized and decentralized policy on textbook procurement. Prior to 2004, the Ministry was not given authority to replace or recruit teachers due to the freeze that had been implemented and this included both replacements and net recruitments.

An analysis of the how equitably human and material resources have been supplied in the basic education sub sector based on the 2000 and 2007 SACMEQ survey findings is outlined in this chapter. It should be borne in mind that quality education entails that schools are well resourced with adequate and trained teachers, relevant teaching and learning materials and adequate classroom space and that equitable distribution of resources helps to address the imbalances in performance among individual learners, schools and provinces.

6.2 Essential classroom resources

General Policy Concern 16:

Have teaching and learning material resources been allocated in an equitable fashion among provinces?

Table 6.1 summarizes how equitably teaching and learning resources have been allocated. In terms of teaching and learning resources six essential variables were analysed: teacher guides in reading, teacher guides in mathematics, dictionary, exercise book, pen/pencil & ruler, a pupil owning a reading textbook and, a pupil owning a mathematics textbook. The teaching materials such as English and Mathematics guides for teachers were not adequate for teaching processes.

During SACMEQ III in 2007, the average national level of reading and mathematics guides were 69.9 percent and 68.5 respectively. This was clearly a decline compared to 2000 where 76.8 percent and 83.7 percent of the teachers had access to the reading and mathematics guides respectively. The variations across provinces showed minimum differences during both surveys, but noted improvements were observed in the supply of reading teachers guide in Eastern (53% to 54.4%), Lusaka (59.4% to 62.8%) and Northern (63.9% to 70.3) provinces.

Pupil access to resources such as exercise books, English reading and math textbooks was very limited. Only 14 percent of pupils had access to an reading text books at national level and less than 50 percent had a complete set of exercise book, pen/pencil and ruler. In 2007 a decline in teacher-related resources and an increase in pupil related resources were observed. Between the two survey periods (2000 and 2007) the availability of reading textbooks rose from 14.2 percent to 23.1 percent and for exercise book, pen/pencil and ruler, from 48.3 percent to 59 percent respectively.

The other critical teaching and learning resources are equipment and facilities. The SACMEQ study isolated another six essential variables and these were writing board, pupil sitting and writing place, teacher table and chair, library (class/school), radio and water. Results from 2007 showed that these resources were moderately sufficient. At a national level, the following percentages of accessibility were recorded: writing board (75.4%), pupil sitting and writing place (78.5%), teacher table and chair (45.8%), library (56.6%); radio (64%); and water (73.4).

When compared to the situation in 2000, it was observed that the supply of almost all the materials except for the radio had declined. The increase in the supply of radios was due to the Interactive Radio Programme, which was initiated by the Distance and Open Learning Directorate in 2000. This program was designed to encourage the delivery of educational information, particularly in community schools. Despite the decline at the national level, improvements were observed among some provinces. For example, access to a writing chalk board for Western province improved from 84.5 percent to 95.1 percent, pupil sitting and writing facilities for Central province improved from 72.1 percent to 78.7 percent and teacher's chair and table supply improved in Central, Eastern, Luapula and Lusaka provinces.

Generally, SACMEQ results showed fluctuations between 2000 and 2007 in the distribution of essential teaching and learning resources among regions and within regions; an indication that supply of resources is not matching up with the rising enrolments. The distribution of essential teaching and learning resources was moderately equitable though not adequate in 2007. The observed decline of accessibility to resources should be a concern to the Ministry if quality equitable education is to be attained. Ideally if all the policies and practices put in place to supply resources to schools equitably were working, access to resources should increase steadily.

Policy Suggestion 6.1:

It is important that adequate essential teaching and learning resources (teachers' guides, textbooks, exercise books and pens and pencils, writing boards and teacher furniture) are distributed to schools, districts and provinces in an equitable way. The Directorate of Planning should use the Education Management Information Systems (EMIS) when planning for the allocation and distributing of resources equitably and build capacity for sound implementation.

6.3 Desirable physical resources

General Policy Concern 17:

Have material resources (for example, classroom teaching materials and school facilities) been allocated in an equitable fashion among regions and schools within regions?

Specific Research Questions

Were (a) general school infrastructure, (b) classroom equipment, and (c) classroom teaching materials distributed equitably across regions?

Table 6.2 presents results for SACMEQ II and III. The overall distribution of school resources, equipment and facilities among the provinces was not equitable in either SACMEQ II or SACMEQ III and the data reveals a reduction in the availability of certain equipment and facilities between SACMEQ II and III. Schools in urban provinces such as Copperbelt and Lusaka were better resourced than schools from the rest of the provinces.

With regard to the condition of buildings in schools, there was a decline in the percentage of schools in the provinces whose conditions were good. This implies that school buildings were in a better condition (49.2%) in SACMEQ II in comparison to (37.2%) in SACMEQ III. There were very significant variations among provinces. Only 5.2 percent of the schools in Western province had buildings in good condition compared to 59.8 percent in Copperbelt. The distribution of school head teacher's office and ground sports playing fields were, however, better distributed among the provinces. It is disappointing that only 4 percent of schools did not have a meeting hall, a decline from 12.5 percent in SACMEQ II.

The poor and inequitable distribution of equipment and materials in schools can have an adverse effect on the learning achievements in education system. The majority of schools in the country were poorly resourced with equipment and facilities. Provision of electricity was

below 40 percent for the schools. Only 8 percent of schools had television sets and 14 percent had computers. Despite the low percentages, the availability of equipment and facilities were not equitably distributed among schools in the provinces with non availability of certain equipment in some provinces. For instance schools in 4 provinces (Central, Lusaka, Northern, Southern and Western) did not have a meeting hall.

6.4 Desirable human resources

General Policy Concern 18:

Have human resources (for example, qualified teachers and experienced teachers and school heads) been allocated in an equitable fashion among regions and among schools within the regions?

Specific Research Questions

Were qualified and experienced Grade 6 teachers and school heads distributed equitably among regions and among schools within regions?

Table 6.3 presents data on the desirable human resources for SACMEQ II and III. With regard to the school heads, though there was an improvement in the percentage of female school head teachers from 19.3 percent in SACMEQ II to 31.5 percent, the distribution of female head teachers was not equitable. Provinces such as Copperbelt (47.7%) and Lusaka (44%) had a fairly good distribution of female head teachers in schools whereas Central province had the least equitable distribution with 13.4 percent. The percentage of school head teachers with at least a senior secondary academic qualification recorded an increase from 82.7 percent in SACMEQ II to 93.6 percent. Nearly all provinces recorded an improvement except for Central and North Western provinces.

The distribution of head teachers with at least senior secondary qualifications was equitably distributed among provinces ranging from 90.8 percent in Lusaka to 100 percent in Eastern province. However, the distribution of school head teachers who attended the school head management course and the school head HIV/AIDS course was not as even with as low as 33.2 percent in Northern province to 80.3 percent in Central province and 38.7 percent in North Western to 100 percent in Copperbelt respectively.

Just over half of Grade 6 reading teachers were female (52.9 percent) , which was the same as in SACMEQ II. There were however, significant uneven distribution of female reading teachers across the provinces with the lowest being 33 percent in Northern to as high as 88.7 percent in Lusaka. The percentage of teachers that attended in-service training and specialised training in HIV/AIDS courses varied greatly from province to province. Whereas 12.4 percent of teachers in Luapula had participated in these courses, compared to 63 percent in Eastern province and 28.8 percent in Lusaka compared to over 75 percent in Central Province respectively. There was however a fair distribution of teachers with pre-service training with lowest being 83.9 percent in Northern Province and the highest (100%) in Southern Province.

It is worrying to note that there was a significant decline in percentage of teacher subject knowledge in both reading and mathematics from 62.8 percent and 32 percent to 51.7 and 24.3 percent respectively. Large declines occurred between the two surveys in almost all the provinces except for Luapula and Southern provinces. The distribution of teacher subject knowledge in reading was better distributed in comparison to the teacher subject knowledge in mathematics. The provincial variation for teachers' subject knowledge in reading ranged from 33.9 percent in Copperbelt to 78.1 percent in Southern province whereas for mathematics it varied from as low as 2.7 percent in Lusaka to 39.4 percent in Eastern province. Significant declines were observed across the provinces from SACMEQ II. It was surprisingly to note that Lusaka province recorded the lowest percentage (2.7%) of teachers with subject knowledge in mathematics.

The percentage of schools with an acceptable class size recorded a significant decline from 62.8 percent in SACMEQ II to 37.7 percent of schools in SACMEQ III. This development is a result of the declaration of free primary education in 2002 which has resulted in increased pupil enrolments. Increases in participation have not been matched by increases classroom space. All provinces recorded a decline in the percentage of schools with acceptable class sizes, ranging from 23.3 percent in Lusaka to 72.5 percent in Western province. It should however, be noted that Western province recorded the smallest decline from 74.3 to 72.5 percent compared to Eastern province from 100 percent to 29.1 percent.

Teacher class attendance remained almost the same at 91 percent between the two surveys. There was no major variation across the provinces with regard to teacher class attendance. Teacher class attendance ranged from 85 percent in Eastern to 100 percent in Lusaka province.

6.5 Conclusion

There was a general decline in the availability of school resources and also an inequitable distribution of resources among provinces between SACMEQ II and SACMEQ III. The majority of schools in the country were poorly resourced in terms of equipment and facilities. Provision of facilities and equipment such as electricity, computers and textbooks was inadequate both at national and provincial levels.

The conditions of school buildings had deteriorated and were coupled with inadequate provision of school furniture such as teacher tables and chairs. Only about a quarter of the schools had a meeting room and 46 percent of schools operated without a class library.

The proportion of female school head teachers increased between the two surveys as did the percentage of school head teachers with senior secondary or more qualifications. However, the proportion of school head teachers with school management training declined significantly. Similarly, the level of teacher subject knowledge in both reading and mathematics declined between the two surveys, implying that teachers had a weaker grasp of the content that they were expected to be teaching.

Table 6.1: Percentages for Essential Classroom Resources for Zambia (SACMEQ II and SACMEQ III)

2000	TEACHING & LEARNING MATERIALS												EQUIPMENT & FACILITIES											
	Teacher Guide (Reading)		Teacher Guide (Math)		Dictionary		Exercise Book & Pen/Pencil & Ruler		Own Reading Textbooks		Own Math Textbooks		Writing Board		Pupil Sitting & Writing Place		Teacher Table & Chair		Library (Class/School)		Radio		Water	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Central	89.2	6.91	99.2	0.75	68.7	10.35	50.4	7.34	9.2	3.74	6.2	2.71	99.2	0.75	72.1	8.45	35.7	11.55	69.3	11.72	4.5	4.51	68.2	11.55
Copperbelt	80.8	6.90	81.7	5.51	59.1	8.54	56.5	5.17	9.1	2.73	6.1	2.07	86.6	5.86	93.3	1.80	63.7	9.01	53.6	9.38	12.0	6.60	93.3	5.03
Eastern	53.0	14.20	53.6	14.20	28.7	11.43	47.0	6.10	18.1	4.45	14.3	4.22	60.4	14.42	94.2	1.85	21.0	9.55	43.8	14.16	8.9	8.75	79.9	10.40
Luapula	100.0	0.00	100.0	0.00	67.1	10.71	44.7	6.16	23.1	10.75	11.5	7.23	100.0	0.00	85.9	4.56	22.0	10.62	67.9	13.23	8.8	8.63	45.8	13.98
Lusaka	59.4	8.04	65.2	8.05	52.4	8.78	38.4	5.51	14.6	2.39	15.8	4.00	81.5	7.16	83.2	3.32	59.9	8.95	55.6	10.30	8.7	6.02	85.4	7.91
Northern	63.9	14.67	83.3	8.52	60.6	15.47	52.2	10.61	17.9	5.30	22.5	8.55	90.3	6.29	79.9	5.17	43.7	19.95	69.1	13.46	31.8	22.88	69.6	13.07
North Western	95.0	5.10	92.5	7.45	67.3	12.49	48.6	7.22	23.6	8.29	24.7	8.83	100.0	0.00	97.5	1.07	58.8	12.76	69.3	12.29	18.6	12.23	63.1	14.22
Southern	87.4	7.61	99.2	0.77	77.4	7.92	46.7	4.04	8.5	3.47	5.8	2.78	92.9	6.96	93.2	1.70	47.3	11.04	50.4	11.16	9.8	6.93	94.4	4.17
Western	100.0	0.00	100.0	0.00	76.6	11.16	39.6	6.22	24.1	6.13	19.0	6.31	84.5	11.21	88.9	4.25	55.7	14.25	81.7	11.64	17.8	12.15	77.2	12.25
ZAMBIA	76.8	3.27	83.7	2.56	61.1	3.99	48.3	2.65	14.2	1.50	12.7	1.65	87.9	2.57	86.8	1.62	47.7	4.61	59.7	4.42	13.7	5.17	79.5	3.19

2007	TEACHING & LEARNING MATERIALS												EQUIPMENT & FACILITIES											
	Teacher Guide (Reading)		Teacher Guide (Math)		Dictionary		Exercise Book & Pen/Pencil & Ruler		Own Reading Textbooks		Own Math Textbooks		Writing Board		Pupil Sitting & Writing Place		Teacher Table & Chair		Library (Class/School)		Radio		Water	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Central	65.8	11.31	70.0	11.68	69.7	11.66	56.4	4.89	26.4	6.93	10.5	3.55	80.0	9.28	78.7	10.06	47.1	12.19	61.3	12.70	65.6	12.86	87.0	8.88
Copperbelt	77.7	7.40	75.3	7.59	75.7	8.82	45.3	5.08	20.5	2.54	12.3	2.14	79.8	6.66	91.6	3.60	47.7	9.65	33.2	11.65	91.0	6.43	85.3	8.38
Eastern	54.4	12.53	52.5	12.82	57.8	12.76	68.5	4.20	28.9	7.36	10.5	3.88	57.8	12.76	91.4	2.31	21.1	10.46	64.8	13.00	65.2	12.36	73.1	12.07
Luapula	65.6	11.28	68.6	10.53	63.6	11.02	49.2	5.08	22.1	5.94	12.8	5.81	72.1	10.46	70.6	10.90	40.1	11.99	75.0	10.54	46.0	13.33	65.6	12.84
Lusaka	62.8	11.43	67.8	11.38	75.1	10.65	80.3	2.77	18.7	4.94	13.2	2.95	80.1	10.69	83.1	7.76	64.6	12.25	57.1	15.02	81.7	12.27	81.7	12.27
Northern	70.3	9.87	66.5	10.18	80.2	9.17	73.2	4.78	29.2	6.96	12.1	4.34	74.9	10.01	65.9	9.45	30.9	10.21	53.0	12.99	61.0	12.77	67.6	12.27
North Western	74.2	10.76	75.9	10.48	67.7	11.69	63.7	5.08	18.3	4.17	12.9	2.60	68.7	11.47	81.5	5.60	54.8	12.16	52.8	12.84	51.3	13.24	48.8	13.27
Southern	78.8	9.67	67.8	10.82	73.2	9.53	42.6	3.34	22.7	6.48	10.6	2.90	71.7	10.41	59.0	10.94	42.7	10.99	55.3	12.04	44.0	12.13	62.4	11.53
Western	76.9	10.86	72.7	11.30	90.9	5.31	73.4	5.01	14.7	5.47	4.6	2.19	95.1	4.88	86.9	3.49	88.7	8.09	69.8	12.06	60.0	13.44	78.0	10.52
ZAMBIA	69.9	3.55	68.5	3.65	72.6	3.57	59.5	1.63	23.1	2.00	11.4	1.20	75.4	3.36	78.5	2.83	45.8	3.80	56.5	4.32	64.0	4.08	73.4	3.80

Table 6.2: Percentages for Desirable Physical Resources for Zambia (SACMEQ II and SACMEQ III)

2000	BUILDINGS								EQUIPMENT & FACILITIES															
	Building Conditions		School Head Office		Staff Room		Meeting Hall		Class Cupboard		Class Bookshelf		Sports/Play Ground		School Fence		Electricity		Television		Photocopier		Computer	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Central	26.4	10.75	74.9	10.30	28.7	11.20	0.0	0.00	26.4	10.12	18.8	10.19	81.1	10.01	22.1	10.12	25.4	10.36	0.0	0.00	0.0	0.00	0.0	0.00
Copperbelt	66.0	9.44	87.3	5.86	49.8	9.94	30.1	9.15	11.1	5.23	17.9	7.67	77.3	8.00	73.3	8.46	71.3	8.81	4.4	4.36	4.4	4.36	7.7	5.35
Eastern	57.5	13.89	77.0	12.52	38.3	13.65	3.9	4.01	11.0	7.34	5.2	5.02	100.0	0.00	0.0	0.00	8.6	8.48	0.0	0.00	0.0	0.00	0.0	0.00
Luapula	43.4	13.96	88.5	8.07	2.8	2.92	3.6	3.76	35.9	14.13	0.0	0.00	91.2	8.63	0.0	0.00	6.7	6.72	0.0	0.00	12.0	11.32	0.0	0.00
Lusaka	82.6	8.20	71.8	9.35	69.9	9.78	17.4	8.11	8.4	5.78	3.6	2.76	95.6	4.36	80.7	8.07	74.2	9.36	0.0	0.00	0.0	0.00	0.0	0.00
Northern	12.5	8.02	66.9	13.93	38.8	21.15	0.0	0.00	7.1	6.05	10.1	7.00	100.0	0.00	37.3	21.58	34.6	22.17	0.0	0.00	0.0	0.00	0.0	0.00
North Western	59.8	13.90	78.0	12.14	29.8	13.17	7.9	7.86	36.4	13.46	14.8	10.20	100.0	0.00	16.7	11.11	23.1	12.23	7.9	7.86	7.9	7.86	7.9	7.86
Southern	49.5	11.87	72.3	10.92	27.2	10.13	21.2	9.73	2.8	1.95	12.9	6.70	90.7	6.69	19.8	9.49	41.2	11.71	11.0	7.81	3.9	3.99	3.9	3.99
Western	28.4	13.51	82.4	10.57	15.2	10.41	0.0	0.00	35.9	13.05	13.5	9.03	95.5	4.66	7.1	5.43	10.2	9.96	0.0	0.00	0.0	0.00	0.0	0.00
ZAMBIA	49.2	4.37	76.5	3.62	39.6	4.89	12.5	2.73	14.1	2.53	11.1	2.55	90.8	2.34	39.7	4.55	42.7	4.66	2.7	1.44	2.5	1.29	2.3	1.22

2007	BUILDINGS								EQUIPMENT & FACILITIES															
	Building Conditions		School Head Office		Staff Room		Meeting Hall		Class Cupboard		Class Bookshelf		Sports/Play Ground		School Fence		Electricity		Television		Photocopier		Computer	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Central	46.0	13.34	80.5	10.48	19.8	10.64	0.0	0.00	12.2	8.36	14.7	8.49	74.1	11.62	19.7	10.57	48.0	13.41	6.5	6.50	0.0	0.00	32.5	12.46
Copperbelt	59.8	13.17	66.3	12.67	60.4	12.75	5.4	5.41	1.7	1.18	3.2	2.04	88.4	8.19	64.7	12.58	79.2	10.03	13.0	8.89	11.7	8.10	26.2	11.89
Eastern	10.2	7.32	80.8	10.72	17.7	9.76	12.5	8.69	12.7	8.69	17.2	9.77	93.7	6.31	7.6	7.47	13.8	9.38	10.4	7.42	6.3	6.27	6.3	6.27
Luapula	32.6	12.48	59.1	13.23	13.4	9.11	6.5	6.54	29.8	11.01	20.3	8.44	93.5	6.54	13.1	8.93	33.0	12.54	0.0	0.00	0.0	0.00	0.0	0.00
Lusaka	54.2	15.77	90.8	9.16	63.4	15.27	0.0	0.00	18.9	8.83	22.7	9.50	63.4	15.27	54.2	15.77	81.7	12.27	35.9	15.13	18.3	12.27	26.7	13.91
Northern	46.5	13.05	77.5	10.66	22.8	10.75	0.0	0.00	13.2	7.40	0.0	0.00	100.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00
North Western	5.2	5.29	56.8	13.13	10.0	7.41	15.0	10.05	24.6	9.88	21.7	10.01	76.5	11.17	9.4	6.94	39.4	13.09	0.0	0.00	0.0	0.00	6.8	6.76
Southern	30.2	10.91	79.6	9.82	10.4	7.65	0.0	0.00	15.6	8.47	16.1	8.85	93.7	6.23	17.3	9.68	19.0	10.05	0.0	0.00	0.0	0.00	7.2	7.08
Western	28.7	11.67	81.2	10.41	13.3	9.05	0.0	0.00	54.9	11.56	53.0	12.53	95.2	4.89	11.1	7.79	35.8	12.59	16.7	9.31	5.5	5.53	10.3	7.24
ZAMBIA	37.2	4.20	75.0	3.88	27.0	3.77	4.0	1.64	16.5	2.68	15.1	2.52	87.2	2.91	23.5	3.47	38.8	3.74	8.4	2.37	4.5	1.85	13.8	3.14

Table 6.3: Percentages for Desirable Human Resources for Zambia (SACMEQ II and SACMEQ III)

2000	SCHOOL HEADS								TEACHERS								ENVIRONMENT							
	Female School Heads		Sch. Head Educ. Senior Sec. or more		Sch. Head. Management Course		Sch. Head HIV/AIDS Course		Female Reading Teachers		In-service Trg. (Last 3yrs – Rd.Tch)		Pre-service Training (>2yrs – Rd Tch)		Spec. Training HIV/AIDS Course		Teacher Subject Knowledge (Read.)		Teacher Subject Knowledge (Math)		Acceptable Class Size (≤ 40)		Teacher Class Attendance	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Central	24.9	10.35	94.3	5.66	56.5	12.21	xx	xx	45.4	11.44	44.5	11.25	94.0	4.10	xx	xx	77.1	9.35	22.6	9.50	81.8	8.88	89.2	6.61
Copperbelt	47.3	9.97	80.9	7.60	100.0	0.00	xx	xx	75.5	6.54	38.4	7.65	94.8	2.37	xx	xx	61.7	7.76	26.5	7.63	61.2	7.86	96.2	3.79
Eastern	3.9	4.00	84.1	9.21	58.4	13.98	xx	xx	31.0	10.96	51.1	13.53	97.0	3.13	xx	xx	51.6	12.51	33.4	12.82	100.0	0.00	94.5	5.62
Luapula	0.0	0.00	81.0	11.86	87.1	8.93	xx	xx	23.8	9.01	40.3	11.38	97.2	2.92	xx	xx	55.8	11.86	27.6	12.72	88.0	11.32	97.4	2.73
Lusaka	24.3	8.99	77.6	9.04	93.5	4.57	xx	xx	73.8	7.59	48.4	8.88	100.0	0.00	xx	xx	70.3	7.41	15.4	5.34	30.1	8.97	100.0	0.00
Northern	3.9	4.08	77.1	11.10	86.8	7.89	xx	xx	50.5	18.21	69.2	13.43	90.9	7.13	xx	xx	54.4	19.39	61.3	15.41	52.7	19.07	68.2	22.88
North Western	8.8	8.65	100.0	0.00	90.9	9.03	xx	xx	21.8	9.78	46.2	12.91	80.9	11.35	xx	xx	55.6	13.43	22.2	10.78	84.4	10.50	89.2	10.37
Southern	5.1	5.13	86.8	7.52	78.4	9.83	xx	xx	44.7	10.21	62.5	9.46	98.0	1.93	xx	xx	56.1	10.86	30.0	9.86	56.1	11.69	94.1	5.83
Western	35.3	14.92	71.1	14.38	62.7	15.18	xx	xx	39.7	13.73	38.2	13.87	100.0	0.00	xx	xx	93.7	4.87	47.5	14.52	74.3	10.24	91.7	8.26
ZAMBIA	19.3	3.18	82.7	3.19	82.7	2.98	xx	xx	52.9	4.16	50.7	4.31	95.3	1.45	xx	xx	62.8	4.69	32.0	4.77	62.8	4.67	90.6	5.08

2007	SCHOOL HEADS								TEACHERS								ENVIRONMENT							
	Female School Heads		Sch. Head Educ. Senior Sec. or more		Sch. Head. Management Course		Sch. Head HIV/AIDS Course		Female Reading Teachers		In-service Trg. (Last 3yrs – Rd.Tch)		Pre-service Training (>2yrs – Rd Tch)		Spec. Training HIV/AIDS Course		Teacher Subject Knowledge (Read.)		Teacher Subject Knowledge (Math)		Acceptable Class Size (≤ 40)		Teacher Class Attendance	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Central	13.4	9.10	93.5	6.50	80.3	10.57	67.4	12.47	40.9	12.14	33.5	11.51	91.5	6.41	75.5	23.13	61.5	10.30	39.2	12.16	28.9	11.31	100.0	0.00
Copperbelt	47.7	13.26	95.5	4.55	77.0	10.88	100.0	0.00	67.6	9.07	39.9	9.55	93.4	3.87	62.1	11.54	33.9	7.72	9.5	5.61	34.3	9.13	86.7	9.07
Eastern	44.0	13.33	100.0	0.00	51.7	13.43	43.1	13.26	58.0	11.53	63.0	11.99	95.2	3.30	36.7	12.75	48.9	12.66	39.4	12.12	29.1	11.23	85.0	10.02
Luapula	21.4	11.29	85.2	9.99	34.7	12.89	73.9	11.67	44.1	11.22	12.4	8.26	88.1	7.25	45.2	49.54	55.9	12.47	22.1	10.65	49.7	12.98	93.5	6.54
Lusaka	35.9	15.13	90.8	9.16	63.4	15.27	72.5	14.15	88.7	6.83	43.3	9.77	95.5	3.09	28.8	30.91	60.0	11.01	2.7	1.85	23.3	9.06	100.0	0.00
Northern	39.2	12.80	93.5	6.52	33.2	12.42	57.9	12.85	33.0	10.36	35.3	11.06	83.9	8.00	46.4	25.99	44.7	10.65	29.4	10.05	43.1	11.43	80.4	10.46
North Western	15.9	10.59	94.3	5.71	50.7	13.25	38.7	12.72	59.0	12.33	50.5	12.60	96.9	3.08	36.5	13.13	40.0	12.24	26.5	10.99	40.0	12.81	85.9	9.62
Southern	31.7	11.45	93.7	6.23	62.2	11.80	84.7	8.46	38.5	10.78	48.6	11.39	100.0	0.00	68.3	12.00	78.1	9.39	35.4	10.93	39.4	10.86	91.5	6.25
Western	19.2	10.41	94.2	5.87	41.5	13.10	57.3	13.56	44.2	11.45	59.8	11.70	85.8	10.97	88.1	8.46	36.2	11.19	12.2	6.91	72.5	12.61	92.6	7.32
ZAMBIA	31.5	4.22	93.6	2.18	57.3	4.23	69.3	3.78	52.9	3.67	41.7	3.73	92.4	1.88	57.2	5.43	51.7	3.62	24.3	3.28	37.7	3.77	90.4	2.65

Chapter 7

Reading and Mathematics Achievements Levels of Pupils and their Teachers

7.1 Introduction

This chapter presents the results for reading and mathematics achievement levels for pupils and their teachers. Strong reading and mathematics competencies among pupils are among the most important goals of any primary education system. The achievement levels of pupils in class work are a means of measuring the quality of education in each of the fifteen SACMEQ countries.

This chapter investigates the variation among regions in achievement levels of pupils and their teachers in reading and mathematics. It also explores the reading and mathematics achievement levels of important sub-groups of pupils.

The results have been presented as mean scores for Zambia overall and for each of the individual nine regions. Standard errors associated with the scores have also been presented. The pooled SACMEQ III reading and mathematics test scores were transformed to a mean of 500 and a standard deviation of 100.

In this chapter, the term ‘pupil’ refers to a Grade 6 pupil specifically and ‘teacher’ to an individual who teaches Grade 6 pupils.

7.2 Overall pupil and teacher scores and competency levels

General Policy Concern 19:

What were the levels (according to Rasch scores and descriptor levels of competence) and variations (among schools and regions) in the achievement levels of pupils and their teachers in reading and mathematics?

Mean Scores of Pupils in Reading and Mathematics

Table 7.1: Means and Sampling Errors for the Pupils' Reading Test Scores

	SACMEQ II		SACMEQ III	
	Mean	SE	Mean	SE
Central	427.0	8.97	447.9	15.69
Copperbelt	469.3	12.93	437.1	6.49
Eastern	420.1	8.10	435.0	9.13
Luapula	416.6	8.00	423.1	6.80
Lusaka	464.8	9.39	458.0	10.98
Northern	422.8	19.74	434.0	9.74
North Western	400.3	9.60	416.5	5.83
Southern	438.3	9.59	413.7	7.04
Western	430.2	9.61	434.2	11.15
Zambia	440.1	4.41	434.4	3.37

The overall mean score for reading for pupils in SACMEQ III was 434.4, an increase from 440.1 in SACMEQ II. All nine provinces were below the SACMEQ mean score of 500. In the predominantly urban provinces of Copperbelt and Lusaka, pupils' performance in reading declined from SACMEQ II. Six provinces – Central, Eastern, Luapula, Northern, North Western and Western – recorded an improvement in reading from SACMEQ II to III. The improved performance may be attributed to the Ministry of Education's procurement and distribution of textbooks between 2000 and 2007.

Table 7.2: Means and Sampling Errors for the Mathematics Test Scores of Pupils

	SACMEQ II		SACMEQ III	
	Mean	SE	Mean	SE
Central	432.8	5.55	440.2	11.93
Copperbelt	446.9	10.73	440.9	4.90
Eastern	432.6	6.81	437.1	7.00
Luapula	420.3	9.37	437.4	5.27
Lusaka	443.4	7.11	453.6	6.56
Northern	426.5	14.66	428.1	6.30
North Western	411.2	8.20	424.1	5.29
Southern	435.9	6.38	417.3	5.25
Western	437.2	9.56	433.2	7.46
Zambia	435.2	3.49	435.2	2.45

The overall mean score for mathematics for pupils in SACMEQ II and III remained the same at 435.2. In SACMEQ II the mean scores for provinces ranged from 411.2 (North Western) to 446.9 (Copperbelt). In both SACMEQ II and III all provinces scored below the SACMEQ mean score of 500. However, six provinces – Central, Eastern, Luapula, Lusaka, Northern and

North Western – recorded a marginal improvement in their mean scores from SACMEQ II to III.

Mean Scores of Teachers in Reading and Mathematics

Table 7.3: Means and Sampling Errors for the Teachers' Reading Test Scores

	SACMEQ II		SACMEQ III	
	Mean	SE	Mean	SE
Central	767.4	10.17	784.6	14.00
Copperbelt	752.3	11.57	725.2	9.50
Eastern	764.6	17.66	745.8	19.01
Luapula	745.7	14.0	744.9	12.11
Lusaka	772.2	14.69	761.5	12.82
Northern	756.9	16.97	762.7	15.26
North Western	744.4	14.98	737.2	15.38
Southern	753.2	10.82	805.8	12.80
Western	791.6	8.87	734.4	13.03
Zambia	760.1	5.12	757.9	4.78

The mean reading scores for teachers were 757.9 in SACMEQ III and 760.1 in SACMEQ II. The provincial mean scores ranged from 725.2 (Copperbelt) to 805.8 (Southern). Three provinces – Central, Eastern and Southern – recorded a marginal improvement from SACMEQ II. The mean score for all nine provinces was above the SACMEQ mean score of 500. Central, Northern and Southern provinces recorded an improvement in their mean scores from SACMEQ II to III.

Table 7.4: Means and Sampling Errors for Teachers' Mathematics Test Scores

	SACMEQ II		SACMEQ III	
	Mean	SE	Mean	SE
Central	746.7	19.78	776.4	22.24
Copperbelt	752.6	12.77	711.9	14.0
Eastern	762	23.48	768.5	21.88
Luapulu	741.9	23.05	716.0	19.57
Lusaka	732.9	12.99	712.8	14.59
Northern	801	20.52	746.0	19.29
North Western	736.2	17.76	728.3	28.52
Southern	753.4	16.86	764.9	22.63
Western	814.2	17.96	728.1	13.69
Zambia	759.1	7.15	740.4	6.70

The mathematics means score for teachers was 740.4 in SACMEQ III, lower than the SACMEQ II mean score of 759.1. Three provinces – Central, Eastern and Southern – recorded higher mean scores in SACMEQ III. The mean scores for teachers in mathematics ranged from 711.9 (Copperbelt) to 776.4 (Central province). Central Province was the only

province which recorded an improvement in reading and mathematics for both pupils and teachers. Southern province recorded improvements in mean scores for teachers in reading and mathematics from SACMEQ II, although pupils' mean scores showed a decline. Pupils and teachers in rural provinces showed an improvement in reading and mathematics. This improvement may be attributed to the Ministry of Education's procurement and distribution of textbooks between 2000 and 2007, as well as the recruitment and deployment of teachers into rural areas.

Policy Suggestion 7.1:

- The Directorate of Standards and Curriculum should invest more resources in teaching and learning materials and continue providing pedagogical support.
- The Directorate of Human Resource and Administration should continue to recruit and deploy teachers, especially to rural schools.
- The Directorate of Teacher Education and Specialised Services must enhance the Continuous Professional Development for primary reading and numeracy programmes.

Table 7.5: Percentage of Pupils Reaching Various Reading Competency Levels by Region (SACMEQ II)

	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Central	22.0	4.28	30.7	3.31	21.4	2.45	14.5	2.21	6.2	1.79	3.1	1.19	2.0	1.04	0.0	0.00
Copperbelt	13.7	2.56	20.5	2.89	18.9	2.26	16.9	2.10	15.1	2.79	7.6	1.60	4.9	2.57	2.4	1.25
Eastern	20.3	3.99	32.8	3.69	30.4	3.86	10.7	2.74	3.6	1.32	1.1	0.62	0.3	0.31	0.8	0.55
Luapula	23.5	4.38	37.0	2.57	18.4	3.67	14.2	2.99	5.1	1.65	1.7	0.94	0.0	0.00	0.0	0.00
Lusaka	15.3	2.12	24.0	2.61	18.6	2.09	15.5	2.12	9.5	1.69	10.3	1.35	4.8	1.40	2.0	1.22
Northern	25.5	7.50	30.4	4.73	19.1	2.77	12.6	4.01	3.0	1.16	7.1	3.63	1.9	1.35	0.2	0.26
North Western	32.8	5.34	34.7	4.82	20.0	3.01	8.1	2.65	2.7	1.30	1.3	0.86	0.6	0.58	0.0	0.00
Southern	21.1	3.34	26.5	2.84	21.9	2.31	14.4	2.58	8.2	2.19	4.0	2.26	4.0	1.21	0.0	0.00
Western	17.3	3.94	31.5	4.74	26.3	4.41	14.1	3.06	7.8	4.02	2.0	1.12	1.0	0.67	0.0	0.00
Central	22.0	4.28	30.7	3.31	21.4	2.45	14.5	2.21	6.2	1.79	3.1	1.19	2.0	1.04	0.0	0.00
Zambia	19.9	1.45	27.8	1.22	20.9	0.94	14.2	0.97	7.9	0.79	5.6	0.85	2.9	0.62	0.9	0.33

Table 7.6: Percentage of Pupils Reaching Various Reading Competency Levels by Region (SACMEQ III)

	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Central	16.4	2.47	26.4	4.62	21.5	3.73	18.1	3.50	5.4	1.86	6.7	2.16	4.1	2.47	1.5	1.46
Copperbelt	18.2	1.76	24.8	2.70	27.3	2.01	14.8	2.17	6.9	1.46	5.4	1.33	2.4	1.22	0.3	0.20
Eastern	13.7	1.82	26.0	3.89	32.7	2.80	17.5	2.32	5.3	1.90	3.4	1.93	1.4	0.67	0.0	0.00
Luapula	16.1	2.43	31.8	3.23	28.2	3.49	16.2	2.69	6.0	1.36	1.0	0.53	0.3	0.28	0.5	0.50
Lusaka	11.7	2.73	24.9	2.46	26.4	4.35	13.8	2.17	9.4	2.05	8.5	2.08	3.4	1.75	1.9	0.92
Northern	11.0	2.62	26.9	3.37	36.3	3.75	17.4	2.54	5.6	2.85	0.0	0.00	2.9	2.61	0.0	0.00
North Western	17.6	3.31	36.1	3.65	27.7	2.57	11.9	2.69	4.8	1.51	1.6	0.77	0.3	0.28	0.0	0.00
Southern	20.8	2.87	35.6	3.53	27.4	3.03	9.7	1.58	3.8	1.58	1.7	0.96	0.9	0.46	0.0	0.00
Western	15.7	1.95	28.1	2.24	30.8	3.03	12.4	1.83	5.8	1.23	3.5	1.47	2.6	1.98	1.0	0.98
Central	16.4	2.47	26.4	4.62	21.5	3.73	18.1	3.50	5.4	1.86	6.7	2.16	4.1	2.47	1.5	1.46
Zambia	15.8	0.84	28.3	1.19	28.6	1.12	14.9	0.86	6.0	0.66	3.7	0.50	2.2	0.58	0.5	0.23

Reading Competency for Pupils

When comparing pupil performance, SACMEQ categorised individual pupil performance based on the level of difficulty of test items. For each reading and mathematics test, the items' level of difficulty were calculated and determined.

The level descriptors for reading were:

Level 1	(Pre-reading): At this level the pupil matches words and pictures involving concrete concepts and everyday objects, and follows short simple written instructions.
Level 2	(Emergent reading): At this level the pupil matches words and pictures involving prepositions and abstract concepts and uses cuing systems (sounding out, simple sentence structure and familiar words) to interpret phrases. The pupil interprets meaning by reading on.
Level 3	(Independent reading): At this level the pupil interprets meaning in a short and simple text by reading on or reading back. The pupil interprets meaning by matching words and phrases, completing sentences and matching adjacent words
Level 4	(Interpretive and inferential reading): At this level the pupil reads on or reads back in order to link and interpret information located in various parts of the text.
Level 5	(Critical reading): At this level the pupil reads on and reads back in order to combine and interpret information from various parts of the text in association with external information (based on recalled factual knowledge) that 'completes' and contextualizes meaning.
Level 6	(Analytical reading): At this level the pupil reads on and reads back through longer texts (of a narrative, documentary or expository nature) to combine information from various parts of the text to infer the writer's purpose.
Level 7	(Insightful reading): At this level the pupils locates information in longer texts (of a narrative, documentary or expository nature) by reading on and reading back in order to combine information from various parts of the text so as to infer the writer's personal beliefs, prejudices or biases.
Level 8	(Competent reading): At this level the pupil locates information in longer texts (of a narrative, documentary or expository nature) by reading on and reading back in order to combine information from various parts of the text. The pupil is able to evaluate the writer's assumptions on both the topic and the characteristics of the reader – such as age, knowledge, and personal beliefs, prejudices or biases.

Table 7.7: The Percentage of Pupils who Reached Various Competence Levels in Reading (SACMEQ II and III)

Reading skill levels		SACMEQ II		SACMEQ III	
		%	SE	%	SE
Level 1	Pre-reading	19.9	1.43	15.8	0.84
Level 2	Emergent reading	27.8	1.22	28.3	1.19
Level 3	Basic reading	20.9	0.94	28.6	1.12
Level 4	Reading for meaning	14.2	0.97	14.9	0.86
Level 5	Interpretive reading	7.9	0.79	6.0	0.66
Level 6	Inferential reading	5.6	0.85	3.7	0.50
Level 7	Analytical reading	2.9	0.62	2.2	0.58
Level 8	Critical reading	0.9	0.33	0.5	0.23

Table 7.7 presents an alarming picture of literacy skills among Zambian pupils. The majority of pupils were reading at Level 2 (emergent reading) and Level 3 (basic reading). Only a small fraction of pupils in Zambia could read at Level 8 (critical reading). The cumulative percentage of pupils who demonstrated reading competencies above Level 3 (basic reading) was 28.3 percent, whereas only 0.5 percent showed reading competencies at Level 8 (critical reading). The modal competency in reading for pupils in Zambia is between Level 2 and 3. The total percentage of pupils who demonstrated reading between Level 1 and 3 was 72.7 percent. In all provinces, pupil performance showed low competency levels.

The low levels of reading competency calls for in-service training for teachers to improve the way they teach reading. Teacher training needs improvement and reading materials at schools must be made available. Research into how teachers facilitate reading sessions in the classroom could also explain why pupils' reading competency was so low.

Policy Suggestion 7.2:

- The Ministry of Education, through the Directorates of Teacher Education and Specialized Services and Standards and Curriculum, should ensure that the Primary Reading Programme is strictly adhered to, and that reading materials are procured and distributed to schools.
- The Curriculum Development Centre in collaboration with the Directorate of Education Services should consider developing supplementary readers for pupils at all levels.

Mathematics Competency for Pupils

Levels of Mathematics Skills

Level 1	Pre-numeracy: Applies single step addition or subtraction operations. Recognises simple shapes. Matches numbers and pictures. Counts in whole numbers.
Level	Emergent numeracy: Applies a two step addition or subtraction operation involving carrying, checking (through very basic estimation), or conversion of pictures to numbers. Estimates the length of familiar objects. Recognises common two- dimensional shapes.
Level 3	Basic numeracy: Translates verbal information (presented in a sentence, simple graph or table using one arithmetic operation) in several repeated steps. Translates graphical information into fractions. Interprets place value of whole numbers up to thousands. Interprets simple common everyday units of measurement.
Level 4	Beginning numeracy: Translates verbal and graphic information into simple arithmetic problems. Uses multiple different arithmetic operations (in the correct order) on whole numbers, fractions, and/or decimals.
Level 5	Competent numeracy: Translates verbal, graphic, or tabular information into simple arithmetic problems (using the correct order of arithmetic operations) involving everyday units of measurements and/or whole and mixed numbers. Converts basic measurement units from one level of measurement to another (for example metres to centimetres).
Level 6	Mathematically skilled: Solves multi operation problems (using the correct order of arithmetic operations) involving fractions, ratios, and decimals. Translates verbal and graphic representation information into symbolic, algebraic, and equation form in order to solve a given mathematical problem. Checks and estimates answers using external knowledge (not provided within the problem.)
Level 7	Problem solving: Extracts and converts (for example, with respect to measurement units) information from tables, charts, visual and symbolic presentations in order to identify, and solve multi-step problems.
Level 8	Abstract problem solving: Identifies the nature of an un-stated mathematical problem embedded within verbal or graphic information, and then translate this into algebraic or equation form in order to solve the problem.

Table 7.8. Percentage of Pupils Reaching Various Mathematics Competency Levels by Region (SACMEQ II)

	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Central	16.3	2.26	56.0	2.90	22.2	2.80	4.0	1.34	1.5	0.72	0.0	0.00	0.0	0.00	0.0	0.00
Copperbelt	16.0	2.41	47.1	4.44	25.4	2.86	5.6	1.98	4.2	2.03	1.4	1.02	0.2	0.23	0.0	0.00
Eastern	11.8	2.54	64.2	4.18	18.5	4.60	5.0	2.20	0.0	0.00	0.5	0.47	0.0	0.00	0.0	0.00
Luapula	20.5	4.60	59.7	1.90	15.3	2.85	4.1	2.10	0.4	0.44	0.0	0.00	0.0	0.00	0.0	0.00
Lusaka	15.3	2.04	50.3	2.43	25.1	1.97	6.2	1.36	2.3	1.58	0.4	0.31	0.0	0.00	0.3	0.30
Northern	20.1	5.51	56.0	3.10	19.6	5.71	3.9	1.18	0.2	0.25	0.2	0.26	0.0	0.00	0.0	0.00
North Western	25.3	3.97	58.6	3.97	13.4	2.50	2.0	1.55	0.0	0.00	0.6	0.59	0.0	0.00	0.0	0.00
Southern	15.5	2.84	56.5	3.89	20.3	3.18	5.1	1.51	2.6	1.30	0.0	0.00	0.0	0.00	0.0	0.00
Western	15.5	3.70	55.4	4.78	21.6	4.57	7.5	2.70	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00
Central	16.3	2.26	56.0	2.90	22.2	2.80	4.0	1.34	1.5	0.72	0.0	0.00	0.0	0.00	0.0	0.00
ZAMBIA	16.8	1.15	54.4	1.34	21.5	1.29	5.0	0.61	1.8	0.53	0.4	0.22	0.0	0.05	0.0	0.05

Table 7.9. Percentage of Pupils Reaching Various Mathematics Competency Levels by Region (SACMEQ III)

	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Central	13.8	2.98	53.0	4.69	20.1	2.38	9.8	3.55	2.3	1.97	0.8	0.55	0.2	0.24	0.0	0.0
Copperbelt	12.7	1.47	51.7	2.18	24.7	2.52	8.2	1.91	2.7	0.91	0.0	0.00	0.0	0.00	0.0	0.0
Eastern	12.4	2.51	53.6	3.70	25.7	3.29	7.2	2.06	0.9	0.61	0.0	0.00	0.3	0.28	0.0	0.0
Luapula	13.1	1.83	52.7	3.49	29.3	2.29	3.9	1.46	1.1	0.61	0.0	0.00	0.0	0.00	0.0	0.0
Lusaka	9.1	1.96	47.3	3.74	29.9	3.38	11.4	1.80	2.1	0.86	0.3	0.28	0.0	0.00	0.0	0.0
Northern	14.1	2.14	59.7	3.33	20.4	2.99	4.4	1.61	1.4	0.75	0.0	0.00	0.0	0.00	0.0	0.0
North Western	15.1	2.49	58.8	2.85	21.7	2.88	3.9	1.39	0.5	0.54	0.0	0.00	0.0	0.00	0.0	0.0
Southern	18.1	2.62	56.5	2.27	22.9	2.92	2.0	0.97	0.4	0.31	0.0	0.00	0.0	0.00	0.0	0.0
Western	16.8	2.30	47.5	2.94	29.8	2.49	4.7	2.68	1.2	1.01	0.0	0.00	0.0	0.00	0.0	0.0
Central	13.8	2.98	53.0	4.69	20.1	2.38	9.8	3.55	2.3	1.97	0.8	0.55	0.2	0.24	0.0	0.0
ZAMBIA	13.7	0.78	53.6	1.13	24.5	0.98	6.5	0.73	1.5	0.35	0.1	0.08	0.1	0.04	0.0	0.0

Table 7.10: Competences in Mathematics for Pupils (SACMEQ II and III)

Mathematics skills levels		SACMEQ II		SACMEQ III	
		%	SE	%	SE
Level 1	Pre-numeracy	16.8	1.15	13.7	0.78
Level 2	Emergent numeracy	55.4	1.34	53.6	1.13
Level 3	Basic numeracy	21.5	1.29	24.5	0.98
Level 4	Beginning numeracy	5.0	0.61	6.5	0.73
Level 5	Competent numeracy	1.8	0.53	1.5	0.35
Level 6	Mathematically skilled	0.4	0.22	0.1	0.08
Level 7	Problem solving	0.0	0.05	0.1	0.04
Level 8	Abstract problem solving	0.0	0.05	0.0	0.0

At Level 2 (emergent numeracy) a pupil should be able to perform knowledge and comprehension tasks and at Level 4 (beginning numeracy) a pupil should be able to perform application and analysis tasks that eventually leading to problem solving.

Table 7.10 illustrates competences in mathematics for pupils. The modal competency in mathematics was Level 2 (emergent numeracy) and was attained by 53.6 percent of the pupils, a decline from 55.4 percent in SACMEQ II. Only 13.7 percent of pupils achieved Level 1 (beginning numeracy) and 53.7 percent of pupils had attained competence Level 2 (emergent numeracy). Considering that pupils were in Grade 6, they should have been able to demonstrate higher level competencies. Unfortunately no pupils reached Level 8 (abstract problem solving), with only 0.1 percent pupils attaining Level 6 and Level 7 in SACMEQ III.

It is important to explore the way mathematics is taught in schools and to reflect on how the teaching of mathematics could be done differently. Increasing teacher competency is extremely important because in Zambia pupils must study mathematics at both basic and high school levels. Furthermore, mathematics is an entry requirement for individuals wanting to become basic school teachers. Therefore the failure of pupils to reach adequate competency levels impacts on the number of prospective mathematics teachers.

Indeed, the Ministry of Education currently struggles to deploy adequate numbers of qualified mathematics teachers. The Ministry of Education should encourage individuals to become mathematics teachers through various incentives, such as college or university scholarships.

Policy Suggestion 7.3:

The Directorate of Standards and Curriculum should re-introduce the Mathematics Rainbow Kit (MARK), an initiative that made the teaching of mathematics interactive and engaging.

Teachers' Reading Competency Levels

Table 7.11: The Percentage of Teachers who Reached Various Competency Levels in Reading (SACMEQ II and III)

Reading skill levels		SACMEQ II		SACMEQ III	
		%	SE	%	SE
Level 1	Pre-reading	0.00	0.00	0.2	0.23
Level 2	Emergent reading	0.00	0.00	0.0	0.00
Level 3	Basic reading	0.00	0.00	0.0	0.00
Level 4	Reading for meaning	0.00	0.00	0.4	0.35
Level 5	Interpretive reading	0.00	0.00	0.3	0.29
Level 6	Inferential reading	1.90	0.98	0.3	0.20
Level 7	Analytical reading	15.7	2.59	14.9	2.49
Level 8	Critical reading	82.4	2.76	84.0	2.57

Table 7.11 shows the reading competency levels for teachers for both SACMEQ II and III. For SACMEQ II the majority of teachers (82.4%) were at Level 8 (critical reading) and 15.7 percent at Level 7 (analytical reading). Only 1.9 percent of teachers were at Level 6 (inferential reading). The SACMEQ III results indicated that the majority (84.0%) of teachers were at Level 8 (critical reading) followed by 14.9 percent at Level 7 (analytical reading) and only 0.3 percent at Level 6 (inferential reading). These percentages suggest that most teachers possessed acceptable reading competency levels.

However, the existing teacher training programme should continue to emphasise the acquisition of reading skills for teachers. The Directorate of Teacher Education should intensify the CPD programmes on reading skills.

Teachers' Mathematics Competency Levels

Table 7.12. Percentage of Teachers who Reached Various Competency Levels in Mathematics (SACMEQ II and III)

Mathematics skills levels		SACMEQ II		SACMEQ III	
		%	SE	%	SE
Level 1	Pre-numeracy	0.0	0.00	0.0	0.00
Level 2	Emergent numeracy	0.0	0.00	0.2	0.16
Level 3	Basic numeracy	0.6	0.38	0.9	0.53
Level 4	Beginning numeracy	3.7	1.28	2.3	1.22
Level 5	Competent numeracy	4.2	1.21	10.2	2.20
Level 6	Mathematically skilled	22.7	3.09	29.1	3.28
Level 7	Problem solving	40.5	4.01	36.4	3.45
Level 8	Abstract problem solving	28.3	4.86	20.80	3.14

Table 7.12 shows the percentage of teachers who reached various competency levels in mathematics in SACMEQ II and III. In SACMEQ II the overall results for teachers' level of

mathematics competency began at Level 3 (basic numeracy) with 0.6 percent, followed by Level 4 (beginning numeracy) with 3.7 percent. Almost 30 percent of teachers were at Level 8 (abstract problem solving) and just over forty percent at Level 7 (problem solving). For SACMEQ III, Level 7 (problem solving) showed the highest percentage of teachers (36.4%), and Level 2 (emergent numeracy) the lowest (0.2%). Only 20.8 percent of teachers were operating at Level 8 (abstract problem solving), which was an 8 percent decline from SACMEQ II.

Whereas the lowest competency level in SACMEQ III was Level 2 (emergent numeracy), SACMEQ II the lowest competency level attained by teachers was Level 3 (basic numeracy).

The SACMEQ III findings are useful in directing the content of mathematics teacher training and CPD activities, especially for community school teachers. The Directorate of Teacher Education should ensure that colleges address competence descriptors in mathematics and focus on areas of deficiency revealed by the SACMEQ results.

Table 7.13: Percentage of Pupils and Teachers with Acceptable Reading Skills by Region

	Pupils				Teachers			
	SACMEQ II		SACMEQ III		SACMEQ II		SACMEQ III	
	%	SE	%	SE	%	SE	%	SE
Central	25.8	4.79	35.8	7.17	100.0	0.00	100.0	0.00
Copperbelt	46.9	5.55	29.8	3.75	100.0	0.00	100.0	0.00
Eastern	16.5	4.05	27.7	5.79	100.0	0.00	100.0	0.00
Luapula	21.1	4.39	24.0	3.65	100.0	0.00	100.0	0.00
Lusaka	42.1	3.91	37.0	5.86	100.0	0.00	97.9	2.10
Northern	24.9	9.75	25.8	5.65	100.0	0.00	100.0	0.00
N/Western	12.6	4.54	18.5	3.75	100.0	0.00	100.0	0.00
Southern	30.6	5.40	16.2	3.81	100.0	0.00	100.0	0.00
Western	24.9	5.40	25.3	4.42	100.0	0.00	100.0	0.00
Zambia	31.4	2.15	27.4	1.77	100.0	0.00	99.8	0.23

Table 7.13 presents the percentage of pupils and teachers with acceptable reading skills by region. The definition of an ‘acceptable’ reading competency is the ability to read at Level 4 or above.

In SACMEQ II, 31.4 percent of pupils overall had acceptable reading skills levels, whereas in SACMEQ III the percentage dropped to 27.4 percent. In SACMEQ II 100 percent of teachers overall reached acceptable levels, whereas in SACMEQ III, 99.8 percent had acceptable reading skills. From SACMEQ II to III there was a slight decline in the percentage of pupils (31.4 % to 27.4%) and teachers (100% to 99.8%) reaching acceptable levels.

In SACMEQ II in predominantly urban provinces – Copperbelt, Lusaka, and Southern – over forty percent of pupils had acceptable reading skills. The urban Central province was an exception with only 25.8 percent of pupils reading at an acceptable level. In SACMEQ III the percentage of pupils with acceptable reading levels in urban provinces decreased, with every region falling below 40 percent. Predominately rural provinces showed marked improvements in the percentage of pupils reaching acceptable levels.

It is recommended that a nationwide campaign on reading skills and culture should be initiated to get more pupils at acceptable reading levels.

7.3 Pupil scores and competency levels by important sub-groups

General Policy Concern 20:

What were the reading and mathematics achievement levels of important sub-groups (gender, socio-economic status and location) of pupils and their teachers?

Pupil reading scores by important sub-groups

Table 7.14: Means for Reading Scores of Pupils by Sub-Groups

Sub-groups	SACMEQ II		SACMEQ III	
	Mean	SE	Mean	SE
Gender				
Boys	439.8	4.88	437.1	3.44
Girls	440.7	4.65	431.5	4.08
School Location				
Rural	411.5	3.36	423.6	3.45
Urban	467.6	6.22	454.2	6.27
Socio-economic Level				
Low SES (Bottom 25%)	402.1	3.72	418.8	3.93
High SES (Top 25%)	486.6	8.66	483.4	8.39
Zambia	440.1	4.41	434.4	3.37

Pupil reading scores by gender

In SACMEQ III the reading mean scores for boys was 437.1, which was lower than the 439.8 score reported in SACMEQ II. The reading mean score for girls was 431.5 in SACMEQ III, which was lower than the 440.7 score reported in SACMEQ II. Both boys and girls had mean scores lower than the SACMEQ mean score of 500.

Pupil reading scores by school location

In SACMEQ III the reading mean score for rural schools was 423.6. This was a marginal improvement from 411.5 in SACMEQ II. The reading mean score for urban schools declined from 454.2 in SACMEQ III to 467.6 in SACMEQ II. Reading mean scores for both rural and urban schools were below the SACMEQ mean of 500.

Pupil reading scores by socio-economic status

The mean score for reading in SACMEQ III was 418.8 for low SES (bottom 25%). This was higher than the mean score in SACMEQ II which was 402.1. High SES pupils (top 25%) had 483.4 as a mean score in SACMEQ III, which was lower than the SACMEQ II score of 486.

Table 7.15. Means for Mathematics Scores of Pupils by Sub-groups

Sub-groups	SACMEQ II		SACMEQ III	
	Mean	SE	Mean	SE
Gender				
Boys	440.2	4.13	440.8	2.93
Girls	430.0	3.47	429.2	2.85
School Location				
Rural	419.4	2.89	428.6	2.68
Urban	450.3	5.1	447.2	4.24
Socio-economic Level				
Low SES (Bottom 25%)	413.9	3.67	424.5	3.70
High SES (Top 25%)	461.1	7.31	463.1	6.12
Zambia	435.2	3.49	435.2	2.45

Pupil reading scores by important sub-groups

Pupil mathematics scores by gender

In SACMEQ III the mathematics mean scores for boys was 440.8 and 429.2 for girls. In SACMEQ II the mathematics means scores were 440.2 for boys and 430.0 for girls. In both SACMEQ II and III boys performed better than girls in mathematics and the gap in performance by gender remained the same.

Pupil mathematics scores by school location

The gap in mathematics performance between rural schools and urban schools narrowed across this time period. The SACMEQ III mathematics scores were 428.6 for rural schools and 447.2 for urban schools, while in SACMEQ II the mean scores were 419.4 for rural schools and 450.3 for urban schools. Although rural schools improved their performances from SACMEQ II to III, urban schools performed better than rural schools in both subjects.

Pupil mathematics scores by socioeconomic status

The mathematics mean scores were 424.5 for the low SES group and 463.1 for the high SES group. Low SES pupils showed an improved mathematics score from SACMEQ II to III (413.9 to 424.5), although the score was still lower than the SACMEQ III's high SES score of 463.1.

There was marked improvement in performance in both reading and mathematics for poor regions and households. Surprisingly, the performance of urban schools dropped drastically. Improvements in reading and mathematics may be related to a decentralisation programme that allowed schools to buy textbooks according to their needs. For pupils in rural areas to perform as well as pupils in urban areas, adequate teaching and learning materials are required. The National Assessment Surveys (conducted in 2002, 2004 and 2006) also show that pupils from the high SES group consistently perform well.

Policy Suggestion 7.4:

- The Directorate of Standards and Curriculum should continue with a decentralised textbook procurement system.
- Special attention to teaching mathematics to girls should be encouraged, including making the teaching and learning materials more 'girl-friendly'.
- The Directorate of Planning and Information should carry out research on why the performance of urban schools is declining.

7.4 Conclusion

SACMEQ III's results showed that pupils' reading and mathematics skills were very low. Most pupils were at the lowest level of reading and mathematics skills. Pupils' achievement levels varied according to socio-economic level and school location. Pupils of a high social economic class performed better than their low social economic peers in both reading and mathematics. Pupils from urban schools equally performed better in both categories than those from rural schools. Teachers' reading and mathematics scores declined from SACMEQ II at the national level though some provinces recorded some improvement. Over 80 percent of teachers reached level 8 in reading, while the majority of them were in level 5 and above for mathematics.

Chapter 8

HIV and AIDS Education

8.1 Introduction

In SACMEQ III, a test was given to pupils and teachers to determine their knowledge of and attitude towards HIV and AIDS. Teachers and school heads also made self assessments on their HIV infection risk. This chapter presents an analysis of the results. This data makes reference to pupils and teachers by province, school location, gender and socio-economic status.

In this chapter, the term ‘pupil’ refers to a Grade 6 pupil specifically and ‘teacher’ to an individual who teaches Grade 6 pupils.

8.2 Zambia and HIV and AIDS

The HIV and AIDS epidemic is a major threat to Zambia’s economic and social development. The Demographic and Health Survey (DHS), conducted in 2007, reported the HIV prevalence rate among the general population (15 to 49 year olds) as 14.3 percent. This shows a slight decline from 2002, where the prevalence rate was 15.6 percent

The DHS reported that almost all 15 to 49 year olds had heard of HIV or AIDS. However, comprehensive knowledge of the disease was reported to be significantly lower. Comprehensive knowledge refers to an understanding of HIV transmission and the rejection of major misconceptions about HIV and AIDS. The 2002 Demographic Health Survey reported that among 15 to 19 year olds, 32.3 percent of women and 35 percent of men had comprehensive knowledge.

Zambia’s response to the HIV and AIDS pandemic was specified in the National Strategic Framework. HIV and AIDS education was viewed as a prominent prevention strategy and in 1996, the Ministry of Education initiated a policy that ensured that HIV prevention was taught through Life Skills Education (LSE). It was expected that LSE be integrated into all subject areas so that all pupils receive information on HIV and AIDS.

In 2003, the Curriculum Development Centre produced resource books for grades 1 to 7 on HIV and Life Skills. The main themes covered in HIV and AIDS education from grades 1 to 7 include HIV prevention and transmission and how to develop a caring and positive attitude towards HIV-infected and affected people. It also addresses myths and misconceptions about HIV and AIDS. Extra curricular activities, such as AIDS action clubs, supplement classroom-based learning have also been introduced.

8.3 The HIV and AIDS Knowledge Test

In 2007, SACMEQ developed a tool to measure HIV and AIDS knowledge – the HIV and AIDS Knowledge Test (HAKT). This test was administered to pupils and their teachers. The HAKT focused specifically on the official curriculum frameworks for HIV and AIDS adopted by SACMEQ’s education ministries. The test comprised 86 test items covering 43 curriculum topics concerned with the ‘basic knowledge required for protecting and promoting health’. Five main dimensions were covered by the topics. These were: definitions and terminology; transmission mechanisms; avoidance behaviours; diagnosis and treatment, and myths and misconceptions. The HAKT’s minimum acceptable score was set at 750, whereas 870 was the desirable level.

8.4 Knowledge Levels of Pupils and Teachers by Province

The HAKT was constructed to measure knowledge levels of pupils and teachers. The data was analysed using the Statistical Package for Social Sciences (SPSS) and was presented by gender, province, school location and socio-economic status.

The SACMEQ III results for HIV and AIDS knowledge levels for pupils and teachers are presented in Table 8.1. Pupils in all provinces scored below the SACMEQ mean score of 750. Pupils in six provinces scored below 500, including the urban Copperbelt province, which had the lowest average score of 457.8. The predominantly rural North Western province had the highest average of 512.4.

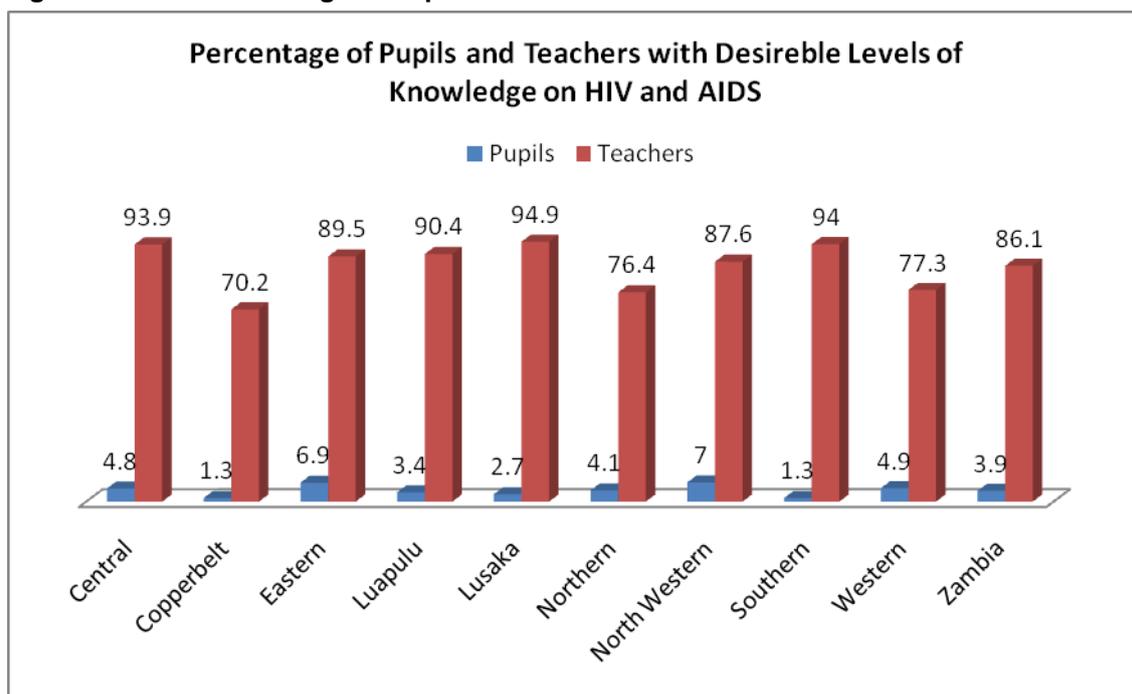
Slightly more than one third of pupils (34.7 percent) exhibited the minimum acceptable knowledge levels, whereas 3.9 percent were at a desirable level. The highest proportion of pupils with knowledge at a desirable level were in the North Western and Eastern provinces, at 7 percent and 6.9 percent respectively.

Teachers performed considerably better than pupils in the HAKT. However, the average scores for the Copperbelt, Eastern, North Western, Northern and Western provinces were below the minimum acceptable level of 750. Teachers' scores ranged from 713.7 in Western to 783.3 in Southern. The average scores for teachers in the Central, Luapula, Lusaka and Southern provinces were above the minimum acceptable knowledge score of 750.

Table 8.1 Mean HAKT Performance Scores and HIV/AIDS Knowledge Levels of Pupils and Teachers (SACMEQ III)

	Pupil						Teachers					
	Transformed score		Reaching minimum level		Reaching desirable level		Transformed score		Reaching minimum level		Reaching desirable level	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Central	498.0	13.79	35.6	7.05	4.8	1.69	759.1	21.21	100.0	0.00	93.9	6.09
Copperbelt	457.8	9.57	22.1	3.76	1.3	0.66	713.2	17.82	94.5	3.33	70.2	7.92
Eastern	509.4	12.11	45.9	6.70	6.9	2.58	738.6	14.80	100.0	0.00	89.5	7.58
Luapulu	474.3	12.88	26.8	6.48	3.4	1.40	750.4	15.27	100.0	0.00	90.4	7.27
Lusaka	491.2	12.27	35.1	5.79	2.7	1.43	751.1	16.33	100.0	0.00	94.9	3.49
Northern	485.0	13.51	32.9	6.59	4.1	1.24	741.7	22.85	100.0	0.00	76.4	11.24
North Western	512.4	14.32	47.9	6.15	7.0	2.14	737.6	20.35	94.8	5.25	87.6	7.30
Southern	473.0	10.48	28.8	5.27	1.3	0.54	783.3	19.20	100.0	0.00	94.0	4.14
Western	508.7	12.10	46.1	6.52	4.9	1.71	713.7	15.16	96.7	3.30	77.3	9.94
Zambia	487.9	4.27	34.7	2.03	3.9	0.54	743.6	6.51	98.1	0.96	86.1	2.44

Figure 8.1: Percentage of Pupils and Teachers with Desirable Levels of HIV Knowledge



Although pupils were generally below the age of 15 used in the DHS, the HAKT revealed that 34.7 percent were functioning at acceptable levels of knowledge. This finding is in line with the conclusions made in the DHS that less than 40 percent of young people aged 15 to 19 year olds have comprehensive knowledge of HIV and AIDS.

Results also show that 86.1 percent of teachers had desirable knowledge levels. The difference in performance between teachers and pupils on the HAKT suggests that the quality and content of HIV and AIDS education was ineffective. The results also revealed disparities in the coverage of HIV and AIDS education programmes across the country.

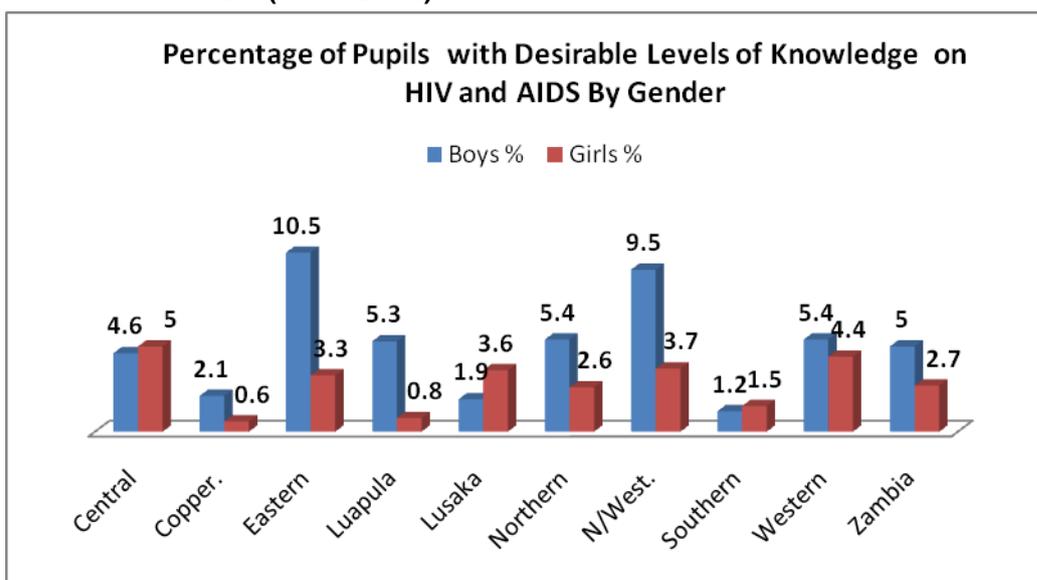
8.5 Knowledge levels of pupils by gender

When the data was disaggregated by gender (see Table 8.2) the national average for both girls and boys was below the SACMEQ mean of 750. The boys' average was above 500 in four provinces (Central, Eastern, North Western and Western), whereas the girls' average score was above 500 in only one province (Western). Equal proportions of boys and girls performed at minimum levels: 35.9 percent and 33.6 percent respectively. However, twice as many boys (5%) as girls (2.7%) reached the desirable levels of HIV knowledge at national level. Equal proportions of girls and boys in Central and Southern provinces reached desirable levels of HIV knowledge. Only Lusaka province had a higher proportion of girls than boys reaching a desirable level of HIV knowledge, while in the rest of the provinces the opposite was the case. The disparity was most pronounced in North Western province with three times the proportion of boys to girls recording desirable levels of HIV knowledge.

Table 8.2: Mean Performance on the HAKT of Pupils by Gender (SACMEQ III)

	Transformed score				Reaching minimum level				Reaching desirable level			
	Boys		Girls		Boys		Girls		Boys		Girls	
	Mean	SE	Mean	SE	%	SE	%	SE	%	SE	%	SE
Central	500.0	11.10	496.0	17.56	35.1	6.89	36.2	8.28	4.6	1.72	5.0	2.20
Copper.	456.8	11.86	458.8	9.89	21.7	4.19	22.5	4.75	2.1	1.30	0.6	0.45
Eastern	531.8	12.96	487.0	13.32	49.1	6.57	42.6	7.96	10.5	4.20	3.3	1.59
Luapula	486.1	12.45	458.4	16.25	25.5	6.90	28.5	7.40	5.3	2.04	0.8	0.77
Lusaka	491.6	10.79	490.8	16.88	33.1	6.53	37.2	7.00	1.9	1.04	3.6	2.45
Northern	493.1	15.87	475.9	14.52	37.5	8.02	27.9	6.66	5.4	2.07	2.6	1.18
N/West.	530.2	14.29	489.1	15.45	52.5	6.46	41.8	6.44	9.5	2.97	3.7	1.64
Southern	477.5	12.28	469.3	10.67	28.2	5.44	29.3	6.00	1.2	0.81	1.5	0.82
Western	513.8	12.84	503.7	14.95	48.8	6.70	43.5	8.21	5.4	2.35	4.4	1.89
Zambia	496.1	4.54	479.2	4.77	35.9	2.19	33.6	2.32	5.0	0.78	2.7	0.51

Figure 8.2: Percentage of Pupils by Gender with Desirable Levels of Knowledge on HIV and AIDS (SACMEQ III)



8.6 Knowledge Levels of Pupils by Socio-Economic Status

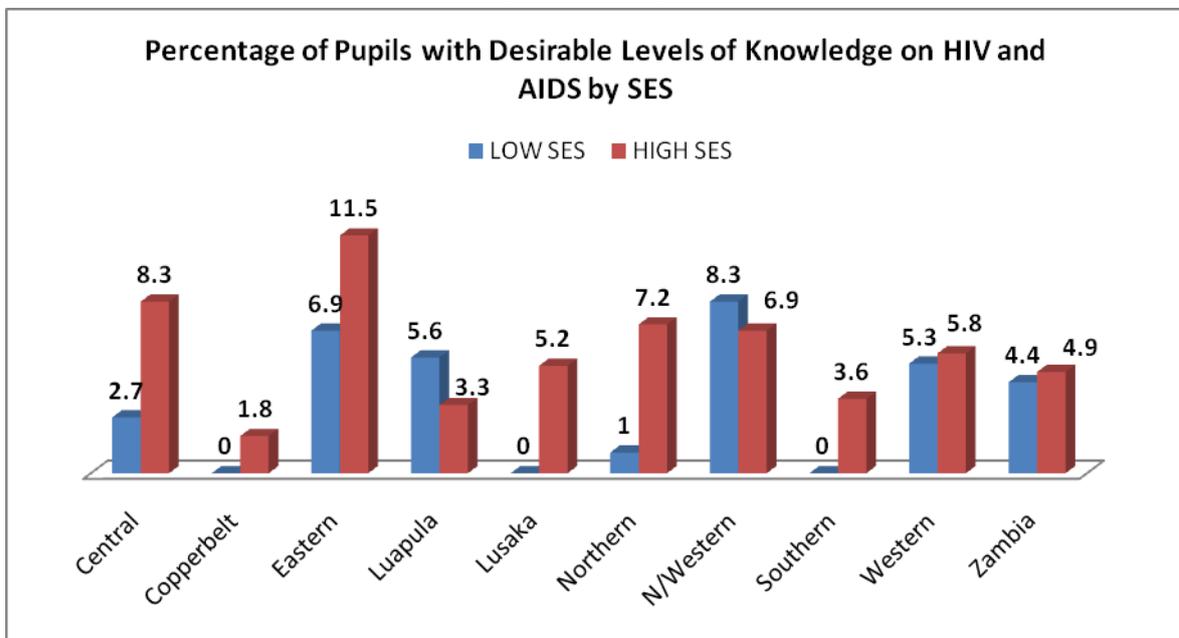
Table 8.3 shows that there only marginal differences in knowledge levels based on pupils' socio-economic status. The average score for high SES pupils was found to be 503 and 487 for low SES. Only 39 percent of high SES pupils and 37 percent of low SES pupils reached minimum acceptable levels. Provincially, high SES performed better than low SES, except in two provinces – Copperbelt and Western. There was no significant difference in desirable levels of HIV knowledge between pupils from high and low SES at the national level, which had low SES at 4.4 percent and high SES at 4.9 percent.

In Central, Eastern and Northern provinces the level of desirable knowledge was found to be higher among high SES pupils when compared to low SES pupils. The lower SES group had higher desirable levels of knowledge in two provinces – Luapula and North Western.

Table 8.3: Mean Performance on the HAKT of Pupils by Socio-economic Status (SACMEQ III)

	Transformed scores				Reaching minimum level				Reaching desirable level			
	Low SES		High SES		Low SES		High SES		Low SES		High SES	
	Mean	SE	Mean	SE	%	SE	%	SE	%	SE	%	SE
Central	477.6	19.60	540.9	31.81	28.5	9.89	51.8	17.63	2.7	2.77	8.3	5.61
Copperbelt	504.9	53.77	467.8	10.02	53.9	23.30	21.3	3.93	0.0	0.00	1.8	1.10
Eastern	501.6	14.82	546.6	12.90	43.5	8.01	61.0	7.63	6.9	2.40	11.5	3.90
Luapula	480.3	21.06	480.7	11.17	30.4	9.66	32.8	5.85	5.6	2.96	3.3	3.61
Lusaka	500.5	33.16	510.1	17.57	37.0	11.63	43.6	8.56	0.0	0.00	5.2	2.94
Northern	468.4	20.55	490.8	16.64	30.9	9.81	31.2	9.15	1.0	1.02	7.2	4.10
N/Western	501.6	19.48	532.9	24.22	42.4	7.80	57.0	16.37	8.3	3.62	6.9	7.15
Southern	460.5	13.42	511.8	17.17	29.1	7.49	48.2	12.05	0.0	0.00	3.6	3.57
Western	509.9	11.96	522.6	28.64	51.5	6.37	46.1	17.91	5.3	1.63	5.8	4.28
Zambia	486.9	7.06	502.7	7.91	37.0	3.22	38.6	3.88	4.4	1.09	4.9	1.21

Figure 8.3: Percentage of Pupils with Desirable Levels of Knowledge on HIV and AIDS by Socio-Economic Status (SACMEQ III)



8.7 Knowledge Levels by School Location

Table 8.4 shows the mean performance of pupils on the HAKT based on the location of their school. The analysis of data by school location shows that the average score for pupils in both rural and urban schools was below the mean of 750. However, the rural mean was higher than the urban mean and the spread of scores was smaller among pupils in rural schools, ranging from 466.3 to 518.3, whereas for urban schools the range of scores was from 446.7 to 524.7.

There a higher percentage of pupils in rural schools (38%) reaching the minimum level than those in urban schools (28%). At the national level, 2.2 percent of pupils in urban schools had a desirable level of HIV knowledge. The corresponding percentage in rural schools was twice as high.

Only two provinces, Central and Southern, reported a higher proportion of pupils from urban schools with desirable levels of HIV knowledge. From these findings it can be concluded that pupils in rural schools are more knowledgeable than their peers in urban schools with regards to information and knowledge of HIV and AIDS.

Table 8.4. Mean performance on the HAKT of pupils by location (SACMEQ III)

	Transformed scores				Reaching minimum level				Reaching desirable level			
	Rural		Urban		Rural		Urban		Rural		Urban	
	Mean	SE	Mean	SE	%	SE	%	SE	%	SE	%	SE
Central	489.4	14.69	524.7	38.58	32.4	7.10	45.6	22.71	4.1	1.49	7.1	6.32
Copperbelt	489.1	23.52	446.7	9.60	37.6	9.98	16.6	3.13	4.0	2.31	0.4	0.30
Eastern	518.3	15.94	486.4	10.68	50.6	9.05	33.8	3.95	8.4	3.50	3.0	1.95
Luapula	480.0	15.57	450.8	14.47	29.6	7.86	15.1	6.47	4.2	1.68	0.0	0.00
Lusaka	486.3	16.01	493.0	16.33	34.9	7.12	35.2	7.76	1.4	1.51	3.2	1.92
Northern	493.7	18.84	469.0	19.37	36.5	9.35	26.5	9.05	5.2	1.75	2.0	1.38
N/Western	517.8	15.29	466.0	45.09	49.6	6.63	33.3	22.97	7.5	2.36	2.3	3.13
Southern	466.3	10.55	524.1	1.31	24.5	4.84	61.6	0.55	1.1	0.55	2.8	3.32
Western	517.5	12.23	483.0	31.95	52.6	5.67	27.2	17.71	5.7	2.10	2.5	2.90
Zambia	495.1	5.38	474.7	6.91	38.2	2.56	28.5	3.23	4.8	0.73	2.2	0.72

Figure 8.4: Percentage of Pupils with Desirable Levels of Knowledge on HIV and AIDS by Location (SACMEQ III)

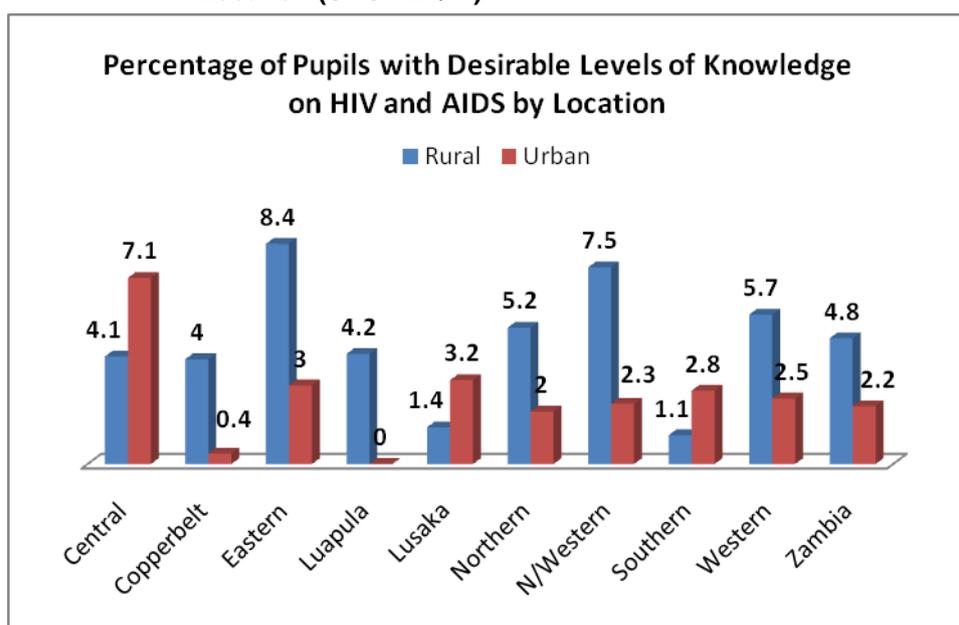
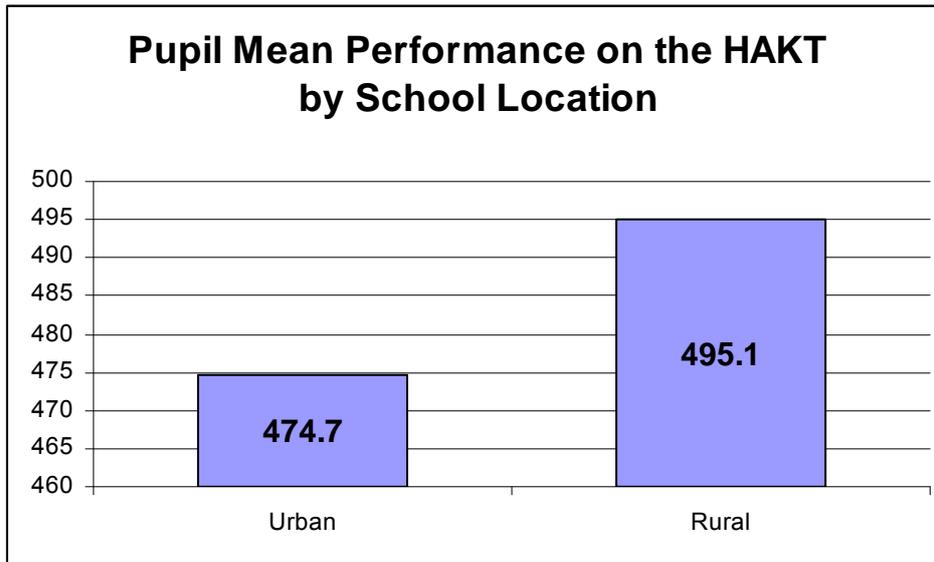


Figure 8.5: Mean Performance on the HAKT by Location (SACMEQ III)



8.8 Knowledge Levels of Teachers by Gender

The HAKT performance of teachers was analysed by gender (see Table 8.5 and Figures 8.6 and 8.7). The findings showed that generally male teachers performed better than their female counterparts. The average score for male teachers was 16.3 points higher than for female teachers.

More than 80 percent of male and female teachers achieved the desirable knowledge level. The percentage of teachers reaching the desirable knowledge level was slightly higher for males (89%) than females (83%). In seven of the nine provinces – Copperbelt, Luapula, Lusaka, Northern, Central, Southern and Western – the proportion of male teachers with a desirable level of HIV knowledge was higher compared to females. This disparity was most marked in Northern province where 100 percent of male teachers achieved a desirable level of HIV knowledge compared to only 58.9 percent of female teachers.

Only in the Copperbelt and Western provinces did less than 100 percent of female teachers reach minimum levels of HIV knowledge. Less than 100 percent of male teachers in the Copperbelt and North Western provinces reached minimum levels.

Table 8.5: Mean Performance on the HAKT of teachers by gender (SACMEQ III)

	Transformed scores				Reaching minimum level				Reaching desirable level			
	Male		Female		Male		Female		Male		Female	
	Mean	SE	Mean	SE	%	SE	%	SE	%	SE	%	SE
Central	765.3	23.14	750.2	44.55	100.0	0.00	100.0	0.00	100.0	0.00	85.1	15.68
Copperbelt	704.8	33.23	717.0	22.64	90.4	7.72	96.4	3.61	74.2	12.74	68.4	10.35
Eastern	744.8	24.28	733.8	20.49	100.0	0.00	100.0	0.00	84.7	15.76	93.2	7.03
Luapula	752.0	19.34	748.4	23.51	100.0	0.00	100.0	0.00	91.7	6.22	88.8	11.60
Lusaka	854.0	71.03	740.3	14.79	100.0	0.00	100.0	0.00	100.0	0.00	94.4	3.84
Northern	775.4	17.69	716.9	34.92	100.0	0.00	100.0	0.00	100.0	0.00	58.9	17.97
N/Western	728.6	30.29	755.8	12.78	92.2	7.92	100.0	0.00	81.5	10.91	100.0	0.00
Southern	794.5	27.10	765.5	24.99	100.0	0.00	100.0	0.00	95.6	4.52	91.6	8.68
Western	726.9	16.75	697.0	27.08	100.0	0.00	92.6	7.99	86.1	9.59	66.3	19.08
Zambia	752.2	10.13	735.9	8.50	97.3	1.79	98.8	0.92	89.2	3.21	83.4	3.57

Figure 8.6: Percentage of Teachers with Desirable Levels of Knowledge of HIV and AIDS by Gender (SACMEQ III)

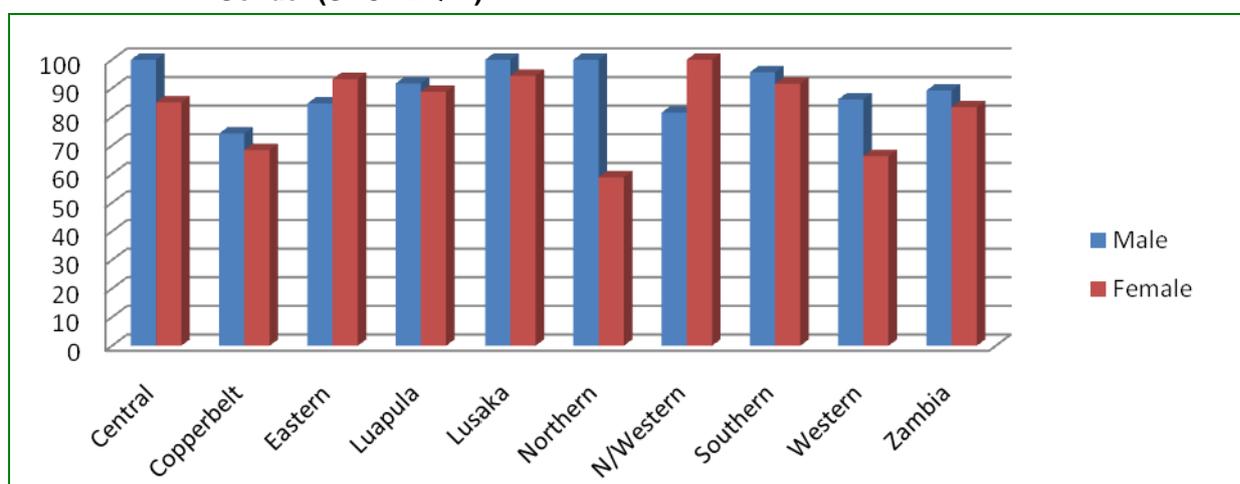


Figure 8.8: Teachers' Mean Performance on the HAKT by Gender (SACMEQ III)

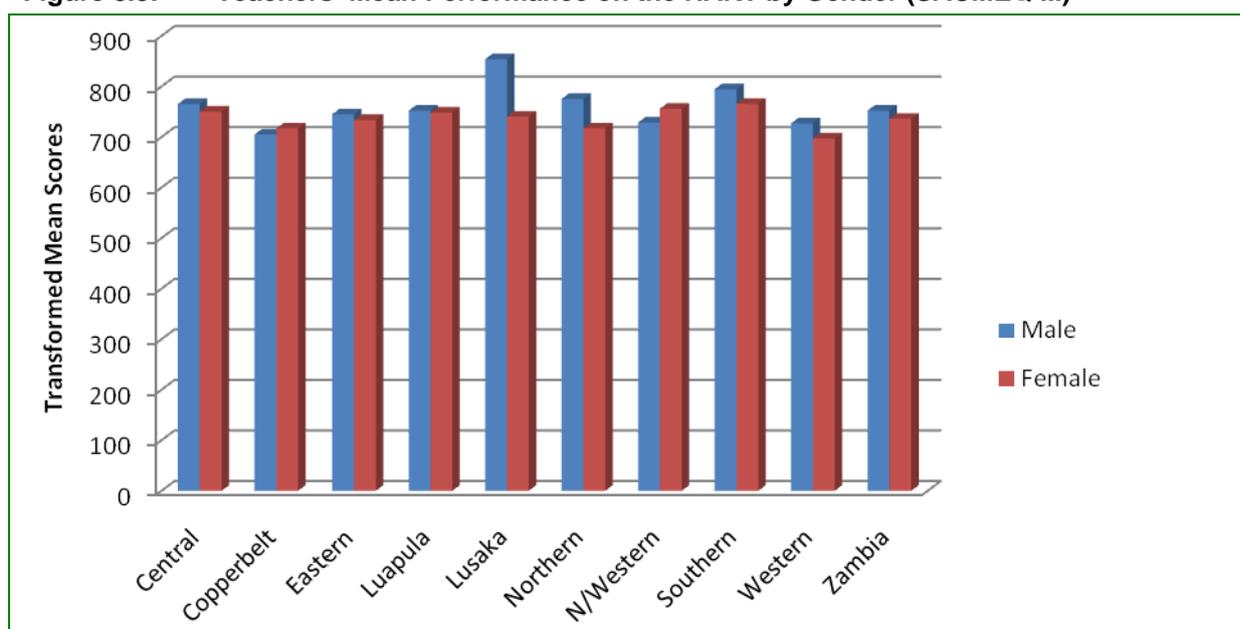
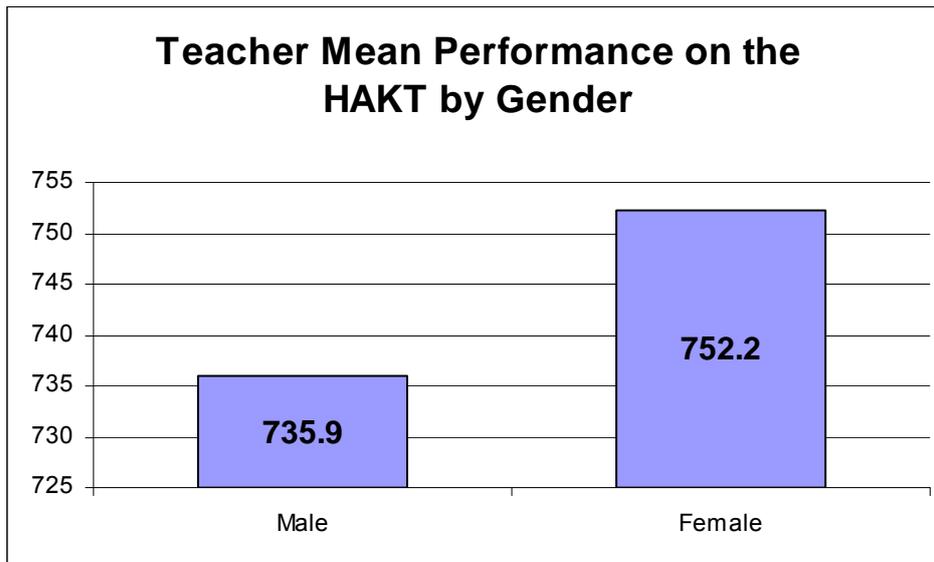


Figure 8.7: Teachers' Mean Performance on the HAKT by Gender (SACMEQ III)



8.9 Attitudes towards HIV and AIDS

The attitudes of school heads, teachers and pupils towards HIV and AIDS were explored to determine the extent of stigmatisation and discrimination of HIV-infected pupils.

Table 8.6 shows the responses of pupils, teachers and school heads on the question of whether an HIV-infected pupil may continue to attend school. At the national level, 99.5 percent of teachers and 93.6 percent of school heads agreed that HIV-infected pupils should continue attending school. However, only 55.6 percent of pupils responded that an HIV-infected pupil should continue to attend school. Although almost 82 percent of school heads in the Lusaka province responded that HIV-infected pupils should continue attending school, this percentage was the lowest among school heads who responded positively. The lowest proportion of teachers with positive attitudes was in Northern province but this was still remarkably high at 96 percent of teachers. These results suggest that pupils, rather than teachers and school heads, stigmatise HIV-positive peers. This should be addressed through HIV awareness-raising.

Table 8.6: Responses of Pupils, Teachers and School Heads on Whether an HIV-infected Pupil May Continue to Attend School (SACMEQ III)

	Pupils						Teachers						School heads					
	No		Not Sure		Yes		No		Not Sure		Yes		No		Not Sure		Yes	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Central	40.0	7.17	11.2	2.49	48.8	7.14	0.0	0.0	2.4	2.37	97.6	2.37	0.0	0.00	0.0	0.00	100.0	0.00
Copperbelt	32.5	4.64	11.5	2.27	56.0	5.32	0.0	0.0	0.0	0.00	100.0	0.00	0.0	0.00	0.0	0.00	100.0	0.00
Eastern	25.3	3.98	9.7	2.99	65.0	5.48	0.0	0.0	0.0	0.00	100.0	0.00	0.0	0.00	0.0	0.00	100.0	0.00
Luapulu	43.0	5.38	9.8	2.22	47.2	5.33	0.0	0.0	0.0	0.00	100.0	0.00	0.0	0.00	0.0	0.00	100.0	0.00
Lusaka	23.1	3.83	13.5	2.31	63.4	5.63	0.0	0.0	0.0	0.00	100.0	0.00	18.3	12.44	0.0	0.00	81.7	12.44
Northern	39.2	4.41	10.7	3.11	50.2	4.03	3.8	3.8	0.0	0.00	96.2	3.78	6.7	6.76	0.0	0.00	93.3	6.76
North Western	30.9	5.01	9.7	2.59	59.4	5.78	0.0	0.0	0.0	0.00	100.0	0.00	6.3	6.32	6.5	6.59	87.2	8.81
Southern	40.8	4.96	11.0	2.57	48.1	5.12	0.0	0.0	0.0	0.00	100.0	0.00	0.0	0.00	0.0	0.00	100.0	0.00
Western	23.2	6.21	12.7	4.30	64.1	7.43	0.0	0.0	0.0	0.00	100.0	0.00	0.0	0.00	0.0	0.00	100.0	0.00
Zambia	33.4	1.80	11.0	0.90	55.6	1.99	0.2	0.2	0.3	0.31	99.5	0.38	2.8	1.42	0.8	0.82	96.3	1.61

Figure 8.9: Percentage of Pupils, Teachers and School Heads Agreeable to have HIV-Infected Pupils Continue to Attend School (Positive Responses) (SACMEQ III)

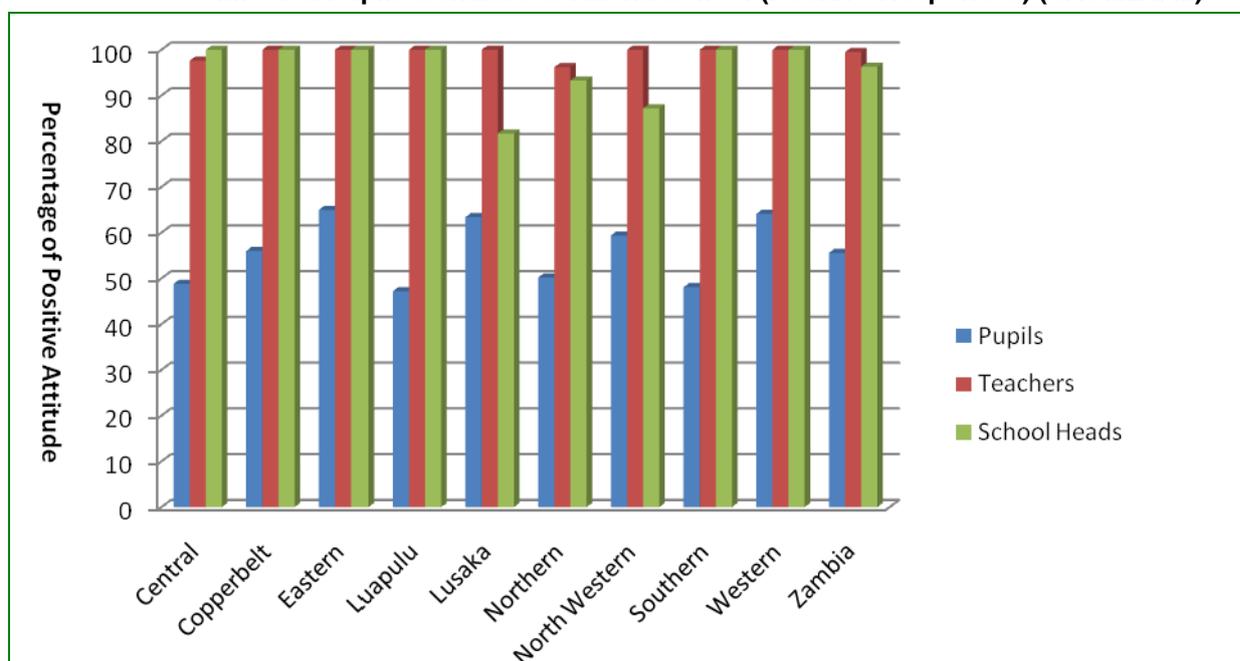


Table 8.7 shows that the majority of pupils (71.8%) were willing to care for a relative with AIDS-related ailments. In Northern province 57.8 percent displayed positive attitudes towards an HIV-infected friend. This figure is not very encouraging because it suggests that more than one third (33.6 percent) of pupils would have avoided an infected friend. In specific geographic localities, misconceptions contributing to discrimination and stigma may be more prevalent than in others.

Table 8.7 Pupil Behaviour Towards a Person Living with HIV or AIDS (SACMEQ III)

	Pupil behaviour towards an HIV-infected friend						Pupil willing to care for a relative ill with AIDS					
	Avoid/shun him or her		Not Sure		Positive Attitude		No		Not Sure		Yes	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Central	21.0	4.25	33.6	4.74	45.4	6.21	20.8	5.53	16.1	3.96	63.2	7.74
Copperbelt	16.7	2.52	21.8	3.61	61.5	4.63	19.2	3.11	9.5	1.96	71.3	4.57
Eastern	11.8	3.10	13.9	2.15	74.3	4.09	5.9	1.65	9.6	2.86	84.5	3.35
Luapulu	28.7	4.91	25.1	4.18	46.2	5.19	31.8	4.17	13.6	2.96	54.6	4.16
Lusaka	9.4	2.32	28.2	5.66	62.4	6.05	11.4	3.47	16.2	4.00	72.5	6.20
Northern	33.6	4.30	18.1	3.99	48.3	4.46	23.8	4.28	12.3	2.63	63.9	3.62
North Western	22.8	3.76	14.5	3.64	62.7	5.44	10.0	2.37	7.2	2.35	82.8	4.19
Southern	25.7	3.86	25.4	3.63	48.8	4.67	22.1	4.35	9.8	2.04	68.0	4.81
Western	12.5	2.42	15.9	3.92	71.7	5.17	9.1	2.78	4.8	1.83	86.1	4.07
Zambia	19.8	1.23	22.4	1.39	57.8	1.81	17.1	1.29	11.1	0.97	71.8	1.78

8.10 Perception of HIV Risk

Table 8.8 shows the results of a self assessment of the risk of HIV-infection by teachers and school heads. At the national level the statistics according to the self assessment responses revealed that the majority of teachers (64.1%) and school heads (53.3%) considered themselves to be at a low risk of HIV infection. In terms of the high risk self assessment of teachers by province, the findings indicate that only Central and Copperbelt Province had proportions above 30 percent and the lowest high risk self assessment was in North Western province with 16.4 percent. The highest risk self assessment by school heads was recorded in Northern Province (51%) followed by Western province (49.6%) and Luapula province (46%) while the lowest high risk assessment was Lusaka province with 18.3 percent. On the whole the school heads rated themselves to be at higher risk of being infected with HIV compared to the self rating of teachers.

Table 8.8 Self Risk Assessment of Being Infected with HIV by Teachers and School Heads

	SELF HIV RISK ASSESSMENT											
	TEACHERS						SCHOOL HEADS					
	No/ Low Risk		Medium Risk		High/Very High Risk		No/ Low Risk		Medium Risk		High/Very High Risk	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Central	48.6	11.80	17.1	8.55	34.3	11.52	47.9	13.46	13.0	8.89	39.1	13.05
Copperbelt	55.3	7.78	9.9	5.17	34.7	8.10	62.0	13.23	0.0	0.00	38.0	13.23
Eastern	76.8	10.40	5.8	4.20	17.4	9.53	55.1	13.28	22.0	10.58	22.9	10.83
Luapulu	74.6	10.15	6.5	6.53	18.9	8.91	47.5	13.40	6.5	6.53	46.0	13.34
Lusaka	58.1	9.93	12.9	7.96	29.0	8.66	64.1	15.32	17.5	12.00	18.3	12.44
Northern	54.9	12.76	23.5	10.50	21.6	9.09	25.9	11.69	23.1	12.06	51.0	13.36
North Western	75.9	9.19	7.8	5.76	16.4	7.99	48.7	13.16	24.5	11.19	26.9	11.90
Southern	74.1	9.87	6.0	4.49	19.9	9.30	63.5	11.71	4.4	4.41	32.1	11.41
Western	56.1	11.19	23.2	8.49	20.6	8.86	50.4	13.62	0.0	0.00	49.6	13.62
ZAMBIA	64.1	3.42	11.2	2.25	24.7	3.18	53.3	4.50	11.9	2.76	34.9	4.26

8.11 Conclusion

This chapter examined the HAKT conducted on both pupils and teachers. Almost all teachers (98%) were found to be adequately informed about HIV and AIDS, yet only one third of pupils (35%) were adequately informed. The majority of pupils were below the minimum acceptable standards for HIV and AIDS knowledge. A similar finding was reported in the DHS where although 98 percent of young people aged 15 to 19 years were aware of HIV and AIDS, only 34 percent had a comprehensive knowledge of it.

Rural pupils performed better in the HAKT than urban pupils and the distribution of scores was generally narrower among rural pupils compared to their urban peers. There were twice as many pupils in rural areas reaching the desirable levels than urban pupils. The minimum levels were equally better for rural than urban pupils. The disparity in performance between rural and urban pupils raises questions about the effective dissemination of HIV and AIDS information to pupils. An in-depth investigation and analysis is needed to substantiate HAKT findings that claim a higher level of HIV knowledge in rural over urban pupils.

The data reveals that pupils, rather than teachers and school heads, harbored negative attitudes towards HIV-infected individuals in schools. There is also evidence that pupils did not feel inhibited taking care of friends and relatives who are HIV positive. However, in various provinces, such as Southern and Northern, high levels of negative attitudes towards HIV-infected pupils were recorded. There is a need for continued knowledge building among pupils to lessen the stigma associated with HIV infection.

There was no significant relationship between socio-economic status and level of HIV knowledge. The proportion of people with desirable levels of HIV knowledge was evenly distributed across low and high socio-economic strata.

In regards to self risk assessment, the majority of teachers and school heads considered themselves to be at a low risk of HIV infection. However, those in Copperbelt, Lusaka and Central provinces reported being at a very high risk of contracting HIV. In a context where there is a high level of HIV infection combined with a low self perception of risk, the danger of HIV transmission is high. It is important to encourage and facilitate teaching staff to get tested on a regular basis, either every three months in high prevalence areas (Lusaka,

Copperbelt and Central), or whenever exposure to a potential source of infection may have occurred.

The results indicate that there was a higher proportion of male teachers than female teachers with desirable levels of HIV knowledge. This finding must be confirmed through further investigation. Necessary action must be taken to ensure the availability of gender sensitive HIV education, care and support services.

The results of this study point to a more concerted and deliberate effort to provide HIV and AIDS education to Zambia's pupils. However, the current expectation that teachers integrate and disseminate HIV and AIDS knowledge into different learning areas may be unrealistic. The effective teaching of HIV and AIDS, just like any other life skills subject area requires the use of interactive methodologies.

Policy Suggestion 8.1:

- The Ministry of Education should establish the extent to which the current curriculum addresses HIV and AIDS.
- The capacity of teachers to provide HIV and AIDS education must be enhanced through teacher training at pre-service and in-service levels.
- The Ministry of Education should undertake a review of the policy and practice of integrated HIV and AIDS education and take action to ensure heightened system and school accountability for an effective knowledge transfer from teachers to pupils.
- HIV and AIDS education resource materials should be widely distributed to all schools and used in pupils' learning experiences.
- HIV and AIDS programmes should be regularly monitored and evaluated. This could be incorporated into the Ministry of Education's Monitoring and Evaluation mechanisms and EMIS frameworks to include HIV and AIDS indicators.

Chapter 9

Conclusions and Recommendations

9.1 Introduction

This chapter highlights the findings of the third SACMEQ research project based on each of the thematic areas of the report and gives the policy options on how to address the concerns raised by the study. This chapter draws attention to a number of issues to facilitate suitable decision making by responsible directorates. It is particularly important that the results of the HIV AIDS Knowledge Test for both learners and teachers be understood from the perspective of knowledge acquisition and application. Gender equality concerns in education should not be restricted to the provision of access but should also include learning achievements for both boys and girls. Quality education is also a result of provision of both inputs and processes and therefore the need to supply adequate educational inputs on equitable terms.

9.2 Thematic issue: Pupil age and pre-school attendance

There was a significantly high percentage of Grade 6 learners who were over aged, especially in rural areas and among learners of low socioeconomic status. There was also a low percentage (31%) of Grade 6 pupils that had attended pre-schools, particularly in rural areas and also among learners in the low SES group. These are issues of concern for the ministry that require immediate attention. The ministry is now responsible for the administration and management of pre-school education and it is envisaged that there will be efforts to expand the provision of access to pre-school education to more children.

Policy Recommendations:

The high percentage of over aged learners will affect efficiency in educational delivery because resources for children who are the official school age for the grade need to be shared with over-age learners. This high percentage is mostly in the rural areas and among learners in the low SES group. One possible reason is that schools in rural areas are difficult to reach and children cover long distances to attend school. The need to travel long distance may result in delayed enrollment.. In order to address this issue:

1. The Directorate of Planning and Information through the infrastructure section should continue constructing schools closer to the communities especially in rural areas in order to reduce walking distances.
2. The District Education Boards should strive to clear the backlog of over aged children that are not in school.

Learner performance could be related to lack of pre-school education. Further statistical research is required to confirm this relationship. Now that the ministry has taken up the responsibility of administration and management of pre-school education, more centres are planned. The coordination pre-school education will benefit from a well coordinated curriculum and the monitoring of quality in the provision of the services. It is therefore important that:

1. The planning and information directorate facilitates the finalization of the ECCED policy framework.
2. The Standards and Curriculum Directorate develops the ECCED curriculum and also coordinates the monitoring of quality delivery of education at this level among the private service providers.

9.3 Thematic issue: Progress in gender equality in education

In order to attain the gender-related objectives within EFA, it is necessary to go beyond gender parity. The SACMEQ III Project research results for Zambia indicated that, though there had been progress towards attaining gender balance in the provision of access and participation, there was no corresponding progress towards gender equality in learning achievements. The Ministry of Education should therefore examine, review and prioritize the policy suggestions indicated above so as to develop targeted policy strategies aimed at improving the quality of education for both boys and girls. These efforts should be directed at reducing gender inequality in learning achievement levels.

Policy Recommendations

To overcome some of the above-mentioned shortcomings, it is suggested that:

1. The Ministry of raise the issue of promoting gender equality in learning achievement.

2. The SACMEQ III results reinforced the implementation of the findings and recommendations of the Gender Audit Report (UNICEF, 2009) on safety measures in schools, inadequate sanitation facilities and low achievement level of girls.
3. The Ministry of Education, through the Curriculum Development Centre should consider the gender responsive pedagogies in the curriculum review.
4. The Ministry of Education through the Standards and Curriculum Directorate should closely monitor the learning environments in schools to determine gender issues related to pupil performance, especially for girls.

9.4 Thematic issue: Quality of inputs in primary schools

The SACMEQ III study examined the quality of primary school inputs in Zambia using three indicators: (1) basic learning materials, (2) mathematics textbooks, and (3) class size. Against the country's own set benchmarks, Zambia scored poorly in the provision of basic learning materials and textbooks. In addition, on average, the country fared poorly on class size, although in Western provinces the average class size was well within the national benchmark. In terms of textbooks and class sizes, the results show that the provision of these inputs declined between 2000 and 2007. It is likely that this overall decline in the quality of school inputs can be linked to the introduction of FPE in Zambia in 2002. It is also likely that the shortage of school resources observed in this study is related to the poor performance levels of the Grade 6 pupils in the SACMEQ III study in reading and mathematics.

Policy Recommendations

Regarding problems with the provision of basic learning materials and textbook in Zambia primary schools, the following policy options should be considered.

1. The Directorate of Standards and Curriculum could review the current textbook procurement procedures with an aim of putting in place mechanisms to improve the process so that all pupils have timely access to textbooks.
2. The Directorates of Standards and Curriculum and Planning should conduct a follow-up audit of the availability of textbooks in schools to establish if the situation has changed since 2007.
3. The Directorate of Standards and Curriculum could regularly monitor the levels of basic learning materials and textbooks in schools at the district and provincial levels. This monitoring can be achieved by regular visits to schools by Standard Officers.

Concerning the need to improve class sizes in Zambian primary schools, the following policy options should be considered:

4. The provincial education officers and school heads in all provinces should endeavor to keep class sizes within the set national benchmark of 40 pupils per class. This, however, might prove to be difficult under the FPE and EFA frameworks. Nevertheless, for the short-term, this could be partly achieved through the introduction of shift schooling (especially in the lower primary school classes). The long-term solution would lie in the building more classrooms and schools through continuous infrastructure development using both the contractor and community modes of construction. These efforts could then be complemented by the continuous recruitment and deployment of teachers.

9.5 Thematic issue: Learning achievement of Grade 6 pupils

There is a general concern over the low performance levels of Grade 6 learners in the SACMEQ III study in both reading and mathematics. The average score for Zambia fell below the SACMEQ set minimum average in both reading and mathematics. There was a decline in pupils acquiring advanced reading skills from 9 percent in 2000 to 6 percent in 2007. At the provincial level, the percentage of pupils with advanced reading skills varied from 2 percent in Central and Luapula provinces to 14 in Lusaka province. There was no improvement in the percentage of pupils with advanced mathematics skills. It remained 2 percent for 2000 and 2007. There was little variation among the provinces in mathematics. . None of the pupils in the Southern province had acquired advanced mathematics skills. The top performing provinces were Central and Copperbelt and even in these provinces only 3 percent of pupils achieved an advanced level of competence.. Generally there was no improvement in performance between SACMEQ II and III studies in both literacy and numeracy. It is therefore important that the Ministry of education uses these results as a point of reflection on the way forward to improve the performance of learners.

Policy Recommendations

1. The Directorate of Standards and Curriculum should ensure that there is teacher supervision and monitoring at the school level.
2. The Directorate of Teacher Education and Specialised Services should ensure the continuous professional development programme is strengthened at schools.

3. The Standards and Curriculum and Teacher Education Directorates should review and harmonise the various reading programmes that are currently in place.
4. The teaching and learning materials including the free basis education materials should be procured and distributed to all schools in good time.
5. The Standards and Curriculum Directorate should review the decentralised textbook procurement policy to make it more effective and responsive to the needs of the schools.

9.6 Thematic issue: HIV and AIDS Knowledge Test (HAKT)

It is clear from the SACMEQ III Project research results that the time has come for the Zambian Ministry of Education to take stock of the effectiveness of current HIV and AIDS prevention education programmes for young people in Zambia. All children need to have a basic knowledge about HIV-AIDS in order to protect and promote health. The SACMEQ research results show that two-thirds of Grade 6 pupils in Zambia did not have this minimal level of knowledge.

This is indeed alarming because Grade 6 pupils in Zambia (with an average age of 14.1 years) are entering a stage of development where they may become involved in high-risk behaviours.

The Ministry of Education should therefore take immediate action to: (a) address the research-based conclusions presented in this report, and (b) facilitate the development and implementation of more effective HIV-AIDS prevention programmes (c) review the Education HIV AIDS Work place Policy to include issues relevant to learners.

Policy Recommendations

1. Pupil Knowledge Levels

Knowledge about HIV-AIDS among two thirds of Zambia's Grade 6 pupils (65%) was below SACMEQ's "minimal" benchmark (defined as mastery of at least half of the official school curriculum). In addition, the average score of Zambia's Grade 6 pupils on the SACMEQ HIV-AIDS Knowledge Test was 12 points below the SACMEQ overall average.

Policy Action:

The Ministry of Education should acknowledge that current HIV and AIDS prevention education programmes: (a) are not working effectively, and (b) require immediate review.

2. Provincial Differences in Knowledge

There were differences in average Grade 6 pupil HIV-AIDS knowledge levels between education provinces in Zambia.

Policy Action:

The Directorate of Planning and Standards and Curriculum should investigate why knowledge levels are so low especially in Copperbelt (urbanized area), Luapula, Southern, Lusaka (urbanized area), central and Northwestern provinces.

3. Pupil-Teacher “Knowledge Gap”

There was a large HIV-AIDS “knowledge gap” between Zambia’s Grade 6 pupils and their teachers.

Policy action:

1. The Directorate of Standards and Curriculum and Teacher Education should investigate why well-informed teachers are unable to share this important knowledge to their pupils.
2. Teacher educators should review their pre-service and in-service training programmes to ensure that teachers are trained in both (a) subject matter knowledge (“what to teach about HIV-AIDS”), and (b) pedagogy (“how to teach about HIV-AIDS”).

4. Demographic Differences in Knowledge

There were significant differences in knowledge about HIV and AIDS within groups of Zambia Grade 6 pupils defined by Gender.

Policy Action:

The Directorate of Planning should conduct further research to find out why boys appear to know more about HIV and AIDS than girls.

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