

SACMEQ Educational Policy Research Series

The SACMEQ II Project in Lesotho:
A Study of the Conditions of Schooling
and the Quality of Education.

Lesotho
Working Report

by

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and

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Foreword

The origins of the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) date back to 1991, the year when several Ministries of Education in Eastern and Southern Africa started working closely with UNESCO's International Institute for Educational Planning (IIEP) on the implementation of integrated educational policy research and training programmes.

In 1995 these Ministries of Education formalized their collaboration by establishing a network that is widely known as SACMEQ. Fifteen Ministries are now members of SACMEQ: Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania (Mainland), Tanzania (Zanzibar), Uganda, Zambia, and Zimbabwe.

SACMEQ is registered in Zimbabwe as an Independent Intergovernmental Non-profit Organization. Its Coordination Centre is located within UNESCO's Harare Cluster Office and is managed by a Director who works under the guidance of a six-member Managing Committee. SACMEQ's Assembly of Ministers meets every two years and provides overall policy guidance concerning SACMEQ's mission and programmes.

The focus of SACMEQ's capacity building programmes has been on building the capacity of Ministries of Education to monitor and evaluate the quality of their basic education systems. SACMEQ employs innovative training approaches that include a combination of face-to-face training, hands-on experience, computer laboratory sessions, and on-line support via the Internet. SACMEQ also encourages a unique form of collaboration among SACMEQ National Research Coordinators in the fifteen member countries as they share and exchange skills and successful experiences.

In September 2004 SACMEQ was awarded the Comenius Medal for its innovative approaches to delivering cross-national educational research and training programmes.

This report provides a description of the results of the SACMEQ II Project - SACMEQ's second major educational policy research project. The results of the SACMEQ I Project were reported in seven national reports for Kenya, Malawi, Mauritius, Namibia, Zambia, Zimbabwe, and Tanzania (Zanzibar).

The SACMEQ Data Archive was launched in June 2004. This valuable information resource contains data, data collection instruments, manuals, technical papers, and related publications from both SACMEQ projects. Copies of the archive may be obtained by completing the registration form on the SACMEQ Website (www.sacmeq.org).

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Chapter 1

The Setting for the Study

Introduction

SACMEQ II National Policy Report is based on the SACMEQ II Research Project in Lesotho, 1998 – 2003. It is the second in series for those SACMEQ member countries who completed SACMEQ I Research Project. The SACMEQ Policy Reports are similar; they focus on policy issues related to the general conditions of schooling and the quality of education. Consequently, the wave of reports provided the baseline information against which changes could be measured and monitored. Establishing mechanisms of monitoring and evaluating educational systems are an important integral part of the overall objectives of SACMEQ: (a) to expand opportunities for educational planners to gain the technical skills required to monitor and evaluate the quality of basic education, and (b) to generate information that can be used by decision-makers to plan and improve the quality of education.

Fifteen Ministries of Education are members of the SACMEQ consortium: Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania (Mainland), Tanzania (Zanzibar), Uganda, Zambia, and Zimbabwe. The IIEP is also a member of SACMEQ.

Decisions concerning SACMEQ's mission and its programmes of research and training are set down by the SACMEQ Assembly of Ministers – which meets every second year at the time of the UNESCO General Conference. The Assembly of Ministers consists of the Ministers of Education of the countries participating in SACMEQ. SACMEQ's Co-ordinating Centre (SCC) is located with UNESCO's Sub-regional Harare Office in Zimbabwe. The SCC is managed by a Director and operates under the guidance of a Managing Committee that is chaired by the chairman of the Assembly of Ministers. The SCC coordinates and facilitates co-operative SACMEQ initiatives and also works with

development partners to obtain funding for sub-regional research and training programmes. The SACMEQ Ministries of Education are responsible for their own within-country costs associated with participation in SACMEQ research projects.

The SACMEQ I Research Project was completed by five Ministries of Education in 1998 (Mauritius, Namibia, Tanzania (Zanzibar), Zambia, and Zimbabwe), and another two Ministries in 2000 (Kenya and Malawi). The SACMEQ National Research Co-ordinators prepared national educational policy reports based on this research that were subsequently published by the IIEP. These reports set down agendas for government action on issues related to baseline indicators for educational inputs, the general conditions of schooling, equity assessments for human and material resource allocations among schools, and pupil literacy levels.

SACMEQ II Project covered more national systems of education than SACMEQ I, and it also gathered more data from pupils, teachers, and school heads. For example, the SACMEQ II Project gathered data for (a) pupil literacy and numeracy levels (as against only pupil literacy levels in SACMEQ I), and (b) teacher literacy and numeracy levels (as against no teacher test data in SACMEQ I).

The Country and Development Context

Lesotho is a small mountainous country covering about 30,000 sq. km. The country is landlocked and completely encircled by South Africa. It has a population of about 2.14 million people. Popularly referred to as the 'Kingdom in the Sky', three quarters of the country is made up of highlands which rise to nearly 3,500 meters in the Drakensberg Mountains. The remaining one-quarter of the country has altitudes between 1,500 and 2,000 meters. The mountainous topography of Lesotho presents difficult terrain, arable land is limited, and less than 10 percent of the country is presently under cultivation. The rural highlands are less developed and winters are severe with heavy snowfalls that often cut off the population from basic social services: education, health services and food supply. Otherwise the country has four ecological regions namely: lowlands, foothills, Senqu river valley and the mountains.

The mountains are repositories of the bulk of natural resources including water, gemstones, and endemic and globally significant biodiversity. Its human capital is another main resource. Traditionally, Lesotho depended on the exportation of its labour to South Africa, especially to the gold mines. At one time, miners' remittances accounted for as much as 30 percent of GNP and were a particularly important household resource in rural areas. However, employment opportunities in the South African mines declined significantly for several reasons, including increased mechanization, high unemployment within South Africa itself and weakening gold prices. Through the Highlands Water Project, Lesotho has started harnessing its water resources for export to Gauteng, the densely populated industrial heartland of South Africa. With an annual per capita income in 1999 of U\$415, the country is classified as one of the 49 Least Developed Countries. It is also ranked 132 out of 173 countries on the UNDP Human Development Index.

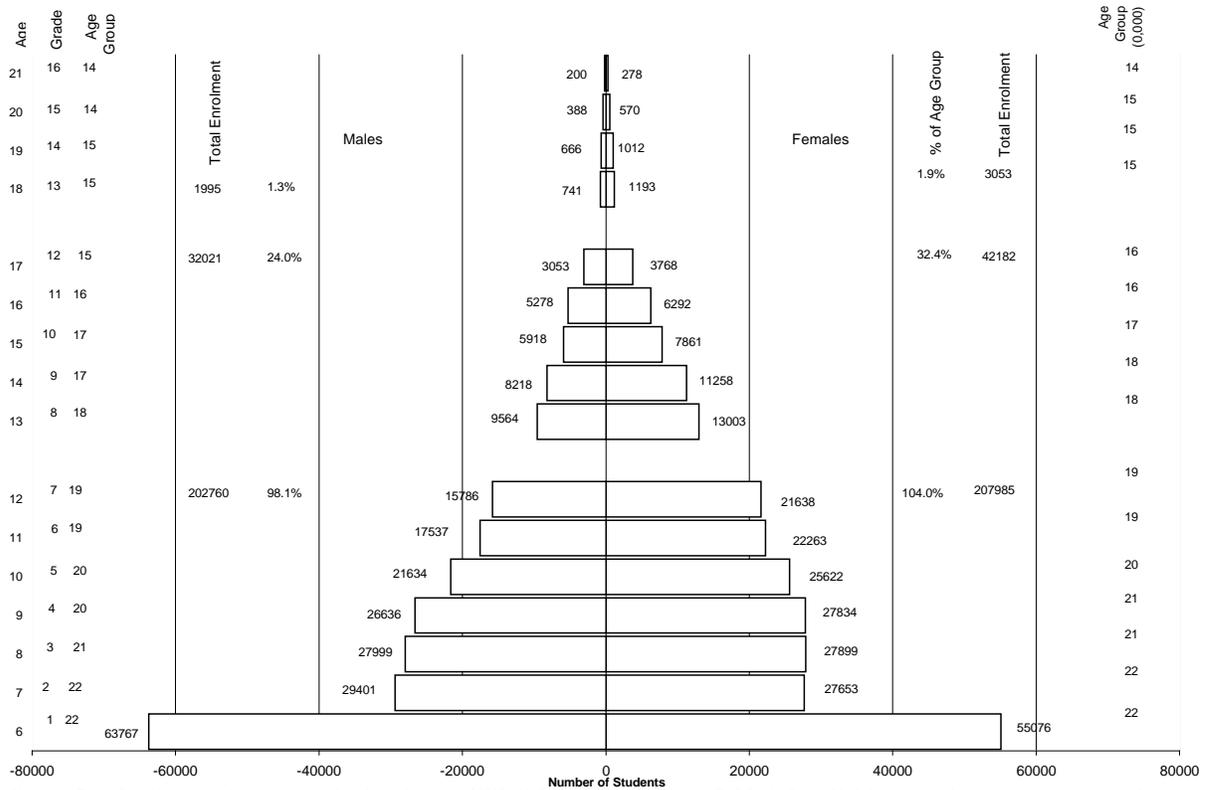
With 31 percent of the adult population (15 – 49) infected by HIV/AIDS the effects on economic performance are and will continue to be significant. HIV/AIDS typically affects individuals in their prime and thus adversely impacts the productivity of the labour force, renders fewer resources available for investments and may deter foreign investors. The World Bank has estimated that the impact of HIV/AIDS will reduce GDP by almost one third by 2015, significantly reducing the prospects of financing the national development objectives.

Administratively, the country is divided into 10 districts namely: ButhaButhe, Leribe, Berea, Maseru, Mafeteng, Mohale's Hoek, Quthing, Qacha's Nek, Mokhotlong, and Thaba Tseka. For the intercensal period 1986 -1996 only Maseru and Berea districts had an increased percentage share of the population; Maseru had the biggest share of population over the other districts for the past three censuses. The increase of population in Berea is due to the proximity of its boundaries to Maseru Urban, such that there have been spillover effects of the urbanization process into Berea district.

The Structure of the Education System

The pyramid (*Figure 1*) of the educational system in Lesotho in 2000 was broad based indicating that majority of the learners were in the primary education system. Post-primary education (secondary and tertiary education) constituted a minute fraction of the school population enrolled in the formal school system in 2000. Plans were well ahead to mainstream the Early Childhood Care and Development (ECCD) in the formal education system; and after the policy on ECCD has been enacted, it was hoped that all efforts to indicate the proportion of the ECCD in the pyramid, would be made.

Figure 1 – Lesotho Education Pyramid, 2000



Notes: (a) Figures for school-age population are estimates based upon the census of 1996. (b) Grades 1 to 7 are Standards 1 to 7. (c) Grades 8 thru 13 include enrolments in general secondary courses, teacher training courses, and vocational/technical courses. (d) Enrolments for all grades include over-age students. (e) Students studying at a tertiary level are not included.

The Government policy with regard to the educational structure was to have ten years of basic education covering the seven years of primary education and the three years of lower secondary education. This policy remains to be implemented. Meanwhile, the primary education and the junior secondary education programmes remain distinct according to the International Standard Classification of Education (ISCED) which has been recommended to member states by UNESCO.

List of education programmes offered in Lesotho school system

<i>Education Program</i>	<i>Starting age</i>	<i>Ending Age</i>	<i>Entry requirement</i>	<i>Duration</i>	<i>Qualification</i>
ECCD	Three years	Five Years	None	Three years	ECCD Certificate
Primary Education	Six years	Twelve years	None	Seven years	Primary School Leaving Exam. (PSLE) Certificate
Junior Secondary a) General secondary b) Technical/ Vocational	Thirteen years	Fifteen years	PSLE Cert.	Two/ three years	a) Junior Cert. b) Cert. in program.
Senior Secondary (a) General secondary (b) Technical/ Vocational	Sixteen years	Seventeen years	Junior Certificate	Two/ three years	a) Cambridge overseas school Certificate b) Certificate in programme
Post-secondary (a) Teacher training (b) Technician training	Eighteen years	Nineteen to twenty years	Senior secondary	Two/ three years	Diploma/Cert. in Program
Post-secondary University education	Eighteen	Twenty-four years	Senior secondary	Four/ Six years	Junior degree/ Masters degree

In ISCED as revised in 1997, the education programme is the unit of classification called level. Each level may have more than one stage, and a successful completion of one stage leads to the next and higher stage. Accordingly, there are six distinct levels of education. Level 0, Level1, Level 2, Level 3, Level 4, and Level 5 corresponding

respectively to ECCD education, Primary education, Lower secondary education, Upper secondary education, Post secondary non tertiary education and the University.

Education at Level 0: This level which is also known as the Pre-Primary provides Early Childhood Care Development education. Many Basotho children did not participate in ECCD programmes as ECCD coverage remained low for children in rural and poverty stricken areas. This programme is intended primarily to introduce young children to a school type environment, to provide care and education – appreciation skills and value sharing to children.

Education at the first level: The first level consists of seven years of basic education in reading, writing and mathematics along with the elementary introduction to other subjects like history, geography, religious instruction and social studies. The seven yearly stages are designated Standards One through Seven. Teaching is conducted in Sesotho for the first three years and mainly in English in Standards IV through VII. National examinations are conducted in English at the end of the primary education cycle. These examinations lead to the attainment of Primary School Leaving Examination (PSLE) Certificate which qualifies entry into the next higher level- Junior secondary education.

Education at the second level: Education at this level (Junior secondary) is provided in two types: general secondary and vocational education. General education covers three years of studying from Form A to Form C. This level would be termed second stage of basic education. Vocational education is designated to introduce students to the world of work and prepare them for entry into the labour market: home economics, leather works, masonry and agriculture are some of the courses that are provided.

Education at the third level: Upper or senior secondary education is built upon the instruction given on the previous level. There are two types of education provided at this level namely: the general senior secondary education and the technical and vocational education. The senior secondary schools provide general education and the duration here is two years for Form D and Form E. The technical and vocational education consist of

basic electronics, carpentry and joinery, plumbing, electrical installation, building and fitting and turning.

Education at the fourth level: This level provides post secondary non tertiary education which is divided into two types (i.e. 4(a) and 4(b)). The first type consists of teacher training programmes. This education is offered at the Lesotho College of Education (LCE) and it prepares students to teach in both primary and junior secondary schools. The second type accounts for technician training, architecture and motor mechanics.

Education at the fifth level: The fifth level provides for the degree type of education at the National University of Lesotho (NUL).

The Ministry of Education and Training (MOET) offers some non-formal education courses through the Lesotho Distance Teaching Centre (LDTC) and by the National University of Lesotho's Institute of Extra-Mural Studies (IEMS).

The administration of the school education

Formal education functions through a strong partnership between the Government, school proprietors (church groups), and the local communities (parents). This was facilitated by the passing of the Education Act in 1995. This Act legally underpinned the agreement between the MOET and the churches to collaborate in the education service delivery. It also provided for increased participation by parents and called for all primary and secondary schools to establish School Advisory and Management Committees. The committee members comprise representatives from the MOET, churches and parents. The Education Act has also facilitated commendable progress in resolving the church/state conflict over the management of schools. However, much work needed to be done to enforce the Act and to continue training school committees in their new roles. Additional efforts were required to further define the appropriate roles for the churches and the state in provision of education. Part of the credit received from the International Development Association (IDA) for the Second Education Sector Development

Programme (ESDP II) – 1999 to 2012 would be used to train the committees in their new roles

More than 90 percent of primary and 80 percent of secondary schools were legally owned by churches. In the 1980s and before, church secretaries were responsible for hiring, firing, deploying and disciplining teachers. However, when church resources for financing recurrent and capital costs dried up, the GOL (Government of Lesotho) became more involved and began providing grants for teachers' salaries, instructional materials and infrastructure. Further more MOET designs and develops the curriculum to be taught in the schools. In addition to looking after the entire education system through various departments of the Ministry, it is charged with the responsibilities of the pronouncement of policy, the setting of standards, the training of teachers, the formal approval of teachers' appointments, dismissals and deployment, the administration of examinations, school inspection, and the regulation of the opening and closing of schools.

The Ministry began implementing its decentralization plan, during the ESDP I – 1992 to 1996, by building District Resource Centers and legalizing School Advisory and Management Committees. Interaction with the schools including supervisory, monitoring and evaluation activities are performed at the school level through the inspectorate. The role of the inspectorate in the schools is largely advisory; following a site inspection, reports are sent to head teachers, school managers, and church secretaries for action and to the Ministry of Education for general planning and policy formulation and, if necessary, follow-up action. Head teachers' roles involve the allocation of tasks to respective teachers, supervising the work in order to ensure that set objectives are met, providing support and guidance where it is necessary, and finding possibilities for teachers to get professional development.

To improve education governance further, during the plan period, the MOET was restructured. Four main divisions were created, each with a head at the Deputy Principal Secretary level. The intention of the restructuring was to streamline MOET structures and decentralize decision making. However, the roles and responsibilities of central

officers versus district and other officers were still not clearly delineated. As a result, most decisions continued to be taken centrally at headquarters. For the system to function efficiently, it would be necessary to spell out the roles and responsibilities of the lower tiers of the management structure.

In the final analysis, the education of Lesotho began as a partnership and it still is a partnership affair. It is the property of parents, children, teachers, church proprietors, advisory school committees, management committees, school boards, Government and the Nation as a whole.

Education Sector Financing

Contrary to what was obtains in most of the Sub-Saharan Africa, the education sector's share of the GOL was very high. Its share of the recurrent budget was more than a quarter (28%) of all GOL recurrent expenditures, including the four percent Government budget which was allocated for bursaries, but administered by the National Manpower Development Secretariat (NMDS) attached to the Ministry of Finance and Development Planning.

But in a pattern that was relatively common in Sub-Saharan Africa, the distribution of the public budget between primary and tertiary education was unbalanced in Lesotho. The ratio of secondary to primary expenditure was about three to one, which was high for a mass primary education system. However about 30 times as much was spent on each Technical and Vocational Education and Training (TVET) and Lesotho College of Education (LCE) students as on primary students. And 84 times more was spent on an NUL (National University of Lesotho) student than on a primary student in 2000/01 (Public Expenditure Review (PER) – 2000).

In terms of the returns to investment, the public returns are probably greatest at upper primary/lower secondary when functional literacy and numeracy have been attained and basic skills have been learnt. After this the private returns increase. In other words, the individual at higher level gains more from the investment in education than does the

government. In relation to the Government's poverty reduction strategy objectives, this distribution of expenditure was therefore questionable. To this end, the newly formulated Government policy on the Medium Term Expenditure Framework (MTEF) was to redress this situation and had targeted expenditures on primary education at 70 percent of the education sector's budget, beginning in the fiscal year 2003/04. Prior to this, the status as revealed by the PER was as follows: primary, 39 percent; secondary, 21 percent; TVET, 3 percent; tertiary, 31 percent; administration and other, 6 percent. The sub-sectoral allocation, therefore, was skewed in favour of tertiary education. There might be a case made for Lesotho to devote a relatively higher share of the education budget to higher education due to its small size and the difficulty in achieving economies-of-scale, but the share of 30 percent was still high compared to that of about 20 percent in neighbouring countries.

Teacher Training

Primary and junior-secondary teacher education is provided by the Lesotho College of Education (LCE) formerly known as the National Teacher Training College (NTTC). The college provides a centralized teacher education for both pre-service and in-service teachers. It offers a variety of three-year programmes leading to the Primary Teacher Certificate (PTC), the Secondary Teacher Certificate (STC), Diploma in Primary Education (DPE), Diploma in Technical Education (DTE) and Diploma in Secondary Education (DSE).

Many of the teachers graduating from the college later upgrade their qualifications by undertaking the diploma courses in education leading to the Bachelor of Education degree at the National University of Lesotho (NUL). The College also trains primary school teachers through a part-time, in-service programme known as the Lesotho In-service Education for Teachers (LIET) programme. Many of the serving but unqualified teachers upgrade their qualifications through this programme. A total of 704 student teachers were enrolled at the LCE in 2000.

The Faculty of Education at NUL provided senior-secondary teacher education programme. The programmes were comprised mainly of the four-year Bachelor of Science Education (Bsc.Ed) programme; Bachelor of Arts Education (BA Ed) programme, and/or a four-year degree in a major discipline followed by a one-year certificate in education – the Postgraduate Certificate in Education. A total of 635, - 194 males and 441 females, students were enrolled in education programmes at NUL in 2000/01.

Support for teachers is provided through a number of in-service training activities run by the inspectorate, the National Curriculum Development Centre (NCDC), the National University of Lesotho and the teachers' associations.

The NCDC provides in-service training about new curriculum materials. The inspectorate provides in-service training in school management and administration for head teachers and school administrators and teachers in the various subject areas. School-based in-service training is provided through the Area and District Resource teacher network focusing on teaching methodology, classroom management, and general administration. School-based support for teachers of mathematics and science in secondary schools is provided by the NUL.

The majority of the primary school teaching force consists of females, about 80 percent of the total of some 8600 teachers in 2000 school year. Around 26 percent of the total stock of teachers was unqualified: they did not have the requisite teaching qualifications; and the national pupil:teacher ratio in primary schools stood at 47.9:1 in the same year. . At the secondary school level, some 3200 teachers were employed in the system and 13 percent of them were unqualified while a further 510 teaching staff was deployed at the institutions of higher learning – LEC, TVET and NUL.

Curriculum Development and Assessment

Curriculum development is highly centralized and is based at the NCDC. It is carried out in close collaboration with the National Curriculum Committee whose main role is to advise the government on all curriculum matters. The NCDC works through national subject panels comprising representatives of teachers, teacher-training institutions, the inspectorate, and teachers' associations. All curriculum materials intended for use in the schools must be approved by the government on the advice of the National Curriculum Committee. The Schools Supplies Unit is closely linked to the NCDC in order to assist in the procurement services for the curriculum materials and is responsible for the timely distribution of such materials to the schools.

All primary schools follow a common curriculum and a common syllabus determined by the government. Instructional materials are prescribed by the government and provided to the schools through the national book rental scheme.

The primary curriculum includes Sesotho, English, mathematics, science, social studies, and practical studies (gardening, agriculture, home economics). There are still shortages of supplementary materials and pupil workbooks despite the government's book rental scheme. The teaching of English in the first three years (i.e. Standards 1 to 3) was and is supported through the provision of radios and support materials to schools and the broadcast of daily radio lessons for each standard. This has had a significant impact on the teaching-learning of English in primary schools.

The curriculum in secondary schools is guided by the government policy of diversification. While core subjects such as Sesotho, English, mathematics, science, and social studies are offered, the introduction of practical subjects that would give secondary education a vocational bias was a requirement. This was being implemented with visible promise of success in an increasing number of secondary schools where the teaching of agriculture, home economics, basic handicrafts (woodwork, metalwork, and technical drawing), commercial studies, and development studies was taking place. The aim of this policy is to help to prepare students for the world of work and to provide a sound

academic base for those with potential and the resources to proceed into tertiary education.

A system of examinations, promotions and certifications has been mounted in order to provide feedback and assessment on the curriculum. End-of-year examinations are a characteristic feature in all standards/grades culminating with a public examination at the end of primary education (the Primary School Leaving Examination (PSLE), at the end of junior-secondary education (the Junior Certificate (JC), and at the end of senior-secondary (the Cambridge Overseas School Certificate examination (COSC). These examinations are all organized by the Examinations Council of Lesotho (ECOL). These public examinations mainly serve as a selection instrument for the next higher educational level.

Monitoring and Evaluation (M&E) is undertaken by the Testing and Evaluation section of the NCDC. This involves the preparation and pre-testing of items to assess their psychometric properties. It also involves analysis of examination results to provide useful feedback to NCDC, the inspectorate, the schools, and other interested parties.

The Lesotho Distance Teaching Centre also engages in research and evaluation for internal use by the Centre and also on behalf of other organizations involved in non-formal education.

The Institute of Education at NUL undertakes some research in various subjects of educational interest. There is also the Lesotho Educational Research Association (LERA) which is an independent body whose main objective is to promote educational research. One other research constituency, whose impact has begun to be felt in the area of monitoring educational quality in all of Sub-Saharan Africa, is SACMEQ. In SACMEQ Ministries of Education in Sub-Saharan Africa are networking on issues of data building, data management, monitoring and evaluation, and measurements of educational quality.

Educational Policy Reviews and Policy Reforms 1999-2003

First, in 1999 the GOL introduced a Free Primary Education (FPE) policy. The policy was to be implemented in a phased fashion so that fees were abolished for one standard every year starting from 2000. In addition to abolishing fees, the policy also included provision of a teaching and learning materials package, school feeding, and maintenance. Immediately after the policy, primary enrollment increased from 365,000 to 411,000 in 2000, a 12 percent increase. Much of the enrollment increase was in Standard 1 (ESDP II – Phase II, Project Appraisal Document). It was expected that the primary enrollment would keep increasing in 2001 and 2002, though the rate of increase would be much slower than that of 2000.

Second, as an explicit strategy for improving the equity and efficiency of sector budget allocation, ESDP II built in its design the development of an MTEF (Medium Term Expenditure Framework) for the education sector. Significant progress was made toward utilizing MTEF for purposes of budget preparation. Some major achievements were:

- a) the review of the budget and financial management system – a new system of classification of expenditure which had been prepared by the Ministry of Education and Training and concurred to by the Ministry of Finance;
- b) reviewed and obtained ceilings for programmes and sub-programmes which fit within the overall ministry budget ceilings;
- c) the use of adequate allocative weights to suit strategic priority areas; and,
- d) the drafting a supplementary note explaining the basis for determining the various ceilings and concept of a three year indicative budget cycle.

It was expected that the MOET would continue to use MTEF to align sector budgets with priorities.

Thirdly in 2000, the MOET started the process of developing an Education Sector Strategic Plan, with the financial support from DfID. The Plan provided some basic input to the development of the MTEF and the log-frame workshop in preparation of the proposed ESDP II – Phase II.

Other important developments in education occurred during the ESDP II – Phase I (1999 to 2003). The development objectives during this phase were to assist the Government of Lesotho in its efforts to increase the access, equity, and improve the quality of primary and secondary education. Further, the project supported the Government in the development of a policy and institutional framework for early childhood education, technical and vocational education, and non-formal education.

Specifically, ESDP II – Phase I supported the following major activities:

- Capacity building in ECCD and establishment of home-based ECCD care in four pilot districts;
- Training of existing Secondary School Boards, Primary Advisory Committees, and Primary Management Committees;
- Construction of 413 primary classrooms including 63 in remote and ‘inaccessible’ areas;
- Construction of School-Supply Unit Warehouse and refurbishment of Lesotho Teacher College student hostels;
- Launching of the Distance Teacher Education Programme (DTEP) and enrolling a total of 750 student teachers;
- Provision of primary core textbooks needed to cover the additional enrollment due to FPE and for replenishment of the existing stock;
- Launching of a scholarship programme and awarding 15,000 scholarships orphans and other disadvantaged children;
- Support for an education EMIS programme which utilized ED*ASSIST software and producing annual education statistics in consistent fashion;
- Policy work and capacity building for technical and vocational education;
- Policy work and capacity building in non-formal education and piloting of Learner Post literacy programme in two districts; and
- Ministry-wide capacity building.

The Main Policy Concerns of the Ministry of Education

Despite the positive developments made, as described above, key sector issues that still remained, concerned inadequate access to basic education, compromised quality of education, somewhat inadequate relevance of education, inequitable distribution of resources and general inefficiency, all leading to an overall inefficient education system.

Inadequate Access: Primary education enrolment seemed to have stagnated after the initial jump in 2000 after FPE. Long distances were a major contributing factor to limiting access to schools among the poor in Lesotho according to the Draft Poverty Reduction Strategy Paper (PRSP) document – 2000. Unfriendly terrain added to the severity of the problem as public transport did not reach areas where the poor were concentrated. By 2000, many school age children remained out of school because parents could not afford to pay school fees. For those attending free schools because of FPE, parents were unable to afford transport costs. Thus Lesotho still had a long way to go to achieving the Millennium Development Goals of universal primary education by 2015.

Inequitable Distribution of Resources: Despite the fact that good, private and religious congregation schools offered opportunities, their contribution was still somewhat lacking in the overall reduction of regional, geographic and gender disparities in educational provision and achievement. The majority of children from disadvantaged social groups, particularly in rural areas did not yet have access to basic education and there were significant geographic and gender disparities. As for education financing, though education enjoyed a relatively high share of total Government budget, with education the share allocated to primary education was still low compared to other countries. And the relative share of the education budget devoted to higher education remained a concern. The root cause of these problems is inequitable distribution of resources.

Somewhat Inadequate Relevance: Lesotho's curriculum did not as yet promote practical skills that would allow the integration of graduates into the employment market. In addition, relevance of education was a major concern that was raised in several Districts

during the community consultation process of the PRSP development. The communities noted that Basic Education did not reflect a changing socio-cultural and economic context of Lesotho especially the issues of lifeskills, children' rights, gender, environment, the special education needs (SEN's), and HIV/AIDS. As it was, Lesotho had one of the highest HIV/AIDS prevalence rates of 31 percent. The communities also noted another problem as being that the curricula was stereotypical and biased against girls and that in turn, was pointing to the problem of poor curricula and assessment.

Low Quality Education: Among other things, primary completion rate was low and wastage remained high in 2000. Some factors that contributed to low quality education included shortage of qualified teachers, learning and teaching materials, low morale in the teaching profession, inadequate inspection, supervision and support to teachers. All these were attributable to low financial resources.

Inefficient Education System: As the wastage remained high, the system manifested itself by a high wastage ratio (co-efficient of efficiency), high drop-out rates and high repetition rates. The underlying causes in Lesotho's circumstances were shortage of qualified teachers and instructional materials. These were attributed to inadequate capacity in management and supervision at school level as well as a highly centralized management service. The effects of the inefficient education system are: uneven distribution of income, high illiteracy and unemployment rates, and high incidence of child labour, crime, prostitution, teenage pregnancies, brain-drain and loss of income (net income). The resultant effect is a high incidence of poverty.

The SACMEQ Consortium, Its perceived Importance and Benefits in Lesotho

SACMEQ and its work had been integrated into national assessment structures. The National Research Co-ordinator (NRC) represented SACMEQ in the National Assessment Steering Committee (NASC) and the Deputy NRC (D/NRC) was co-opted in the National Assessment Working Group (NAWG). Both structures were preparing to conduct the pilot study for the Baseline Study for National Assessment in March/April 2003, and SACMEQ if necessary would contribute some test items to the baseline study.

It was hoped that when SACMEQ II report would be released, it would constitute one of the most important reference documents in the development of the national assessment system.

Another area where SACMEQ' work had been appreciated was that of training. Lesotho was one of the countries that had participated in the IIEP regional training and research activities since 1992. Due to the stability in Lesotho's SACMEQ team as well as the effective skills they had acquired through consistent participation in successive training sessions, Lesotho became one of the first countries to produce clean data for SACMEQ II. EMIS in Lesotho had benefited from the skilful data management processes acquired through this training. The sampling techniques and software packages associated with SACMEQ (for example, the WINDEM and SAMDEM data entry and sampling software) were commonly used in the Ministry of education, and this had enhanced the accuracy of data collected.

In Lesotho, SACMEQ and EFA had mutually benefited from the sharing of resources and experience. The cross-fertilization that had been realized through such collaboration had yielded immense benefits for the Ministry. First and foremost, EFA is founded on the principle that, in order for learners to reach high levels of achievement, the Ministry must not just aim at increasing participation, but must offer a high quality education. This would enable all learners to achieve improved and measurable outcomes. SACMEQ, on the hand, focuses on monitoring educational quality, and to accomplish this it employs scientific survey research methodologies to monitor the general conditions of schooling and measure learning achievement. SACMEQ and EFA, therefore, shared the same broad goal of enhancing the provision of quality education for all.

The global *EFA 2000 Assessment* reporting used a set of 18 indicators to determine the status of education in countries since the Jomtien World Conference on Education for All (EFA) in 1990. Indicator number 15 was specifically about the state of learning achievement, and SACMEQ I data was used to provide the required response. Most

certainly, Lesotho would use SACMEQ II data in the next global assessment exercise – EFA 2015 Assessment.

SACMEQ had not only received the support of donor agencies, but several of them had expressed the eagerness to use Lesotho' SACMEQ II results. For example, the Development Cooperation for Ireland (formerly Ireland Aid) supported SACMEQ II data collection in 2000 by providing funding that was required for the national data collection. In 2000 the Ministry of Education embarked on a project that was supported by the African Development Bank (ADB). Under the capacity building component for the Planning Unit, the Ministry and the ADB provided U\$ 25, 000 to cover the costs of printing SACMEQ II instruments, training of enumerators, meeting boarding and lodging expenses associated with data collection.

The Structure and Contents of this Report

Following this chapter, the rest of the report has been structured as follows: In Chapter 2, the conduct and methodology of the study have been described. In Chapter 3 information has been provided about pupils' characteristics and their learning environment. Information about the Standard 6 teachers' characteristics and their viewpoints on teaching, classroom resources, professional support and job satisfaction has been provided in Chapter 4. In Chapter 5 head teachers' characteristics and their views about educational infrastructure, the organization and operation of schools, and problems with pupils and staff have been presented. In Chapter 6 information has been presented about the extent to which educational inputs to schools have been allocated equitably within and among districts in Lesotho. In Chapter 7 the Reading and Mathematics achievement levels and variations of pupils and their teachers in Lesotho have been presented. In Chapter 8 the main findings from the study together with an suggested Agenda for Action have been presented.

Chapter 2

The Conduct of the Study

In this chapter several crucial issues about the conduct of the study have been described. These are the planning of the study, instrument construction, sampling, data collection, data entry, cleaning and merging, data analysis and the reporting of the results. These have been presented here in order to describe what was done in order that readers might judge the technical soundness of the research.¹

Planning of the study

The very first step was to identify the major policy concerns that were of interest to the ministries of education in the fourteen countries actively participating in SACMEQ II. These policy concerns and the specific research questions emanating from them had to be identified before the study could begin. In each of the countries the SACMEQ National Research Coordinators (NRCs) were responsible for discussing with the senior members in their ministries of education about the high-priority policy concerns associated with their education systems. The responses were then analysed in order to identify groups of 'General Policy Concerns'. In all, there were twenty general policy concerns which can be summarised under five themes:

- Pupils' characteristics and their learning environments
- Teachers' characteristics and their views about teaching, classroom resources, professional support, and job satisfaction
- School Head's characteristics and their views about educational infrastructure, the organization and operation of schools, and problems with pupils and staff
- Equity in the allocation of human and material resources among regions and among schools within regions
- The reading and mathematics achievement levels of pupils and their teachers

¹ A very detailed account of the conduct of the SACMEQ II study has been presented as Chapter 2 on the SACMEQ website: SACMEQ.org

All of the twenty general policy concerns have been presented in **Appendix 1**. For each general policy concern specific research questions were developed. For each specific research question a dummy table (blank table) was developed. In Chapters 3-7 in this report the results have been presented in a series of tables. The blank versions of these tables were the dummy tables. The main reasons for producing the dummy tables were that this process forced the National Research Co-ordinators (NRCs) to (a) check that the data collection instruments covered all information needs, (b) ensure close linkages between the specific research questions and the questions on the data collection instruments, (c) reach agreement on the selection of variables and the types of data analyses to be applied, and (c) design and justify the data tabulation templates to be used in reporting the data analyses. It is important to note that this meant that the study was based solely on what the participating ministries had deemed to be important general policy concerns. In all, there were 20 general policy concerns that encompassed 75 specific research questions that resulted in around 150 dummy tables.

Instrument construction

Each of the 150 dummy tables included the names of variables to be used as well as the form in which they would be analyzed. These variables were listed. Most of them could be regarded as variables for which information would be required from pupils, teachers, or school heads using questionnaires. A few of the variables required information to be collected from pupils and teachers using tests.

Questionnaire construction

The variables in the dummy tables were listed and for each variable a decision had to be made about the number of questions that would be required to construct each variable. In some cases (e.g. pupil gender) only one question was needed. For another variable (e.g. school enrolment) two questions had to be added together (boys enrolment and girls enrolment). In yet other cases, several variables had to be formed into a construct (e.g. 'possessions in the home', 'quality of home' and 'parental education' to form a construct known as 'home background'). Since many of the variables were to be used for examining

change over time, then it was important to use, as far as possible, the same questions as had been used in SACMEQ I.

Questions were developed for each variable or each sub-part of a variable required. These were then trialled in the pilot study and, where necessary, revised.

Test construction

Tests had to be constructed in reading and mathematics both for pupils and for teachers. The two sets of tests (for pupils and teachers) had to be calibrated so as to be on the same scale. For the pupil tests there was also the wish to be able to compare reading scores with the IEA Reading Literacy study and mathematics scores with the IEA's Third International Mathematics and Science Study (TIMSS). Hence there had to be common items with these tests from the other studies. Most importantly, however, the structure of the pupil tests was congruent with the content (domains) and behaviours (skills) derived from detailed analyses of the curricula, syllabi, exams, and textbooks used in the SACMEQ countries. The selection of teacher test items had to cover the full range of pupil item difficulties – but did not contain too many easy pupil test items. In addition, in order not to antagonize teachers with an extended testing session, the teacher tests had a much smaller number of test items than the pupil tests.

The reading tests

“Reading literacy” was defined as “the ability to understand and use those written language forms required by society and/or valued by the individual.” This was the definition that had been used in SACMEQ I and also in the IEA Reading Literacy Study. The reading domains that were agreed were:

Narrative prose: Continuous texts in which the writer aims to tell a story – whether this be fact or fiction.

Expository prose: Continuous text in which the writer aims to describe, explain, or otherwise convey factual information or opinion to the reader.

Documents: Structured information organized by the writer in a manner that requires the reader to search, locate, and process selected facts, rather than to read every word of a continuous text.

At the same time a hierarchy of skills was proposed (a dimension of increasing competence) that could be applied to both of the SACMEQ studies. A blueprint of the test in terms of items and domains by hierarchy has been presented in **Appendix 2**. In the final version of the SACMEQ II reading test there was a total of 83 test items, with (a) 32, 26, and 25 items allocated to the narrative, expository, and documents domains, respectively; and (b) 6, 22, 26, 18, and 11 items set at skill levels 1 to 5, respectively.

Mathematics test

For mathematics a similar exercise was undertaken except this time there had been no SACMEQ I test in mathematics. The resultant domains were:

Number: Operations and number line, square roots, rounding and place value, significant figures, fractions, percentages, and ratios.

Measurement: Measurements related to distance, length, area, capacity, money, and time.

Space-Data: Geometric shapes, charts (bar, pie, and line), and tables of data.

The corresponding blueprint with levels and items had been presented in **Appendix 3**.

In the final version of the SACMEQ II pupil mathematics test there was a total of 63 test items, with 27, 18, and 18 items allocated to the number, measurement, and space-data domains, respectively, and 6, 20, 17, 12, and 8 items set at skill levels 1 to 5, respectively.

Immediately after the test blueprints had been developed the NRCs worked in teams either to select or to write all of the required test items for the SACMEQ II tests. As items were prepared they were classified according to the cells in the test blueprints. For each cell *twice* as many items as required were prepared so that the rejection of poor items after the trial testing did not result in a shortage of items in some cells. Most test items were in multiple-choice format with four options per item. The item pools were then sent to all countries for review by panels of curriculum specialists. This resulted in editorial changes to the items and recommendations for additional items by the panel members who made sure that the items met the requirements of the respective national curricula.

The main challenge in the construction of the reading and mathematics tests for teachers was to “fine-tune” the difficulty range of test items so that it would suit the higher levels of competence that were expected of teachers. At the same time it was important to ensure that there was sufficient “item overlap” with the pupil tests to permit the performance of teachers and pupils to be measured on the same scale.

In the reading test for teachers, several passages were selected because of the more subtle nature of the messages that they conveyed, and the less-visible underlying assumptions of the writers. For example, one passage on the topic of “smoking” required the teachers to identify the unstated values and beliefs of the writer. Another passage on the topic of “effective thinking” required the teachers to identify assumptions made by the writer about the readers and their knowledge of the topic. These kinds of skills were far beyond the competencies that had been identified from the analyses of Standard 6 curricula.

The “extra” reading and mathematics items for teachers were expected to assess the higher competence levels of teachers – but not to be so difficult that the teachers would be daunted by the challenge. In addition, the selection of easier test items that “overlapped” with the pupil tests had to be made with extreme care because the teachers may have felt insulted if these items were ridiculously easy or if they were concerned with issues that would only interest young children.

In the teacher reading test the extended levels of competence mainly focussed on expository texts – rather than on documents or narratives. It was felt that the use of narratives and documents at this level would have required very complex and long texts that would have generally extended the time required to complete the test.

In the teacher mathematics test the extended levels of competence mainly emphasized problem solving strategies that required the extraction of information from verbal, graphic, or tabular presentations. For these items, the teachers were expected to follow three steps: to identify the nature of the problem, to transform the problem into mathematical language, and to solve the problem. In some cases this required the rearrangement of information, and in others it meant translating the problem into one or more equations and then solving the equations.

The tests (and questionnaires) were piloted in all countries. In Lesotho the pilot study was conducted in 30 schools that were spread out in the districts of Maseru, Mafeteng, Mohale's Hoek, Berea and Leribe. These schools comprised of 15 schools for trialling the reading items and the other 15 for trialling the mathematics items. The pilot study took place in the period 3-12 August, 1999. The pilot study provided an opportunity for the training of the 10 data collection team leaders who were also members of the national SACMEQ Technical Working Group. The team leaders also took part in the main study at the end in September 2000.

Three kinds of scores

It was decided to derive and use three kinds of scores from the tests. These have been described below.

The calculation of scale scores (Rasch)

The data from the trial-testing phase were subjected to Rasch and Classical item analyses in order to detect items that did not “fit” the relevant scales, or that were “behaving differently” across subgroups of respondents defined by gender and country. The poor quality test items were rejected – keeping in mind the need to prepare a “balanced” test across skill levels and

domains. The Rasch and classical item analyses were also undertaken a second time after the main testing.

In the case of the measurement of reading performance, there were three groups of respondents: the SACMEQ I pupils, the SACMEQ II pupils, and the SACMEQ II teachers. Each group completed a reading test that was “different but overlapped”. That is, each group completed a reading test that contained some unique test items and some items that also appeared on one or both of the other two tests. In the case of numeracy measurement, the tests were also “different but overlapped”, however there were only two groups of respondents: the SACMEQ II pupils and SACMEQ II teachers.

Although data were gathered at different time points for the SACMEQ I (1995-1997) and SACMEQ II (2000-2002) projects, it is possible to think of the reading and mathematics tests used in the projects as two “artificial” or “composite” tests of 148 different reading items and 91 mathematics items, respectively. This conceptualisation of the tests implies that the three sets of reading test respondents and the two sets of mathematics test respondents can each represent a single group of respondents for the purposes of undertaking “concurrent” scaling of the tests using the Rasch Model.

For the 148-item “composite” reading test there were 36 items that came only from the SACMEQ I pupil reading test, 52 test items that came only from the SACMEQ II pupil reading test, and 26 items that came only from the SACMEQ II teacher reading test. An additional 34 items were located in more than one test, with 9 of these items being located in all three tests, and 3 sets of items associated with pairs of tests. For the 91-item “composite” mathematics test (Figure 2.11 in Chapter 2 on the SACMEQ website) there were 50 items that came only from the SACMEQ II pupil mathematics test, and 28 items that came only from the SACMEQ II teacher mathematics test. An additional 13 items were located in both tests.

Both the reading and mathematics data matrices were analysed using computer software that applied the Rasch Model of measurement (Andrich and Luo, 2000). The first step was to

calibrate the test items by calculating the Rasch difficulty values for each item within the 148-item reading test and the 91-item mathematics test. The results of the calibration were then used to calculate reading and mathematics scores for all pupils and teachers in all countries.

The final test was deemed to be valid. In each of the SACMEQ countries the Ministry specialists were asked to identify those items that were in the curriculum. These items were named ‘essential’ items and formed a subset of all the items in the test. In Lesotho, the correlation between the ‘essential’ items and all items was 0.98. Indeed, in order to ensure that it was fair to compare all countries on the total test score the correlations between the ‘essential’ items and all items were calculated in every country and in all cases the results were between 0.98 and 1.00. This is proof that the tests were valid for Lesotho and also for other countries.

The mean for all SACMEQ countries was set at 500 and the standard deviation at 100. For Lesotho, the mean pupil score for reading was 455. The mean teacher reading score for all SACMEQ countries was 733, while the mean for Lesotho teachers was just below at 722. This meant that in reading, both the pupils and teachers scored below the SACMEQ means.

The identification of ‘derived’ skill competence levels

For each set of tests (pupil and teacher for reading and pupil and teacher for mathematics) the items were first arranged in order of difficulty, and then examined item-by-item in order to describe the specific skills required to provide correct responses. When items had been linked to specific skills, they were placed into groups or clusters of test items such that the items in each group had similar difficulty values and shared a common “theme” with respect to the underpinning competencies required to provide correct responses.

The three tasks of defining specific skills for each test item, identifying groups of items with similar difficulties, and then naming the “theme” (or competency level) linked to each group were extremely difficult because it required the NRCs to first reach agreement on how the

respondents arrived at correct solutions, and to then name the competency required. This required the NRCs to use their practical knowledge of the ways in which pupils solve problems, and then to portray this with a meaningful description of the thought processes that had been applied. The skills audit for the reading and mathematics tests resulted in the identification of eight levels of competence for each test. This was more than had been proposed in the test blueprints. For both tests there was a strong correspondence between the descriptions of the five blueprint levels and most of the derived levels arising from the skills audit – which suggested that the three “extra” levels were defining more detail on the same reading and mathematics scales.

The skill levels *with examples of items* characterising each level have been presented in detail in **Appendix 4**.

An abbreviated version has been presented in Table 2.1 below. It will be seen that the levels are hierarchical. It is then possible to calculate the percentage of pupils reaching any one level. These have been presented in Chapter 7 in this report. These can be regarded as being more meaningful than other scores because the competency levels indicate exactly what pupils can and cannot do.

Table 2.1: The final skill levels for the SACMEQ reading and mathematics tests

Level	Reading	Mathematics
1	Pre-reading: Matches words and pictures involving concrete concepts and everyday objects. Follows short simple written instructions	Pre-numeracy: Applies single step addition or subtraction operations. Recognises simple shapes. Matches numbers and pictures. Counts in whole numbers.
2	Emergent reading: Matches words and pictures involving prepositions and abstract concepts; uses cuing systems (by sounding out, using simple sentence structure, and familiar words) to interpret phrases by reading on.	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.

2	<p>Emergent reading: Matches words and pictures involving prepositions and abstract concepts; uses cuing systems (by sounding out, using simple sentence structure, and familiar words) to interpret phrases by reading on.</p>	<p>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.</p>
3	<p>Basic reading: Interprets meaning (by matching words and phrases, completing a sentence, or matching adjacent words) in a short and simple text by reading on or reading back.</p>	<p>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.</p>
4	<p>Reading for meaning: Reads on or reads back in order to link and interpret information located in various parts of a text.</p>	<p>Beginning numeracy: Translates verbal or graphical information into simple arithmetic problems. Uses multiple different arithmetic operations (in the correct order) on whole numbers, fractions, and decimals.</p>
5	<p>Interpretive reading: 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.</p>	<p>Competent numeracy: Translates verbal, graphical or tabular information into an arithmetic form in order to solve a given problem. Solves multiple-operation problems (using the correct order of arithmetic operations) involving everyday units of measurement and/or whole and mixed numbers. Converts between measurement units from one level of measurement to another (for example, metres to centimetres)</p>
6	<p>Inferential reading: Reads on and reads back through longer texts (narrative, document, or expository) in order to combine information from various parts of the text so as to infer the writer's purpose.</p>	<p>Mathematically skilled: Solves multiple-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).</p>
7	<p>Analytical reading: Locates information in longer texts (narrative, document, or expository) by reading on and reading back in order to combine information</p>	<p>Problem solving: Extracts and converts (for example, with respect to measurement units) information from</p>

	from various parts of the text so as to infer the writer’s personal beliefs (value systems, prejudices, and/or biases).	tables, charts, visual and symbolic presentations order to identify, and then solve multi-step problems.
8	Critical reading: Locates information in longer texts (narrative, document, and expository) by reading on and reading back in order to combine information from various parts of the text so as to infer and evaluate what the writer has assumed about the topic and characteristics of the reader – such as age, knowledge, and personal beliefs (values systems, prejudices, and/or biases)	Abstract Problem Solving: Identifies the nature an unstated mathematical problem embedded with verbal or graphic information, and then translate this in symbolic, algebraic, or equation form in order solve the problem.

The specification of minimum and desirable levels of reading

In SACMEQ I each of the Ministries of Education established expert national committees that included inspectors, teacher leaders, and teachers. The committees were asked to identify the reading performances that they would expect from a pupil who (a) would *barely survive* during the next year of schooling (the “Minimum” level), and (b) was *guaranteed to succeed* during the next year of schooling (the “Desirable” level). It was the *average* cut-off levels established in SACMEQ I that were used in SACMEQ II. This was only for reading because this was the only subject matter tested in the SACMEQ I Project. It was thought that this would be one further indicator of importance for policy-makers.

Sampling

The “best” sample design for a particular project is one that provides levels of sampling accuracy that are acceptable in terms of the main aims of the project, while simultaneously limiting cost, logistic, and procedural demands to manageable levels. The major constraints that were established prior to the preparation of the sample designs for the SACMEQ II Project have been listed below.

Target Population: The target population definitions should focus on Grade 6 pupils attending registered mainstream government or non-government schools. In addition, the

defined target population should be constructed by excluding no more than 5 percent of pupils from the desired target population.

Bias Control: The sampling should conform to the accepted rules of scientific probability sampling. That is, the members of the defined target population should have a known and non-zero probability of selection into the sample so that any potential for bias in sample estimates due to variations from “epsem sampling” (equal probability of selection method) could be addressed through the use of appropriate sampling weights.

Sampling Errors: The sample estimates for the main criterion variables should conform to the sampling accuracy requirements that the standard error of sampling for the pupil tests should be of a magnitude that is equal to, or smaller than, what would be achieved by employing a simple random sample of 400 pupils.

Response Rates: Each SACMEQ country should aim to achieve an overall response rate for pupils of 80 percent. This figure was based on the wish to achieve or exceed a response rate of 90 percent for schools and a response rate of 90 percent for pupils within schools.

Administrative and Financial Costs: The number of schools selected in each country should recognize limitations in the administrative and financial resources available for data collection.

Other Constraints: The number of pupils selected to participate in the data collection in each selected school should be set at a level that will maximize validity of the within-school data collection for the pupil reading and mathematics tests.

The Specification of the Target Population

For Lesotho, the *desired* target population was all pupils enrolled in Standard 6 in the ninth month of the school year (i.e., in September 2000). It was however, decided to exclude

certain pupils. These were pupils in schools having fewer than 15 standard 6 pupils in them, pupils in 'inaccessible schools, and pupils in special schools.

The number of schools required in the sample is in part a function of the intra-class correlation (ρ) which is an indicator of the proportion of variation (in achievement in this case) among schools of total variation. The following is the formula often used for estimating the value of ρ in situations where two-stage cluster sampling is employed using (approximately) equal sized clusters).

$$\text{estimated } \rho = (b \cdot s(a)^2 - s^2) / (b - 1)s^2$$

where $s(a)^2$ is the variance of cluster means, s^2 is the variance of the element values, and b is the cluster size. The ρ had been estimated at 0.30 in Lesotho; meaning that 30 percent of the variation was among schools while 70 percent of the variation was within schools.

In Table 2.2 the number of schools and pupils in the planned and achieved samples have been presented. The sample was stratified into districts and the number of schools required for each district can be seen. In all, 88 percent of the planned number of pupils for the study was in the final sample and 98 percent of the schools. The reason for the shortfall in pupil numbers was absenteeism by some learners in some of the schools on the day of data collection including the pupils in the schools that proved difficult to reach during the data collection exercise.

Table 2.2. Number of schools and pupils in the planned and achieved samples

District	Planned sample		Achieved sample		Percent achieved	
	Schools	Pupils	Schools	Pupils	Schools	Pupils
Butha-Buthe	15	300	15	280	100	93
Leribe	25	500	25	449	100	90
Berea	20	400	20	358	100	90
Maseru	30	600	30	531	100	89
Mafeteng	15	300	15	275	100	92
Mohale's Hoek	15	300	15	298	100	99
Quthing	15	300	15	262	100	87
Qacha's Nek	15	300	15	239	100	80
Mokhotlong	15	300	15	252	100	84
Thaba Tseka	15	300	12	211	80	70
Lesotho	180	3600	177	3155	98	88

Throughout the report wherever a percentage or mean has been presented the accompanying sampling error has been presented. This has been explained at the beginning of Chapter 3.

The main data collection

The main data collection took place in September 2000. Data collection manuals had been written indicating what the data collectors had to do from when they entered a school to when they returned the package of instruments to the headquarters in Maseru. The data collectors that were hired had prior experience in field data collection as they had worked for the Bureau of Statistics in various surveys including the population censuses. These data collectors were however, subjected to a specific training for the SACMEQ II research study. Their training workshop took place inside one week that preceded the main data collection. The Secretary General for the National Commission for UNESCO officiated and opened the training workshop while the Registrar for the Examinations Council for Lesotho closed the workshop. The SACMEQ Technical Working Group members facilitated in the workshop, and they retained their duties as team leaders/ supervisors for the field data collection.

The schools were notified about the data collection several weeks in advance. When the data collectors arrived at the school, they had to meet with the school head to verify the details of the school and what was required. They had to ensure a testing room with 20 well-placed sitting and writing places was available. They then had to further ensure that the class registers were available and that the selected pupils were present.

Data were collected on two consecutive days. On the first day, data collectors administered the pupil questionnaire and reading test in addition to the school head questionnaire as well as the teacher questionnaire and teacher test. Upon leaving the school, data collectors had to check all the information collected, before returning to the school the following day for the administration of the pupil mathematics test.

Data entry and data cleaning

Data entry and data cleaning were undertaken in the Ministry of Education using in-house facilities and the clerical staff of the Education Statistics Unit. The NRC and the Deputy NRC led and supervised this activity. The Deputy NRC's special skills in computer data processing made this activity easily manageable. As a result, Lesotho was one of the countries that submitted the well cleaned up data files to the unit of 'Monitoring Educational Quality' at the IIEP in Paris, relatively early, at the beginning of 2001. The IIEP team further worked on the data to perform consistency checks and other validity checks to ensure accuracy of the research findings. Finally, the data files were declared to be clean enough to start the analysis of the research findings that are presented in this report.

Merging, weighting, and the statistical analyses

The merging process required the construction of a single data file for each school system in which pupils were the units of analysis. This was achieved by "disaggregating" the teacher and school head data over the pupil data. That is, each record of the final data file for a country consisted of the following four components: (a) the questionnaire and test data for an individual pupil, (b) the questionnaire and test data for his/her mathematics

and reading teacher, (c) the questionnaire data for his/her school head, and (d) school and pupil “tracking forms” that were required for data cleaning purposes.

The merged file enabled linkages to be made among pupils, teachers, and school heads at the “between-pupil” level of analysis. To illustrate, with the merged file it was possible to examine questions of the following kind: “What are the average reading and mathematics test scores (based on information taken from the pupil tests) for groups of pupils who attend urban or rural schools (based on information taken from the school head questionnaire), and who are taught by male or female teachers (based on information taken from the teacher questionnaire)?”

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

Two forms of sampling weights were prepared for the SACMEQ II Project. The first sampling weight (RF2) was the inverse of the probability of selecting a pupil into the sample. These “raising factors” were equal to the number of pupils in the defined target population that were “represented by a single pupil” in the sample. The second sampling weight (pweight2) was obtained by multiplying the raising factors by a constant so that the sum of the sampling weights was equal to the achieved sample size.

The Rasch scaling could only be conducted after all countries data files had been cleaned. Some countries took a long time over this and it was only in May, 2003 that the final country was ready and the scaling and scoring could begin. This is not an easy process and took some time. Once this had been completed then all of the calculation required for the dummy tables could be undertaken. This was done by the Paris ‘Monitoring Educational Quality’ team and sent out to countries.

Appendix 1: General Policy concerns for SACMEQ II study

Theme A: *Pupils' Characteristics and Their Learning Environments*

General Policy Concern 1: What were the personal characteristics (for example, age and gender) and home background characteristics (for example, parent education, regularity of meals, home language, etc.) of Grade 6 pupils that might have implications for monitoring equity, and/or that might impact upon teaching and learning?

General Policy Concern 2: What were the school context factors experienced by Grade 6 pupils (such as location, absenteeism (regularity and reasons), grade repetition, and homework (frequency, amount, correction, and family involvement)) that might impact upon teaching/learning and the general functioning of schools?

General Policy Concern 3: Did Grade 6 pupils have sufficient access to classroom materials (for example, textbooks, readers, and stationery) in order to participate fully in their lessons?

General Policy Concern 4: Did Grade 6 pupils have access to library books within their schools, and (if they did have access) was the use of these books being maximized by allowing pupils to take them home to read?

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?

Theme B: *Teachers' Characteristics and their Viewpoints on Teaching, Classroom Resources, Professional Support, and Job Satisfaction*

General Policy Concern 6: What were the personal characteristics of Grade 6 teachers (for example, age, gender, and socio-economic level), and what was the condition of their housing?

General Policy Concern 7: What were the professional characteristics of Grade 6 teachers (in terms of academic, professional, and in-service training), and did they consider in-service training to be effective in improving their teaching?

General Policy Concern 8: How did Grade 6 teachers allocate their time among responsibilities concerned with teaching, preparing lessons, and marking?

General Policy Concern 9: What were Grade 6 teachers' viewpoints on (a) pupil activities within the classroom (for example, reading aloud, pronouncing, etc.), (b) teaching goals (for example, making learning enjoyable, word attack skills, etc.), (c) teaching approaches/strategies (for example, questioning, whole class teaching, etc.), (d) assessment procedures, and (e) meeting and communicating with parents?

General Policy Concern 10: What was the availability of classroom furniture (for example, sitting/writing places, teacher table, teacher chair, and bookshelves) and classroom equipment (for example, chalkboard, dictionary, maps, book corner, and teacher guides) in Grade 6 classrooms?

General Policy Concern 11: What professional support (in terms of education resource centres, inspections, advisory visits, and school head inputs) was given to Grade 6 teachers?

General Policy Concern 12: What factors had most impact upon teacher job satisfaction?

Theme C: *School Heads' Characteristics and their Viewpoints on Educational Infrastructure, the Organization and Operation of Schools, and Problems with Pupils and Staff*

General Policy Concern 13: What were the personal characteristics of school heads (for example, age and gender)?

General Policy Concern 14: What were the professional characteristics of school heads (in terms of academic, professional, experience, and specialized training)?

General Policy Concern 15: What were the school heads' viewpoints on general school infrastructure (for example, electrical and other equipment, water, and basic sanitation) and the condition of school buildings?

General Policy Concern 16: What were the school heads' viewpoints on (a) daily activities (for example, teaching, school-community relations, and monitoring pupil progress), (b) organizational policies (for example school magazine, open days, and formal debates), (c) inspections, (d) community input, (e) problems with pupils and staff (for example, pupil lateness, teacher absenteeism, and lost days of school)?

Theme D: *Equity in the Allocation of Human and Material Resources Among Regions and Among Schools Within Regions*

General Policy Concern 17: Have human resources (for example, qualified and experienced teachers and school heads) been allocated in an equitable fashion among regions and among schools within regions?

General Policy Concern 18: Have material resources (for example, classroom teaching materials and school facilities) been allocated in an equitable fashion among regions and among schools within regions?

Theme E: *The Reading and Mathematics Achievement Levels of Pupils and Their Teachers*

General Policy Concern 19: What were the levels (according to descriptive levels of competence) and variations (among schools and regions) in the achievement levels of Grade

6 pupils and their teachers in reading and mathematics – for my country and for all other SACMEQ countries?

General Policy Concern 20: What were the reading and mathematics achievement levels of important sub-groups of Grade 6 pupils and their teachers (for example, pupils and teachers of different genders, socio-economic levels, and locations)?

Appendix 2: Test Blueprint for SACMEQ II Reading Test

	Narrative	Expository	Documents	
Level 1	Word/picture association involving positional or directional prepositions requiring the linkage of a picture to a position or a direction in order to answer the question	Word/picture association involving positional or directional prepositions requiring the linkage of a picture to a position or a direction in order to answer the question	Word/picture association involving positional or directional prepositions requiring the linkage of a picture to a position or a direction in order to answer the question	
Items	2	2	2	6
Level 2	Recognising the meaning of a single word and being able to express it as a synonym in order to answer the question	Recognising the meaning of a single word and being able to express it as a synonym in order to answer the question	Linking simple piece of information to item or instruction	
Items	7	6	9	22
Level 3	Linking information portrayed in sequences of ideas and content, when reading forward	Linking information portrayed in sequences of ideas and content, when reading forward	Systematic search for information when reading forward	
Items	8	10	8	26
Level 4	Seeking and confirming information when reading backwards through text	Seeking and confirming information when reading backwards through text	Linking more than one piece of information in different parts of a document	
Items	9	5	4	18
Level 5	Linking ideas from different parts of text. Making inferences from text or beyond text, to infer author's values and beliefs	Linking ideas from different parts of text. Making inferences from text or beyond text.	Use of embedded lists and even subtle advertisements where the message is not explicitly stated	
Items	6	3	2	11
Total Items	32	26	25	83

Appendix 3: SACMEQ II mathematics test blueprint

Skill Level	Mathematics Domain		
	Number	Measurement	Space-Data
Level 1	Recognize numbers. Link patterns to numbers.		
Items	6	0	0
Level 2	Apply single operations to two digit numbers or simple fractions.	Recognize units of measurement. Apply basic calculations using simple measurement units.	Link patterns and graphs to single digits. Recognize and name basic shapes.
Items	8	8	4
Level 3	Extend and complete number patterns.	Convert measurement units when undertaking one-step operations.	Translate shapes and patterns. Identify data in tabular form.
Items	6	4	7
Level 4	Combine arithmetic operations in order to link information from tables and charts when performing calculations.	Apply two and three-step arithmetic operations to numbers. Use and convert measurement units.	Combine arithmetic operations in order to link information from tables and charts.
Items	4	4	4
Level 5	Combine operations in order to make calculations involving several steps and a mixture of operations using combinations of fractions, decimals, and whole numbers.	Combine operations in order to make calculations involving several steps and a mixture of operations using a translation of units.	Link data from tables and graphs in order to make calculations involving several steps and a mixture of operations.
Items	3	2	3
Total Items	27	18	18
			63

Appendix 4: Skill competence levels for Reading and Mathematics

Reading

Level 1: Pre Reading (Linked with Level 1 in the Test Blueprint)

(a) Skills: Matches words and pictures involving concrete concepts and everyday objects. Follows short simple written instructions.

(b) Example Test Items

- locate familiar words in a short (one line) text
- match words to pictures
- follow short and familiar instructions

Level 2: Emergent Reading (Linked with Level 2 in the Test Blueprint)

(a) Skills: Matches words and pictures involving prepositions and abstract concepts; uses cuing systems (by sounding out, using simple sentence structure, and familiar words) to interpret phrases by reading on.

(b) Example Test Items

- read familiar words and identify some new words
- use simple and familiar prepositions and verbs to interpret new words
- match words and very simple phrases

Level 3: Basic Reading (Linked with Level 3 in the Test Blueprint)

(a) Skills: Interprets meaning (by matching words and phrases, completing a sentence, or matching adjacent words) in a short and simple text by reading on or reading back.

(b) Example Test Items

- use context and simple sentence structure to match words and short phrases
- use phrases within sentences as units of meaning
- locate adjacent words and information in a sentence

Level 4: Reading for Meaning (Linked with Level 4 in the Test Blueprint)

(a) Skills: Reads on or reads back in order to link and interpret information located in various parts of the text.

(b) Example Test Items

- interpret sentence and paragraph level texts
- match phrases across sentences
- read forwards and backwards in order to locate information in longer texts

Level 5: Interpretive Reading (Linked with Level 5 in the Test Blueprint)

(a) Skills: 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.

(b) Example Test Items

- locate, interpret, and read forward to join two pieces of adjacent information
- use multiple pieces of information to interpret general purpose of a document
- paraphrase and interpret a single non-adjacent piece of information

Level 6: Inferential Reading (Linked with Level 5 in the Test Blueprint)

(a) Skills: Reads on and reads back through longer texts (narrative, document or expository) in order to combine information from various parts of the text so as to infer the writer's purpose.

(b) Example Test Items

- interpret, and make inferences from, different types of texts by reading backwards and forwards to confirm links between widely separated information pieces
- extract information from a non-traditional (left to right) document
- make judgments about an author's intentions or purpose beyond the text content

Level 7: Analytical Reading (Linked with Level 5 in the Test Blueprint)

(a) Skills: Locates information in longer texts (narrative, document or expository) 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 (value systems, prejudices, and/or biases).

(b) Example Test Items

- combine several pieces of information from a range of locations in complex and lexically dense text or documents
- analyse detailed text or extended documents for an underlying message
- identify meaning from different styles of writing

Level 8: Critical Reading (A New Level Generated from the Skills Audit)

(a) Skills: Locates information in a longer texts (narrative, document or expository) by reading on and reading back in order to combine information from various parts of the text so as to infer and evaluate what the writer has assumed about both the topic and the characteristics of the reader – such as age, knowledge, and personal beliefs (value systems, prejudices, and/or biases).

(b) Example Test Items

- use text structure and organisation to identify an author's assumptions and purposes
 - identify an author's motives, biases, beliefs in order to understand the main theme
 - link text to establish multiple meanings including analogy and allegory
-

Mathematics

Level 1: Pre Numeracy (Linked with Level 1 in the Test Blueprint)

(a) Skills: Applies single step addition or subtraction operations. Recognizes simple shapes. Matches numbers and pictures. Counts in whole numbers.

(b) Example Test Items

- count illustrated objects
- recognise basic numbers and shapes
- carry out simple single operations of addition and subtraction

Level 2: Emergent Numeracy (Linked with Level 1 in the Test Blueprint)

(a) Skills: 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. Recognizes common two-dimensional shapes.

(b) Example Test Items

- link simple verbal, graphic, and number forms with single arithmetic operations on whole numbers up to two digits
- recognise common shapes or figures in two dimensions
- estimate accurately lengths of simple shapes

Level 3: Basic Numeracy (Linked with Level 2 in the Test Blueprint)

(a) Skills: 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.

(b) Example Test Items

- recognise three-dimensional shapes and number units
- use a single arithmetic operation in two or more steps
- convert in single step units using division

Level 4: Beginning Numeracy (Linked with Level 3 in the Test Blueprint)

(a) Skills: Translates verbal or graphic information into simple arithmetic problems. Uses multiple different arithmetic operations (in the correct order) on whole numbers, fractions, and/or decimals.

(b) Example Test Items

- convert units in two steps and count tabulated data
- analyse a visual prompt and interpret triangular shapes
- translate verbal to arithmetic form using two operations on fractions

Level 5: Competent Numeracy (Linked with Level 3 in the Test Blueprint)

(a) Skills: Translates verbal, graphic, or tabular information into an arithmetic form in order to solve a given problem. Solves multiple-operation problems (using the correct order of arithmetic operations) involving everyday units of measurement and/or whole and mixed numbers. Converts basic measurement units from one level of measurement to another (for example, metres to centimetres).

(b) Example Test Items

- convert basic measurement units
- understand the order of magnitude of simple fractions
- conduct multiple steps with a range of basic operations in a strict sequence using an analysis of a short verbal or visual prompt

Level 6: Mathematically Skilled (Linked with Level 4 in the Test Blueprint)

(a) Skills: Solves multiple-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).

(b) Example Test Items

- perform complex and detailed mathematical tasks (involving considerable abstraction of verbal, visual, and tabular information into symbolic forms and algebraic solutions) using knowledge not supplied with the task
- use of an extended verbal or graphic prompt (involving an analysis of steps) to identify the correct sequence of calculations
- convert, and operate on, units of measurement (time, distance, and weight)

Level 7: Problem Solving (Linked with Level 5 in the Test Blueprint)

(a) Skills: Extracts and converts (for example, with respect to measurement units) information from tables, charts, visual and symbolic presentations in order to identify, and then solves multi-step problems.

(b) Example Test Items

- use multiple verbal order of steps with conversion of time units
- translate verbal to arithmetic form, apply units conversion with long division
- convert from mixed number fractions to decimals

Level 8: Abstract Problem Solving (A New Level Generated from the Skills Audit)

(a) Skills: Identifies the nature of an unstated mathematical problem embedded within verbal or graphic information, and then translate this into symbolic, algebraic, or equation form in order to solve the problem.

(b) Example Test Items

- identify the nature of a problem, translate the information given into a mathematical approach, and then identify the correct mathematical strategies to obtain a solution
-

Chapter 3

Pupils' Characteristics and their Learning Environments

Introduction

The aim of this chapter is to present information on some of the characteristics of pupils and their homes. These data have been presented for two reasons. The first is that they provide a 'context' for the analyses to be presented in this report. The second is that, over time, the levels and distributions of the data may well change and therefore the data can be used to indicate the extent to which such context variables have changed.

A note on the interpretation of the data analyses

Before presenting the results, two points should be stressed. The first is that the variables presented in this chapter represent a small subset of the larger number of variables for which data were collected. The Ministry will make a separate publication containing descriptive statistics for all variables in the study available to interested readers.

The second point is that it is very important to interpret each statistic in association with its sampling error. It will be recalled from Chapter 2 that the sample was drawn in order to yield standard errors of sampling for pupils in Standard 6 in Lesotho, such that a sample estimate of a population percentage would have a standard error of ± 2.5 percent. For this level of sampling accuracy we can be sure 19 times out of 20 that the population value of a percentage lies within plus or minus five (5) percent of the estimate derived from the sample. The sampling errors for means have also been given in the tables and the same principle applies for limits of two standard errors of sampling.

Where a percentage or a mean has been presented for a sub-group of pupils such as for districts, then it will be seen that the standard error is greater than for the sample as a whole. This occurs, in part, because the sample sizes for sub-groups were smaller than the total sample sizes. Had smaller standard errors for sub-groups been required, this would have increased the size of the total sample and also of the budget required to

undertake much larger field data collections and data analyses. To illustrate this point, consider the first column of entries in Table 3.1. The average age of pupils in months at the time of data collection has been presented separately for each district and for Lesotho as a whole. The standard error (SE) of each average has also been presented. For the first district - Berea, the average pupil age was 167.2 months at the time of the data collection, and the standard error for this estimate was 1.50 months. That is, there were 19 chances in 20 that the average pupil age in the population of Standard 6 pupils in Berea district was 167.2 plus or minus $2(1.50)$. In other words it can be said that we can be 95 percent confident that the population value for Berea was between 164.20 months and 170.20 months.

It is important to note that the value of the standard error for each estimate changed from district to district. The variation was caused by two main factors: differences in the distribution of pupils among schools within districts and the structure of the sample design within each district. The smallest standard error of 0.70 months occurred for the sample estimate of average age for the whole population of Standard 6 pupils in Lesotho. This result was to be expected because the overall sample-estimate was based on a much larger sample of schools and pupils than the corresponding estimate for any single district.

In interpreting the values in Table 3.1 and other tables throughout this report, it is important to remember that the percentages and means have been presented in terms of pupils. That is, pupils were the units of analysis – even though some variables in this report referred to teachers or schools. Where a percentage for a variable that describes teachers has been presented, this percentage should be interpreted as ‘the stated percentage of pupils was in schools with teachers having the particular characteristic’. Similarly, a percentage for a variable that describes schools should be interpreted as ‘the stated percentage of pupils that were in schools with the particular characteristic’.

General Policy Concern 1: What were the personal characteristics and home background characteristics of Standard 6 pupils that might have implications for monitoring equity, and/or that might impact upon teaching and learning?

In order to guide the data analyses, the broad educational policy question posed above has been divided into a set of specific questions as follows: The specific questions have been used to develop a more structured response to the educational policy issues surrounding the main question.

- What was the age and sex distribution of Standard 6 pupils?
- What were the home circumstances of Standard 6 pupils?
- What were the living arrangements like in the place where pupils stayed during the school week?
- What was the socio-economic status of pupils' parents in terms of the kind of housing and wealth of livestock they had?

What was the age and sex distribution of Standard 6 pupils?

Age of Standard 6 pupils

If all pupils had entered school at the official age of entry and there had been no standard-repeating, then the expected age would have been 140 months at the time of SACMEQ II data collection. Pupils enter school in January if they have turned 6 years of age by 31 December of the previous year. Thus pupils would have been 11 years (132 months) of age at Standard 6. The figure of 140 months was arrived at by adding 132 months to eight months - SACMEQ II data collection took place after the eighth month of the year.

According to the information presented in Table 3.1, the mean age for all of the Standard 6 pupils was 169.6 months; approximately 14 years of age. Thus, the pupils in the sample were older than might have been expected. The incidence of over-age is glaringly more prominent in the rural and mountainous districts: Qacha's Nek, Quthing, Thaba-Tseka and Mokhotlong. Reasons for over-age could be attributed to pupils who had repeated some standards. It may well be due to those pupils who upon entry into the

system were already overage. Because of the difficult terrain in the mountain districts, schools may not be in close proximity to children's homes and children may defer schooling until they are mature enough to walk long distances to school. These districts also frequently experience very cold climate, and this may exacerbate the already difficult conditions created by rough terrain. The average age of Standard 6 pupils in these districts was around 174 months and Mokhotlong had the highest average age of 178 months.

The over-age problem can also be expected to get worse in future as a result of the implementation of the policy of Free Primary Education (FPE). Basically, the policy of FPE seeks to open access to basic education to all Basotho and thereby attain the goal of Education for All (EFA) by 2015. FPE allowed into primary school many adolescents who would have otherwise missed out on schooling. Many of these children were already above the requisite age of six when they first entered school in 2000.

The Ministry of Development Planning (2000) reported that 31 percent of Lesotho's adult population (15 – 49) was infected with HIV/AIDS. As a result of this, in future there is likely to be a large population of AIDS orphans whose schooling is likely to be disrupted, and this will worsen the over-age problem. The experience of other countries has indicated that such children repeat standards because they have long spells of absenteeism as they are expected to take care of sick parents and siblings. Many of these also drop in and out of school several times before they finally fall by the wayside for good.

The problem of over-aged pupils could be addressed by non-formal education programmes that are flexible, and can thus accommodate pupils whose overall circumstances make it difficult for them to meet the demands of rigid, formal schooling. Another benefit derived from such programmes is that they will also reduce the financial burden on the formal system because there will be no need to cater for the pupils who repeatedly drop in and drop out of the formal system

Efforts should also be directed towards reducing regional disparities in the provision of educational facilities and opportunities. Mountain districts are naturally disadvantaged and need more attention than the lowland districts. Other things being equal, equity in educational opportunities will assist young children in particular to break the poverty cycle by enabling them to contribute to, and benefit from, opportunities offered by the country's economy. Like many other developing countries, Lesotho has in place a poverty reduction strategy programme that focuses on through employment creation and economic growth.

Policy Suggestion 3.1: The Principal Secretary should consider strengthening the Non-Formal Education (NFE) programmes that are conducted by the department of the Lesotho Distance Teaching Centre. The NFE could select those adults who have come to school to take the advantage of the FPE scheme and come to learn to read and write only. It will also reduce the financial burden on the formal system for catering for the pupils who repeatedly drop in and drop out of the system.

Policy Suggestion 3.2: The monitoring and evaluation function embedded in the Education Management Information System (EMIS) should on yearly basis bring to the attention of the authorities the progress in reducing the regional disparities in the provision of educational facilities and opportunities. Otherwise, the mountain districts where overage is more pronounced will remain disadvantaged.

Gender distribution

The distribution of boys and girls in Standard 6 reflects the general pattern of school participation rates by gender in Lesotho: girls out-numbered boys in primary schools in Lesotho. From Table 3.1 it can be seen that there were more girls than boys in Standard 6 except for the district of Butha-Buthe that had 9.2 percentage points fewer than the national average figure of 55.6 percent of female participation.

From other data (MOE, 2002) it is clear that the problem is one of boys dropping out of primary school before they reach Standard 7 (the final year of primary education). In Standard 1 boys make up just over half of the children enrolled. The sex ratios in primary schools were as low as around 0.40 in the 1980s. Boys were absent from school because they herded cattle and took up employment in the mines in South Africa at an early age while their female counterparts went to school in Lesotho. The gender gap in

primary school participation has begun to narrow (MOE, 2000). Boys are working their way into the system and the overall sex ratio stood at 0.98 in 2002. The following have contributed to this positive development:

- The implementation of FPE has made it possible for all parents to send their children, including herd boys, to school;
- Mineworkers in South Africa continue to be retrenched as gold mines are closing down because the price of gold in the global market has fallen. This made early employment in South African mines no longer an attractive and reliable option; and;
- Formal schooling is a pre-requisite for white-collar jobs for which demand is increasing in the modern economy that is increasingly overshadowing the traditional economy based on the rearing of cattle, sheep and goats.

Table 3.1. Means, percentages, and sampling errors for the pupil age, sex, and home-related characteristics (SACMEQ II)

District	Age (months)		Sex (female)		Books at home (number)		Possessions at home (index)		Meals (index)		Parent education (index)	
	Mean	SE	%	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Berea	167.2	1.50	51.5	2.46	15.4	3.01	5.4	0.29	11.0	0.23	3.0	0.15
Butha-Buthe	168.1	2.39	47.4	3.33	13.7	2.23	3.8	0.38	10.6	0.11	3.1	0.12
Leribe	170.8	1.58	52.6	1.55	16.8	3.81	4.3	0.23	10.2	0.22	3.1	0.10
Mafeteng	169.2	1.95	63.3	3.04	13.0	2.24	3.4	0.29	10.8	0.14	2.9	0.07
Mokhotlong	178.1	1.49	65.7	3.63	7.5	2.01	3.1	0.20	11.0	0.21	2.6	0.12
Mohale's Hoek	173.0	2.06	57.1	4.06	20.4	5.78	4.1	0.41	11.6	0.18	2.8	0.14
Maseru	165.5	1.87	54.8	2.10	22.4	3.89	4.5	0.27	10.3	0.30	3.3	0.10
Qacha's Nek	174.2	1.51	56.6	2.62	12.9	3.93	3.6	0.42	11.2	0.32	2.9	0.11
Quthing	173.5	2.57	56.8	2.17	11.0	2.53	3.6	0.40	11.6	0.11	3.0	0.13
Thaba-Tseka	173.7	2.93	63.5	4.58	7.4	1.95	3.3	0.27	11.1	0.19	2.6	0.09
Lesotho	169.6	0.70	55.6	0.93	16.3	1.38	4.2	0.11	10.7	0.09	3.0	0.04

What were the home circumstances of Standard 6 pupils?

The home can be described in terms of a variety of components. One component concerns the wealth of the home in monetary terms. It was not feasible to ask children how much their parents earned. Thus proxy or indirect methods of assessing the wealth of a home had to be used. One set of components used to measure wealth were the goods

children they possessed at home (home possessions) and the kind of materials from which the house they lived in was built. The second set of components was the intellectual context of the child as characterized by the parents' level of education, and the books they had at home. Both of these were considered to have an effect on the child's learning.

Books in the home

The numbers of books in the home have been presented in Table 3.1. These ranged from a minimum of 7 books on average in Thaba-Tseka district to a maximum of 22 books in Maseru district. There were also large disparities between districts in terms of the availability of reading materials at home. Given that it is important for pupils to be able to read many different books if they are to perform well in reading tests (Elley, 1992), there is need to address the problem of shortage of reading materials in the home.

Where there are few books in the home, then the Ministry may wish to overcome this deficit by ensuring that children can take books home from school to read. Supplementary reading could also be provided through the services of a mobile library. However, this would need massive sensitization and social mobilization programmes to be effective.

Possessions in the home

The numbers of possessions that the pupils stated were in their homes have been presented in Table 3.1. A question was asked on the pupil questionnaire about thirteen possessions they might have in the home. These were: daily newspaper, weekly or monthly magazine, radio, TV set, video cassette recorder (VCR), cassette player, telephone, car, motorcycle, piped water, electricity (main, generator, solar), and a table to write on. The number of possessions owned in the home was summed for each pupil. The lowest score possible was zero and the highest score possible was 13.0.

The average number of possessions in the homes of all Standard 6 pupils in Lesotho was 4.2 items. From Table 3.1, it can be seen that pupils in Berea came from wealthier homes

than pupils in other districts. On the whole, all districts tended to have few possessions. Seven out of ten districts had fewer possessions of items than the national average of 4.2 items. The parents of the pupils in Mokhotlong district with 3.1 items and Thaba-Tseka district with 3.3 items had the lowest possessions index.

An index of regular meals

One of the factors often found to have an effect on pupil learning was nutrition. It is known that a pupil who is hungry, or is poorly nourished, finds it hard to concentrate on learning activities. This has implications for learning achievement. It was therefore considered important to ask a question in the pupil questionnaire on the nutrition of pupils measured in terms of the regularity of meals, even though the nutritional value of each meal was not known. The question sought to establish how frequently pupils ate a morning meal, a midday meal and an evening meal. A score of 3 meant that they did not eat at all while a score of 12 indicated that they ate every meal each day.

Standard 6 pupils in Lesotho had a very high meals index (average = 11). It is worth mentioning that lunches (midday meals) were provided at primary schools as part of the FPE package. The School feeding programme has always had a positive effect on schooling. Prior to 2000 when the FPE scheme was introduced, the Government of Lesotho (GOL) and the World Food Programme (WFP) had entered into an arrangement where they targeted the mountain district schools and provided lunch for the children. These schools were largely in poor communities and they tended to have low enrolments rates. The school feeding programme was supposed to influence learning achievement and attract more children to school, and thereby increase enrolment rates.

Parent education

In Table 3.1 information has also been presented on the educational level of the Standard 6 pupils' parents. Separate questions were asked on the mother's and father's educational level. The coding was:

1 = no school;

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2 = some primary;

3 = all primary;

4 = some secondary;

5 = all secondary;

6 = some post-secondary or university.

The results were summed and divided by 2. A score of '1' indicated that neither parent had received any school education and a score of 6 indicated that both parents had completed senior secondary education and had had some tertiary education.

The national average was 3 indicating that parents had, on average, completed primary education.

A further analysis of parents' education has been presented in Table 3.2. The percentages of fathers with certain levels of education and the percentages of mothers with different levels have been presented. From the first row in the table, it can be seen that 41.1 percent of fathers with no schooling were married to mothers with no schooling. There is a high correlation between the schooling of parents and whether their children go to school. This is partly due to the fact that not only are educated parents more likely to be wealthier and therefore afford to meet the cost of education but even poorer households with educated parents are more likely to send their children to school (Sechaba Consultants, 1993). Nearly 33 percent of the fathers with no schooling were married to wives with some primary education; 11.2 percent were married to wives who had completed primary. The analysis suggests that unschooled fathers are more likely to be compatible with unschooled mothers and, in turn, were not likely to send their children to school. Social mobilization/or sensitization on the benefits of schooling to local communities would be necessary to stimulate demand for education among children whose parents have no schooling.

Policy Suggestion 3.3: The Targeted-Equity Based Programme (TEBP) is confined to attracting disadvantaged children to schools. The Principal Secretary may wish to consider extending TEBP to cover social mobilization/or sensitization on the benefits of schooling to local communities. The government has made access to school easier by implementing the policy of FPE. However, in order to stimulate sustained demand for education among children, there is need to simultaneously encourage out- of- school adults to participate in non-formal education programmes.

Table 3.2. Cross-tabulation of father's and mother's education

		Mother's Education						All Mothers
		No school	Some Primary	All Primary	Some Secondary	All Secondary	Some Post-Sec and Plus	
Father's Education	No school	41.1	32.7	11.2	6.5	3.7	4.7	100.0
	Some Primary	13.7	61.9	10.3	9.2	2.3	2.6	100.0
	All Primary	11.5	37.8	25.7	17.0	5.0	3.1	100.0
	Some Secondary	4.8	29.1	16.1	33.4	8.2	8.3	100.0
	All Secondary	5.0	22.2	14.2	19.2	24.5	14.9	100.0
	Some Post-Sec and Plus	4.1	17.6	6.0	19.5	11.6	41.2	100.0
	All Fathers	11.0	42.1	15.2	16.9	6.7	8.1	100.0

Language Spoken at home

All Standard 6 tests were in English, and one aspect of the home that is of interest is the extent to which the pupils spoke English at home rather than Sesotho, the local language. The percentage of pupils who spoke English sometimes, often, and all of the time have been presented in Table 3.7.

It can be seen that 70.7 percent of pupils spoke English at home at least sometimes. In other words, there were some 29 percent of pupils who never spoke English at home. However, nearly 87 percent of pupils in Butha-Buthe spoke English sometimes. Maseru district recorded the next highest figure of nearly 83 percent of pupils who spoke English at home at least sometimes.

What were the living arrangements like in the place where pupils stayed during the school week?

Living arrangements

About seventy-eight percent of pupils lived with their parents or guardians. Some sixteen percent lived with relatives while attending school, three percent were in hostels, and some four percent lived by themselves (see Table 3.3). Thus, when describing homes, most of the children were referring to their own homes.

Children are better off living with their parents or guardians. It is a cost saving measure; and in general, parents are better able to provide proper care, guidance and grooming for their children.

Type of lighting at home

In Table 3.4 (a), information has been presented on the type of lighting that was used in the place where the pupils stayed during the school week. All pupils in Mafeteng district reported having some kind of lighting in their homes. Meanwhile, the majority of homes (88.2 %) from which the pupils came used candles or oil lamps for lighting in the evening. Modern electric lighting was not common (7.0 %), and was largely available in the urban districts of Maseru (11.6 %) and Leribe district (10.2 %).

Where there was lighting in pupils' homes as in the case of Mafeteng, pupils could be expected to continue to do their homework and interact with some adults on their schoolwork even when it was late at night. Where there was no light in the home, the time for schoolwork was limited and this might impact negatively on learning achievement.

Table 3.3. Place where pupils stay during the school week (SACMEQ II)

Table 3.4(a). Percentages and sampling errors for the lighting in pupils' home (SACMEQ II)

District	No light		Candle/Oil Lamp		Gas lamp		Electric lighting	
	%	SE	%	SE	%	SE	%	SE
Berea	1.2	0.55	90.2	2.87	1.2	0.54	7.4	2.84
Butha-Buthe	2.4	1.30	84.7	4.96	3.7	1.24	9.1	4.70
Leribe	4.8	1.47	81.8	4.30	3.1	0.91	10.2	4.13
Mafeteng	.	.	98.4	0.73	0.4	0.41	1.2	0.67
Mokhotlong	0.4	0.37	97.3	1.30	0.6	0.44	1.7	1.12
Mohale's Hoek	0.3	0.27	95.4	1.58	1.4	0.92	2.9	1.14
Maseru	2.8	1.05	80.0	4.22	5.6	1.66	11.6	2.92
Qacha's Nek	1.9	1.43	91.1	2.15	2.0	1.43	5.0	1.79

Place where pupils stay during the school week

District	Parent/Guardian		Relatives/Family		Hostel/Board		Self/Children	
	%	SE	%	SE	%	SE	%	SE
Berea	86.2	3.09	12.9	3.13	0.3	0.26	0.7	0.58
Butha-Buthe	72.5	4.08	22.2	3.28	2.1	0.88	3.2	1.38
Leribe	71.5	4.74	15.3	2.48	6.3	3.42	6.9	2.36
Mafeteng	82.7	3.12	15.6	2.64	0.7	0.70	1.1	0.76
Mokhotlong	86.0	3.14	12.7	3.16	0.8	0.52	0.5	0.50
Mohale's Hoek	86.6	2.45	12.7	2.43	0.4	0.39	0.3	0.31
Maseru	67.3	4.88	17.8	3.15	4.0	1.34	10.9	2.10
Qacha's Nek	80.8	3.11	14.6	2.62	1.7	0.87	2.9	1.04
Quthing	79.5	4.49	16.7	3.52	0.8	0.51	3.0	1.84
Thaba-Tseka	86.7	2.84	10.9	2.26	2.4	1.10	0.0	0.00
Lesotho	77.5	1.55	15.5	1.06	2.6	0.69	4.4	0.68
Quthing	4.4	2.20	91.5	2.80	1.5	0.71	2.6	1.33
Thaba-Tseka	1.0	0.98	96.1	1.60	0.7	0.71	2.2	1.11
Lesotho	2.2	0.40	88.2	1.35	2.6	0.45	7.0	1.12

What was the socio-economic status of pupils' parents in terms of the kind of housing and livestock they owned?

Structure of housing

The information on the structure of floors, walls, and roofs in pupils homes has been shown in Tables 3.4(b), 3.4 (c) and 3.4 (d) respectively. According to the data in these

Tables, a number of homes from where the Standard 6 pupils came had floors that were cemented (44.2 %) or tiled (23%). A large proportion of these homes had walls made of stones (36.8%). Many homes had roofs that were made of metal/asbestos sheets (51.9%) or else the roofs were not sealed (29.6%). An index was constructed based on the information on the pupils' homes in terms of the lighting and structure of housing as follows:

Light at home:	No light/Firelight	= 1
	Candlelight/Oil lamp	= 2
	Gas lamp	= 3
	Electric lighting	= 4
Floor of home:	Not sealed/Clay	= 1
	Wooden floor	= 2
	Cement	= 3
	Carpet/tiles	= 4
Wall of home:	Not sealed/Sticks	= 1
	Stones/Mud bricks	= 2
	Metal sheets/Wood	= 3
	Cut stone/Bricks	= 4
Roof of home:	Not sealed/Thatched	= 1
	Metal/Asbestos	= 2
	Cement/Concrete	= 3
	Tiles	= 4

The results have been presented in Tables 3.4 (e). Thus the highest possible score was 16. The average score for Lesotho was 9.5 (see Table 3.4 (e)). Maseru district (where the capital city is situated) and Mafeteng district both had the highest value of 10.1. Meanwhile, the remote and mountainous districts of Thaba-Tseka and Mokhotlong had the lowest scores of 8.3 and 7.0 respectively. In general, there was not much difference among the districts.

Table 3.4(b). Percentages and sampling errors for structure of floors in pupils' homes (SACMEQ II)

District	Not sealed		Wood		Cement		Carpet/Tiles	
	%	SE	%	SE	%	SE	%	SE
Berea	29.0	5.76	5.2	2.20	51.7	5.64	14.1	3.81
Butha-Buthe	13.7	1.50	3.6	0.83	59.8	4.17	22.8	4.67
Leribe	28.9	2.61	5.6	1.53	41.3	4.21	24.1	4.28
Mafeteng	20.2	3.77	0.8	0.56	44.6	6.39	34.4	5.63
Mokhotlong	77.2	4.96	1.3	0.70	15.0	3.47	6.4	2.35
Mohale's Hoek	43.3	11.02	3.5	2.00	29.6	7.53	23.7	6.89
Maseru	20.1	2.45	2.5	0.75	55.4	3.41	22.0	2.50
Qacha's Nek	39.0	5.53	0.4	0.37	25.0	6.51	35.6	6.70
Quthing	31.3	5.51	4.2	2.10	32.5	5.05	32.0	6.71
Thaba-Tseka	46.0	7.46	5.9	3.63	36.8	6.85	11.3	2.53
Lesotho	29.3	1.76	3.6	0.54	44.2	1.83	23.0	1.56

Table 3.4(c). Percentages and sampling errors for structure of walls in pupils' homes SACMEQ II)

District	Not sealed		Stones		Sheets/Wood		Cut stone/Bricks	
	%	SE	%	SE	%	SE	%	SE
Berea	7.2	1.95	42.5	7.33	9.8	1.81	40.5	7.33
Butha-Buthe	6.2	1.86	51.8	5.83	8.0	1.67	34.1	6.94
Leribe	12.8	2.86	43.1	4.97	8.6	2.21	35.5	5.96
Mafeteng	5.5	2.21	26.1	5.02	22.5	9.56	45.9	7.63
Mokhotlong	11.3	4.19	77.2	7.36	1.4	0.99	10.1	3.49
Mohale's Hoek	9.1	6.60	54.5	6.45	2.5	1.02	33.8	7.13
Maseru	14.2	4.39	35.7	4.05	10.1	2.57	39.9	4.45
Qacha's Nek	4.8	1.56	55.6	7.05	3.7	2.45	35.8	5.96
Quthing	3.2	0.99	55.6	6.12	5.4	1.72	35.8	5.89
Thaba-Tseka	5.0	1.93	66.4	8.03	4.1	1.54	24.5	7.90
Lesotho	9.4	1.35	44.7	2.02	9.2	1.32	36.8	2.22

Table 3.4(d). Percentages and sampling errors for structure of roof in pupils' homes (SACMEQ II)

District	Not sealed		Metal/Asbestos		Cement concrete		Tiles	
	%	SE	%	SE	%	SE	%	SE
Berea	23.6	4.66	60.1	6.95	3.7	1.79	12.5	5.22
Butha-Buthe	37.6	6.94	38.5	8.09	10.2	3.90	13.8	3.24
Leribe	34.1	4.22	44.9	5.72	9.7	2.68	11.3	2.85
Mafeteng	10.8	2.88	81.8	3.47	2.8	1.04	4.7	1.50
Mokhotlong	70.4	5.80	28.5	5.90	0.5	0.46	0.6	0.43
Mohale's Hoek	33.8	9.36	57.7	8.97	3.5	2.34	5.0	1.60
Maseru	24.5	2.59	41.5	5.19	15.6	3.00	18.4	3.13
Qacha's Nek	33.6	4.54	59.3	4.94	1.3	0.99	5.8	2.08
Quthing	26.0	5.44	60.5	7.67	4.9	2.21	8.6	3.61
Thaba-Tseka	50.4	7.88	38.7	6.90	6.3	4.47	4.5	1.59
Lesotho	29.6	1.71	51.9	2.28	7.7	1.01	10.8	1.23

Table 3.4(e). Means and sampling errors for the general quality of pupils' homes (SACMEQ II)

District	General quality of pupils' homes (Index)	
	Mean	SE
Berea	9.5	0.31
Butha-Buthe	9.8	0.33
Leribe	9.4	0.24
Mafeteng	10.1	0.15
Mokhotlong	7.0	0.19
Mohale's Hoek	8.8	0.56
Maseru	10.1	0.21
Qacha's Nek	9.2	0.30
Quthing	9.4	0.28
Thaba-Tseka	8.3	0.27
Lesotho	9.5	0.11

Livestock

In rural areas, animals are an important component of a family's wealth. The need for children to take direct interest in the management of livestock is based on the grounds that this is their future inheritance. Boys may also be hired out to other families to look after their livestock. Such employment also tends to attract payment in the form of livestock. Thus owning livestock is a major goal of Basotho men, and is pursued with

vigour. Even the migrant mine workers invest their earnings in cattle purchases to build their herd back home in Lesotho.

The principal commercial returns to livestock in Lesotho are from sales of wool and mohair from sheep and goats, almost all of which is exported. In the 1990s, exports of wool and mohair fibres made up 21 percent of total exports and the principal agricultural merchandise export.

Some 75 to 85 percent of the population in Lesotho derives their livelihoods from agriculture; and the livestock sub-sector contributes a relatively higher proportion to agricultural GDP than crops, with its share rising to about seven percent. According to *Human Development Report 1998*, Lesotho is virtually self-sufficient in red meat.

Women's development activities concentrate on water harvesting, piggery and poultry farming. The tradition requires that the boy child and men mind the cattle, sheep and goats, and they ride on horsebacks to run their errands. Donkeys are good as beasts of burden, but cattle, in particular, are highly valued possessions. They are used to cultivate land for the supply of staple grains, mainly maize, wheat and sorghum. They are used to pay the bride's price. When a cow is slaughtered for family functions, it symbolizes the importance of the occasion. Before the burial ceremony, a cow should be slaughtered otherwise the deceased would not rest in peace. Therefore people who do not possess livestock are considered to be of relatively low social status within the context of their communities.

It is easy to realize why the boy-child in Lesotho has not had the same opportunity of schooling as his female counterpart. It is the same reason why for a long time the formal education system has struggled to raise the net enrolment ratios (NER) to the level to the level where universal primary education (UPE) could be considered to have been achieved. In the circumstances, it is important to consider a variety of innovative ways of ensuring that participation rates are raised, particularly among boys. This includes making an effort to understand the activities that pre-occupy out-of-school youth and

flexible educational programmes that would best address their needs. Furthermore, the Ministry's Education Management Information System (EMIS) should be strengthened in order to monitor progress in this regard.

The information on the number of livestock possessed in the homes where pupils stayed during the school week has been presented in Table 3.5. What is noticeable from Table 3.5 is that large herds of livestock are reared in the mountainous and rural districts of Mokhotlong and Thaba-Tseka. It is easy to realize that agricultural land is diminishing in the urban areas because of rising population, the need for land for the construction of economic and social infrastructure (roads, housing, industries and other services). Some agricultural land has also been lost to commercial and government institutions. The detrimental effect of the loss of agricultural land is that Lesotho is going through a difficult time of declining food production, and this threatens food self-sufficiency. Meanwhile, growing livestock populations that exceed the land's carrying capacity have detrimental effects on the welfare of society as a whole, among them range degradation, environmental destruction and soil erosion.

Nevertheless, with countries striving to achieve EFA by 2015, strengthening Learning Post programmes for herd-boys will be an important component of the Ministry's programme of action for the attainment of EFA. Learning Post programme is set-up to provide educational opportunities to out-of-school youths – mostly herd-boys, to develop their literacy and numeracy skills. The programme is operational in five districts: Berea, Leribe, Mafeteng, Thaba-Tseka and Qacha's Nek. There are 174 Learning Posts and 4151 learners across all five districts. Basic literacy and numeracy programme is conducted in the evening when the herd-boys have knocked off from their core business of herding the cattle during the day. A more diversified programme for herd-boys is being piloted in two districts of Berea and Thaba-Tseka. The programme includes training on carpentry, candle and Vaseline making and agriculture. With the generosity of UNICEF, upon graduation, each graduate is awarded a certificate and provided with a portable kit that contains soap, rain-suit, book packages, exercises and pens. Feeding scheme at the learning posts would also be a great motivation for herd-boys to come to

the Learning Posts. Besides, the nutritional and health status of these children is normally low as they usually eat once a day.

Policy Suggestion 3.4: EMIS has for a long time concentrated and confined its efforts on formal schooling in Lesotho. Other educational activities including NFE activities for herd-boys should be also covered in EMIS.

Policy Suggestion 3.5: The P.S should consider feeding programmes in the learning-posts for herd-boys. This will attract more herd-boys to come to the learning posts. Besides, the nutritional and health status of these children is normally low as they usually eat once a day.

Table 3.5. Means and sampling errors for the amount of livestock at pupils' homes (SACMEQ II)

District	Cattle		Sheep		Goats		Horses/ Donkeys		Pigs		Chickens	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Berea	3.9	0.33	2.9	0.54	1.8	0.31	1.3	0.15	0.8	0.12	8.3	0.68
Buthe-Buthe	3.5	0.63	4.3	1.12	3.5	0.68	1.1	0.17	0.6	0.09	6.2	1.20
Leribe	4.0	0.46	2.8	0.73	2.6	0.78	1.4	0.25	1.3	0.36	6.7	0.76
Mafeteng	4.8	0.68	6.1	0.70	3.7	1.13	1.9	0.42	0.9	0.12	7.1	0.89
Mokhotlong	7.9	0.96	18.2	2.94	10.3	1.61	2.5	0.35	0.1	0.04	7.4	0.68
Mohale's Hoek	3.7	0.39	8.3	1.89	8.5	2.47	1.4	0.22	0.7	0.09	7.1	0.68
Maseru	3.8	0.48	4.2	0.75	3.5	0.48	2.0	0.28	2.1	0.41	10.6	1.68
Qacha's Nek	5.4	0.78	9.7	1.38	8.7	1.61	2.1	0.32	1.0	0.22	7.0	0.43
Quthing	3.8	0.58	8.4	2.85	7.4	1.07	1.4	0.20	1.6	0.51	7.3	0.75
Thaba-Tseka	6.0	0.53	12.8	2.64	7.2	1.16	2.1	0.18	0.5	0.15	7.0	1.42
Lesotho	4.2	0.18	5.7	0.41	4.4	0.37	1.6	0.10	1.2	0.12	7.9	0.45

In this section it has been seen that Standard 6 pupils in 2000 were older than might have been expected. The incidence of over-age was glaringly prominent in the rural and mountainous districts of Mokhotlong, Quthing, Qacha's Nek and Thaba Tseka. In the 1980s and the period immediately thereafter, the sex ratios in primary schools in general, were predominantly in favour of the girl child. The sex ratios gradually equalised and in 2003 they were around 0.98. However, in all standards the males tended to repeat more and drop out more than girls.

Concerning the home circumstances of Standard 6 pupils, SACMEQ II study revealed the following:

- There were very few possessions in the pupils' homes. There were as few as just seven books in the homes of some pupils.
- Some 40 percent of the pupils had both of their parents who had no schooling at all. Some 14 percent of the pupils had fathers who had some primary education and were married to mothers who had no schooling at all. Children in these circumstances would definitely lack guidance and support for their schoolwork.
- All of the pupils ate fairly very well with an average of 11 meals per.
- About 75 percent of Standard 6 pupils stayed with their parents and or guardians in their homes. The rest stayed by themselves or in hostels.
- Close to 90 percent of Standard 6 pupils had some kind of lighting in their homes for them to continue to do their homework even after dark. The structures of the buildings in pupils' homes were of very high quality: the floors were cemented or tiled and their roofs were made of metal/asbestos sheets. The best possible score for the index of the quality of homes was 16; and the average for Lesotho was 9.5.
- Rearing of livestock was pursued with vigour in the rural and mountainous districts.

General Policy Concern 2: What were the school context factors experienced by Standard 6 pupils that might impact upon teaching/learning and the general functioning of schools?

The school context factors discussed below include: regularity and reasons for absenteeism; repetition of standards; and parents' involvement in the education of their children in terms of assisting children with their homework. These factors are considered to have an impact on teaching and learning and the general functioning of schools.

Location of the school

In Table 3.6 below information on the location of schools attended by the pupils has been presented. On average 35.1 percent of pupils were in schools in urban areas, but there was considerable variation among the districts. In Quthing district more than half of the pupils (53.1%) were in schools in urban areas. By way of contrast, in Mafeteng district, less than one-fifth (18.0%) of all Standard 6 pupils were in urban schools.

Meanwhile, the distance in kilometers from the schools to the nearest public places (health centre, tarred road, public library, book shop, secondary school and a shopping centre) was generally long, implying that many schools were isolated. The average distance recorded at the national level was 27.8 kilometers. In some cases the situation was a lot worse than what prevailed at the national level. The longest distance of 63.9 kilometers was recorded in Quthing district; Mafeteng district came next with 49.5 kilometers while in Maseru district where the capital is, the smallest distance of 9.6 kilometers was recorded.

For the populations in rural Lesotho, long distances have been a major barrier to communication and interaction with the facilities around the schools. Unfriendly terrain has exacerbated the problem as public transport does not reach the inaccessible areas. Prior to the implementation of FPE in 2000, many school age children remained out of school because parents could afford neither the school fees nor the transport costs involved.

Table 3.6. School location (SACMEQ II)

District	Distance (km)			
	Urban %	Urban SE	Mean	SE
Berea	28.9	11.99	13.8	3.25
Butha-Buthe	34.5	13.65	31.6	4.43
Leribe	35.7	10.11	16.7	1.98
Mafeteng	18.0	10.02	49.5	21.20
Mokhotlong	29.5	13.24	17.1	3.32
Mohale's Hoek	20.3	11.03	51.4	21.21
Maseru	49.9	10.27	9.6	3.14
Qacha's Nek	41.9	16.44	28.6	5.92
Quthing	53.1	13.58	63.9	9.13
Thaba-Tseka	33.2	15.47	48.7	8.27
Lesotho	35.1	4.05	27.8	3.54

Days absent in previous month

On the whole, absenteeism is not a problem in Lesotho. According to Table 3.7, nearly 49 percent of pupils had not been absent for even a single day during the month preceding the month of data collection. The rest were absent for an average of only 1.3 days. This is really commendable, particularly in view of the many factors already highlighted that militate against effective participation.

In Table 3.8 it can be seen that the reasons for absenteeism were many and varied. Most absenteeism was associated with illness (29.1%) and occasionally with family reasons (10.8%). In some instances also, the reasons of pupil absenteeism were associated with payment of fees (5.6%), and other pupils reported that they were absent because they had to work (7.0%).

Although the rate of pupil absenteeism is low, no effort should be spared in dealing with it since absenteeism can have negative effects on a pupil's learning. With the advent of HIV/AIDS, support groups have been formed around the villages with a view to reducing the load children have in taking care of the sick. The FPE policy is gradually reaching every primary school child, and by 2006 nearly all pupils will have been captured.

Policy Suggestion:3.6: The P.S. should consider some measures by which the provision of free primary education (FPE) is not only extended to every child, but is compulsory as well. Once all basic education has been made free and compulsory, children will not be kept away from school for any reason. This should ensure the attainment of EFA by 2015.

Repetition

The incidence of repetition is very high and it is also worrisome. Nearly 61 percent of pupils had repeated a standard at least once. Repetition was highest in Mokhotlong district with 73.4 percent while Mafeteng district recorded the lowest figure of 52.9 percent.

Combating repetition is critical in low-income countries like Lesotho. Such countries cannot afford the high cost of repetition while striving and simultaneously striving for the

attainment of EFA. The root causes of repetition are many and varied, but from previous studies, it appears as though the following reasons are the most important: (a) enrolment of under-age children who, upon failing to cope with the pressures of formal schooling, repeat a standard; (b) poorly equipped schools which lack essential, quality instructional materials, and therefore result in under-achievement in key areas of the curriculum, causing children to repeat; and (c) flaws in the teacher training programme coupled with poor supervision and inadequate support to the teacher, thereby adversely affecting achievement, with consequences for repetition.

Policy Suggestion 3.7: PS should establish a Task Force that would ensure that: (a) enrolment of under-age children is completely eliminated, (b) schools are adequately supplied with quality instructional materials and the curriculum is responsive and diversified, and (c) teacher supply and training programme is enhanced.

Table 3.7. Percentages, mean, and sampling errors for the pupil language, days absent, and repetition (SACMEQ II)

District	Speak English		Days absent		Repetition	
	%	SE	Mean	SE	%	SE
Berea	48.8	8.90	0.7	0.09	67.3	2.43
Butha-Buthe	86.9	4.53	1.1	0.15	59.2	4.72
Leribe	65.4	5.19	1.8	0.28	56.0	4.88
Mafeteng	79.3	5.61	1.2	0.27	52.9	8.19
Mokhotlong	65.8	9.12	1.6	0.21	73.4	3.49
Mohale'sHoek	59.0	8.18	1.6	0.34	67.9	3.37
Maseru	82.8	3.63	1.5	0.21	57.5	2.97
Qacha's Nek	75.8	6.17	1.2	0.35	67.6	5.33
Quthing	78.9	9.97	0.7	0.15	64.3	3.73
Thaba-Tseka	69.8	11.73	1.0	0.22	62.5	5.56
Lesotho	70.7	2.31	1.3	0.09	60.8	1.60

Table 3.8. Percentages and sampling errors for reasons of pupils' absenteeism (SACMEQ II)

Region	Illness		Family reasons		Fees		Work	
	%	SE	%	SE	%	SE	%	SE
Berea	22.2	3.88	10.9	3.01	1.4	0.59	2.6	1.09
Butha-Buthe	21.0	4.10	13.0	3.69	6.6	1.76	7.3	1.58
Leribe	35.4	5.54	12.4	2.26	8.4	2.12	10.7	2.57
Mafeteng	33.2	5.79	8.0	2.18	5.7	1.12	5.3	1.64
Mokhotlong	35.3	3.77	8.7	2.46	5.3	2.26	9.1	2.35
Mohale's Hoek	30.2	5.17	11.0	1.04	2.6	0.87	2.5	0.85
Maseru	28.1	3.34	12.0	3.11	9.2	1.66	10.4	2.31
Qacha's Nek	29.5	7.48	9.9	2.21	1.1	0.74	5.0	1.95
Quthing	27.8	5.81	5.1	1.30	1.7	0.81	4.9	1.45
Thaba-Tseka	28.6	6.59	11.6	3.07	5.1	1.85	6.1	2.37
Lesotho	29.1	1.72	10.8	0.98	5.6	0.57	7.0	0.75

Amount and frequency of homework

The importance of giving pupils homework cannot be overemphasised. It should be seen as the way by which the teacher further interacts with the pupils, but this time on a one to one basis to ensure that learning has occurred and, if it has not occurred, to establish reasons for this. By correcting the homework, the teacher gives feedback whereby the learner can know if he/she is on the right track. The frequency with which teachers give reading and mathematics homework and frequency with which teachers correct it are presented in Tables 3.9 and 3.10.

According to Tables 3.9 and 3.10, slightly over half (57.1%) of the pupils in schools reported that they were given reading homework that was mostly or always corrected. The corresponding percentage for mathematics homework was relatively higher (66.9%). In a few cases it was never given at all (5.9%) or it was given but never corrected (5.6%) and in 31.4 percent of the cases it was corrected only sometimes.

Policy Suggestion 3.8: The Field Inspectorate should integrate as important part of their work, monitoring that all teachers give homework regularly and mark it.

Table 3.9. Percentages and sampling errors for the frequency of reading homework being corrected by teacher (SACMEQ II)

District	No homework given		Never corrected		Sometimes corrected		Mostly/always corrected	
	%	SE	%	SE	%	SE	%	SE
Berea	10.6	8.80	6.1	1.73	34.0	8.04	49.3	9.58
Butha-Buthe	5.8	3.86	4.1	1.39	34.5	4.28	55.6	5.29
Leribe	5.1	1.60	5.1	1.64	34.3	4.14	55.5	5.32
Mafeteng	7.1	3.13	3.8	1.85	20.8	2.78	68.2	5.94
Mokhotlong	2.8	2.25	2.7	1.77	26.4	8.11	68.1	9.72
Mohale's Hoek	2.3	1.47	5.3	2.95	35.4	8.89	57.0	7.97
Maseru	5.3	1.13	8.3	1.34	34.3	2.57	52.1	3.03
Qacha's Nek	3.6	1.88	6.4	3.93	34.8	5.65	55.1	6.71
Quthing	1.9	1.07	4.2	2.01	18.7	6.07	75.2	7.86
Thaba-Tseka	11.8	8.92	3.8	1.28	26.7	8.74	57.8	11.14
Lesotho	5.9	1.43	5.6	0.65	31.4	1.89	57.1	2.26

Table 3.10. Percentages and sampling errors for the frequency of mathematics homework being corrected by teacher (SACMEQ II)

District	No homework given		Never corrected		Sometimes corrected		Mostly/always corrected	
	%	SE	%	SE	%	SE	%	SE
Berea	2.9	1.66	2.9	1.12	25.8	7.69	68.4	8.42
Butha-Buthe	1.3	0.83	0.9	0.54	40.6	5.04	57.2	4.95
Leribe	4.7	1.76	4.5	1.63	27.1	4.16	63.7	6.07
Mafeteng	2.8	2.50	2.5	1.42	25.2	6.78	69.4	7.60
Mokhotlong	0.0	0.00	1.8	1.18	19.1	6.46	79.1	7.02
Mohale's Hoek	0.3	0.31	1.2	0.96	16.8	4.27	81.7	5.03
Maseru	4.5	1.25	4.9	1.24	31.3	3.76	59.3	4.74
Qacha's Nek	4.8	2.53	1.0	0.99	28.8	5.59	65.4	6.26
Quthing	0.0	0.00	1.8	1.10	14.9	6.38	83.3	6.89
Thaba-Tseka	3.1	2.52	2.6	1.62	36.7	11.13	57.6	11.71
Lesotho	3.0	0.59	3.1	0.48	27.0	1.95	66.9	2.32

Family assistance with homework

Table 3.11 (a) refers to parental behaviors such as ensuring that the homework is done, actually helping with homework in general, and also looking at the schoolwork done at school. On average, 30 percent of pupils had parents who ensured that the homework was done. About 28 percent of the pupils had parents who helped with the homework

and who looked at the work done at school. It can be seen from Tables 3.11 (b) and 3.11 (c) that there were relatively low rates of support and involvement of parents in their children's learning.

The low rates of support and involvement of parents in their children's learning might indicate that people may still not understand that education is, or should be, a joint effort of the home and the school. The low rates of participation of parents in their children's school-related work could also be linked to the low level of the parents' education. Whichever case it may be, people should be made to understand that homework provides essential feedback to the teacher and gives an opportunity for the pupil to build up skills learned at school, and for the teacher to identify areas where concepts and skills were not mastered. Homework also provides a mechanism through which pupils' literacy profiles can be built simultaneously by parents and teachers. It provides a sound basis for informed parent-teacher conferences. This tries to establish the fact that parents' role in the education of their children should not be merely to pay the school fees; but also to ensure that children actually learn what they are supposed to learn.

Parental involvement in their children's learning activities could be encouraged by setting up the following structures at the school/local level: Establishment of schools administrative structures such as Advisory School Committees and School Boards in which some representation comes from the parents' side are encouraged. Parent Teachers Associations (PTA), Open-day celebrations and Parents-Teacher Conferences go a long way in terms of making sure that children's education is an outcome of a consultative and participatory process of the major stakeholders in education, namely, government, school and the local community.

Table 3.11(a). Home assistance with school related work (SACMEQ II)

Home assistance ‘most of the time’ with school work						
District	Ensure homework done		Help with the homework		Look at school work done	
	%	SE	%	SE	%	SE
Berea	24.2	5.18	29.4	4.82	23.0	3.64
Butha-Buthe	44.3	4.44	33.2	3.46	36.0	3.34
Leribe	25.2	2.96	21.2	2.50	20.4	2.91
Mafeteng	29.8	5.09	25.7	5.34	28.6	4.93
Mokhotlong	13.2	4.60	11.3	4.21	23.0	7.83
Mohale’s Nek	35.5	8.39	33.5	8.88	28.5	7.75
Maseru	28.2	3.14	28.0	2.78	32.3	2.99
Qacha’s Nek	45.3	5.81	41.2	5.87	22.7	4.47
Quthing	32.3	8.29	28.8	7.33	34.6	5.98
Thaba-Tseka	39.5	9.41	25.0	5.56	31.6	8.57
Lesotho	30.0	1.72	27.5	1.61	27.8	1.53

Table 3.11(b). Home assistance with reading work (SACMEQ II)

Home assistance ‘most of the time’ with school work				
District	Ask to read		Questions on school reading work	
	%	SE	%	SE
Berea	19.4	3.03	18.0	2.87
Butha-Buthe	24.4	2.92	30.2	4.46
Leribe	20.1	3.11	18.0	3.31
Mafeteng	22.0	4.02	23.5	4.02
Mokhotlong	16.0	5.36	18.2	5.66
Mohale’s Hoek	25.1	7.20	13.0	3.79
Maseru	30.2	2.72	30.4	3.41
Qacha’s Nek	23.0	5.19	15.6	3.39
Quthing	23.3	5.06	32.2	6.48
Thaba-Tseka	23.4	4.99	23.7	5.93
Lesotho	23.5	1.36	22.7	1.38

Table 3.11(c). Home assistance with mathematics work (SACMEQ II)

District	Home assistance 'most of the time' with school work			
	Do mathematical calculations		Questions on school mathematics work	
	%	SE	%	SE
Berea	23.0	5.49	15.6	3.72
Butha-Buthe	26.1	4.90	24.4	3.05
Leribe	18.0	3.03	22.7	3.21
Mafeteng	22.8	5.43	22.4	3.80
Mokhotlong	20.7	6.16	13.5	4.80
Mohale's Hoek	11.1	3.01	8.9	3.92
Maseru	26.1	1.91	29.8	2.43
Qacha's Nek	16.3	4.56	18.1	4.36
Quthing	20.6	5.47	25.3	5.95
Thaba-Tseka	24.0	4.10	19.9	3.72
Lesotho	21.3	1.37	21.5	1.25

In this section it could be seen that the distance from the schools where the Standard 6 pupils were to the nearest public place (health center, shopping center, public library, bookshop etc) was generally long and the schools tended to be isolated. Only 35.1 percent of the pupils were in urban schools.

Nearly 61 percent of the pupils had repeated a standard once or more; and pupils were absent 1.3 days in the month before the testing took place.

Slightly over half (57.1%) of the pupils reported that they were given reading homework that was corrected mostly or always corrected. The corresponding percentage for mathematics was slightly higher at 66.9 percent. In the rest of other cases, homework was never given or it would be given but never corrected, and sometimes it would be corrected. This is contrary to the expectation that all teachers should correct all homework all of the time. Meanwhile, low rates of support and involvement of parents in their children's homework were observed.

General Policy Concern 3: Did Standard 6 pupils have sufficient access to classroom materials (textbooks, readers, and stationery) in order to participate fully in their lessons?

The classroom materials form an integral part of the many basic ‘pre-conditions’ that must be satisfied before the formal learning process can commence. The pupils must be provided with paper and pencils, textbooks, and teachers who have the knowledge and skills to provide the education required. The need to assess the extent to which these basic pre-conditions for learning have been met cannot be overemphasized.

Reading and mathematics textbooks

Table 3.12. Percentages and sampling errors for pupils having own reading textbook (SACMEQ II)

District	Own reading textbook		Own mathematics textbook	
	%	SE	%	SE
Berea	56.6	10.02	44.3	9.58
Butha-Buthe	46.4	3.86	43.4	5.40
Leribe	45.3	7.27	39.2	6.27
Mafeteng	63.8	9.16	42.7	8.15
Mokhotlong	44.0	12.13	40.1	10.13
Mohale’s Hoek	72.5	12.86	63.2	13.51
Maseru	51.1	4.81	45.4	6.08
Qacha’s Nek	52.9	7.74	61.8	9.90
Quthing	56.6	9.98	36.8	11.20
Thaba-Tseka	73.0	10.63	48.0	13.03
Lesotho	55.3	2.81	45.6	2.89

According to the information presented in Table 3.12 above, Mohale’s Hoek and Thaba-Tseka districts had the highest proportions (72.5% and 73.0% respectively) of Standard 6 pupils who had their own reading textbooks. The corresponding largest proportions recorded for mathematics textbooks were in Mohale’s Hoek and Qacha’s Nek Districts that had 63.2 percent and 61.8 percent respectively. These figures were much higher than

the national average figures of 55.3 percent and 45.6 percent for reading textbooks and mathematics textbooks respectively.

Other basic classroom supplies

Table 3.13(a). Percentages and sampling errors for shortages of basic classroom materials: Exercise books, notebook, and pencil. (SACMEQ II)

District	Exercise books		Notebook		Pencil	
	%	SE	%	SE	%	SE
Berea	1.1	0.74	7.5	4.40	11.3	3.21
Butha-Buthe	3.8	1.29	3.6	1.61	7.0	1.90
Leribe	6.0	2.33	7.8	2.67	10.6	2.12
Mafeteng	0.9	0.59	1.7	0.97	10.3	3.47
Mokhotlong	1.0	1.00	5.5	2.07	4.3	2.32
Mohale's Hoek	0.3	0.27	0.3	0.27	10.7	5.61
Maseru	10.2	3.30	13.9	3.12	12.5	2.55
Qacha's Nek	0.3	0.32	11.7	6.45	15.7	2.94
Quthing	0.0	0.00	0.3	0.30	3.6	1.45
Thaba-Tseka	3.3	1.51	7.1	3.94	8.8	3.09
Lesotho	4.0	0.88	6.9	1.14	10.3	1.09

From the information presented in Tables 3.13 (a) and 3.13 (b) it can be seen that there were some shortages of basic classroom supplies such as exercise books, rulers and erasers including stationery among the Standard 6 pupils in 2000. These shortages, however, were not serious. For example, fewer than 10 percent of pupils had a shortage of exercise books (4.0%) and notebooks (6.9%). For the other classroom materials, shortages were just over 10 percent, with the shortage of erasers being the highest (37.2%).

Most shortages have been noted in the district of Maseru. Meanwhile compared to the other nine administrative districts in Lesotho, Maseru is largely in the lowlands zone; it is well served by tarmac roads and there is broader industrial base. It is therefore more urbanized and better resourced. It hosts the capital city and the seat of central government. Thus, one would have expected Maseru to be better off compared with the other districts or it may well suggest that there is a pattern in distribution of school supply materials whereby Maseru, for the same reasons that are give, is not given a priority.

Table 3.13(b). Percentages and sampling errors for shortages of basic classroom materials: Eraser, pen, and ruler. (SACMEQ II)

District	Eraser		Pen		Ruler	
	%	SE	%	SE	%	SE
Berea	49.3	5.16	5.9	1.64	18.3	3.17
Butha-Buthe	39.2	7.23	9.8	1.87	9.2	2.36
Leribe	32.8	5.17	14.9	3.17	13.4	2.65
Mafeteng	23.1	4.57	7.0	1.63	8.3	2.86
Mokhotlong	33.5	5.56	9.0	3.92	16.7	3.83
Mohale's Hoek	36.3	7.30	6.5	2.84	16.3	5.89
Maseru	48.0	4.77	22.1	3.14	17.2	2.99
Qacha's Nek	38.7	5.95	2.6	1.11	17.3	3.80
Quthing	15.9	7.07	5.7	3.79	6.2	3.18
Thaba-Tseka	27.2	10.55	8.0	2.86	10.3	3.32
Lesotho	37.2	2.07	11.6	1.05	14.0	1.21

Policy Concern 4: Did Standard 6 pupils have access to library books within their schools, and (if they did have access) was the use of these books being maximized by allowing pupils to take them home to read?

Access to school and classroom library facilities

In chapter 5, information on the proportions of Standard 6 pupils in schools that had the general facilities: school buildings, school grounds, general services and equipment have been presented. There was a low proportion of 32.1 percent of the pupils in schools that had school libraries. In Table 3.14, information has been presented on different classroom resources available. One of these resources was a book corner or classroom library. Some 54.0 percent of the pupils were in classrooms that had a classroom library or a book corner.

Meanwhile, it was reported earlier in this chapter that in some homes there were as few as seven books (Table 3.1). To this effect, a policy suggestion was made that pupils should be allowed to take books home to read and or the services of a mobile library should be established.

Table 3.14. Percentages and sampling errors for availability of classroom resources for the teachers (SACMEQ II)

Resource	Availability of classroom resources			
	Reading teacher		Mathematics teacher	
	%	SE	%	SE
A usable writing board	95.7	1.34	95.7	1.34
Chalk	98.3	0.87	98.3	0.87
A wall chart of any kind	78.7	3.16	77.7	3.25
A cupboard	90.3	2.30	90.9	2.22
One or more bookshelves	41.6	4.03	40.0	4.02
A classroom library or book corner	54.0	4.01	52.8	4.02
A teacher table	86.1	2.60	86.1	2.60
A teacher chair	87.7	2.34	87.7	2.34

Permission to take library books home

A national average of 60.5 percent of Standard 6 pupils was permitted to borrow books from a classroom or a school library (Table 3.15). The pupils' responses to whether they were permitted to borrow books from schools to read at home were in total agreement with the responses given by the school heads on this question.

The variations between the districts in terms of proportions of pupils that were permitted to borrow books were very large. While some pupils were allowed to take books home with them, others were in dire need of such a facility. Thus the policy suggestions about pupils being allowed to take books home as well as the provision of a mobile library should be seriously considered.

Table 3.15. Percentages and sampling errors for pupil and school head responses to whether pupils are permitted to borrow books from a classroom or a school library (SACMEQ II)

District	Pupil		School Head	
	%	SE	%	SE
Berea	56.0	32.31	56.0	32.31
Butha-Buthe	85.5	15.46	85.5	15.46
Leribe	57.9	17.77	57.9	17.77
Mafeteng	49.3	36.97	49.3	36.97
Mokhotlong	45.2	25.20	45.2	25.20
Mohale's Hoek	100.0	0.00	100.0	0.00
Maseru	54.3	16.01	54.3	16.01
Qacha's Nek	64.7	43.31	64.7	43.31
Quthing	28.0	31.10	28.0	31.10
Thaba-Tseka	100.0	0.00	100.0	0.00
Lesotho	60.5	7.38	60.5	7.38

Only 32.1 percent of the Standard 6 pupils had in their schools a school library. Meanwhile greater proportions of 54.0 percent of the pupils reported their reading teachers as having within the classrooms a book corner or a classroom library. Similarly, 52.8 percent reported that their mathematics teachers had within their classrooms a book corner or a classroom library. Thus in schools where SACMEQ II study was conducted, classroom libraries for teachers were more common than there were school libraries.

An average of 60.5 percent of pupils reported that they were allowed to borrow books from a classroom or a school library. In a few of the cases, pupils were in dire need to borrow books from school to read at home.

Policy Suggestion 3.9: The Field Inspectorate and the School Supply Unit should establish school/classroom libraries and ensure there is a facility for pupils to borrow books from school to read at home.

General Policy Concern 5: Has the practice of Standard 6 pupils receiving extra lessons in school subjects outside school hours become widespread, and have these been paid lessons?

The reasons for providing extra tuition are many and varied. When such tuition is open for all and provided free of charge for all the children that need it, then this is a good thing. It is meant to coach and provide some remedial lessons to the weaker pupils so that they catch up with other children in the same class. But when extra tuition is paid for, there is a general tendency for the actual contact hours of teaching during school hours to decline in quality and quantity while some quality time spent on extra tuition increases. It is the management of this tension between the two – the quality time spent during school hours and the quality time spent outside school hours for extra tuition – i.e. those teachers who practice extra tuition should be careful about. In addition, when extra tuition is paid for, it leads to inequalities in educational opportunities as the rich only can afford it and therefore it gives the rich the advantage in their schooling.

Pupils that received extra tuition

From the information presented in Table 3.16 (a) it can be seen that the practice of receiving extra tuition existed in substantial proportions. While the national average for this practice stood at 49.3 percent of pupils receiving extra tuition, the average for Mokhotlong was as high as 93.0 percent. Maseru came second with the next highest figure of 72.6 percent. The lowest figure recorded was that of 24.0 percent in Berea district. Thus there is a great variation among the districts.

Table 3.16(a). Percentages and sampling errors for the extra tuition taken by pupils outside school hours (SACMEQ II)

District	Extra tuition on any subject	
	%	SE
Berea	24.0	7.27
Butha-Buthe	45.7	9.18
Leribe	56.4	9.47
Mafeteng	29.5	9.00
Mokhotlong	93.0	5.29
Mohale's Hoek	38.8	13.63
Maseru	72.6	5.73
Qacha's Nek	52.7	9.57
Quthing	40.2	12.37
Thaba-Tseka	43.7	13.54
Lesotho	49.3	3.17

In the case of Lesotho, it can be seen from the information presented on Table 3.16 (b) below that about 30 percent of the pupils reported that they paid for extra tuition received; about 52 percent did not pay for it and some 18 percent of the pupils did not know if there was any payment made for it.

Table 3.16(b). Percentages and sampling errors for the payment of extra tuition taken by pupils outside school hours (SACMEQ II)

District	There is payment		There is no payment		Don't know	
	%	SE	%	SE	%	SE
Berea	23.7	8.48	70.3	10.15	5.9	4.15
Butha-Buthe	26.9	5.11	52.0	5.71	21.1	5.94
Leribe	39.5	6.07	40.5	6.31	20.0	5.28
Mafeteng	21.1	10.26	57.3	11.06	21.6	7.49
Mokhotlong	3.3	1.27	93.3	3.64	3.4	3.15
Mohale's Hoek	13.5	8.45	65.2	19.20	21.3	11.07
Maseru	41.1	4.80	38.5	5.41	20.4	2.63
Qacha's Nek	16.7	4.78	72.6	6.45	10.6	3.35
Quthing	18.0	12.80	66.6	18.20	15.4	9.22
Thaba-Tseka	27.9	8.32	47.8	16.25	24.3	10.15
Lesotho	30.1	2.52	51.8	3.08	18.0	1.82

The great amount of variation among the districts in the provision of extra tuition bears testimony to the fact that there is no standing policy on the provision of extra tuition. It is still a new phenomenon in many parts of the country, and it is not generally understood by all the stakeholders in terms of what motivates it, how it is implemented, and what its outcomes are. Some of the reasons why it is not generally approved include: only the rich can afford it; and some teachers would concentrate on it and neglect their core business of making the most of teaching during school hours; and it tends to create inequalities in educational opportunities and regional disparities in the provision of education service deliveries. But then there is need to establish the truth about this practice.

The actual number of pupils that receive extra tuition at any level of primary education in Lesotho has never been estimated before. But it can be seen that the practice of extra tuition was widespread. In the SACMEQ II study, it was estimated that 49.3 percent of the Standard 6 pupils in 2000 received extra tuition. With almost half of the Standard 6 pupils receiving extra tuition, it can be expected that even higher proportion of pupils at the terminal level (Standard 7) receive it. At this level, parents and children alike are anxious and strive to make it through the external examinations so that they obtain a good pass that would allow them entry into the best post-primary education institutions available. There is a limited number of places available in these institutions and entry is strictly based on achievement levels in the Standard 7 examinations results.

What is worrying, and needs to be managed and controlled properly, is an emerging tendency to levy a payment for the provision of extra tuition. About half (51.8 %) of the pupils in SACMEQ II study reported that they did not pay for extra tuition; 30 percent of the pupils knew very well that they paid for it, while some 18 percent of the pupils did not know if there was any payment made for extra tuition on their behalf.

<p>Policy Suggestion 3.10: PS should commission a study on the phenomenon of extra tuition in order to establish reasons for practicing it. The study would inform policy elaboration on extra tuition.</p>
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Policy Suggestion 3.11: The P.S should initiate the development of a policy that regulates the provision of extra tuition by encouraging its provision in situations where the need can be justified. The District Resource Teachers (DRT) and the Field Inspectorate could monitor the implementation of the policy.

Conclusion

Chapter 3 mainly concentrated on pupils' characteristics and their learning environment both at school and at home. This provides the context and the condition of schooling for the Standard 6 pupils, both of which have a bearing on the learning achievement.

Pupils' Characteristics

The pupils in the sample study were older than might have been expected if all pupils had entered school at the official age of entry and there had been no standard-repeating; and the overage is glaringly more prominent in the mountain districts. A policy suggestion made to this effect is the activities of EMIS and Monitoring and Evaluation should highlight and report on yearly basis, the regional disparities in the provision of educational facilities and opportunities so that the mountain districts do not stay and remain disadvantaged.

On average, girls out-numbered boys in Standard 6 except for the district of Butha-Buthe that had a few percentage points less than the national average figure of 55.6 percent of female participation.

Pupils' Home Background

With regard to pupils' home back-ground, some pupils had both of their parents who had no schooling at all in which case such pupils would lack guidance and support for their homework. Such pupils never spoke English at home and English is the medium of instruction at school. Thus some policy suggestions put forth for Ministry, centre on strengthening NFE programmes to the illiterate adult population of Lesotho. While they ate fairly very well at home and ate three meals each day, they generally came from low SES families where there were a few books or no books to read; and a few possessions of

items and amenities that also influence learning achievement: newspapers/magazines, table to write on, piped water, radio, TV set, telephone to mention a few.

In the majority of cases, pupils lived with their parents or guardians at home only a few lived with their relatives or lived by themselves. Pupils had some kind of lighting at home for them to do their homework after dark. An index of the building quality of pupils' homes in Lesotho was over average indicating the structure of housing in pupils' homes were of high quality in terms of their roofing, walls, floors and lighting.

Rearing of livestock was pursued with vigour in the rural and mountainous areas. It is easy to realize why in such areas the boy-child has not had the same opportunity of schooling as his female counterpart because boys become herd-boys. The Ministry of Education has established learning posts in these areas to extend and provide education to the herd-boys. To this effect, school feeding programme should be extended to cover herd-boys in the learning posts. EMIS should also be expanded include non-formal educational activities including programmes for herd-boys.

School context factors

A few pupils attended schools in urban areas. The distance in kilometer from the schools to nearest public places, was generally long, implying that the schools were isolated.

Nearly half of the pupils encountered in the survey were absent for an average of 1.3 days in the month before the testing took place. Most absenteeism was associated illness and having to look after the sick, non-payment of school fees, and having to work. It is in this respect that all primary education should not only be free but it should be compulsory as well so that it is binding to all parents to send their children to school.

Major problems with schooling related to the incidence of repetition that was very high and worrisome. In a few cases, homework was never given at all or it would be given but never corrected. A policy suggestion made to respond to this issue is that the Field Inspectorate should integrate as important part of their work monitoring that all teachers give homework regularly and mark it. There were relatively low rates of support and

involvement of parents in their children' learning. Just about half of the pupils had their own reading textbooks and about the same proportion of pupils had their own mathematics textbooks; and in a few of the cases, pupils were in dire need to borrow books from school to read at home as they were not allowed to borrow them. To this effect, under the framework of FPE, SSU should ensure that every child has his/her own textbook in reading and mathematics.

There was a great variation among the districts in the way extra tuition was practiced. And because there is no general understanding of what motivates it, how it is implemented, and what its outcomes are, there is need for the Ministry to commission a study on this phenomenon of extra tuition and then formulate a policy on it. The Field Inspectorate however should move on to ensure that the practice whereby parents have to pay for extra tuition is stopped in all schools.

There were minor shortages noted with regard to classroom materials such as exercise books and notebooks. But other classroom materials (pencils, pens, rulers) shortages were in excess of 10 percent up to 37.2 percent shortage in erasers.

With regard to availability of physical facilities, the SACMEQ II study revealed that classroom libraries for teachers were more common than there were school libraries. In fact only a small proportion of pupils had in their schools a school library. There is therefore, a great need for the Ministry to provide library facilities in schools and when this has happened, the Field Inspectorate should follow should ensure that there is a facility for pupils to borrow books from school to read at home.

It is hoped that when the issues raised above are taken on board in conjunction with the on-going programmes of the Ministry, together they will provide a holistic approach to resolve the challenges facing the education sector in Lesotho.

Chapter 4

Teachers' Characteristics and their Views about Teaching, Classroom Resources, Professional Support, and Job Satisfaction

Introduction

Several important characteristics of Standard 6 teachers were measured in this study. These concerned the age and gender of teachers, whether they were specialists or general class teachers, their academic and professional qualifications, their years of teaching experience, and the number of in-service courses attended. In some schools where there were more than three teachers teaching Standard 6, then three were selected randomly. Most of the schools in Lesotho had only one Standard 6 class thus ensuring that most of the teachers actually teaching Standard 6 were in the sample of teachers. The results of the analysis of these variables have been reported in Tables 4.1 through Table 4.27 in this chapter.

In Lesotho, the majority of Standard 6 teachers teaching Reading and Mathematics are also class teachers. In this study the two aspects of pupil achievement that were measured were reading comprehension and mathematics. Very few schools in Lesotho have teachers known as subject teachers. These are teachers who teach only one subject in a school, and these schools are commonly found in the lowlands. Some schools, known as one-teacher schools, are mostly found in the rural areas. This means that there is only one teacher per school and he or she would be teaching all standards from Standard 1 to the highest Standard or to Standard 7 for schools that offer full course. Some schools offer only the first 4, 5 or 6 standards. Such schools are commonly found where the population is sparse.

The results of the data analyses have been presented in various sections in the chapter. Each section begins with a general policy concern question.

General Policy Concern 6: What were the personal characteristics of Standard 6 teachers and what was the condition of their housing?

The major questions that have been posed for this section were:

What were the ages, gender, and possessions in the homes of Standard 6 pupils' teachers?

What were the housing conditions of the teachers?

Age distribution of teachers

In the first column in Table 4.1, the average age in years of teachers teaching Standard 6 in Lesotho overall and for each of the districts have been presented for SACMEQ II (2000).

Table 4.1. Means, percentages, and sampling errors for age, gender, and socio-economic background of reading and mathematics teachers (SACMEQ II)

District	Reading teacher						Mathematics teacher					
	Age (years)		Gender (female)		Possession at home (index)		Age (years)		Gender (female)		Possessions at home (index)	
	Mean	SE	%	SE	Mean	SE	Mean	SE	%	SE	Mean	SE
Berea	42.9	2.05	89.6	5.66	4.4	0.55	42.9	2.05	89.6	5.66	4.0	0.61
Butha-Buthe	40.5	2.54	83.9	11.09	5.9	0.70	39.3	2.43	78.6	11.86	4.9	0.79
Leribe	41.3	1.69	79.3	9.05	5.0	0.33	40.9	1.60	83.9	8.30	5.0	0.33
Mafeteng	40.5	2.39	76.8	10.82	5.0	0.51	40.5	2.39	76.8	10.82	5.0	0.51
Mokhotlong	40.1	2.98	66.1	13.32	3.9	0.50	40.1	2.98	66.1	13.32	3.9	0.50
Mohale' Hoek	39.5	1.80	55.9	14.30	3.7	0.40	39.5	1.80	55.9	14.30	3.7	0.40
Maseru	43.0	1.64	74.7	7.18	5.8	0.41	43.2	1.65	79.3	6.12	6.0	0.44
Qacha's Nek	42.9	3.10	53.6	16.05	5.2	0.62	42.1	3.31	48.1	15.61	5.0	0.58
Quthing	37.9	2.67	58.5	12.41	3.6	0.39	37.9	2.67	58.5	12.41	3.6	0.39
Thaba-Tseka	35.0	3.60	84.9	10.57	6.2	0.82	35.0	3.60	84.9	10.57	6.2	0.82
Lesotho	41.1	0.72	75.1	3.38	5.0	0.17	41.0	0.71	76.3	3.25	4.9	0.18

At the national level, the average age of Standard 6 teachers teaching both Reading and Mathematics was 41 years. In the districts, the ages ranged from the young age of 35.0 years in Thaba-Tseka to 43.0 years in the Maseru district. The average ages of teachers in the different districts did not differ much from the national mean. The age of the teaching force in Standard 6 was a little bit greater than half the official retirement age for teachers. The official retirement age for teachers in Lesotho is 65 years.

Gender Distribution:

In the second column in Table 4.1 it can be seen that 76 percent of pupils had teachers who were female. This meant that only 24 percent of teachers teaching Standard 6 pupils were males. The reason why there are so few men teachers is because very few of them are as well educated as their female counterparts. They are hired at an early age to go out to the fields to look after cattle. When they reach their twenties, they then go and seek jobs in the mines of the Republic of South Africa. Thus, very few have attended school. Another reason could be that teachers are paid less when compared with males who are in the police force, the military, or in the private companies. As a result, some males who might have joined the teaching force left the country to teach in the Republic of South Africa and other countries where they earn better salaries. This situation is changing because many mines are closing down, diminishing males' prospects for employment. Similarly, the demand for herdmen and herd boys has dropped because many people are losing their livestock through stock theft. As a result, most males are improving their academic education in order to teach at higher levels of education. There is a social understanding that viewed primary education as a social edifice for inculcating certain beliefs and norms in the minds of the young at the early stage while post-primary education was effectively for the privileged, wealthy class. Teaching in primary schools was regarded to be more of a vocation or a calling than a profession whilst teaching in secondary schools was viewed as the field in which the academic cream pursued a profession.

Lesotho is one of those countries where the teaching profession, particularly at the primary level, is largely dominated by females. This is due to the fact that females tend to maintain a closer bond with children than males, and therefore teaching is largely regarded an extension of females' parenting role. Another reason for the feminisation of the teaching profession in

Lesotho is that, because Lesotho's economy is still not well developed, teaching offers more career opportunities for women than other fields. Furthermore, females generally tend to go for professions where competition is not stiff, and teaching happens to be one of these. Lesotho's case is also unique in the sense that, because females' participation in education is higher than their male counterparts', one of the reasons there are more female teachers is simply because they constitute the majority of educated section of the population.

In Table 4.1 it can be seen that there was a large variation across the ten districts in the percentage of teachers who were female, and the figure ranged from 54 percent in Qacha's Nek to 90 percent in Berea. The districts of Qacha's Nek, Mochale's Hoek and Quthing had fewer female teachers compared with all other districts. The reason for this is that most of the selected schools were in the mountains and other hardship areas where only males can stand the tough conditions and walking distances involved. The revised mountain allowances and other incentives might change this situation.

Policy Suggestion 4.1: The Teaching Service Commission (TSC) must implement a well coordinated programme for attracting more males into the teaching profession.

Teachers' possessions at home:

Teachers, just like the pupils in Standard 6 were asked about of the possessions in their homes. The possessions were expressed as an index that was based on the following items: daily newspaper/weekly magazine, radio, TV set, Video cassette recorder (VCR), cassette player, telephone. Refrigerator, car or motorcycle, piped water, electricity and table to write on. The average possessions index for teachers was 4.9. This was somewhat higher than the average number of possessions in pupils' homes. The highest possessions index was in the districts of Thaba-Tseka and Butha-Buthe for both reading and mathematics' teachers. The lowest possessions index of around 4.0 was seen in Quthing, Mochale's Hoek and Mokhotlong. One would have expected the capital city of Maseru to have the highest possessions index compared to all other districts, but this was not the case. The reason here may be because people living in the Butha-Buthe and Leribe districts tend to go to the nearest town in the Republic of South Africa where they buy goods at a cheaper prices, while others have to go to and buy these goods in Maseru where they are more expensive.

Source of lighting and living conditions

The teachers were asked to indicate “the main source of lighting” that they have in their homes and to report on “the condition of their living accommodation”. Four sources of lighting in their homes used were: candle, paraffin or oil lamp, gas lamp and electric lighting. For the condition of their living accommodation they were asked if the accommodation was: a) generally in a poor state, or b) some parts required major repairs or c) some parts required minor repairs or, d) generally in good condition. The last two categories were deemed to represent an ‘acceptable’ condition. In Tables 4.2 and 4.3 the source of lighting and living conditions of teachers teaching Standard 6 pupils have been presented.

Table 4.2. Percentages and sampling errors for teacher housing in acceptable conditions (SACMEQ II)

District	Teacher housing in acceptable conditions			
	Reading teacher		Mathematics teacher	
	%	SE	%	SE
Berea	45.4	11.38	51.8	11.64
Butha-Buthe	18.6	10.40	18.6	10.40
Leribe	45.2	9.93	40.7	9.88
Mafeteng	62.3	13.03	62.3	13.03
Mokhotlong	22.3	10.33	22.3	10.33
Mohale’s Hoek	22.2	12.93	22.2	12.93
Maseru	47.6	9.49	47.6	9.49
Qacha’s Nek	42.3	15.08	47.8	15.58
Quthing	51.9	13.22	51.9	13.22
Thaba-Tseka	33.9	15.44	33.9	15.44
Lesotho	42.4	3.96	42.7	3.96

It can be seen that, overall, just over 42 percent of all pupils had teachers who described their living conditions as acceptable. This could mean that more than half of all teachers were worried about their living conditions and therefore could not devote their full energy to teaching while in

schools. There are some teachers who have to travel from one district to another every day because they could not get rented accommodation in the places near where they teach. For example, some teachers travel from Maseru to Berea every day. The district of Mafeteng reported a highest percentage (62.3%) of teachers living in acceptable conditions while Butha-Buthe had the lowest percentage (18.6%).

Table 4.3. Percentages and sampling errors for the type of lighting in classroom teacher' homes (SACMEQ II)

District	Type of lighting							
	No light		Candle/Oil Lamp		Gas lamp		Electric lighting	
	%	SE	%	SE	%	SE	%	SE
Berea	0.0	0.00	76.9	8.85	4.6	4.67	18.5	7.98
Butha-Buthe	0.0	0.00	66.3	14.62	0.0	0.00	33.7	14.62
Leribe	0.0	0.00	100.0	0.00	0.0	0.00	0.0	0.00
Mafeteng	0.0	0.00	95.4	3.21	0.0	0.00	4.6	3.21
Mokhotlong	0.0	0.00	95.5	4.49	4.5	4.49	0.0	0.00
Mohale's Hoek	0.0	0.00	98.7	1.27	0.0	0.00	1.3	1.27
Maseru	0.0	0.00	64.6	8.25	2.2	1.27	33.2	8.16
Qacha's Nek	0.0	0.00	90.6	6.91	0.0	0.00	9.4	6.91
Quthing	0.0	0.00	88.3	8.12	0.0	0.00	11.7	8.12
Thaba-Tseka	0.0	0.00	80.2	14.17	0.0	0.00	19.8	14.17
Lesotho	0.0	0.00	83.9	2.63	1.3	0.73	14.9	2.56

A high percentage of 83.9% candle or oil lamp had been indicated as the main source of lighting used by Standard 6 teachers. Very few (1.3 %) indicated that their main source of lighting was using gas lamp, and only 14.9 percent used electricity for lighting.

The districts of Maseru and Butha-Buthe reported the higher percentages of teachers who used electricity for lighting (33% and 34% respectively) when compared to other districts. The reason for this might be because the hydroelectric power station that supplies the whole country with

electrical power is situated in Butha-Buthe district. On the other hand, teachers living in Maseru also had greater access to electricity than other districts because Maseru, being the capital city, is generally provided with better services.

Policy Suggestion 4.2: The Planning Unit through the office of Education Facilities Unit (EFU) and the owners of schools (proprietors) should, with the help of parents, make every effort to improve teachers' living conditions by providing them with adequate accommodation of an acceptable standard.

This section has provided information about the personal characteristics of Standard 6 teachers and their living conditions. Most of teachers in Lesotho were females. Over 50 percent of these teachers were living in houses that were in a state of disrepair.

General Policy Concern 7: What were the professional characteristics of Standard 6 teachers (in terms of academic, professional, and in-service training), and did they consider in-service training to be effective in improving teaching?

Professional characteristics of teachers were also measured. These concerned the following questions:

- a) How many years of academic education had teachers completed?
- b) How many years of teacher training had teachers completed?
- c) How many years of teaching experience had teachers completed?
- d) How much in-service training had teachers completed?
- e) Did teachers consider in-service training improved their teaching?

Teachers responded to all these questions and the results have been presented below for each question from Tables 4.4 to Table 4.7.

Years of Academic Education:

The teachers were asked to report “the highest level of academic education” that they had attained. Five educational levels were used: primary, junior secondary, senior secondary, A-level and/or non-degree, and tertiary. In Tables 4.4 (a) and 4.4 (b) the attained levels of

academic education for the teachers of Standard 6 pupils have been presented separately for reading and mathematics teachers.

Table 4.4(a). Academic education of reading teachers (SACMEQ II)

District	Primary		Junior secondary		Senior secondary		A-level		Tertiary	
	%	SE	%	SE	%	SE	%	SE	%	SE
Berea	51.2	11.51	10.6	6.70	28.7	11.71	7.6	5.43	1.9	1.88
Butha-Buthe	31.7	12.51	21.9	12.07	12.0	8.23	17.6	12.81	16.8	9.62
Leribe	51.3	10.00	7.3	4.23	11.2	5.75	30.2	8.91	0.0	0.00
Mafeteng	71.3	12.61	14.5	9.88	8.1	8.12	6.1	6.07	0.0	0.00
Mokhotlong	40.7	14.45	12.9	9.12	7.8	7.80	28.6	12.31	10.0	10.03
Mohale's Hoek	35.0	12.83	11.6	8.21	15.5	12.11	17.7	9.41	20.1	12.31
Maseru	62.4	8.91	12.7	5.69	9.7	4.75	11.2	6.31	4.0	3.28
Qacha's Nek	70.7	13.08	3.7	3.80	7.7	7.84	17.8	10.65	0.0	0.00
Quthing	22.3	10.50	22.2	10.28	40.4	13.54	15.2	10.27	0.0	0.00
Thaba-Tseka	36.8	15.26	7.5	7.52	18.2	12.32	28.6	15.46	9.0	9.03
Lesotho	50.9	3.97	12.2	2.50	15.3	2.97	16.5	2.90	5.1	1.73

Table 4.4(b). Academic education of mathematics teachers (SACMEQ II)

District	Primary		Junior secondary		Senior secondary		A-level		Tertiary	
	%	SE	%	SE	%	SE	%	SE	%	SE
Berea	51.2	11.51	10.6	6.70	28.7	11.71	7.6	5.43	1.9	1.88
Butha-Buthe	22.0	9.94	21.9	12.07	17.3	9.50	12.3	12.30	26.5	12.57
Leribe	51.3	10.00	7.3	4.23	11.2	5.75	30.2	8.91	0.0	0.00
Mafeteng	71.3	12.61	14.5	9.88	8.1	8.12	6.1	6.07	0.0	0.00
Mokhotlong	40.7	14.45	12.9	9.12	7.8	7.80	28.6	12.31	10.0	10.03
Mohale's Hoek	35.0	12.83	11.6	8.21	15.5	12.11	17.7	9.41	20.1	12.31
Maseru	67.0	8.39	8.1	3.77	9.7	4.75	11.2	6.31	4.0	3.28
Qacha's Nek	70.7	13.08	3.7	3.80	7.7	7.84	17.8	10.65	0.0	0.00
Quthing	22.3	10.50	22.2	10.28	40.4	13.54	15.2	10.27	0.0	0.00
Thaba-Tseka	36.8	15.26	7.5	7.52	18.2	12.32	28.6	15.46	9.0	9.03
Lesotho	51.2	3.92	11.2	2.33	15.7	2.98	16.1	2.88	5.8	1.82

In order to become a primary school teacher in Lesotho, a teacher must have completed seven years of primary education known as Primary School Leaving Examination (PSLE) and three years of junior secondary known as Junior Certificate (JC). In order to become a qualified primary school teacher, one has to complete a Primary Higher (PH) that takes two years, or a Primary Teacher Certificate (PTC) that last for three years. The system changed in 1976 so that all new teachers were required to have undergone a two years of senior secondary known as Cambridge Overseas School Certificate (COSC) before they can be enrolled into PTC certification. The PH certification has been faced out. The academic preparation for teachers, therefore, now takes to twelve years of schooling, with some teachers also going on to take the "A" level that constitutes another two years of schooling.

The results presented in Tables 4.4 (a) and (b) indicate that the modal level of academic training was primary for both reading and mathematics teachers (51%). Standard 6 pupils were taught by teacher who were not qualified because the majority of them had not gone for teaching

certification as indicated above. The reason for this is because the general policy introduced in 2000 as part of FPE requires that pupils in lower grades (that is in Standards 1 through 4) be taught by qualified teachers in order to give them a good foundation.

In Tables 4.4 (a) and (b) it can be seen that about 15 percent of Standard 6 pupils were taught by teachers who had completed senior secondary school. Only 16 percent had completed “A” level and only 5.8 percent had undertaken tertiary education.

Years completed in training:

The teachers were asked to indicate the number of years of teacher training they had received altogether by selecting from six possible answers. The values from this question were recoded as follows: no teacher training (0.0), less than one year (0.5), one year (1.0), two years (2.0), three years (3.0), more than three years (4.0).

Table 4.5. Means and sampling errors for experience and training of reading and mathematics teachers (SACMEQ II)

District	Reading teacher				Mathematics teacher			
	Experience (years)		Training (years)		Experience (years)		Training (years)	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Berea	17.9	2.21	2.4	0.38	17.4	2.35	2.4	0.39
Butha-Buthe	15.1	2.58	3.3	0.32	14.0	2.36	3.1	0.31
Leribe	17.4	1.79	2.9	0.24	17.0	1.71	2.9	0.24
Mafeteng	17.3	3.12	2.2	0.37	17.3	3.12	2.2	0.37
Mokhotlong	14.1	2.36	2.5	0.40	14.1	2.36	2.5	0.40
Mohale’s Hoek	14.0	1.96	2.7	0.37	14.0	1.96	2.7	0.37
Maseru	19.1	1.85	2.9	0.23	19.2	1.85	2.9	0.23
Qacha’s Nek	19.2	3.77	3.1	0.15	18.5	3.96	3.1	0.15
Quthing	11.1	2.72	2.4	0.35	11.1	2.72	2.4	0.35
Thaba-Tseka	9.8	2.79	3.3	0.29	9.8	2.79	3.3	0.29
Lesotho	16.6	0.80	2.7	0.11	16.3	0.80	2.7	0.11

Standard 6 pupils had teachers who had spent an average of 2.7 years in teacher training. For a teacher to be certified as a qualified primary school teacher, he or she must have undergone at least a three-year in-service programme or any teachers training course that lasts for three years. The figure of 2.7 years reflects the actual position because many of the teachers were trained when three years' training was not a requirement. There was very little variation among the districts in teachers' number of years of training.

Teachers in the districts of Berea, Mafeteng and Quthing seemed to have under-gone training courses that lasted for two years not three years. This training course is known as the Lesotho Primary Teachers Certificate (LPTC) or Lesotho In-Service Education for Teachers (LIET) or Primary Higher (PH). Some of these teachers are un-trained (unqualified) teachers who are still doing their in-service courses. Teachers go for this course after they have completed Junior Secondary (JC). Courses that last for three years are Primary Teachers' Course (PTC) and Diploma in Primary Education.

Policy Suggestion 4.3: The Lesotho College of Education (LCE) should make the in-service training courses available at all times for all untrained teachers and the Chief Inspector Field Services and Teaching Service Department (TSD) should encourage teachers holding PH certificate to make use of this facility to improve their professional qualifications.

Years of teaching experience:

The teachers were asked about the number of years of teaching experience they had. The results have been presented in Table 4.5.

On the average, the number of years of teaching experience for Standard 6 teachers in Lesotho was around 16 years, which was considerably high. Thaba-Tseka and Quthing had the lowest means of 9.8 and 11.1 years. Qacha's Nek and Maseru districts had the highest means of between 18.5 and 19.2 years. The average number of years of teaching experience tended to correspond with the average age of teachers. For Thaba-Tseka and Quthing, which had the lowest number of years in teaching experience, also had the youngest teachers (35.0 years and 37.9 years respectively).

Policy Suggestion 4.4: The Teaching Service Department (TSD) should ensure that teachers with long teaching experience are equitably distributed among all the districts. For instance, incentives could be put in place to help the less hospitable districts attract and retain experienced teachers.

In-service training completed:

The teachers were asked to report the number of in-service courses they had attended in the past three years. From Table 4.6 it can be seen that the average pupil had a teacher who had attended 2.2 courses over the last three years. It can also be seen that Butha-Buthe's teachers had an average of five in-service courses, a figure that was high when compared to other districts in Lesotho. Quthing teachers had the lowest number of 0.7 in-service courses attended. It should be noted that when the teachers answered this question, some teachers might have indicated they had attended an in-service course while in actual fact it was the in-service course for initial teacher training that they had attended.

The teachers were also asked for how many days they had attended the courses and the average for three years was nearly 53 days for reading teachers and 50 days for mathematics teachers. This came out to make an average of almost eighteen days per year for reading and almost seventeen days for mathematics teachers. Reading teachers in Butha-Buthe had the highest mean of 92.4 days. This was exceptionally very high and this case warrants further investigation of the data. The reason is that a reading and mathematics teacher happened to be one person in almost all the schools. Mafeteng had the lowest mean of 15 days for reading and mathematics. The highest mean for mathematics teachers was in Qacha's Nek with an average of 79.9 days.

Table 4.6. Means and sampling errors for teacher in-service courses and days attended in the last three years (SACMEQ II)

District	Reading teacher				Mathematics teacher			
	In-services courses		Days		In-services courses		Days	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Berea	2.3	1.00	30.4	7.00	2.3	1.00	30.2	6.96
Butha-Buthe	4.8	1.97	92.4	36.25	4.7	2.02	61.8	27.24
Leribe	2.2	0.61	73.3	19.52	2.2	0.61	68.7	19.48
Mafeteng	1.2	0.73	15.0	9.00	1.2	0.73	15.0	9.00
Mokhotlong	2.5	0.81	54.9	29.93	2.5	0.81	54.9	29.93
Mohale's Hoek	1.0	0.37	47.7	23.89	1.0	0.37	47.7	23.89
Maseru	2.5	0.60	62.1	15.26	2.5	0.60	61.9	15.26
Qacha's Nek	3.3	0.86	79.3	46.83	3.4	0.85	79.9	46.70
Quthing	0.7	0.36	35.4	17.39	0.7	0.36	35.4	17.39
Thaba-Tseka	2.0	0.75	48.6	21.21	2.0	0.75	48.6	21.21
Lesotho	2.2	0.28	53.1	6.55	2.2	0.28	50.1	6.30

There was a great variation across the districts in the in-service training the Standard 6 teachers had completed. Some teachers were able to attend in-service courses during the school holidays.

Policy Suggestion 4.5: The Lesotho College of Education (LCE) and the Central Inspectorate need to revisit the current policy on in-service training programmes so that all teachers in the districts get an opportunity to participate in such in-service training programmes.

Effectiveness of the in-service courses:

The teachers were also asked to what extent they found these in-service courses useful and the responses for this question were as follows: I did not attend any in-service course, Not effective, Reasonably effective, Effective and Very effective. The last two categories were collapsed and it was the percentage in these last two categories that were presented in Table 4.7.

Table 4.7. Percentages and sampling errors for the teachers' perception of effectiveness of Reading and mathematics in-service courses (SACMEQ II)

District	Effectiveness of the in-service courses			
	Reading in-service courses		Mathematics in-service courses	
	%	SE	%	SE
Berea	21.0	8.38	21.0	8.38
Butha-Buthe	27.9	10.90	22.8	10.73
Leribe	34.1	9.19	34.1	9.19
Mafeteng	27.8	12.06	27.8	12.06
Mokhotlong	27.1	11.97	27.1	11.97
Mohale's Hoek	31.7	12.79	31.7	12.79
Maseru	36.2	8.96	36.2	8.96
Qacha's Nek	70.9	13.03	70.9	13.03
Quthing	32.3	11.50	32.3	11.50
Thaba-Tseka	52.3	16.25	52.3	16.25
Lesotho	33.2	3.66	32.8	3.66

The results presented in Table 4.7 indicate that 33 percent of pupils were taught by teachers who reported that in-service course were effective or very effective.

However, there was considerable variation across districts in the effectiveness of the in-service courses, and this casts some doubts on the quality of the course. The great amount of variation could also be a consequence of the different people running the in-service in different parts were different people. Qacha's Nek seemed to have the highest percentage of teachers who expressed that the courses were effective (nearly 71%) and the lowest was in Berea (21%).

Policy Suggestion 4.6: The Teaching Service Department might wish to consider conducting a study to find out why perceptions about the effectiveness of in-service training programmes are so different among the different districts, and recommend remedial measures to ensure uniformity of quality. Such a study should also establish the extent to which programmes address teachers' different staff development or professional growth needs.

This section has provided information regarding the professional characteristics of Standard 6 teachers and the effectiveness of in-service training in improving their teaching.

On the whole, only 33 percent of pupils had Standard 6 teachers who thought that the in-service courses they had attended had been effective. This means that over 60 percent of pupils had teachers who considered the courses to be ineffective.

General Policy Concern 8: How did Standard 6 teachers allocate their time among responsibilities concerned with teaching, preparing lessons, and marking?

Questions were asked about time spent on lesson preparation and teaching. The questions were as follows:

- a) How many periods/lessons of actual teaching do you have in a typical school week at this school?
- b) How long are these periods?
- c) How many hours, on average, do you spend in a typical school week working on lessons preparation and marking for this school?

Periods and hours spent per week:

The teachers were asked to indicate the number of periods or lessons they taught per week and the length in minutes of these periods. In Table 4.8 the number of periods taught per week as well as the teaching load per week have been presented for both reading and mathematics.

Table 4.8. Means and sampling errors for the periods and time spent on teaching per week (SACMEQ II)

District	Periods per week		Hours per week	
	Mean	SE	Mean	SE
Berea	32.5	2.68	22.2	1.80
Butha-Buthe	33.3	2.60	22.2	1.71
Leribe	35.7	1.82	24.1	1.23
Mafeteng	35.0	2.85	24.1	2.05
Mokhotlong	34.7	2.30	23.8	1.66
Mohale's Hoek	32.5	3.14	22.0	2.22
Maseru	32.7	1.51	22.0	1.01
Qacha's Nek	32.4	2.26	22.1	1.61
Quthing	34.8	2.01	23.4	1.37
Thaba-Tseka	37.8	1.84	26.3	1.51
Lesotho	33.9	0.79	23.0	0.54

The results presented in Table 4.8 show that the overall number of periods taught per week was 33.9 and that the number of hours per week (teacher teaching load per week) was 23.0.

Teachers in Thaba-Tseka district taught the highest number of lessons per week (37.8) and spent the highest number of hours per week (26.3 hours). On the other hand, teachers in Qacha's Nek taught only 32.4 lessons per week, the total time being 22.1 hours per week. On the whole, the variation among districts was considerable. This was not expected since the Ministry of Education regulates the number of lessons and number of hours to be taught.

Time spent on lesson preparation:

Teachers teaching Standard 6 were asked to indicate the number of hours on average they spent on lesson preparation and marking per week. The numbers of hours spent by the teachers of Standard 6 pupils have been presented in Table 4.9.

Table 4.9. Means and sampling errors for the teacher time spent on lesson preparation (SACMEQ II)

District	Time spent on lesson preparation			
	Reading lesson (hours)		Mathematics lesson (hours)	
	Mean	SE	Mean	SE
Berea	19.0	2.89	18.2	2.90
Butha-Buthe	16.2	3.06	14.9	2.71
Leribe	16.4	2.59	16.4	2.59
Mafeteng	13.9	2.82	13.9	2.82
Mokhotlong	14.4	2.78	14.4	2.78
Mohale's Hoek	22.0	3.99	22.0	3.99
Maseru	14.8	2.19	15.1	2.13
Qacha's Nek	22.6	6.40	22.7	6.38
Quthing	17.9	3.17	17.9	3.17
Thaba-Tseka	12.0	1.99	12.0	1.99
Lesotho	16.7	1.03	16.6	1.01

It can be seen from Table 4.9 that pupils were taught by teachers who spent almost 17 hours per week to prepare and mark pupils' work in reading and mathematics. This means that they spent about just over 3 hours a day on these tasks.

There was considerable variation across the districts in the number of hours spent on lesson preparation and marking. Teachers in Qacha's Nek seemed to spend a lot more time (almost 23 hours per week) than teachers in any other district in Lesotho. Thaba-Tseka spent the least hours, only 12 per week. The great amount of variation could indicate that some teachers as is the case in Lesotho, teach several grades and several subjects and thus they had heavier teaching loads than others.

The results presented under this policy concern showed that teachers spent minimum of 23 hours and not less than 35 periods on teaching per week. They also spent about 18 hours on lesson preparation and marking every week.

General Policy Concern 9: What were Standard 6 teachers' views about (a) pupil activities within the classroom, (b) teaching goals, (c) teaching approaches/strategies, (d) assessment procedures, and (e) meeting and communicating with parents?

The major questions posed here were as follows:

- a) What did teachers consider to be the most important pupil activities for teaching reading and mathematics.
- b) What did teachers consider to be the most important teaching goals in reading and mathematics?
- c) What teaching approaches/strategies were used most frequently by reading and mathematics teachers?
- d) How often did teachers give written tests in reading and mathematics?
- e) Was there a specific section in pupil school reports for reading and mathematics?
- f) How often did teachers meet with parents each year?
- g) What percentage of parents met with teachers each year?
- h) Did teachers ask parents to sign homework assignments?

Activities rated as the most important:

The Standard 6 pupils teachers were asked to select only one activity out of eight activities they “considered to be most important” for teaching Reading and Mathematics. The activities used for reading were listed as follows: Listening to someone reading aloud, silent reading, learning new vocabulary from a text, pronouncing or sounding words, reading for comprehension, taking books home to read, reading materials in the home, and reading aloud in class. For mathematics the activities used were: working in pairs or groups to solve mathematical problems, working alone on problems, preparing projects or posters to be shown to the class, using practical equipment, homework assignments, studying and interpreting graphs from magazines,

newspapers, etc., reciting tables, formulae, etc., and quizzes, tests, examinations, etc. In Tables 4.10(a) and 4.10(b) the most important pupil activities have been presented separately for reading and mathematics teachers.

Table 4.10(a). Percentages and sampling errors for the activities of teaching reading (SACMEQ II)

Activity	Activity rated as 'most important'	
	%	SE
Listening to reading	6.5	2.06
Silent reading	0.4	0.43
Learning new vocabulary	48.3	4.05
Sounding words	11.9	2.51
Reading for comprehension	20.9	3.26
Taking books home to read	5.4	1.47
Reading materials in home	4.3	1.71
Reading aloud in class	2.2	1.05

Table 4.10(b). Percentages and sampling errors for the activities of teaching mathematics (SACMEQ II)

Activity	Activity rated as 'most important'	
	%	SE
Working in pairs or groups	37.8	3.98
Working alone	3.9	1.45
Preparing projects to be shown to the class	6.4	2.17
Using practical equipment	33.2	3.79
Homework assignments	3.4	1.35
Studying and interpreting graphs	0.7	0.48
Reciting tables, formulae, etc.	2.0	1.02
Quizzes, tests, examinations, etc.	12.6	2.69

From the results

presented in Table 4.10(a) it can be seen that the pupil activities considered to be the most important for teaching reading were “Learning new vocabulary” (48.3%) and “Reading for comprehension” (21.%). From Table 4.10(b) it can be seen that “Working in pairs or groups” and “Using practical equipment” were the most important pupil activities for mathematics teachers. The percentages for these were 37.8 and 33.2 respectively.

Most important goals:

Teachers teaching Standard 6 were asked to select one goal they considered to be the most important goal from those listed in the previous research questions. In Tables 4.11(a) and 4.11(b) the results of what teachers considered to be the most important teaching goals have been presented separately for reading and mathematics teachers.

Table 4.11(a). Percentages and sampling errors for the goals of teaching reading (SACMEQ II)

Goal	Goal rated as ‘most important’	
	%	SE
Making reading enjoyable	11.5	2.52
Extending vocabulary	27.0	3.53
Improving word attack skills	6.4	2.04
Improving reading comprehension	17.5	3.20
Developing a lasting interest	6.0	1.56
Opening up career opportunities	15.2	2.74
Developing of life skills	16.4	2.97

Table 4.11(b). Percentages and sampling errors for the goals of teaching mathematics (SACMEQ II)

Goal	Goal rated as 'most important'	
	%	SE
Basic numeracy skills	12.5	2.95
Problem solving	28.3	3.52
Different ways of thinking	22.6	3.32
Confidence in solving problems	10.0	1.97
Satisfaction from doing Mathematics	2.9	1.21
Opening up career opportunities	10.2	2.55
Developing of life skills	13.5	2.48

The results presented in Table 4.11 (a) show that reading teachers viewed the following as the most important goals in teaching reading: 'Extending vocabulary', 'Improving reading comprehension', 'Developing of life skills', 'Opening up career opportunities' and 'Making reading enjoyable'. For mathematics teachers, the following were considered to be the most important teaching goals: 'Problem solving' and 'Different ways of thinking' in Table 4.11 (b).

According to Table 4.11 (a), out of seven goals, only 27 percent of the Standard 6 teachers had selected "Extending vocabulary" as the most important goal, followed by "Improving reading comprehension" with 17.5 percent, "Developing of life skills" with 16.4 percent and "Opening up career opportunities" with 15.2 percent for teachers teaching reading. In Table 4.11 (b), the most important goals of teaching are "Problem solving" with 28.3 percent and "Different ways of thinking" with 22.6 percent for teachers teaching Mathematics.

Approaches used:

Teachers were asked to show "how often they used different approaches when teaching either reading or mathematics". Teachers were to tick the appropriate box for each of the following statements: never or rarely, sometimes and often. In Tables 4.12 (a) and Table 4.12 (b) the approaches for teaching each of the two subjects frequently used by reading and mathematics teachers in Standard 6 have been presented separately for reading and mathematics teachers.

Table 4.12(a). Percentages and sampling errors for the strategies of teaching reading (SACMEQ II)

Approach	Percentage indicating 'often used'	
	%	SE
Introducing passage before reading	54.1	4.03
Asking questions to test comprehension	77.3	3.28
Asking questions to deepen understanding	84.1	2.81
Using materials made by teacher	35.6	3.80
Reading aloud to the class	74.8	3.38
Giving positive feedback	76.5	3.24

Table 4.12(b). Percentages and sampling errors for the strategies of teaching mathematics (SACMEQ II)

Approach	Percentage indicating 'often used'	
	%	SE
Using everyday problems	59.7	3.84
Teaching the whole class as a group	68.5	3.65
Teaching in a small group	29.4	3.64
Teaching individually	14.3	2.73
Teaching through question and answer technique	65.7	3.85
Giving positive feedback	75.2	3.50
Relating to everyday life situations	61.7	3.69
Basic skills training	63.4	3.83
Explaining mathematical processes	73.1	3.72
Using available local materials	79.2	3.00

According to Table 4.12 (a), the highest percentage of 84.1 was for 'Asking questions to deepen understanding' as the often used strategy of teaching reading. The least frequently used strategy was 'Using materials made by teachers' with a percentage of 35.6. From Table 4.12 (b) it can be

seen that ‘Using available local material’ (79.2%), ‘Giving positive feedback’ (75.2%) and ‘Explaining Mathematical process’ (73.1%) were the most frequently used strategies in mathematics teaching. ‘Teaching individually’ with 14.3 percent was the least used strategy.

Frequency of testing:

Teachers teaching Standard 6 were asked how frequently they gave pupils written reading and mathematics tests. The frequencies used for both reading and mathematics were as follows: I do not test the pupils, once per year, once per term, two or three times per term, two or three times per month and once or more per week. In Tables 8.1 (a) (iv) and 8.1 (b) (iv), the frequencies of tests have been presented for reading and mathematics.

Table 4.13(a). Percentages and sampling errors for the frequency of reading tests (SACMEQ II)

District	Frequency of reading tests					
	Less Often		2/3 per month		1 + per week	
	%	SE	%	SE	%	SE
Berea	18.3	8.44	15.4	7.97	66.3	10.47
Butha-Buthe	2.2	2.18	12.4	8.51	85.4	10.09
Leribe	2.4	2.41	20.1	7.31	77.5	8.06
Mafeteng	14.0	9.67	23.2	11.30	62.8	12.52
Mokhotlong	12.2	8.53	18.7	12.86	69.1	13.92
Mohale’s Hoek	31.4	13.61	24.1	12.74	44.5	13.58
Maseru	8.3	5.11	13.1	5.07	78.7	7.10
Qacha’s Nek	5.5	5.58	30.7	16.55	63.8	16.37
Quthing	10.3	7.25	27.9	11.35	61.8	11.95
Thaba-Tseka	9.8	9.82	33.9	15.53	56.4	16.12
Lesotho	11.5	2.56	19.5	3.04	69.0	3.60

Table 4.13(b). Percentages and sampling errors for frequency of mathematics tests (SACMEQ II)

District	Frequency of mathematics tests					
	Less often		2/3 per month		1 + per week	
	%	SE	%	SE	%	SE
Berea	27.5	11.21	23.6	9.01	48.9	10.99
Butha-Buthe	29.6	12.29	13.0	9.01	57.4	13.42
Leribe	20.5	7.55	28.9	8.27	50.6	10.01
Mafeteng	14.4	8.45	30.4	12.50	55.2	12.89
Mokhotlong	12.2	8.53	7.7	7.70	80.1	10.95
Mohale's Hoek	36.3	14.25	16.1	11.71	47.7	14.21
Maseru	4.9	4.13	33.2	8.17	61.8	9.60
Qacha's Nek	0.0	0.00	24.9	11.41	75.1	11.41
Quthing	0.0	0.00	22.9	10.57	77.1	10.57
Thaba-Tseka	33.7	15.52	6.3	6.35	60.0	15.81
Lesotho	18.1	3.08	24.6	3.37	57.3	4.03

From the results presented in Tables 4.13 (a) and 4.13 (b) it can be seen that the modal frequency of giving pupils tests was once per week for reading and mathematics.

However, the majority of the pupils (69.0 percent in a reading class and 57.3 percent in a mathematics class) had teachers who gave the pupils a written test once or more per week.

From the second and the third column of figures in Table 4.13 (a) it can be seen that 85.4 percent of Standard 6 pupils in Butha-Buthe district had teachers who stated that they gave their pupils a written test in reading and 80.1 percent in Mathematics in the district of Mokhotlong (Table 4.13 (b) more frequently (once or more per week). There were only 11.5 percent of pupils in reading and only 18.1 percent in mathematics classes whose teachers indicated that they gave tests less often.

There were wide variations across the districts in the frequency of testing pupils by both reading and mathematics teachers. Butha-Buthe district reported the highest percentage of 85.4 in reading and Mokhotlong with 80.1 percent in mathematics when compared to all the districts. The least frequency of testing is seen in the district of Mohale's Hoek (44.5%) and (47.7) in both reading and Mathematics.

Policy Suggestion 4.7: The National Curriculum Development Centre (NCDC) and the Examination Council of Lesotho (ECOL) should establish a common policy on giving pupils written tests regularly in order to ensure uniformity across the districts.

Specific section for comments in pupil school reports:

Teachers teaching Standard 6 were asked to indicate whether there was a specific section for comments in pupil school reports for reading and mathematics. The teachers were to respond to this question by a “No” or a “Yes”. In Table 4.14 the results have been presented separately for reading and mathematics.

Table 4.14. Percentages and sampling errors for the frequency of a specific section in pupil school report for reading and mathematics (SACMEQ II)

District	English section		Mathematics section	
	%	SE	%	SE
Berea	63.7	10.69	58.4	11.51
Butha-Buthe	56.7	14.04	66.4	13.40
Leribe	83.6	6.67	87.8	6.03
Mafeteng	71.8	11.18	72.6	11.55
Mokhotlong	75.7	12.82	85.3	10.07
Mohale's Hoek	85.4	8.36	52.0	14.30
Maseru	65.3	7.90	58.4	8.28
Qacha's Nek	73.9	13.83	76.4	13.12
Quthing	68.0	11.36	66.2	11.73
Thaba-Tseka	71.2	15.37	48.6	16.02
Lesotho	71.6	3.39	66.7	3.66

Nearly 70 percent of pupils were in schools where the teachers said they had a special section in the report. The Butha-Buthe district seemed to have the lowest frequency (56.7%) for comments in reading than any of the 9 districts though in mathematics it had a higher frequency (66.4%) than the districts of Thaba-Tseka (48.6%), Mophale's Hoek (52.0%), Berea and Maseru with 58.4 percent each.

It can be seen in Table 4.14 that there were some variations across districts in the frequencies of a specific section in school report for comments by teachers - both reading and mathematics teachers. The section is critical in feeding back to parents how the pupils are fairing in the school activities. Consequently invariably, all school reports should include a specific section for teachers' comments.

Policy Suggestion 4.8: The Field Inspectorate should as a matter of urgency draft circular letter to the P.S. for endorsement, indicating that all school reports should have specific section for teachers' comments.

Meeting with parents:

The teachers were asked to report how often they met with parents/guardians of pupils in their class to discuss pupil performance or related matters. Four frequencies used were: never, once a year, once a term and once or more a month, and the teacher was required to tick one response.

Table 4.15. Percentages and sampling errors for the frequency of teacher meetings with parents frequently (SACMEQ II)

District	Percentages of teacher meetings with parents frequently			
	Reading teacher		Mathematics teacher	
	%	SE	%	SE
Berea	71.5	10.02	71.5	10.02
Butha-Buthe	65.4	12.99	65.4	12.99
Leribe	93.2	3.82	93.2	3.82
Mafeteng	92.2	7.84	92.2	7.84
Mokhotlong	71.7	14.40	71.7	14.40
Mohale's Hoek	77.8	12.88	77.8	12.88
Maseru	83.1	6.33	83.1	6.33
Qacha's Nek	85.0	8.93	85.0	8.93
Quthing	55.4	13.18	55.4	13.18
Thaba-Tseka	75.0	14.52	75.0	14.52
Lesotho	80.2	3.01	80.2	3.01

The results concerning the frequency of teacher meeting with parents or guardians for Standard 6 pupils in Lesotho have been presented in Table 4.15.

A large percentage of pupils (80%) were taught by teachers who met with pupils parents/guardians quite frequently. Of concern is the 18.8 percent of teachers who reported that they met with parents only once a year or had never met with parents at all.

Ross and Postlethwaite (1992) found out that the higher percentage of parents that were met the better the achievement in reading. That is, schools where school heads and teachers had contact with parents scored better than could be expected after taking due account of socio-economic background of their pupils.

There was a considerable variation across the districts in how frequently teachers met with parents or guardians. In Leribe and Mafeteng, over 90 percent of the teachers met parents frequently while in Quthing just over half of the teachers met parents frequently.

Policy Suggestion 4.9: Ministry of Education through the office of National Curriculum Development Centre (NCDC) should ensure that schools earmark dates for meetings between teachers and parents as a regular feature of the school calendar of events.

Parents meeting with teachers:

The teachers were asked to indicate the percentage of parents or guardians met per year, and the results have been presented in Table 4.16.

Table 4.16. Percentages and sampling errors of parents meeting teachers each year (SACMEQ II)

District	Parents meet classroom teacher	
	%	SE
Berea	43.6	6.24
Butha-Buthe	42.9	8.19
Leribe	49.8	5.05
Mafeteng	49.3	8.13
Mokhotlong	31.2	8.56
Mohale's Hoek	47.2	7.43
Maseru	52.4	4.64
Qacha's Nek	35.7	5.78
Quthing	38.9	7.45
Thaba-Tseka	50.0	7.00
Lesotho	46.9	2.19

On the average, teachers met with only 46.9 percent of parents each year. This figure was very low and highlights a problem to be addressed immediately because the lack of regular meetings with parents is believed to have some negative effect on pupils' performance. The schools where teachers normally have contact with all parents are more likely to have the best results at the end of year because both parents and teachers work hand in hand to help pupils in order to solve the

problems pupils come across during their studies. The lack of regular meetings with parents or guardians was particularly noted in Mokhotlong, Qacha's Nek and Quthing districts.

Parents signing homework:

Teachers teaching Standard 6 were asked to indicate whether they asked parents or guardians to sign the pupils books after pupils' have completed their home reading and mathematics assignments. The results have been presented in Table 4.17.

Table 4.17. Percentages and sampling errors of teachers asking parents to sign homework (SACMEQ II)

District	Sign reading homework		Sign mathematics homework	
	%	SE	%	SE
Berea	78.7	8.77	81.4	8.45
Butha-Buthe	59.5	13.06	54.2	13.89
Leribe	67.5	9.27	65.5	9.32
Mafeteng	67.3	12.46	66.1	12.61
Mokhotlong	15.8	9.01	31.2	12.80
Mohale's Hoek	60.2	14.13	49.3	14.37
Maseru	59.6	9.33	52.9	9.81
Qacha's Nek	46.3	16.08	42.7	16.41
Quthing	64.8	11.99	58.5	11.84
Thaba-Tseka	45.9	16.03	48.6	16.02
Lesotho	62.4	3.84	59.5	3.94

Some 62.4 percent of pupils for reading and 59.5 percent for mathematics homework had parents who signed their homework books after they had finished doing their homework. The variation amongst the districts was quite high. Berea, Leribe, Mafeteng and Quthing had higher values in both reading and mathematics. There was major difference between these and other districts. For example, only 15.8 percent of Standard 6 pupils in Mokhotlong had their homework signed by parents. These major differences among districts are a matter of concern as homework

provides essential feedback to the teacher and gives an opportunity for the pupil to build up skills learned at school, and for the teacher to identify areas where lessons were not mastered.

Policy Suggestion 4.10: The Field Inspectorate should initiate and thereafter monitor a sensitization programme for schools principals to insist that all parents should sign that the home work has been done.

The policy concern in this section focused on pupil activities within the classroom, teaching goals and strategies, meeting and communicating with parents.

The results presented revealed that learning new vocabulary, working in groups and using practical equipment were ranked as the most important activities for pupils. All goals for reading except one seemed to be important to teachers, and six of the goals for mathematics were ranked as most important.

Teachers used all the approaches provided for in both reading and mathematics when teaching pupils. As for the frequency of testing, pupils were tested quite frequently and this could encourage both pupils and parents because it helps to assess pupils' progress and give them help at the early stages.

General meetings with parents were frequent, but meetings with parents of pupils taught to discuss how pupils performed were less frequent.

General Policy Concern 10: What was the availability of classroom furniture and classroom equipment in Standard 6 classrooms?

Questions asked regarding the availability of classroom furniture in Standard 6 classrooms were as follows:

- a) What percentages of pupils were in classrooms with adequate sitting and writing places?
- b) What percentages of pupils were in classrooms with adequate classroom furniture and equipment?

- c) How many books did teachers have in their classroom library or book corner?
- d) Did teachers have teaching aids?

Sitting and writing places:

Standard 6 pupils were also asked to report on the availability of the sitting and the writing places in their classrooms. The sitting places possible answers were: 'I sit on the floor', 'I sit on a log, stone, box tin, etc' and 'I sit on a chair, a bench or on a seat at a desk'. The writing places used were: 'I have nowhere special to write', 'I write on the chair, bench, log, stone, box, or tin that I otherwise sit on' and 'I write on a desk or table'. The results have been presented in Table 4.18.

Table 4.18. Percentages and sampling errors for pupils having sitting and writing places (SACMEQ II)

District	% having sitting place		% having writing place	
	%	SE	%	SE
Berea	99.6	0.40	100.0	0.00
Butha-Buthe	100.0	0.00	100.0	0.00
Leribe	100.0	0.00	100.0	0.00
Mafeteng	100.0	0.00	100.0	0.00
Mokhotlong	100.0	0.00	83.5	11.32
Mohale's Hoek	100.0	0.00	88.9	11.10
Maseru	100.0	0.00	100.0	0.00
Qacha's Nek	100.0	0.00	100.0	0.00
Quthing	99.1	0.91	90.3	6.71
Thaba-Tseka	100.0	0.00	92.6	6.29
Lesotho	99.9	0.08	97.4	1.30

From Table 4.18, it can be seen that almost 100 percent (99.9%) of pupils had sitting places and 97.4 percent had writing places. With almost every pupil in Standard 6 having his or her own sitting and writing place, this situation in this regard was good.

Similar information is also collected annually using the Ministry of Education Statistical Form for every standard. It was found that the percentage of pupils with sitting and writing places increased from lower standards to the upper standards. The reason might be that in the lower standards the enrolments are very high and classrooms are overcrowded, so that there is not enough space to put more furniture in classrooms, and that some pupils in the lower standards are taught in the open air or in the tents offered by Ministry of Education. There is a high dropout rate in the higher standards, and pupils in these classes seemed to have adequate sitting and writing places across the country.

Classroom furniture and equipment:

Standard 6 Teachers were asked to report on the availability of their classroom furniture and equipment. The items and the percentages of Standard 6 pupils in classrooms with each of these items and subjects have been listed in Table 4.19 and Table 4.20.

Table 4.19. Percentages and sampling errors for availability of classroom resources for the teachers (SACMEQ II)

Resource	Availability of classroom resources			
	Reading teacher		Mathematics teacher	
	%	SE	%	SE
A usable writing board	95.7	1.34	95.7	1.34
Chalk	98.3	0.87	98.3	0.87
A wall chart of any kind	78.7	3.16	77.7	3.25
A cupboard	90.3	2.30	90.9	2.22
One or more bookshelves	41.6	4.03	40.0	4.02
A classroom library or book corner	54.0	4.01	52.8	4.02
A teacher table	86.1	2.60	86.1	2.60
A teacher chair	87.7	2.34	87.7	2.34

Table 4.20. Means and sampling errors for the classroom resources index (SACMEQ II)

District	Classroom resources index			
	Reading teacher		Mathematics teacher	
	Mean	SE	Mean	SE
Berea	6.4	0.28	6.4	0.28
Butha-Buthe	5.7	0.35	5.8	0.35
Leribe	6.5	0.25	6.3	0.26
Mafeteng	5.9	0.24	5.9	0.24
Mokhotlong	6.0	0.44	6.0	0.44
Mohale's Hoek	6.4	0.50	6.4	0.50
Maseru	6.8	0.21	6.8	0.20
Qacha's Nek	6.4	0.50	6.4	0.50
Quthing	5.1	0.49	5.1	0.49
Thaba-Tseka	6.6	0.42	6.6	0.42
Lesotho	6.3	0.11	6.3	0.11

Some interesting results emerged from the analysis on the availability of classroom resources. One would have expected that basic resources such as a usable writing board, and chalk, and cupboard would be found in all Standard 6 classrooms as well as basic furniture such as a teacher table and a teacher chair with 100 percent. However, only 78.7 percent of Standard 6 pupils were in classroom with a wall chart of any kind. In addition, only 54.0 percent of Standard 6 pupils were in a classroom with a classroom library or book corner.

Only 40 percent of Standard 6 pupils were in a classroom that had at least one or more bookshelves.

On average, pupils were in classrooms with 6.3 of the items in the list (Table 4.20). It can be seen that almost all the districts had a similar average ranging from of 5.1 to the maximum of 6.8 for both reading and mathematics teachers.

Policy Suggestion 4.11: The Planning Unit through the office of Education Facilities Unit (EFU) and the inspectors should undertake a survey to identify schools that lack essential teaching and learning resources, so that these schools can be assisted.

Classroom library:

Teachers teaching Standard 6 were asked to report the number of books they had in their classroom libraries or book corners. They were also asked not to count magazines or newspapers. In Table 4.21 the number of class library books per pupil by district has been presented.

Table 4.21. Means and sampling errors of class library books per pupil (SACMEQ II)

District	Class library books per pupil	
	Mean	SE
Berea	4.3	1.61
Butha-Buthe	1.5	0.96
Leribe	2.6	0.56
Mafeteng	2.6	1.09
Mokhotlong	7.0	3.94
Mohale's Hoek	2.4	0.67
Maseru	2.7	0.62
Qacha's Nek	2.9	1.11
Quthing	1.2	0.54
Thaba-Tseka	3.2	1.25
Lesotho	2.9	0.36

Availability of books in the Standard 6 pupils' classrooms as presented in Table 4.21 above should be an issue of great concern. The situation is shocking and should be remedied. The more opportunity a child has to read a variety of books the more he will be able to comprehend.

Teaching aids:

Teachers were asked to indicate whether they had access to the following teaching aids in their schools: a map, an English dictionary, geometrical instruments (compass, protractor, etc.) for

use on writing board, teacher's guide for English and Mathematics. The results have been presented in Table 4.22 by district separately for reading and mathematics.

Table 4.22. Percentages and sampling errors of reading teachers with teaching aids in the school (SACMEQ II)

District	Teaching aids									
	For teaching reading					For teaching mathematics				
	Map		English dictionary		Teacher's guide		Geometrical instruments		Teacher's guide	
	%	SE	%	SE	%	SE	%	SE	%	SE
Berea	47.0	11.67	68.8	12.30	70.7	11.75	66.2	12.06	79.3	9.08
Butha-Buthe	63.8	13.66	90.4	9.60	91.3	6.72	56.7	14.59	100.0	0.00
Leribe	78.8	7.40	63.9	9.42	72.8	8.78	54.4	9.76	86.7	5.86
Mafeteng	58.5	13.39	86.3	8.04	76.3	11.55	46.6	13.48	76.3	11.55
Mokhotlong	57.4	14.62	69.6	12.59	88.3	11.75	80.8	10.78	88.3	11.75
Mohale's Hoek	75.4	13.51	81.0	13.02	84.2	9.19	73.2	13.04	88.2	8.30
Maseru	74.2	7.30	69.2	8.82	68.2	8.58	60.3	9.60	71.3	8.13
Qacha's Nek	92.3	7.84	82.9	9.85	100.0	0.00	71.4	13.59	94.3	5.82
Quthing	59.6	13.47	73.7	12.00	86.4	9.32	59.7	12.75	91.8	8.20
Thaba-Tseka	72.3	13.21	85.2	10.45	83.8	11.17	66.0	14.19	85.8	10.14
Lesotho	68.0	3.68	74.3	3.66	77.2	3.48	60.9	4.04	82.8	2.96

The results that emerged from the analysis above were interesting. One would have expected that basic resources such as an English dictionary and teacher's guides for English and Mathematics to be available in every Standard 6 classrooms. This, however, was not the reality on the ground.

At least 68.0 percent of pupils had Standard 6 teachers who had access to a map and 60.9 percent had access to geometrical instruments on the average. Qacha's Nek had the highest percentage with regard to access to a map and English teacher's guide when compared to all districts of Lesotho. It is even more surprising when looking at the low percentages presented for Maseru

district because such glaring shortfalls in essential resources were not expected in schools in the capital city.

Policy Suggestion 4.12: The Planning Unit through the office of EFU should conduct a survey on the availability of essential teaching and learning resources, and then target those schools that do not have such resources.

This policy concern focused on the situation in the classroom regarding the availability of classroom equipment and furniture.

The results showed that all the pupils in Standard 6 have places to sit and write on.

However, there were some schools without basic amenities such as bookshelves and a classroom library.

General Policy Concern 11: What professional support (in terms of education resource centers, inspections, advisory visits, and school head inputs) was given to Standard 6 teachers?

Different questions were asked regarding the professional support Standard 6 teachers got. The questions asked were as follows:

- a) Did teachers use education resource centers?
- b) How did teachers use education resource centers?
- c) What support did Advisors or Inspectors give to teachers in terms of administrative, professional, and pedagogical matters?
- d) Did school heads advise teachers on their teaching?

Education resource centers:

Teachers were asked to indicate “what exactly they had used the education resource centres for during the current academic year”. Only three statements were given to the teachers to choose from and they were as follows: ‘none available’, ‘have not visited’ and ‘have used’. The

availability and usage of education resource centres by the teachers teaching Standard 6 pupils for reading and mathematics teachers have been presented in Table 4.23.

Table 4.23. Percentages and sampling errors for the availability of education resource centres for teachers (SACMEQ II)

District	Reading teacher						Mathematics teacher					
	None available		Have not visited		Have used		None available		Have not visited		Have used	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Berea	0.0	0.00	53.5	11.95	46.5	11.95	0.0	0.00	53.5	11.95	46.5	11.95
Butha-Buthe	0.0	0.00	24.0	12.79	76.0	12.79	0.0	0.00	24.0	12.79	76.0	12.79
Leribe	0.0	0.00	50.7	10.58	49.3	10.58	0.0	0.00	55.2	10.52	44.8	10.52
Mafeteng	0.0	0.00	47.3	13.64	52.7	13.64	0.0	0.00	47.3	13.64	52.7	13.64
Mokhotlong	0.0	0.00	32.4	13.81	67.6	13.81	0.0	0.00	32.4	13.81	67.6	13.81
Mohale's Hoek	0.0	0.00	29.9	12.36	70.1	12.36	0.0	0.00	29.9	12.36	70.1	12.36
Maseru	0.0	0.00	41.9	9.48	58.1	9.48	0.0	0.00	41.9	9.48	58.1	9.48
Qacha's Nek	0.0	0.00	12.9	9.29	87.1	9.29	0.0	0.00	12.9	9.29	87.1	9.29
Quthing	0.0	0.00	50.3	13.75	49.7	13.75	0.0	0.00	50.3	13.75	49.7	13.75
Thaba-Tseka	0.0	0.00	49.0	16.12	51.0	16.12	0.0	0.00	49.0	16.12	51.0	16.12
Lesotho	0.0	0.00	42.7	4.09	57.3	4.09	0.0	0.00	43.5	4.09	56.5	4.09

The results presented in Table 4.23 show that the resource centers were available in all districts for reading and mathematics teachers.

However, only around 57.0 percent of pupils were taught by reading and mathematics teachers who had used the resource centers for different purposes.

Usage of education resource center:

Teachers teaching Standard 6 pupils were asked to report exactly what they used the education resource centers for during the academic year. Five statements were used: 'borrow teaching/learning materials', 'make teaching/learning materials', 'attend training courses',

‘exchange ideas with teachers from other school’ and ‘seek advice from the staff of the resource center’. The statements have been presented in Table 4.24.

Table 4.24. Percentages and sampling errors of teacher’s purposes for using the resource centre (SACMEQ II)

District	Don’t use		Borrow material		Make material		Training		Speak with teachers/staff	
	%	SE	%	SE	%	SE	%	SE	%	SE
Berea	53.5	11.95	17.8	11.08	21.2	10.89	37.3	12.22	43.7	11.75
Butha-Buthe	24.0	12.79	33.2	13.32	24.9	11.69	48.9	13.94	76.0	12.79
Leribe	50.7	10.58	16.6	7.52	29.2	9.68	45.8	10.66	41.7	10.60
Mafeteng	47.3	13.64	16.4	9.88	18.3	10.38	26.3	11.08	44.5	13.62
Mokhotlong	32.4	13.81	33.5	13.59	35.0	13.87	44.7	14.31	67.6	13.81
Mohale’s Hoek	29.9	12.36	0.0	0.00	10.4	7.66	55.4	14.23	62.3	13.48
Maseru	41.9	9.48	18.3	6.88	22.0	7.24	53.6	9.56	52.6	9.54
Qacha’s Nek	12.9	9.29	53.2	15.55	38.3	16.51	80.9	10.92	87.1	9.29
Quthing	50.3	13.75	30.3	12.13	23.9	11.36	36.0	13.55	42.4	13.75
Thaba-Tseka	49.0	16.12	42.0	16.00	28.5	13.53	37.5	15.03	37.5	15.03
Lesotho	42.7	4.09	20.4	3.17	23.2	3.44	45.6	4.13	51.5	4.11

Every district in Lesotho has an education resource center and an immediate investigation should be launched in order to find out why 42.7 percent of teachers teaching Standard 6 do not use the resource center.

Policy Suggestion 4.13: The Inspectorate and its Education Officers (EOs) in the districts should encourage teachers to visit the resource centers. They should also teach the teachers about the services offered at these centers, and draw a visiting schedule for those teachers in the remote areas.

Support from advisors and inspectors:

The teachers were asked to describe the actions of inspectors and advisors when they visited the Standard 6 teachers’ schools. The results for reading and mathematics teachers have been presented in Table 4.25.

Table 4.25. Teachers' descriptions of the actions of the inspector and advisor (SACMEQ II)

Description of the actions	Percentage of teachers agreeing							
	Reading teacher				Mathematics teacher			
	Inspector		Advisor		Inspector		Advisor	
	%	SE	%	SE	%	SE	%	SE
<i>Pedagogical role</i>								
Bring new ideas	78.4	3.33	59.0	4.18	80.2	3.17	57.8	4.22
Clarify educational objectives	72.9	3.64	55.1	4.26	72.8	3.66	53.8	4.30
Recommend new teaching materials	68.5	3.80	55.9	4.28	69.1	3.76	54.6	4.32
Contribution to my classroom teaching	34.0	4.05	23.2	3.81	36.0	4.13	21.0	3.63
Explain curriculum content	66.7	3.76	51.9	4.20	66.1	3.82	49.8	4.23
Suggest improving teaching methods	73.7	3.65	58.1	4.15	72.5	3.74	56.7	4.21
<i>Critical versus advisory role</i>								
Comes to advise	81.5	3.04	62.0	3.99	84.2	2.72	61.8	4.00
Comes to criticise	17.2	3.38	11.2	2.88	19.4	3.55	11.0	2.83
Finds faults and report them to the employer	11.2	2.50	15.6	3.24	10.3	2.34	14.3	3.01
<i>Professional development role</i>								
Provides information for teacher self-development	55.2	4.18	49.6	4.35	55.5	4.13	48.3	4.37
Encourage professional contacts with other teachers	63.1	4.01	51.9	4.24	64.4	3.95	50.5	4.27
Provides in-service training to teachers	42.4	4.17	31.2	3.98	41.1	4.16	30.4	3.93

Inspectors and advisors were largely viewed by teachers as professionals whose key roles involved the provision of support to teachers' pedagogical efforts. In particular, they were viewed as bringing in new ideas (mentioned by 78.4% of reading teachers and 80.2% of mathematics teachers), provision of suggestions for the improvement of teaching (73.7% and

72.5%), and clarifying educational objectives (72.9% and 72.8%). The role of explaining curriculum content and contribution to teachers' classroom teaching also received high ratings, but that of recommending new teaching materials was not viewed as one of the most important roles.

When their advisory roles and critical roles were compared, it was clear from the results in Table 4.25 that teachers' inspectors and advisors were viewed by teachers as playing largely an advisory role. Although the critical role did not attract a response from many teachers, it is worrying to note that between 11 and 19.2 percent reading and mathematics teachers viewed inspectors and advisors as coming to their schools to criticise teachers' work, and between 10.3 percent and 15.6 percent of teachers felt inspectors and advisors visited their schools in order to find faults and report them to their employer. Small as they are, the percentages are significant, and may point to some problem being experienced by teachers over inspectors' and advisors' visits.

Inspectors' and advisors' professional development role received moderate rating, with teachers expressing that, under this role, inspectors and advisors mainly encouraged professional contacts with other teachers and, to a lesser extent, provided information for teacher self-development. Under this category, their role in the provision of in-service training was mentioned by the lowest percentage of teachers.

One other finding that should cause concern is the teachers' view of the inspectors' role vis-à-vis that of advisors. It should be noted that the advisors in Lesotho are former primary school teachers who were trained in the provision of teacher support. Furthermore, advisors are based at schools, and therefore strategically placed to offer such support frequently and on a regular basis. Inspectors, on the other hand, visit schools only occasionally since they have to travel long distances to schools, frequently through difficult terrain. Since advisors' major role is to fully participate in the teaching learning process as well as to offer support to teachers, the percentage of teachers mentioning them in this role would be expected to be higher than that mentioned by teachers in respect of inspectors. The pattern of responses observed above might raise some concern regarding the manner in which advisors and inspectors fulfill their roles – at least as judged by reading and mathematics teachers.

Policy Suggestion 4.14: The Chief Inspector Field Services should issue a circular to all schools explaining the role of the inspectors and advisors. Such a circular should be part of the issues to discuss in-service training sessions and pre-service training.

Policy Suggestion 4.15: The Chief Inspector Field Services should ensure that inspectors expeditiously distribute to all eligible stakeholders supervision reports prepared, and that a follow-up on recommendations made in each supervision reports is made, with reports on progress made during each subsequent visit.

School heads advising teachers:

The Standard 6 teachers were asked to indicate how often their school heads advised them on their teaching. Five possible answers given were as follows: ‘never’, ‘once a year’, ‘once a term’, ‘once or more a month’ and ‘I am the school head’. Table 4.26 has shown the percentages of teachers who got advice from their school heads by district.

Table 4.26. Percentages and sampling errors for the frequency of advice to teacher from school Head (SACMEQ II)

District	Percentage of teachers receiving advice ‘sometimes’ or ‘often’			
	Reading teacher		Mathematics teacher	
	%	SE	%	SE
Berea	92.2	6.17	92.2	6.17
Butha-Buthe	85.7	11.78	97.4	2.66
Leribe	90.9	5.59	91.3	5.34
Mafeteng	97.1	2.92	97.1	2.92
Mokhotlong	80.8	13.98	80.8	13.98
Mohale’s Hoek	95.9	4.11	95.9	4.11
Maseru	89.9	4.66	85.2	6.18
Qacha’s Nek	100.0	0.00	100.0	0.00
Quthing	86.9	9.76	86.9	9.76
Thaba-Tseka	88.5	11.69	88.5	11.69
Lesotho	91.4	2.13	91.1	2.22

Teachers' responses have been tabulated according to how often the heads advised their Standard 6 teachers, and this is shown by sometimes or often. A high percentage of Standard 6 pupils were in schools whereby the school heads frequently advised teachers (91.4%).

It is encouraging to see or to learn that the school heads did their job as expected and that by so doing the pupils were likely to learn effectively. This also motivates the teachers to take their work more seriously, and to enjoy it. The mode for Lesotho was once or more a month. Very few teachers did not receive advice from their school heads (7.47%), and this is commendable.

The results presented in this section indicated that there was a positive situation regarding the usage of the resource centers for different purposes such as training. There are some teachers who indicated that they had not used or visited these centers (over 43 percent and 60 percent). This shows that there were some teachers who did not know where these centers were located and what they were used for. The existence of these resource centers must therefore be communicated to, and their use popularized among teachers. From the issues raised within this policy concern, it seemed that inspectors and advisors were recruited from schools and were overburdened with heavy responsibilities of monitoring and supervising schools without having undergone sufficient training on the procedures and processes pertaining to the variables presented in this concern. It would seem that newly recruited advisors or supervisors require induction courses on the responsibilities entrusted to them. There is also a need for teachers and their inspectors and advisors to appreciate their mutual roles and so derive the most out of what inspectors and advisors can offer.

General Policy Concern 12: What factors had most impact upon teacher job satisfaction?

Questions were asked about the factors that had the most impact upon teachers' job satisfaction. The questions were as follows:

- a) What factors had most impact upon teachers' job satisfaction?
- b) What did teachers rate as the most important factor in providing job satisfaction?

Teacher job satisfaction:

Teachers teaching Standard 6 who participated in this study were given the opportunity to respond to 16 possible reasons for satisfaction with their jobs. These reasons have been grouped under five headings in Table 4.27 and they are (a) living conditions, (b) school facilities/equipment, (c) relationships with others, (d) career advancement, and (e) the educational outcomes of pupils.

Table 4.27. Percentages and sampling errors for sources of teacher job satisfaction (SACMEQ II)

Source of satisfaction	Percentage of teachers indicating reason as 'very important'			
	Reading teacher		Mathematics teacher	
	%	SE	%	SE
<i>Living conditions</i>				
Travel distance to school	50.0	3.95	50.2	3.97
Availability of teacher Housing	66.4	3.65	67.2	3.62
Quality of teacher housing	62.6	3.82	62.3	3.82
<i>School facilities/equipment</i>				
Quality of school buildings	75.6	3.44	76.5	3.38
Quality of classroom furniture	74.5	3.50	75.4	3.42
<i>Relationships with others</i>				
Quality of school manpower and administration	87.6	2.52	87.6	2.52
Amicable relations with staff	86.6	2.73	86.4	2.74
Good relation with community	80.0	3.02	79.3	3.09
<i>Career advancement</i>				
Expanded opportunities for promotion	50.0	3.98	49.1	3.98
Opportunities for professional development	82.0	3.31	81.9	3.31
Level of teacher salary	76.9	3.39	77.9	3.32
<i>Educational outcomes of pupils</i>				
Seeing pupils learn	93.0	1.83	92.9	1.85

The motivation of teachers is a critical issue for the improvement of the quality of education. In most countries, this is a very interesting issue, especially with respect to those factors that contribute most to job satisfaction. It is widely believed that satisfied teachers tend to work harder for the benefit of the pupils and are less likely to leave the teaching profession.

Under 'living conditions' the teachers had indicated that the most important factors were the availability of teacher housing (66.4%), and the quality of teacher housing (62.6%).

Under the school facilities or equipment category, both factors of quality of school buildings (75.5%) and quality of classroom furniture (75.4%) were equally important to teachers. Most of the schools did not have enough classroom furniture, and some did not have it at all. Pupils sat on tins and stones. There are some schools in the mountain areas of Lesotho that were not accessible. As a result, these kinds of schools lack some of the basic school facilities.

Under the category 'Relationship with others', the most important factors for teachers were quality of school manpower and administration (87.6%) and amicable relations with staff (86.6%). These two factors were slightly higher than 'good relationship with community' by about seven and eight percent.

The opportunities for professional development under the category 'Career advancement' was perceived as very important (82.0%). This factor was more important than that of level of teacher salary (77.9%), and the least important factor was 'expanded opportunities for promotion' (50.0%).

It can be seen that the most important source of teacher satisfaction selected by 93 percent of reading teachers and 92.9 percent of mathematics teachers, was 'seeing the pupils learn'. However, the quality of school buildings, the quality of the classroom furniture, the quality of the school management and administration, amicable relations with colleagues, expanded opportunities for promotion and professional development, and of course the level of salary were all rated as very important by over 85 percent of teachers.

Under this policy concern, the sources of job satisfaction among teachers in Lesotho have been identified. The most important sources of satisfaction were related to pupils' educational opportunities (seeing pupils learn), followed by relationship with others (quality of school manpower and administration, amicable relations with staff and good relations with community) and career advancement (opportunities for professional development). Each one of these was mentioned by at least 80 percent of the teachers. Factors under 'living conditions' and 'school facilities/equipment' received a relatively lower ranking.

Conclusion

This chapter was designed to provide some examples of baseline data for inputs to primary schools in Lesotho. The examples covered the characteristics of Standard 6 teachers, activities within classrooms, availability of classroom furniture, pupil access to library books, the role of inspectors and teacher satisfaction.

The majority of these teachers were females. This could be expected, as the teachers in Lesotho are predominantly females. These teachers were middle-aged, as the average age of Standard 6 teachers teaching both Reading and Mathematics was 41 years of age; and there was not much difference in age observed around the national average age of 41 years. Over 50 percent of the teachers were living in houses that were in a state of despair. The teachers indicated that they were not satisfied about their living conditions and as it could be expected, teaching in such circumstances was not enjoyable and effective.

The teachers spent minimum of 23 hours and not less than 35 periods on teaching per week. They also spent about 18 hours on lesson preparation and marking every week. In their classroom activities they ranked learning new vocabulary, working in groups and using practical equipment as the most important activities for pupils. In their goals of teaching reading (Table 4.11 (a)), all the goals except one seemed to be important to teachers, and six of the goals of teaching mathematics (Table 4.11 (b)) were ranked as most important. The teachers used all the teaching strategies as listed in Table 4.12 (b); and the pupils were tested quite frequently. This is highly commendable as it helps to assess pupils' progress and give them help at an early stage.

The situation regarding the availability of classroom equipment and furniture revealed that all the pupils in Standard 6 had places to sit and desks to write on. There were some schools, however, that did not have basic amenities such as bookshelves, equipment and supplies, and classroom libraries. There were also some instances where teachers reported not having proper furniture to use while in classrooms.

In terms of the professional support available to teachers, including the usage of the resource centres for different purposes such as training, there were some teachers who indicated that they had not used or visited these centres. This could be interpreted as meaning that there were some teachers who knew very little or did not know about these centres at all. The existence of these resource centres must therefore be communicated to, and their use popularised among, teachers.

According to the ratings that the Standard 6 pupils' teachers gave to the roles of inspectors and advisors, it was clear that teachers had high regard for the work done by inspectors and advisors. Only between 11 and 19 percent of responses in Reading and Mathematics respectively, viewed inspectors and advisors as coming to their schools to criticise teachers' work and between 10 and 16 percent of teachers felt inspectors and advisors visited their schools in order to find faults and report them to their employer. Small as they might be, these percentages were significant and might point to some problem being experienced by teachers over inspectors' and advisors' visits to their schools.

When asked about their job satisfaction, the teachers raised issues that were related to pupils' educational opportunities (seeing pupils learn) followed by relationship with others (quality of schools manpower and administration, amicable relations with staff and good relations with community) and career advancement (opportunities for professional development). Each of these was mentioned by at least 80 percent of the teachers. Factors under 'living conditions' and 'school facilities/equipment' received a relatively lower ranking.

Chapter 5

School Heads' Characteristics and their Viewpoints on Educational Infrastructure, the Organization and Operation of School, and Problems with Pupils and Staff

Introduction

In this chapter data describing the school heads and the schools in which the Standard 6 pupils found themselves have been presented. As was the case in Chapters 3 and 4, contextual information has been provided in this chapter that is useful when interpreting the achievement data presented later in the report. Since this is first SACMEQ study in Lesotho, the data provide a baseline against which future changes in school head characteristics can be monitored.

General Policy Concern 13: What were the personal characteristics of school heads (age and gender)?

The school head is the most senior person in a school and the whole school looks up to him/her for leadership and management. Because the head exerts the greatest influence on what goes on in the school, it is generally believed that if a good head is appointed, he or she attracts good staff and within four years the school becomes a good school. Conversely, if a poor head is appointed, then within four years it is possible to detect deterioration in the academic and social life of the school. Good characteristics of a school head are, therefore essential for a school to be successful.

Age distribution of school heads

In Table 5.1 information on the age and sex of the school heads have been presented. According to Table 5.1, the average age of the school heads in Lesotho was 50.3 years at the time of the SACMEQ research study in 2000. Because the results have been reported with the pupil as the unit of analysis, this statistic implies that the average Standard 6 pupil in Lesotho was in a school whose head was 50.3 years of age.

There was little variation among the districts in terms of age distribution of school heads. The lowest mean age of 47.3 years was recorded in Mokhotlong while the highest mean age for the school head was in Maseru where it was 52.5 years. The school heads for Standard 6 pupils were generally elderly and mature, and should be able to cope with the challenging task of providing proper guidance and management to their respective schools.

Sex distribution of school heads

About 72 percent of pupils were in schools with heads who were females. Other independent surveys have reported that there were more female teachers in the system than there were male teachers. The Ministry of Education Annual Abstract, 2000 reported that the schools in Lesotho were predominantly headed by female heads who accounted for 80 percent of the total school heads. This is contrary to the situation in many African countries where women are relegated to positions of little responsibility in the domestic sphere, in public institutions and in the corporate world. In Lesotho women occupy prominent or high-ranking and respectable positions including that of being school heads. Women in these positions can therefore act as positive role models.

Table 5.1. Means, percentages, and sampling errors for school head age and gender (SACMEQ II)

District	Age (years)		Gender (female)	
	Mean	SE	%	SE
Berea	51.0	1.46	65.0	11.40
Butha-Buthe	50.1	1.64	79.5	11.65
Leribe	49.2	1.50	77.4	9.09
Mafeteng	49.8	2.09	61.0	13.30
Mokhotlong	47.3	1.61	74.9	11.88
Mohale's Hoek	49.6	2.58	66.5	14.72
Maseru	52.5	0.99	82.1	7.10
Qacha's Nek	48.9	2.33	44.4	15.29
Quthing	49.5	2.13	78.2	11.61
Thaba-Tseka	48.7	2.55	72.3	13.22
Lesotho	50.3	0.58	72.4	3.77

General Policy Concern 14: What were the professional characteristics of school heads (in terms of academic, professional, experience, and specialized training)?

It can be argued that school heads with more experience as school heads and also as teachers will be more versed in school management and therefore will be able to run their schools more effectively than the less experienced heads. It can further be argued that school heads who actually teach in their schools as part of their duties will know better what is going on in the schools than heads who do not teach as part of their regular duties. What then was the experience and teaching load of school heads?

School heads' level of academic education

Information on the different levels of academic education school heads had completed is presented in Table 5.2. These levels were denoted as: Primary, Junior secondary, Senior secondary, A-level and Tertiary levels. Looking at the different levels separately, it can be seen that the majority of pupils (40.9%) were in schools where the school head had only completed primary education.

Primary education is a seven-year course that leads to the junior secondary education programme. The senior education course takes another two years, and A-level takes a further two years. Just about ten percent of the school heads had completed an additional three years of academic education after primary education (the junior secondary education). Up to the level of senior secondary education, school heads would have completed twelve years of academic preparation. Slightly over ten percent had completed senior secondary education. After A-level, one would have completed in all, 14 years of academic education. About 15 percent of the pupils' school heads completed over 18 years of academic education at tertiary level.

Table 5.2. Level of academic education of school heads (SACMEQ II)

District	Level of academic education									
	Primary		Junior secondary		Senior secondary		A-level		Tertiary	
	%	SE	%	SE	%	SE	%	SE	%	SE
Berea	46.3	12.32	10.1	7.04	5.5	5.48	18.1	8.66	20.0	9.50
Butha-Buthe	14.7	10.52	16.6	9.91	17.4	9.86	31.3	14.13	20.0	11.55
Leribe	35.8	10.44	13.2	6.51	11.6	6.65	27.6	9.93	11.8	5.98
Mafeteng	47.8	13.79	6.1	6.07	7.8	7.84	29.5	12.90	8.8	6.25
Mokhotlong	65.4	13.15	5.3	5.33	0.0	0.00	24.2	11.89	5.1	5.15
Mohale's Hoek	44.5	14.07	9.8	7.13	22.7	10.93	11.9	11.91	11.1	11.10
Maseru	39.0	10.76	2.5	2.55	9.8	5.65	24.9	8.12	23.8	8.66
Qacha's Nek	71.1	13.65	9.9	10.02	13.5	9.55	5.5	5.58	0.0	0.00
Quthing	24.7	11.52	29.2	12.74	16.7	11.36	16.9	9.42	12.4	8.68
Thaba-Tseka	46.9	16.04	0.0	0.00	18.9	13.95	25.4	13.74	8.8	8.82
Lesotho	40.9	4.25	9.5	2.22	11.8	2.63	22.9	3.61	14.9	3.04

At Standard 6 level, pupils are close to completing the primary level of academic education. Other things being equal, some 41 percent of Standard 6 pupils had about the same number of years of academic education as their school heads. A larger proportion of school heads (59.1%) had post-primary qualifications up to tertiary education. It is also impressive to note that school heads in SACMEQ II had many years of experience as school heads in their schools, and such experience was even more impressive when the years they had previously spent in other schools (see Table 5.3) were taken into account.

Table 5.3. Means and sampling errors of school heads' years of experience as a school head (SACMEQ II)

District	This school		Altogether	
	Mean	SE	Mean	SE
Berea	12.3	1.90	12.5	1.87
Butha-Buthe	9.1	2.71	14.2	3.12
Leribe	10.3	2.18	12.3	2.17
Mafeteng	9.6	2.13	12.9	3.04
Mokhotlong	10.6	3.10	12.0	3.20
Mohale's Hoek	10.5	2.61	13.4	2.69
Maseru	12.1	1.37	14.5	1.60
Qacha's Nek	11.8	2.07	17.9	4.27
Quthing	8.2	1.73	10.4	2.21
Thaba-Tseka	11.9	3.11	13.7	3.42
Lesotho	10.9	0.72	13.3	0.81

Years of teacher training, specialized training and teaching experience school heads had completed

In Table 5.4, information has been presented on school heads' teaching experience, the number of years of teacher training they had completed and the duration, in weeks, of any specialized training they had received in school management. On average, a Standard 6 pupil was in a school where a school head had extensive teaching experience of 25.6 years. The mean teaching experience of school heads ranged from 21.1 years in Mokhotlong to 28.3 years that was recorded for Maseru district.

In-country teacher training programmes are offered at the Lesotho College of Education (LEC) and at the National University of Lesotho (NUL). Teacher training courses are packaged for the Primary Teachers Certificates (PTC), Secondary Teachers Certificate (STC) and Diploma in Education, each of which is of three years' duration. The Distance Teacher Education Programme (DTEP) was launched in 2001 to accelerate the supply of qualified teachers in the system. DTEP is, on the contrary, a four-year programme. Advanced degree programmes in education are offered at NUL. The mean years of teacher training for school heads was 3.4 years of training. This is fairly impressive especially because the minimum of 3.0 years of training applied to all districts alike.

An average Standard 6 pupil was in a school where the school head had 10.8 weeks of specialized training in school management. The management function is the single most important function without which organizations of any sort cannot survive. The mean duration of specialized training school heads had received in all the districts is impressive, with the longest recorded being the one for Mafeteng, which was 20.0 weeks. The shortest duration of specialized training, comprising 5.7 weeks, was recorded in Mofale's Hoek.

Table 5.4. Means and sampling errors for the teaching experience and training of the school heads (SACMEQ II)

District	Experience (years)		Teacher training (years)		Specialised training (weeks)	
	Mean	SE	Mean	SE	Mean	SE
Berea	28.0	2.39	3.2	0.18	11.8	4.14
Butha-Buthe	27.3	2.08	3.5	0.22	11.2	5.92
Leribe	23.1	2.70	3.4	0.21	6.4	2.89
Mafeteng	25.5	2.78	3.6	0.16	20.0	9.77
Mokhotlong	21.1	2.63	3.6	0.16	11.7	8.57
Mofale's Hoek	24.9	2.38	3.4	0.16	5.7	1.80
Maseru	28.3	1.79	3.3	0.20	10.3	2.35
Qacha's Nek	24.8	3.32	2.9	0.16	14.1	10.88
Quthing	22.7	2.56	3.5	0.17	7.4	3.94
Thaba-Tseka	22.5	4.35	3.0	0.35	18.6	3.83
Lesotho	25.6	0.88	3.4	0.07	10.8	1.47

Policy Suggestion 5.1 The Principal Secretary and the Teaching Service Department should consider raising the minimum entry qualification for school heads from the primary school certificate to the junior secondary certificate. This would ensure that every new school head holds a post-primary academic qualification.

The following are noteworthy in this section: About 41 percent of the pupils' school heads had primary education as their highest academic qualification. The remaining 59 percent of the pupils' school heads had post-primary academic education qualifications ranging from junior secondary (9.5%), through senior secondary (11.8%) and A-level (22.9%) to tertiary level (14.9%).

An average Standard 6 pupil was in school where a school head had extensive teaching experience of 25.6 years. The mean teaching experience of school heads ranged from 21.1 years in Mokhotlong to 28.3 years that was recorded in Maseru. Almost all school heads had completed the minimum 3 years required for teacher training. School heads had an impressive average period of specialized training, with the highest mean duration of 20 weeks and the least duration of 5.7 weeks. On average, school heads, had stayed in their schools for a relatively long period of 10.9 years. When their experience in other schools was included, the length of the period came to 13 .3 years.

General Policy Concern 15: What were the School heads' viewpoints on general school infrastructure and the conditions of school buildings?

An adequate number of classrooms and other school buildings such as offices, toilets, libraries coupled with the provision of amenities such as safe drinking water and office equipment all provide an environment that is conducive to teaching and learning. According to the Ministry of Education procurement plan that was issued in December 2002, civil works and procurement are a big component under the on-going Second Education Development Programme (ESDP II) – 1999 to 2011. Within the first four-year phase (1999 to 2003), construction of 40 new primary schools had been completed while 19 schools were under construction. All primary civil works were to be completed by September 2003. The renovation of existing classrooms was being carried out simultaneously. The furniture for 13 schools had been supplied and procurement for the remaining schools was to be completed by September 2003. Some 301 science kits have also been procured and distributed to schools.

Equipment and general facilities in schools

The information concerning school infrastructure reported above should be understood in relation to the information on general facilities available at the schools as indicated in Table 5.5.

There were low proportions of Standard 6 pupils who were in schools that had general facilities such as school libraries, school halls, staff rooms, school head's offices,

storerooms and cafeterias. The highest proportion of pupils whose schools had a school head's office was 47.3 percent and the proportion of pupils whose schools had storerooms was 46.5 percent. A large proportion of Standard 6 pupils, however, were in schools that had sports areas or playgrounds and school gardens. Less than 20 percent of the pupils did not have water in their schools. Other facilities listed in Table 7.3 were rare, with only a few schools in possession of these.

Table 5.5. Percentages and sampling errors for schools with general facilities (SACMEQ II)

Facility	Percentage with facility	
	%	SE
<i>School buildings</i>		
School library	32.1	3.84
School hall	22.4	3.49
Staff room	25.2	3.55
School head's office	47.3	4.08
Store room	46.5	4.09
Cafeteria	2.9	1.38
<i>School grounds</i>		
Sports area/ playground	82.4	3.55
School garden	92.1	2.29
<i>General services</i>		
Piped water/ well or bore-hole	81.9	3.42
Electricity	11.1	2.72
Telephone	11.5	2.63
<i>Equipment</i>		
First-aid kit	28.1	3.61
Fax machine	1.6	1.10
Typewriter	3.0	1.29
Duplicator	1.4	0.97
Radio	92.1	2.03
Tape recorder	36.6	4.03
Overhead projector	0.0	0.00
Television set	0.0	0.00
Video-cassette recorder	0.5	0.55
Photocopier	1.7	1.12
Computer	0.8	0.66

The data presented in Table 5.5 confirm that facilities such as cafeterias were not a common feature in Lesotho's primary schools. However, the Government of Lesotho (GOL) has regularly implemented a blanket school-feeding scheme that provided school lunch to pupils in primary schools. The government's priority has also been to build classrooms in accordance with the Civil Works and Procurement Plan of 2002.

The information on school grounds in terms of sports areas and school gardens indicated that most pupils were in schools that had adequate provisions of these facilities. In Lesotho, school sites are determined by the local chiefs who ordinarily allocate vast tracts of land, away from the villages, to meet the needs of schools. For this reason, schools are well endowed with sports areas, playgrounds and gardens.

The picture with regard to the provision of general services such as water, electricity and telephone was a mixed one. While electricity and telephone were still very rare in most of Lesotho's primary schools, the vast majority of pupils, representing 81.9 percent of the total, were in schools where piped, well or bore hole water was available.

Very few pupils were in schools that had in their possession the items of equipment that were listed except for the radios which were available in most schools (92.1%). It should be noted, however, that some of the equipment is dependent on the schools having electricity, and the majority of primary schools in Lesotho did not have electricity.

The Schools Supply Unit (SSU) within the Ministry supplies the schools with radios and other instructional materials free of charge. The radio supply programme is meant to enable schools to take advantage of radio lessons that are broadcast daily at some specified times. The radio lessons are prepared by the subject specialists at the National Curriculum Development Centre (NCDC). While radios were issued to schools free, there still were some pupils who did not have radios in their schools. This situation makes it necessary for the Field Inspectorate to carry out an inventory of school equipment annually. This would ensure that all schools were supplied with all the necessary supplies, and that schools took care of equipment supplied to them.

The general condition of school buildings and provision of toilet facilities

Information concerning the condition of school buildings and provision of toilet facilities within schools where SACMEQ II study was conducted has been presented in Table 5.6. The percentage scores in Table 5.6 referred to the proportion of school buildings that needed repairs of different kinds: some minor repairs, most minor repairs, and some major repairs. It should also be noted that the mean scores presented under toilet facilities referred to the average number of pupils per toilet for each district and for Lesotho as a whole.

Condition of School buildings

The analysis of the information in Table 5.6 revealed that 67.2 percent of the Standard 6 pupils attended schools where the school buildings needed some repairs. The districts where buildings needed repair most were Berea, Leribe, Mokhotlong and Mphahlele's Hoek.

A poor condition of school buildings can be a serious impediment to children's learning, especially in a climate like Lesotho's where sub-zero temperatures are common. The school mapping exercise that was being planned in 2000 could give much more information on the exact state of Lesotho's primary schools.

Provision of toilet facilities

The average number of Standard 6 pupils per toilet was as high as 78.1 pupils per toilet. This ratio is far above the expected ratio, and it indicates an unsatisfactory state of affairs that calls for immediate attention. However, the mean ratio concealed considerable variation in toilet provision among the districts where pupils per toilet ratios ranged from a low proportion of 47.2: 1 in Qacha's Nek to a high ratio of 99.8:1 in Leribe. The under-provision of toilet facilities in Leribe district is very worrying and deserves further examination.

The lack of adequate toilets does not only mean that the care offered to the children is questionable. It is difficult to teach children about hygiene and related health topics

without the requisite facilities. In many countries inadequate provision of toilets is not seen solely as a health problem. Often, it is closely linked to participation and attendance rates of female pupils. The extent to which inadequate provision of toilets in Lesotho adversely affects participation and attendance is, however, not known.

The Planning Unit of the Ministry collects information from schools on annual basis. This information includes the availability of physical facilities including toilets. In light of the unsatisfactory research findings on the condition of school buildings and provision of toilet facilities, a more detailed audit on the provision of toilets should be undertaken to better inform the decisions with regard to the provision of toilets in schools. Where remedial action is required in some schools, then the Ministry of Education should work together with parents and local communities to correct the situation.

Table 5.6. General condition of buildings and toilet facilities (SACMEQ II)

District	Need repair		Toilet provision	
	%	SE	Mean	SE
Berea	67.1	11.23	72.7	14.19
Buthat-Buthe	66.6	14.60	51.8	7.21
Leribe	77.6	9.37	99.8	36.67
Mafeteng	60.3	13.46	80.9	20.67
Mokhotlong	68.5	13.65	55.9	20.08
Mohale's Hoek	76.3	13.27	60.3	13.29
Maseru	62.3	10.07	91.4	14.79
Qacha's Nek	66.9	13.70	47.2	6.38
Quthing	57.0	13.74	73.6	21.43
Thaba-Tseka	59.6	15.86	47.2	6.66
Lesotho	67.2	4.06	78.1	8.45

Policy Suggestion: 5.2: The Planning Unit should conduct a national audit of toilet facilities in schools. Where provision is found to be inadequate the assistance of local communities should be solicited in order to improve the pupil-toilet ratio.

Policy Suggestion 5.3: The school-Mapping exercise should be top on the agenda for the next phase of ESDP II that is scheduled for 2004-2008. The mapping exercise can provide valuable information concerning the condition and provision of physical facilities.

In a nutshell, the information on the provision of facilities indicated that there were low proportions of pupils whose schools had general facilities in terms of school libraries, school halls, staff rooms, school head's offices, storerooms and cafeteria. Of those listed, the most common facilities found in schools were school head's offices (47.3% of pupils) and storerooms (46.5%).

With regard to the provision of general services, 81.9 percent of pupils had water in their schools. Electricity and telephones were rare at primary schools.

The only equipment that a large proportion of pupils (92.1%) had in their schools was the radio. The radio could be used with batteries while other items of equipment listed in Table 5.5 depended on the availability of electricity that was not available in most schools.

There was considerable variation in the provision of toilets among the districts. While the mean number of pupils per toilet stood at 78:1 for Lesotho as a whole, the lowest number of pupils per toilet of 47:1 was observed in Qacha's Nek while a high ratio of about 100:1 pupils per toilet was recorded in Leribe.

General Policy Concern 16: What were the School heads' views on (a) daily activities (teaching, school-community relations, and monitoring pupil progress), (b) organizational policies (school magazine, open days, and formal debates), (c) inspections, (d) community input, (e) problems with pupils and staff (pupil lateness, teacher absenteeism, and lost days of school)?

In Lesotho teaching staff loads should be regulated in such a way that full-time, paid teachers teach an average of 30 periods per week, with each period having 40 minutes' duration. The teaching load should not be less than 24 periods per week, but should not exceed 35 (Education Manifesto 1994). Now, how does this situation compare with the amount of teaching school heads conducted?

Amount of teaching school heads conducted

In general, using school heads' expertise in teaching, and increasing their teaching loads, should be encouraged. This has an effect of reducing the unit cost of schooling, thus effecting some savings derived from hiring fewer teachers. The teachers freed could then be used to handle increased enrolments, or to improve the quality of education. This would therefore facilitate the attainment of Education for All (EFA) by 2015. The target date for the attainment of EFA has been agreed upon by all nations of the World including Lesotho. The Free Primary Education (FPE) policy that was introduced in 2000 in Lesotho had increased the Gross Enrolment Rates (GER) remarkably (*Ministry of Education, Education Statistics, 2002*). But the quality of education, efficiency of the system, appropriateness of the curriculum to respond to the needs of society as a whole and equity in resource allocation remain the major challenges facing the education system in Lesotho (*Draft Poverty Reduction Strategy Paper, 2002*). Thus, some cost saving measures would need to be considered more seriously.

According to the SACMEQ II research study, on average school heads taught for 1078.2 minutes or some 18 hours per week. Such a teaching load was somewhat heavy on school heads, considering that they were still expected to carry out day-today managerial and supervisory duties in their schools. It is nonetheless important that school heads in Lesotho should reserve a fair amount of time for teaching because it has already been pointed out that they had a vast amount of teaching experience.

Table 5.7. Means and sampling errors for amount of school head teaching per week (SACMEQ II)

District	School head teaching minutes per week	
	Mean	SE
Berea	1107.5	111.10
Butha-Buthe	1135.7	106.71
Leribe	1060.3	118.51
Mafeteng	1225.0	120.16
Mokhotlong	1149.1	145.16
Mohales Hoek	1212.2	155.72
Maseru	954.1	140.92
Qacha's Nek	1081.1	146.85
Quthing	872.0	116.54
Thaba-Tseka	1112.2	198.39
Lesotho	1078.2	47.32

The importance that school heads attached to activities such as community contacts, monitoring pupil progress and administrative tasks

Information on the importance of various school head tasks has been presented in Table 5.8. It can be deduced that almost all the Standard 6 pupils' school heads attached a great deal of importance to the activities associated with contact with the community, monitoring pupil progress, administrative tasks, discussing educational objectives with the teaching staff and professional development of teachers and school heads. At least 81.3 percent of the pupils were in schools where each of these activities was considered to be very important. The most highly ranked activities – the professional development of school heads and administrative tasks - had scores of 95.6 percent and 95.4 percent respectively.

Table 5.8. The importance of various school head tasks (SACMEQ II)

Task	Percentage rating as 'very important'	
	%	SE
Contact with community	81.3	3.31
Monitoring pupils progress	91.0	2.45
Administrative tasks	95.4	1.81
Discuss educational objectives with the teaching staff	88.1	2.57
Professional development (Teachers)	86.2	2.87
Professional development (School Heads)	95.6	1.69

On the other hand, extra-mural activities that involved producing a school magazine and/or journal, and observing public speaking day were not prioritised by school heads. But these activities can be of informative and motivational value, and can provide pupils with opportunity to display and develop diverse talent. The National Development Centre should, therefore, promote the production of school magazines and journals as part of the extra-curricular programme. Meanwhile, the open-door policy and formal debates at the schools were, however, rated highly.

Table 5.9. Percentages and sampling errors for the school activities (SACMEQ II)

Activity	Percentage of school activities	
	%	SE
School Magazine	33.0	3.93
Public Speaking Day	13.1	2.72
Open-Door Policy	83.3	3.19
Formal Debates or Debating Contests	55.1	4.06

Policy Suggestion 5.4: School magazines and/or journals can be of informative and motivational value, and can provide pupils with opportunity to display and develop diverse talent. The National Curriculum Development Centre should, therefore, promote the production of school magazines and journals as part of their extra-curricular programme.

The school days lost due to non-school events

The mean values for the number of days lost in the month preceding data collection have been presented in Table 5.10. The school days were lost because of such matters as national celebrations and festivals, storm, floods, snow and the like. According to the information presented in Table 5.10, an average Standard 6 pupil in Lesotho was in a school where some five days were lost as a result of such disruptive occurrences.

Table 5.10. Means and sampling errors for number of official school days lost (SACMEQ II)

District	Average of official school days lost	
	Mean	SE
Berea	2.5	0.90
Butha-Buthe	2.3	0.70
Leribe	3.9	1.06
Mafeteng	4.7	1.50
Mokhotlong	6.3	1.49
Mohale's Hoek	7.1	1.80
Maseru	4.4	0.90
Qacha's Nek	5.7	1.31
Quthing	6.3	1.99
Thaba-Tseka	4.8	1.41
Lesotho	4.5	0.43

In the event that some school days are lost because of non-school events, the practice is to make up for such loss by reducing the number of official school-holidays. The school head makes an internal arrangement with his/her staff about how the school holidays should be reduced. The extent to which this practice is generally applied needs to be closely monitored. Nonetheless, it should be noted that the annual number of school days does not by itself increase chances of learning achievement. What is really important is the optimum use of the contact time of teaching. Optimum use of teaching time would entail pupils working without direct supervision, peer teaching, self-study and use of self-instruction devices.

Policy Suggestion 5.5: School Inspectors should monitor the school days lost by schools, and put in place mechanisms for ensuring that schools make up for the days lost.

Purposes and frequency of school inspections

The information on the various purposes for which inspection took place in schools during the three-year period ending in 2000, has been presented in Table 5.11. Some purposes as listed in Table 5.11 make inspection a monitoring and evaluation exercise that is external and controlled at the headquarters. The headquarters is accountable to the Parliament and the nation as a whole for the collection of information from schools required for general planning and policy formulation. Hence it can be seen in Table 5.11 that 22.8 percent of pupils were in schools where inspection took place in schools as a matter of routine. About 50 percent of the pupils were in schools where schools had a full inspection. As a matter of policy, every school should be subjected to a full inspection at least once every year.

When the monitoring and evaluation is externally controlled and centralised, it is usually regarded as being done for developmental purposes other than for the school itself. It tends to bring with it nationally-driven initiatives that sometimes create tension in relation to school based-reform programmes that result from the monitoring and evaluation whose focus is on the development of the school itself. Purposes for which monitoring and evaluation can be developmental for the school included: (a) inspect teachers – not for promotion, (b) inspect teachers – for promotion, (c) assist teachers, (d) advise the school head, and (e) address crises/problems. In some instances, inspection was made simply to pay a courtesy call at the school. About 30 percent of pupils were in schools where the purpose of inspection fell in this category. Inspection for purposes of paying a courtesy call is not of much benefit to the tax-payer at the national level, and it does not benefit the school either; and should therefore be done away with.

Table 5.11. Percentages and sampling errors for school inspections (SACMEQ II)

Purpose of inspection	Inspection took place in past 3 years	
	%	SE
Full inspection	50.2	4.20
Routine inspection	22.8	3.71
Inspect teachers – <u>not</u> for promotion	9.3	2.40
Inspect teachers – <u>for</u> promotion	0.9	0.81
Assist teachers	27.3	3.83
Advise the school head	27.0	3.83
Address crisis/problem	7.3	2.14
Courtesy call	30.1	3.83

Policy Suggestion 5.6: Because they do not serve any positive purpose, courtesy calls to schools should not be regarded as a form of inspection. The Principal Secretary should therefore consider this proposal and issue a circular letter to all the stakeholders to communicate this decision.

Frequency of Inspections

Strengthening of the Primary Field Inspectorate and the establishment of a District Resource Centre in each of the ten districts of the country are among the many achievements recorded in respect of the first Education Sector Development Programme (ESDP I) – 1992 to 1996. Each District Education Officer's (DEO) workload has since been increased such that each DEO has to make 22 Aspect-inspections or 12 Full-inspections in a year. The extent to which this requirement is met remains unknown.

According to the information presented in Table 5.12 the mean number of inspections over the three years ending in 2000 were 4.9 inspections per school for Lesotho as a whole. We can therefore conclude that an average Standard 6 pupil was in a school in which there had been some 1.6 inspections in a year, over the three years preceding 2000. It can be seen from Table 5.12 that the frequency of inspections varied a great deal among the districts.

Table 5.12. Means and sampling errors of the frequency of school Inspection over 3 years (SACMEQ II)

District	Numbers of inspections over 3 years	
	Mean	SE
Berea	3.4	0.64
Butha-Buthe	7.8	1.29
Leribe	7.0	0.94
Mafeteng	4.0	0.77
Mokhotlong	7.9	0.87
Mohale's Hoek	3.2	0.88
Maseru	4.1	0.71
Qacha's Nek	7.8	1.35
Quthing	4.2	0.94
Thaba-Tseka	4.3	0.94
Lesotho	4.9	0.31

Community Contributions to schools

The importance of the involvement of local communities in school activities cannot be over-emphasised because of the central position that parents occupy in the education of their children. Participants at the 1999 MOE symposium on FPE recommended that, for the successful implementation of FPE and consequently EFA, local communities should be responsible for a number of tasks, including:

- Seeing to it that children go to school;
- Becoming teachers' aides;
- Helping children's learning by providing space and time for doing homework; and
- Ensuring that children are healthy enough to go to school.

Parents and communities were also expected to provide additional source of funding for schools through PTA contributions, private donations, alumni levy, community labour and material donations. This way, some public/Government funds could be freed to address, in addition to access and participation, quality issues. This is the argument that underpins public-private partnerships in education.

However, public-private partnerships should be properly managed and controlled. If they are not, they are likely to increase the disparities with regard to access and participation in schooling, efficiency of schools systems, and equity in educational opportunities. Since the rich can afford to raise substantial additional funding for their local schools, their schools were likely to be better resourced than those supported by poor communities. The rich communities were also most likely to be better educated than the poor communities and thus their voluntary contributions would even include assisting teachers in teaching without pay.

From Table 5.13, it can be seen that the involvement of parents and communities in school activities and projects was impressive. Almost all the pupils (99.7%) were in schools where parents contributed towards the payment of examination fees. A very high percentage of pupils' communities (88.7%) contributed funds for extra-curricular activities. From Table 5.13, it can be observed that more than 50 percent of the pupils' were in schools whose communities made contributions to each of the activities, with the exception of contributions that related to payment of an additional amount towards the salary of teachers, for non-teaching staff, and for teachers teaching without pay, where the percentages were only 15.6, 25.5 and 31.5 respectively.

Table 5.13. Parent/community contributions to the school (SACMEQ II)

Type of contribution	Pupils in school with community contributing to	
	%	SE
Building of school facilities	71.5	3.76
Maintenance of school facilities	76.1	3.51
Construction/maintenance and repair of furniture/equipment	64.4	3.98
The purchase of textbooks	59.9	4.03
The purchase of stationery	67.6	3.79
The purchase of other school supplies	60.6	3.85
Payment of examination fees	99.7	0.28
Payment of the salaries of additional teachers	56.0	4.10
Payment of an additional amount of the salary of teachers	15.6	3.07
Payment of the salaries of non-teaching staff	68.2	3.90
Payment of an additional amount of the salary of non-teaching staff	25.5	3.78
Extra-curricular activities	88.7	2.61
Assisting teachers in teaching without pay	31.5	3.87
Provision of school meals	79.1	3.12

The main behavioural problems of pupils and teachers

Some questions in the school head questionnaire related to pupil behavioural problems experienced by the school head. The list of 17 possible problems with regard to pupil behaviour has been presented in Table 5.14 (a). Some of the problems were common among children of this age group, and could be linked to juvenile delinquency. But other problems were too serious to be associated with primary school-going age children. According to the tradition and culture of Basotho as a nation, school children at that age would never have been exposed to incidences of sexual harassment, drug and alcohol abuse. But SACMEQ II research findings revealed the incidence of these serious problems, even though, judging by the fact that large proportions of pupils' school heads reported that these problems never occurred in their schools, the rate of incidence can still be considered to be minimal.

Despite the fact that these problems were common among the children of the primary school going age, it was disturbing that majority of these problems occurred at an alarming rate. Only one percent of the school heads where the study was conducted

indicated that arriving late at school never occurred. Dropping out of school was the next common behavioural problem. Fights and health problems at schools also presented a cause for great concern. There is need to do something about the high rate of theft, use of abusive language, cheating, classroom disturbance and intimidation of pupils reported at the schools. Otherwise the situation looked chaotic.

Table 5.14(a). Pupil behavioural problems (SACMEQ II)

Frequency of pupil behavioural problem	Indicating 'never' occurs	
	%	SE
Arriving late at school	1.1	0.75
Skipping classes	54.4	4.14
Dropping out of school	2.6	1.21
Classroom disturbance	23.1	3.80
Cheating	21.1	3.60
Use of abusive language	12.1	2.63
Vandalism	35.4	4.08
Theft	12.3	2.97
Intimidation of pupils	16.5	3.31
Intimidation of teachers/staff	68.9	3.83
Physical injury to staff	96.7	1.46
Sexual harassment of pupils	87.9	2.59
Sexual harassment of teachers	97.3	1.31
Drug abuse	73.1	3.81
Alcohol abuse	88.9	2.61
Fights	3.6	1.47
Health problems	4.9	1.71

The occurrence of 'serious' problems such sexual harassment, drug abuse and alcohol abuse has been minimal among teachers. As can be observed in Table 5.14 (b), over 80 percent of the pupils were in schools where the incidence of such problems never occurred. Arriving late at school for teachers should be regarded as a very prevalent problem, but one that can easily be corrected by teachers and school heads. This problem was so common in schools that only 9.7 percent of pupils did not have it in their schools. Health problems for teachers were also common among schools, as only 6.4 percent of pupils' were in schools where heads reported that health problems never occurred in their schools. Teacher absenteeism was also a problem that needed to be looked into more seriously.

Table 5.14(b). Teacher behavioural problems (SACMEQ II)

Frequency of teacher behavioural problem	Indicating 'never' occurs	
	%	SE
Arriving late at school	9.7	2.54
Absenteeism	37.3	4.08
Skipping classes	58.8	4.14
Intimidation or bullying of pupils	74.0	3.82
Sexual harassment of teachers	97.4	1.21
Sexual harassment of pupils	95.9	1.62
Use of abusive language	67.4	4.03
Drug abuse	90.3	2.36
Alcohol abuse	84.7	2.92
Health problems	6.4	1.67

Policy Suggestion 5.7: The Principal Secretary should broaden the mandate of school committees and /or school boards so that they can, through a variety of strategies, deal with and ultimately eradicate the problems of sexual harassment, drug and alcohol abuse at the local school level.

In this section, the SACMEQ II research study revealed that an average Standard 6 pupil's school head had a heavy teaching load of some 18 hours per week. Furthermore, school heads had vast teaching experience and an extensive length of pre-service academic teacher training. While it is important for every school head to do some teaching, in some cases the teaching load could be so high that it adversely affects the school head's ability to execute their management responsibilities.

The tasks that received priority among school heads were establishing and maintaining contact with community, monitoring pupils' progress, administrative tasks, discussing objectives with staff and professional development of teachers and school heads. Over 80 percent of the pupils' school heads rated these activities as very important. On the other hand, extra-mural activities involving production of a school magazine and observing public speaking day received low priority.

Purposes, for which inspection took place in schools during the three-year period ending in 2000, were many and varied, but some purposes such as paying a courtesy call did not seem to serve any useful purpose.

Almost all the pupils – 99.7 percent of them – were in schools with communities that contributed financially to support a variety of activities, among them examination fees and extra-curricular activities.

The incidence of serious problems of sexual harassment, drug and alcohol abuse in schools was minimal but such problems were of such a serious nature that they deserved attention before they got out of control. Arriving late for school by teachers and health problems among teachers were so common that they required Ministry's immediate attention. In particular, it is important to establish the extent to which these could be linked to the incidence of HIV/AIDS.

Conclusion

In this chapter a description of the key characteristics of school heads has been provided. School heads in Lesotho were mature professionals who had considerable experience both as teachers and administrators or managers. It is of great concern, however, that the majority of them had very little academic preparation, and it is strongly suggested that the minimum entry qualification for school heads be raised to the post-primary certificate level. This should make them substantially more knowledgeable than the pupils in the schools they manage, thus enhancing their competence. While it was gratifying to note that most heads were directly involved in some teaching, their teaching loads needed to be monitored so that they were not so high that they adversely affected their ability to deliver their managerial mandate.

Several issues and concerns regarding the provision of school infrastructure and equipment, the organization and operation of the school, as well as problems with pupils and staff were also raised in this chapter. Lesotho's schools were well-endowed with

playgrounds or sporting areas, water, and radios. With regards the provision of all other facilities and equipment, it was noted that Lesotho's schools were generally inadequately provided. While an audit would provide a clearer picture on the patterns of under-provision, this has to be viewed against the background of the broader developmental issues affecting the country. For example, electricity was not a common facility in schools, and, even though the use of batteries and solar power were options, in the present circumstances it would be unrealistic to expect schools to possess large or sophisticated equipment that required a continuous and uninterrupted supply of electrical power for its operation. Nevertheless, the under-provision of toilets, libraries and other items essential that help create more conducive learning environments need the Ministry's attention.

Schools and their communities displayed vast potential for improving their learning environments, and some of the suggestions are that they could produce school magazines and journals as creative activities, make more use of home-based professionalism by inviting parents to act as teaching aides, and mobilise communities for additional resources needed by schools and for the search for solutions to problems of sexual harassment, drug and alcohol abuse.

Lastly, schools need to be more actively supervised in order for them to be more effective. This entails ensuring that all lost learning time is made up for in one way or the other, and ensuring that inspection visits are more than mere courtesy calls on the school. All these issues and concerns can be resolved if the policy suggestions provided in this chapter receive the Ministry's serious consideration.

Chapter 6

Have educational inputs to primary schools in Lesotho been allocated in an equitable fashion?

Introduction

In order for pupils to learn there are many basic ‘pre-conditions’ in schools that must be satisfied before the educative process can commence to function effectively and efficiently. For example, an effective education system must provide adequate school buildings to house all the children of school age; there must be a place for each pupil to sit and write; the pupils must be provided with paper and pencils, textbooks, and teachers who have the knowledge and skills to provide the education required; the classrooms must be equipped with blackboards, storage space, and good lighting, and the quality curriculum must be appropriate and challenging.

The need to check the extent to which these basic pre-conditions for learning have been set in place cannot be overemphasized, particularly in countries that are suffering from economic recession. In such environments there is a tendency for education budgets to shrink and leave schools ‘in peril’ with respect to basic buildings, furniture, and classroom supplies. It then becomes important to identify the extent to which these preconditions are being met in terms of level of provision and equitable distribution. In this way, educational planners can obtain important guidance on the ‘location’ of differences or variations in resource inputs to schools. For example, it is important to know whether variations in resource inputs are more pronounced among districts, or whether they are larger among schools within districts. An answer to this type of question provides guidance concerning which resources are distributed evenly or unevenly, and at the same time suggests the level at which decisions must be taken (national or district) in order to address any major inequities that are observed.

In exploring questions of equity, it must be recognised that there is need to examine allocation patterns in association with the actual levels of provision. Such information is vital because it enables policy makers to identify which resources require attention, and also to have some feeling for the amounts of supplementary resources that may be needed in order to achieve a more equitable distribution.

This chapter concentrates mainly on an examination of inequities in the distribution of educational resources and upon absolute resource levels. Hence the results presented in this chapter should be examined in conjunction with results presented from the two previous chapters, where the levels of provision for classrooms and schools were given.

Two approaches to the measurement of equity

(a) Variation among Districts

A statistic called the coefficient of intra-class correlation (ρ) may be used to divide the variation in resource inputs into two components: (a) among educational districts, and (b) among schools within educational districts. ρ can range from nearly 0.00 to 1.00. When used in this way, ρ is a ratio that measures the percentage of total variation among schools that can be attributed to variation among districts. The residual figure measures the average variation among schools within districts.

To appreciate the meaning of ρ , it is useful to consider two hypothetical school systems: system A and system B. In school system A, resources are allocated equally, or nearly equally, to all schools and therefore, when calculations are made on average resource levels for the educational districts in the system one finds that these are more or less the same – except perhaps for some minor chance deviations. For such a school system, the value of ρ would be close to zero because of the small variation among districts. In this situation most of the variation would be among schools within districts. On the other hand, consider school system B where, because of administrative decisions, historical factors, or geographical differentiation of social-class groups, etc., there are large variations among the educational districts. In this case, the value of ρ would be close to unity. Most of the variation among schools in this case would be due to variations among districts, and there would be little variation among schools within districts.

The above examples are two extremes that serve to illustrate the interpretation of ρ . In practical terms, if the intention is to judge whether the variation is more among educational districts or more among schools within districts, a ρ of, say, 0.20 means that 80 percent of the differences are among schools within districts and 20 percent among districts. In contrast a ρ of 0.80 would

indicate that 80 percent of the differences was among districts and 20 percent among schools within districts.

(b) Variation among schools within districts

It is also possible to quantify the differences among schools within a particular district by making a comparison with the variation among schools at the national level. This can be achieved by using the formula below:

$$\frac{\text{Standard deviation for schools in a district}}{\text{Standard deviation for schools in the nation}} \times 100$$

The standard deviation of an indicator for a particular district measures the amount of variation among schools within that district, whereas the standard deviation for the whole country measures the amount of variation among schools for the nation. The ratio of the standard deviation for a district to the standard deviation for the nation, expressed as a percentage, provides a measure of the degree of equity within a district compared with the national picture.

To illustrate the interpretation of these ratio values, it is helpful to consider two hypothetical districts: District A1 and District B1. Assume that the levels of a resource are measured by an indicator that has a ratio value of 50 percent in District A1 and 150 percent in District B1. This figure would mean that the variation in resource levels among schools in District A1 is 50 percent *less* than the variation in resource levels among the schools for the whole nation; and the variation in District B1 is 50 percent *higher* than for the nation. From these ratio values it can be said that, compared with the national picture, there has been an equitable allocation among schools within District A1. In contrast, the Ministry should be concerned about District B1 because there is clear evidence that inequalities among schools in District B1 are larger than for the whole nation.

General Policy Concern 17: Have human resources (for example, qualified and experienced teachers and school heads) been allocated in an equitable fashion among districts and among schools within districts?

This policy concern focuses on the extent of variation among schools within districts; and among districts in terms of the provision of human resource inputs to schools. The results of the analysis have been presented in Table 6.1. In the final column of figures in Table 6.1, values of rho (multiplied by 100) have been listed. These values of rho provided a measure of the variation among districts in terms of the provision of human resource inputs related to: qualified and experienced teachers and school heads. Other human resource inputs related to inspectors' visits and pupil/teacher ratio.

Table 6.1. Equity of human resource allocation as assessed by (a) variation among schools within regions, and (b) variation among regions (SACMEQ II)

Human resources	Variation among schools within regions/districts										Variation among regions rho x 100)
	1	2	3	4	5	6	7	8	9	10	
Teacher prof. qualif.	102.4	87.9	71.2	110.2	115.1	119.0	100.8	69.1	129.1	82.2	1.2
Teacher experience	99.3	90.6	91.1	118.0	94.5	76.5	103.4	112.6	114.1	84.8	1.2
School head prof. qualif.	106.9	84.3	71.2	110.2	115.1	119.0	100.8	69.2	129.1	82.2	0.6
School head experience	104.5	82.6	87.4	118.1	94.5	76.6	103.4	118.7	114.2	84.9	0.0
Inspectors/advisors visits	96.4	105.2	111.6	73.1	73.1	73.1	121.1	96.9	74.0	125.3	15.1
Pupil/teacher ratio	100.4	96.2	116.5	109.6	92.5	76.5	87.0	108.2	101.5	115.4	6.4

Note: 1= Berea, 2 = Butha-Buthe, 3 = Leribe, 4 = Mafeteng, 5 = Mokhotlong, 6 = Mohale's Hoek, 7 = Maseru, 8 = Qachasnek, 9 = Quthing, 10 = Thaba Tseka.

While the rho values for inspectors/advisors visits and the pupil/teacher ratio, were 15.1 percent and 6.4 percent respectively, the values for all other variables were much smaller, being zero or close to zero. This implies that there was very little variation in the allocation of qualified and experienced teachers and school heads among districts. Even for inspectors' visits and pupil/teacher ration the rho was small. The Ministry had achieved a good balance of human resources among districts in Lesotho.

There was, however, a lot of variation that emerged among schools within districts. The district level authorities who were the district Senior Education Officers and their deputies – District

Education Officers would need to pay attention to having a more equitable distribution the selected resource inputs among the primary schools. The value for inspectors’/advisors’ visits was over 120.0 percent in Maseru district. It would seem that some schools in Maseru districts were in inaccessible locations and it was not easy for such school to get regular inspectors/advisors’ visits. Quthing district also had high values for teachers and school heads’ professional qualifications when compared with the national standard deviation. In Thaba-Tseka the variation among schools was particularly high for the inspectors/advisors’ visits and pupil/teacher ratio. Some of the schools in this district are hard to access. Leribe also had a high value for pupil/teacher ratio.

General Policy Concern 18: Have material resources been allocated equitably among districts and among schools within districts?

A school should be a place where pupils and teachers enjoy spending time engaged in creative activities. This could have a positive impact on learning achievements. For example, if the school environment is attractive for pupils, absenteeism is likely to remain low since learners will be enthusiastic about coming to and remaining in school. Again, if teachers’ housing is of high quality, it could help retain teachers and contribute to enhanced teaching performance.

Information on the distribution of six key material inputs to schools (classroom furniture, toilets, classroom space, and teacher housing as well as school resources) has been presented in Table 6.2 where the last column shows the values of roh (multiplied by 100).

Table 6.2 Equity of material resource allocation as assessed by (a) variation among schools within regions, and (b) variation among regions (SACMEQ II)

Material resources	Variation among schools within regions/districts										Variation among regions (rho x 100)
	1	2	3	4	5	6	7	8	9	10	
Classroom furniture index	55.3	99.5	83.2	87.1	130.8	103.3	84.4	109.7	141.3	87.5	4.8
Toilets per pupil	78.4	31.6	193.3	85.9	67.7	62.6	101.6	34.5	69.1	30.3	0.0
Classroom library	102.1	93.0	98.5	97.4	104.9	93.0	93.2	104.9	93.0	100.0	4.8
Classroom space per pupil	23.0	17.4	182.4	58.7	66.9	4.1	18.1	153.3	164.8	62.5	0.0

Teacher housing quality	102.1	84.1	100.3	97.4	104.9	93.0	93.2	104.9	93.0	100.0	1.9
School resources index	105.9	88.0	90.7	88.4	44.2	85.5	132.5	82.7	62.7	121.4	5.9

Note: 1 = Berea, 2 = Butha Buthe, 3 = Leribe, 4 = Mafeteng, 5 = Mokhotlong, 6 = Mohale's Hoek, 7 = Maseru, 8 = Qachasnek, 9 = Quthing, 10 = Thaba Tseka.

There was very little variation among districts on any of the resources. Again the Ministry has succeeded in an equitable distribution of material resources among districts.

There was some variation among schools within districts. Those districts having more than 125 percent variation were:

Quthing and Mokhotlong (Classroom furniture index)

Leribe (Toilets per pupil)

Qachasnek and Quthing (Classroom space per pupil)

Maseru (School resources)

Policy Suggestion 6.1: The Education Facilities Unit should mobilise more resources and ensure that officers at district level distribute them equitably with particular attention paid to the most needy schools.

Conclusion

This chapter has explored the concept of equity in the allocation of key resources, and examined the extent to which both the human and material resources have been equitably allocated among districts and among schools within the districts. On the whole, all types of resources appeared to have been allocated equitably among districts and Lesotho needs to be commended for this. Planning officers in the Ministry of Education should direct their efforts to ensuring that the small inequities observed do not widen and are possibly narrowed further. This is particularly important in view of the process of decentralisation that is underway in Lesotho. It has been widely observed that, when implemented without taking equity issues into account, decentralisation may widen existing inequities.

Chapter 7

The Reading and Mathematics Achievement Levels of Pupils and their Teachers

Introduction

In this chapter the research findings on reading and mathematics achievement levels for Standard 6 pupils and their teachers have been presented. The Standard 6 pupil tests were developed in consultation with curriculum experts in the respective countries. The teacher tests were constructed in a similar way and they included some items from the pupil tests. This made it possible to place pupils and teachers on the same underlying literacy and numeracy scales. All test items were piloted in all 14 countries and the best items were then selected for the final tests. In Lesotho the items were pilot tested in 30 primary schools that were spread across the districts of Maseru (8), Mafeteng (6), Mohale's Hoek (6), Berea (4), and Leribe with 6 schools respectively. A detailed description of the test development and scaling has been given in Chapter 2.

Three ways of presenting test scores

The performance results of Standard 6 pupils have been presented in three different ways:

(a) Means (traditional)

The first approach was the traditional method of reporting the mean scores of pupils and teachers across Lesotho overall and the ten districts. This approach provided an aggregated average measure of performance in the form of a number. While the approach followed a familiar pattern for the presentation of test scores, its disadvantage was that it did not provide a clear description of the 'meaning' of a particular level of performance.

(b) Comparison with expert judgments

The second approach was to compare pupil and teacher tests scores to agreed ‘standards’ that had been defined by expert committees (consisting of curriculum specialists, researchers, and experienced teachers) *prior to the collection of data*. These committees identified two literacy and numeracy levels that they would expect from a pupil who (a) would **barely survive** during the next year of schooling (the ‘minimum level’ and (b) was **guaranteed to cope** with the next year of schooling (the ‘desirable level’).

(c) Competence levels

The third approach was based upon a scaling technique known as the Rasch model. This enabled the ability levels of pupils and teachers to be aligned with the difficulty levels of test items to a probabilistic linkage between person ability and item difficulty. This made it possible to place the test items along a ‘difficulty’ dimension and then group them into ‘clusters’ that were linked to common groups of skills. The clusters of test items were then examined and described in terms of the specific skills that were required for pupils to provide correct responses. This enabled the pupil and teacher performances to be aligned to one of the eight ‘levels of competency’ in literacy and numeracy. The descriptions of the competency levels have been presented below.

General Policy Concern 19: What were the levels and variations in the achievement levels of Standard 6 pupils and their teachers in reading and mathematics?

Mean scores of pupils in reading and mathematics:

In Table 7.1 the means and sampling errors for the reading and mathematics test scores of pupils have been presented. The pupils’ reading and mathematics test scores for all SACMEQ countries were combined to a pupil average of 500 and standard deviation of 100. The mean reading achievement score for Lesotho as a whole was 451.5 and that was half a standard deviation below the average reading achievement score for the SACMEQ countries taken together. The mathematics achievement score of 447.3 was also half a standard deviation below the SACMEQ mean. The district of Berea had the

lowest score in both subject areas. Although there were some differences between districts, all scores, each one of them was below the SACMEQ mean.

In other words compared with other SACMEQ countries Lesotho's Standard 6 achievement was low and therein lies a great challenge for the authorities. Programmes that are meant to improve the quality of education take a great deal of effort: they are costly and they are realized in the long run rather in the short term. They include a sufficient number of qualified teachers, a reformed curriculum that is responsive to local needs, adequate provision of physical facilities and instructional materials, and an effective teacher supervision and support system in place. These programmes are already in place in Lesotho and they continue to be upgraded to keep up with the events of the day.

Table 7.1. Means and sampling errors for the reading and mathematics test scores of pupils with all items (SACMEQ II)

District	Pupil performance on all items			
	Reading		Mathematics	
	Mean	SE	Mean	SE
Berea	438.0	5.53	435.3	5.19
Butha-Buthe	484.5	14.48	461.3	11.04
Leribe	447.2	8.09	437.1	7.12
Mafeteng	443.1	7.96	447.0	8.31
Mokhotlong	466.1	3.79	466.7	12.39
Mohale's Hoek	443.4	11.22	442.8	7.96
Maseru	462.7	5.82	460.9	10.36
Qacha's Nek	441.2	5.25	440.3	5.86
Quthing	450.7	11.53	448.3	9.61
Thaba-Tseka	442.9	11.11	440.4	7.59
Lesotho	451.5	2.92	447.3	3.24

Overall mean scores of teachers in reading and mathematics:

In Table 7.2 the literacy and numeracy test scores for teachers have been presented. The national mean scores for teachers' performance stood at 721.5 and 739.0 for reading and mathematics respectively. The mean score in reading by district were all in excess of

700.0 except for the district of Mafeteng that had a score that was below the national average at 690.8. The teachers' performance in mathematics was even better with all the districts mean scores of more than 700.0. Teachers' performance in the districts of Berea and Butha-Buthe were the highest of all teaches in Lesotho in both the reading and mathematics achievement scores.

As was to be expected, teachers' performance was higher and a lot better than for pupils in terms of achievement scores. However, it should be noted that in mathematics eight percent of pupils had scores higher than 628 and five percent of teachers had scores below 628.

Table 7.2. Means and sampling errors for the reading and mathematics test scores of teachers (SACMEQ II)¹

Teacher performance on all items				
District	Reading		Mathematics	
	Mean	SE	Mean	SE
Berea	750.3	16.13	760.7	15.57
Butha-Buthe	747.1	23.82	770.3	34.51
Leribe	711.8	11.18	713.0	13.44
Mafeteng	690.8	10.14	727.9	11.51
Mokhotlong	739.3	15.54	735.6	27.43
Mohale's Hoek	739.6	13.02	742.6	21.80
Maseru	712.4	6.63	736.5	11.48
Qacha's Nek	724.3	14.71	750.2	18.28
Quthing	715.6	19.93	744.1	14.48
Thaba-Tseka	703.1	20.10	743.5	14.26
Lesotho	721.5	4.36	739.0	5.54

The overall mean Rasch scores in reading and mathematics have turned out to be above the national average in Berea district. It might then be worth examining in much greater detail what was going on in Berea that might need to be replicated as good practices to other districts nationwide.

¹ Because the scores had been 're-scaled' with 14 countries, the Mean scores cannot be compared with the tables of MINEDAF paper.

Various levels of competence in reading and mathematics for pupils and their teachers:

In Table 7.3 the reading profile of Standard 6 pupils has been presented in eight (8) levels of increasing literacy competence. The levels have been labelled from the lowest level that is denoted as one (1) to the highest level – level eight (8). A summary description of competence attained at each level has been given below for reading:

Level 1: ‘Pre Reading’

Matches words and pictures involving concrete concepts and everyday objects, and follows short simple written instructions.

Level 2: ‘Emergent Reading’

Matches words and pictures involving prepositions and abstract concepts; uses cuing systems (by sounding out, using simple sentence structure, and familiar words) to interpret phrases by reading on.

Level 3: ‘Basic Reading’

Interprets meaning (by matching words and phrases, completing a sentence, or matching adjacent words) in a short and simple text by reading on or reading back.

Level 4: ‘Reading for Meaning’

Reads on or reads back in order to link and interpret information located in various parts of the text.

Level 5: ‘Interpretive Reading’

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: ‘Inferential Reading’

Reads on and reads back through longer (narrative, document or expository) in order to combine information from various parts of the text so as to infer the writer’s purpose.

Level 7: ‘Analytical Reading’

Locates information in longer (narrative, document or expository) texts 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 (value systems, prejudices, and/or biases).

Level 8: ‘Critical Reading’

Locates information in a longer (narrative, document or expository) texts by reading on and reading back in order to combine information from various parts of the text so as to infer and evaluate what the writer has assumed about both the topic and the characteristics of the reader – such as age, knowledge, and personal beliefs (value systems, prejudices, and/or biases).

In a nutshell, a profile is based on a scale depicting progress in learning. According to ‘The Literacy Profiles in Practice - *Griffin, Smith, Ridge 2000,*’ profiles are designed to assist teachers, schools and education systems with the complex process of monitoring and evaluation of the amount of teaching and learning that has taken place thereby recording and reporting pupils’ developing competencies and achievements.

In their efforts to centralise some educational services such as the redistribution of educational resources, or to standardize curricula and qualification frameworks, education systems can use these profiles. It is worth noting that the systems are accountable to deliver such services to the parliaments and the nation as a whole. On the other hand, these profiles are developmental to schools for school-based reform activities including assisting teachers monitor how well they are doing what they are supposed to do. *Griffin, et al., 2001,* mentioned that through its ordered sequence of levels, a pupil’s profile makes it explicit what progress in learning means. It provides a framework against which evidence of progress of an individual can be charted and achievements of a school – or even an education system – can be monitored. What then were the various levels of pupils and their teachers’ competencies in literacy and numeracy according to SACMEQ II study?

Reading competence levels of pupils:**Table 7.3.** Percentages and sampling errors for reading competence levels of pupils (SACMEQ II)

District	Percentage of pupils reaching the reading competence level															
	1		2		3		4		5		6		7		8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Berea	6.3	1.90	32.2	4.06	33.3	2.46	20.7	3.44	5.9	1.81	1.5	0.67	0.0	0.00	0.0	0.00
Buthe-Buthe	3.7	1.61	11.5	2.52	31.2	5.11	27.2	4.08	12.8	2.60	4.2	1.75	7.9	2.88	1.5	1.51
Leribe	7.7	2.00	24.0	3.61	35.3	2.19	21.2	3.14	8.0	2.08	2.5	1.12	0.8	0.61	0.6	0.57
Mafeteng	4.9	1.43	30.5	6.59	31.0	4.37	26.0	4.99	5.9	1.88	1.1	0.67	0.5	0.53	0.0	0.00
Mokhotlong	1.0	0.69	9.4	2.28	37.7	3.90	37.1	3.48	12.8	2.70	1.2	0.82	0.7	0.50	0.0	0.00
Mohale's Hoek	8.4	2.90	28.6	5.44	32.3	4.33	17.6	3.56	9.8	3.59	2.5	1.24	0.9	0.62	0.0	0.00
Maseru	3.6	1.16	17.3	2.57	33.8	2.47	29.4	3.24	10.8	1.78	3.6	0.93	1.2	0.70	0.3	0.20
Qacha's Nek	5.2	2.31	23.7	3.15	43.2	4.69	19.2	3.68	7.8	2.23	0.8	0.60	0.0	0.00	0.0	0.00
Quthing	6.2	2.72	26.4	6.24	28.6	4.49	25.0	4.86	9.3	3.62	3.4	1.91	1.0	0.58	0.0	0.00
Thaba-Tseka	5.6	1.88	25.9	4.97	39.9	4.19	20.8	4.81	4.2	2.40	1.4	0.79	2.1	2.13	0.0	0.00
Lesotho	5.6	0.67	23.8	1.49	33.8	1.14	24.2	1.34	8.7	0.82	2.5	0.38	1.3	0.31	0.3	0.15

Table 7.4. Percentages and sampling errors for numeracy levels of pupils (SACMEQ II)

District	Percentage of pupils reaching the mathematics competence level															
	1		2		3		4		5		6		7		8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Berea	12.3	3.60	62.0	2.69	24.0	2.98	1.1	0.54	0.4	0.40	0.0	0.00	0.3	0.28	0.0	0.00
Butha-Buthe	6.1	3.20	48.8	4.59	33.6	4.83	8.6	3.70	1.9	1.22	1.0	0.79	0.0	0.00	0.0	0.00
Leribe	11.5	2.44	61.5	3.16	21.2	3.03	5.1	1.76	0.6	0.42	0.2	0.19	0.0	0.00	0.0	0.00
Mafeteng	6.2	2.76	60.5	4.99	26.1	4.13	5.5	1.63	1.7	1.01	0.0	0.00	0.0	0.00	0.0	0.00
Mokhotlong	2.4	1.19	50.2	7.83	34.2	5.05	12.2	8.45	0.9	0.65	0.0	0.00	0.0	0.00	0.0	0.00
Mohale's Hoek	13.3	2.66	53.9	4.42	28.0	4.18	1.9	0.97	0.7	0.48	1.6	1.02	0.6	0.62	0.0	0.00
Maseru	6.0	1.44	50.0	5.49	31.3	3.77	10.7	5.69	1.6	1.18	0.4	0.27	0.0	0.04	0.0	0.00
Qacha's Nek	5.9	2.02	65.9	5.12	25.8	4.67	2.4	1.12	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00
Quthing	6.9	1.87	60.0	5.40	24.5	4.38	7.0	3.64	1.2	0.90	0.0	0.00	0.4	0.40	0.0	0.00
Thaba-Tseka	5.3	3.25	69.2	4.66	22.6	4.58	2.9	1.73	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00
Lesotho	8.6	0.90	57.3	1.70	26.8	1.35	5.9	1.38	1.0	0.32	0.3	0.14	0.1	0.08	0.0	0.00

In Table 7.4 above, the mathematics competence levels of Standard 6 pupils have been presented; the skills attained at each level have been described below:

Mathematics competence levels

Level 1: ‘Pre Numeracy’

Applies single step addition or subtraction operations. Recognizes simple shapes.

Matches numbers and pictures. Counts in whole numbers.

Level 2: ‘Emergent Numeracy’

Applies a two-step addition or subtraction operation involving carrying, checking (through very basic estimation), or conversion of pictures to numbers. Estimates the length of familiar objects. Recognizes 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 or 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 an arithmetic form in order to solve a given problem. Solves multiple-operation problems (using the correct order of arithmetic operations) involving everyday units of measurement and/or whole and mixed numbers. Converts basic measurement units from one level of measurement to another (for example metres to centimeters).

Level 6: ‘Mathematically Skilled’

Solves multiple-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 then solves multi-step problems.

Level 8: ‘Abstract Problem Solving’

Identifies the nature of an unstated mathematical problem embedded within verbal or graphic information, and then translate this into symbolic, algebraic, or equation form in order to solve the problem.

Large proportions of pupil competencies in mathematics were concentrated around the levels two and three where there were 57.3 percent and 26.8 percent of pupils respectively. About six percent of the pupils reached the fourth level. The numbers of pupils that reached levels five, six, and seven were very small and negligible, while there was none who reached the eighth level.

In the subject area of reading, pupils’ competencies were scattered around the second level that had close to 24 percent of the pupils, third level had 34 percent and the fourth level had 24 percent of the pupils. A further nine percent of the pupils read at the fifth level and some three percent of the pupils read at the sixth level. Surely, level 1 through level 3 are too elementary for Standard 6 pupils who are about to exit the primary education cycle. At these levels, pupils have not become permanent readers and are likely to relapse into illiteracy. But majority of (64%) the Standard 6 pupils in Lesotho can read at these basic levels.

At the national level, the challenge now is for curriculum and assessment frameworks, teacher educators, field inspectorate, planning directorate, parent-teacher conferences and other support structures to reconcile the findings on competence levels attained with their mission of education service delivery, and rethink their programme of action. The findings on competence levels have provided a solid basis for strategic planning of interventions that would address the gaps.

Some of the gaps may be addressed by (a) exploring other alternatives of teaching strategies, (b) Changing the organization and length of school cycle including teaching loads, class-sizes and pupil/teacher ratios; (c) internal arrangements that seek to remobilize resources such that there is more efficiency in the use of the existing resources; (d) redistribution of resources between the sectors of the economy such that the education sector gets an increased share of the Government budget; (e) policies that forge private-public partnership for raising additional financing for education ; and (f) soliciting financing for education through a bilateral programme. In their book – *Educating All the Children: Strategies for Primary Schooling in the South*, Colclough, C. with Lewin, K. discuss at length some policy options for improving the quality of education without incurring exorbitant costs. These options include: reducing the unit costs of schooling and decentralization of service delivery depending on the comparative advantage of the service provider.

National systems might also want to look at some international definitions of literacy that are used for international comparisons of educational systems, and use these definitions with caution in light of the findings of SACMEQ II study. Some of these definitions are outdated and have been taken up by events. Thus a proactive move on the part of the SACMEQ countries, to recommend new definitions of literacy to entities such as UNESCO might be worthwhile. In their population censuses, the UNESCO Institute of Statistics has recommended to UNESCO member states to estimate their literacy by estimating the number of people who have completed Standard 4.

When disaggregated by district, the analysis of the information in Table 7.3 and Table 7.4 will pinpoint where the need is for the District Education Officers to address their attention. A pictorial presentation of the pupil reading and mathematics levels and scores by district is shown in Figure (a) and Figure (b) respectively. It can be seen from Figure (b) that pupils performed badly in mathematics particularly. In some districts the question should be asked about how it can happen that so many pupils can arrive in Standard 6 and still be innumerate.

Figure (a):

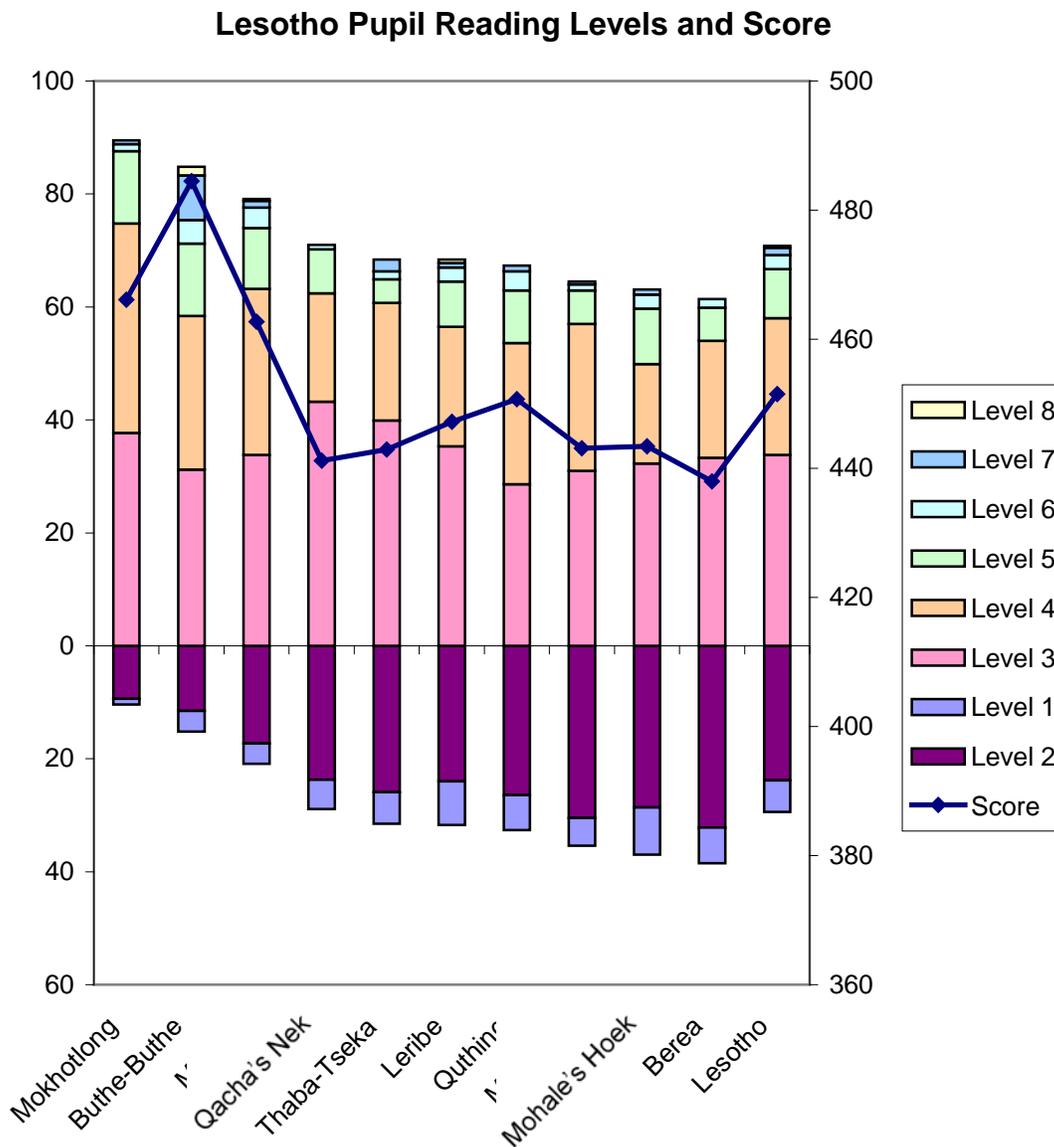
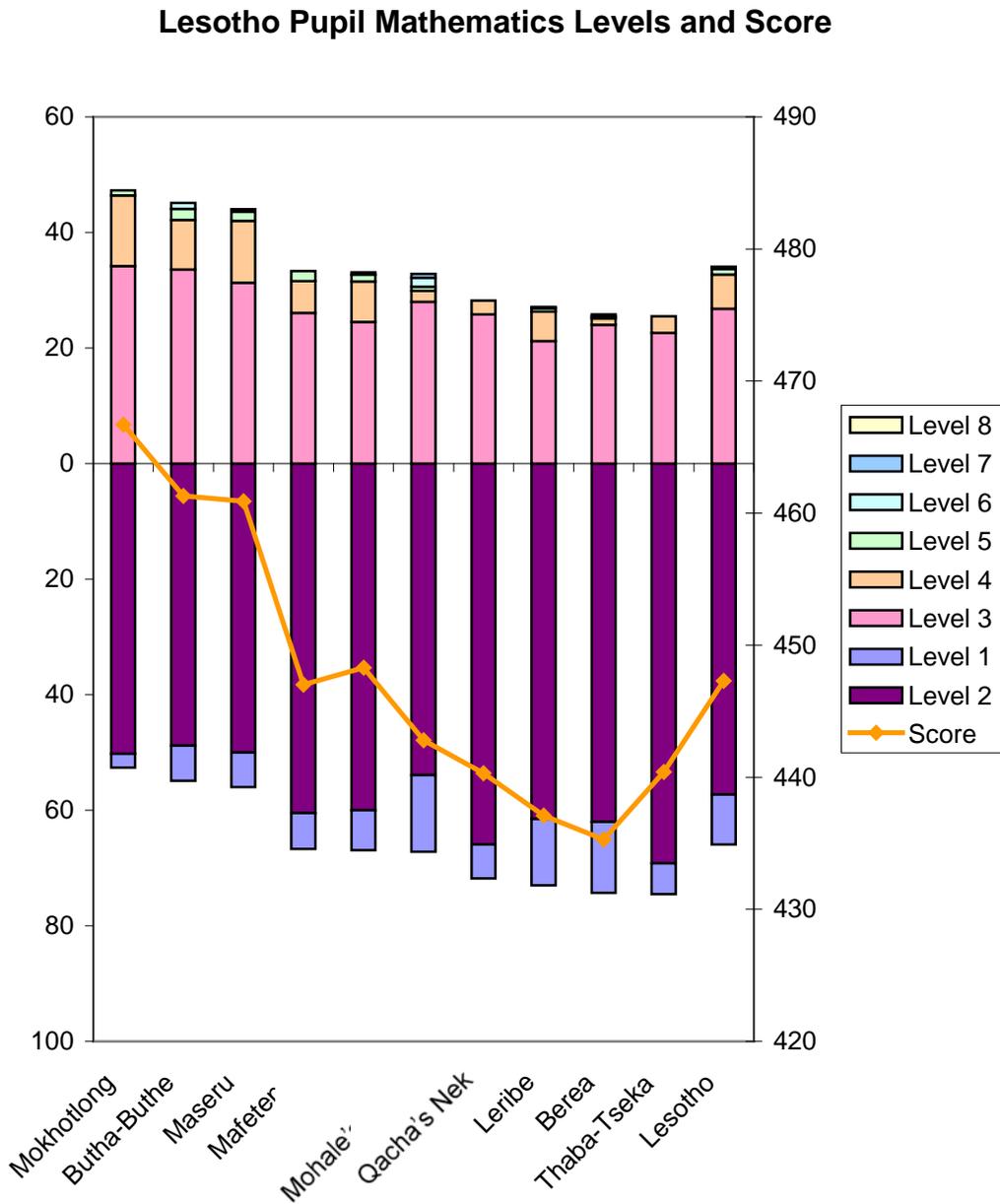


Figure (b):



The analysis can also inform school-level reform programmes that are meant to improve literacy and numeracy competence levels. A wide range of instruments may used, including local taxes, fees, and voluntary contributions. These sources of income would now account for large parts of the recurrent resources available for schooling and they would promote democracy in locally conceived initiatives. Voluntary contributions may

also include voluntary teaching at schools by some educated and experienced members of the community.

At the regional level, the information on the competence levels could be a useful resource for SADC countries which in their Protocol on Education and Training p.5, strive to *progressively achieve the equivalence, harmonization and eventual standardization of education and training systems in the region.*

Literacy and numeracy levels of teachers:**Table 7.5.** Percentages and sampling errors for literacy levels of teachers (SACMEQ II)

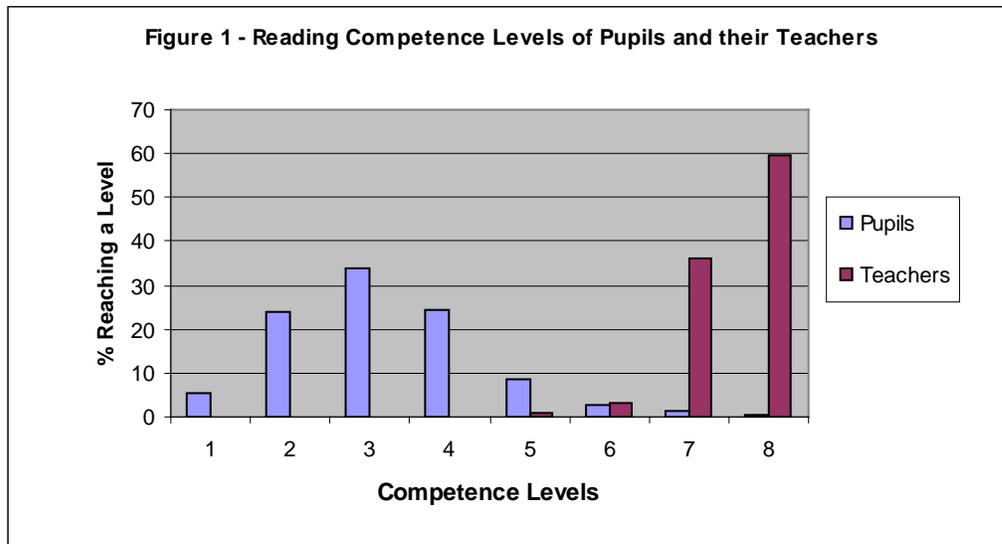
District	Percentage of teachers reaching the reading competence level															
	1		2		3		4		5		6		7		8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Berea	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	23.3	11.44	76.7	11.44
Butha-Buthe	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	33.8	13.51	66.2	13.51
Leribe	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	4.5	4.47	1.8	1.84	33.9	9.45	59.8	9.81
Mafeteng	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	3.8	3.83	56.3	12.34	39.9	12.19
Mokhotlong	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	6.2	6.22	24.8	11.37	69.1	12.44
Mohale's Hoek	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	3.2	3.18	27.4	14.08	69.5	13.86
Maseru	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	2.6	1.87	38.7	8.92	58.7	9.10
Qacha's Nek	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	3.7	3.78	37.5	16.68	58.8	16.39
Quthing	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	11.6	8.16	39.0	12.03	49.4	12.17
Thaba-Tseka	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	9.4	9.49	52.9	16.18	37.6	15.96
Lesotho	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.8	0.80	3.1	1.03	36.3	3.89	59.8	3.90

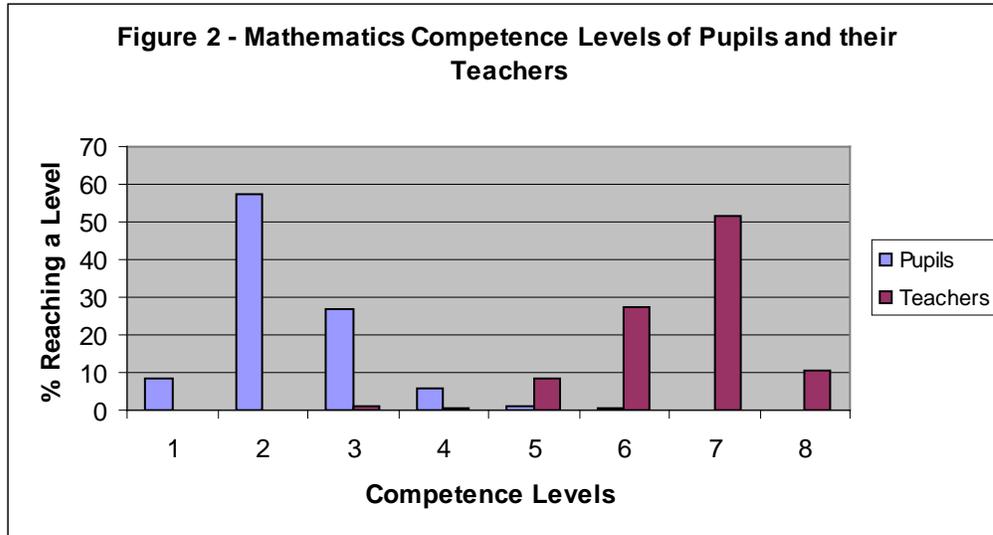
Table 7.6. Percentages and sampling errors for numeracy levels of teachers (SACMEQ II)

Percentage of teachers reaching the mathematics competence level																
District	1		2		3		4		5		6		7		8	
	%	SE	%	SE	%	SE	%	SE								
Berea	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	26.7	11.47	61.0	11.47	12.3	7.10
Butha-Buthe	0.0	0.00	0.0	0.00	0.0	0.00	5.9	5.95	14.4	10.45	13.5	7.86	35.0	13.05	31.1	14.08
Leribe	0.0	0.00	0.0	0.00	4.5	4.47	0.0	0.00	11.1	4.85	31.1	8.59	51.6	9.17	1.8	1.79
Mafeteng	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	5.7	4.24	43.1	12.72	51.1	12.38	0.0	0.00
Mokhotlong	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	26.7	12.78	12.2	7.36	39.8	14.66	21.3	11.50
Mohale's Hoek	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	11.9	11.91	28.7	12.25	38.3	12.94	21.1	12.31
Maseru	0.0	0.00	0.0	0.00	2.5	2.46	0.0	0.00	8.5	5.24	26.3	7.56	55.7	8.58	7.1	4.23
Qacha's Nek	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	2.8	2.82	39.7	16.55	38.7	14.64	18.8	10.77
Quthing	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	8.2	8.20	18.6	10.24	61.2	11.92	12.1	6.96
Thaba-Tseka	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	9.4	9.49	15.2	10.67	63.7	14.81	11.7	8.29
Lesotho	0.0	0.00	0.0	0.00	1.3	0.97	0.4	0.41	8.6	2.20	27.5	3.55	51.5	3.84	10.6	2.29

As was to be expected, teachers' competence levels in both reading and numeracy were higher than for their pupils. The modal value of 59.8 percent of the teachers was at the eighth level; some 36.3 percent read at the seventh level and the remaining minute proportion was spread between the fifth level and the sixth level. However, it is noted with some concern that some three percent of the pupils read at the same level as their teachers at the sixth level (see Figures 1 and 2). This might be due to the fact established in Chapter 5 above that some teachers' highest academic qualifications were primary education that the pupils themselves were just about to attain.

Compared to reading in which most teachers reached the seventh level and the eighth level, in mathematics most teachers' highest levels of competence were around the sixth level with the modal value of 51.5 percent at the seventh level. While some 11 percent of the teachers reached the highest level in mathematics, close to nine percent were at the lowest level; at this level (Fifth level) one percent of the pupils were also recorded.





Again, the main message about designing levels of competence in various subject areas for pupils and teachers is to assist teachers, schools, and educational systems with the complex process of assessment. One might also want to think of how useful these assessment and evaluation frameworks can be to employers – government, industry and the private sector as a whole. While the formal certifications and diplomas are useful and should be retained, supplementary documentation on evaluation of competence levels attained is highly recommended.

Various levels of mastery in reading for pupils and their teachers

Levels of mastery in reading were defined and established by in-country expert committees. The members of the expert national committee for Lesotho have been given in Appendix (i). These expert national committees first identified the reading performances that they expected from a pupil who would *barely survive* in the next higher grade/standard during the next year of schooling i.e. the Minimum Level, and a pupil who would *definitely succeed* in the next higher standard during the next year of schooling and that was the Desirable level.

This entailed a careful examination of all the test items to identify and pick those items that were critical and central to the national system’s curriculum and then listed the test

items that pupils would be required to answer correctly in order to reach the Minimum and Desirable levels of mastery.

The overall percentages of pupils and their teachers reaching the minimum and desirable levels of mastery have been presented in Tables 7.7 and 7.8 along with their associated standard errors of sampling (SE). The results of the tabulations show that the national averages of 14.7 percent and 1.9 percent of pupils that reached respectively the minimum and desirable reading levels specified in SACMEQ II study – Table 7.7. These results are very disappointing in light of the fact that prior to data collection; national experts had declared almost all the test items as essential and desirable.

Table 7.7. Percentages and sampling errors of pupils reaching minimum and desirable reading levels of mastery (SACMEQ II)

District	Pupils reaching minimum level of mastery		Pupils reaching desirable level of mastery	
	%	SE	%	SE
Berea	8.4	1.92	0.6	0.45
Butha-Buthe	28.6	6.77	10.2	4.47
Leribe	12.9	3.49	1.6	1.16
Mafeteng	10.6	3.35	0.7	0.57
Mokhotlong	16.8	3.00	0.7	0.50
Mohale's Hoek	14.5	5.42	1.1	0.86
Maseru	19.1	2.74	2.0	0.92
Qacha's Nek	10.0	2.91	0.0	0.00
Quthing	16.7	6.31	1.0	0.58
Thaba-Tseka	8.7	4.96	2.1	2.13
Lesotho	14.7	1.33	1.9	0.47

The corresponding percentages for teachers were 100.0 percent and 97.4 percent respectively for the minimum and desirable levels of mastery. The 100.0 percent mastery of minimum level was reached in all districts without a distinction. The desirable level of mastery for teachers however, had a few hiccoughs in the districts of Leribe, Mohale's Hoek, Quthing and Thaba-Tseka – Table 7.8.

Table 7.8. Percentages and sampling errors of teachers reaching minimum and desirable reading levels of mastery (SACMEQ II)

District	Teachers reaching minimum level of mastery		Teachers reaching desirable level of mastery	
	%	SE	%	SE
Berea	100.0	0.00	100.0	0.00
Butha-Buthe	100.0	0.00	100.0	0.00
Leribe	100.0	0.00	93.7	4.77
Mafeteng	100.0	0.00	100.0	0.00
Mokhotlong	100.0	0.00	100.0	0.00
Mohale's Hoek	100.0	0.00	96.8	3.18
Maseru	100.0	0.00	100.0	0.00
Qacha's Nek	100.0	0.00	100.0	0.00
Quthing	100.0	0.00	88.4	8.16
Thaba-Tseka	100.0	0.00	90.6	9.49
Lesotho	100.0	0.00	97.4	1.12

General Policy Concern 20: What were the reading and mathematics achievement levels of important sub-groups of Standard 6 pupils and their teachers (for example, pupils and teachers of different genders, socio-economic levels, and locations)?

The analyses presented below aimed at assessing the magnitude of disparities in literacy and numeracy levels among the sub-groups of pupils.

In Table 7.9 below, Standard 6 pupils' mean scores in reading and mathematics have been presented by gender, socio-economic status (SES) and by school location. There were two categories of socio-economic status: (a) High socio-economic status group that was defined as having above average number of possessions at home, and (b) Low socio-economic status group that had below average number of possessions at home. School location was specified in three categories of 'Isolated/Rural, Small town, and Large city'. The underlying assumption was that the educational system provided the same quality of education across the schools, in which case then whatever differences in the learning outcomes would be a function of socio-economic backgrounds, school location or gender differential.

Table 7.9. Means and sampling errors for the reading and mathematics test scores of pupils by sub-groups (SACMEQ II)

Sub-groups	Pupil performance on all items			
	Reading		Mathematics	
	Mean	SE	Mean	SE
Gender				
Boys	447.0	3.14	445.9	3.54
Girls	455.0	3.18	448.5	3.43
Socio-economic level				
Low SES	449.4	2.97	448.8	3.82
High SES	454.7	4.47	445.1	3.64
School location				
Isolated/Rural	441.0	3.32	437.0	2.94
Small town	462.1	5.07	456.8	4.84
Large city	482.3	10.09	482.3	15.36
Lesotho	451.5	2.92	447.3	3.24

Gender differences in reading and mathematics achievement for pupils:

The main question was whether there were any gender gaps in literacy and numeracy levels. It can be seen that girls scored slightly higher than the boys in both reading and mathematics; the differences however, are not significant. For example the difference in means for reading was 8.0 but the standard error of the difference was 8.937. So the actual difference was not significant. Nonetheless the scores for boys and girls alike were below the pooled SACMEQ mean score of 500.

Socio-economic differences in reading and mathematics for pupils:

SACMEQ constructed a composite index of the socio-economic background of pupils and then used this to examine the proportions of variance the index explained in literacy

and numeracy levels i.e. these analyses will answer questions such as ‘To what extent does socio-economic background predict pupil literacy and numeracy levels?’

It was to be expected that pupils from high socio-economic backgrounds would perform at higher level than their counterparts in the low socio-economic status group. There is a whole range of factors associated with such differences, and these include parents’ education, educational opportunities offered at home and possessions and/ or educational amenities available at home. The overall mean reading scores for the high ‘SES’ and low ‘SES’ were 454.7 and 449.4 respectively. The opposite was true for the mathematics achievement scores where there was a difference of some four score points in favour of the low ‘SES’ group. However, these differences were not significant. Thus in Lesotho it was not the case that the higher SES pupils achieved better than the low SES pupils.

School location differences in reading and mathematics achievement for pupils:

With regard to school location, pupils in large cities performed better than the pupils in small towns; and those from isolated/rural areas came last in the order of ranking. This pattern of pupils’ performance ranking was observed for reading and mathematics test scores alike.

Conclusion

Pupils’ and teachers’ achievement on the reading and mathematics tests was presented in three different ways. An examination of pupils’ mean scores shows that Lesotho pupils’ performance in both subject areas fell half a standard deviation below the SACMEQ mean of 500. This, however, simply tells us that on comparative terms they are not doing too well, but this is not to suggest that in absolute terms pupils’ performance was bad. However, it suggests that, if the performance of Lesotho’s pupils has to be brought to the level of other SACMEQ countries, then some improvement policies have to be implemented. Corresponding scores for teachers showed that teachers were, as expected, performing better than pupils, with overall means in both subject areas exceeding 700. However, in mathematics eight percent of pupils had scores higher than 628 and five

percent of teachers had scores below 628. Berea and Butha-Buthe District had the highest teacher scores in reading and mathematics, and might offer lessons to other districts.

An analysis of pupil performance by competency level revealed a disappointing pattern on progress pupils were making in reading and mathematics. In both subject areas, most pupils were clustered around the second and third levels. Teachers' performance was much higher than pupils', although a small percentage of them – probably those with primary school education as their highest academic qualification – were performing at the same level as a small percentage of the pupils they taught.

Less than 15 percent of Lesotho's pupils managed to reach the minimum level of performance, and less than 2 percent the desirable level, in reading. However, virtually all teachers reached minimum and desirable levels. This suggests that pupils are performing at much lower levels than is expected by professional experts in Lesotho's education system, and interventions are needed to enhance pupils' performance across the board.

Gender did not appear to be a strong determinant of pupil achievement both in reading and mathematics, and girls were performing as well as boys. Unlike the case in some countries in Africa and elsewhere, in Lesotho pupils' socio-economic status had no effect on achievement: pupils from poorer backgrounds performed as well as those from wealthier backgrounds. However, pupils in large cities tended to outperform those from smaller towns, who in turn tended to do better than those from rural or isolated areas.

Chapter 8

Conclusion and Agenda for Action

Introduction

The aim of this chapter is to lay a basis for implementing a programme of action that has been presented below on how to further improve the educational sector based on the implications of some policy suggestions contained in this report. These policy suggestions are repeated below.

The Ministry's internal sources which included some official documents related to the Second Education Sector Development Programme (ESDP II) 1999 - 2011 and some consultations with high-ranking officers held during the discussions of this report reported major improvements in the functioning of the educational system with regard to the general conditions of primary education in Lesotho. The improvements that were reported impinged around the issues that:

- Access to basic education was pursued aggressively for the attainment of Education for All and hence the policy of Free Primary Education (FPE) was implemented beginning in 2000;
- The physical facilities construction programme was being accelerated and hence there was Civil Works and Procurement Plan drawn to provide school facilities including instructional materials;
- Teacher supply programme was intensified by the newly inaugurated Distance Teacher Education Programme (DTEP) that saw its first intake in 2000; and
- Institutional capacity of the Ministry was being strengthened through the cooperation of the development partners to improve the quality of education service delivery.

Additional efforts however, would be required to improve the situation further as these efforts would address some shortcomings that have been found out during the SACMEQ II Research Study in 2000. The major shortcomings have been described below:

Pupils

There were many primary schools which had no classroom libraries. In some cases there was no school library at all. Thus some pupils were in dire need of being able to borrow books from school to read at home. Meanwhile there were very few or no books in the pupils' homes. There were also shortages of the pupils' own reading and mathematics textbooks including other classroom materials such as pens, pencils, rulers and erasers.

Homework was never given or it was given but never corrected, or it would only be corrected only sometimes. Moreover, low rates of support and involvement of parents in their children's homework were observed. This could have been due to the fact that many parents had no schooling at all themselves.

There was an emerging payment associated with extra-tuition. The majority of the pupils in the SACMEQ II study reported that they received extra-tuition and some parents actually paid for it.

The great majority of Standard 6 pupils had just about basic and elementary skills in reading and numeracy. There were only 64 percent and 93 percent of pupils who reached the very basic skills literacy and numeracy respectively (Agnes: what do you mean by this last statement Please be more precise. I have written what I think you mean). Higher order skills in both literacy and numeracy were not reached by very many pupils. In some districts the question should be asked about how it can happen that so many pupils can arrive in Standard 6 and still be innumerate. Another question was whether there was deficiency in curriculum or in the pre-service and in-service teacher training.

It was also found out that pupil absenteeism was a problem for a variety of reasons such as the need for children to work and supplement family income.

Teachers

Some pupils' teachers indicated that they had not used or visited resource centres. Sensitization programmes and or induction courses on the responsibilities entrusted on them would seem to be necessary.

Teachers' houses were found in an unacceptable condition. Some teachers traveled long distances to come to school and they were generally not satisfied with their living conditions.

Classroom supplies, basic amenities and equipment used as teachers' aids were inadequate.

When schools and teachers reported on inspectors' visits over the last three years prior to the SACMEQ II Research Study, it became clear that there were some schools that had not been visited in a long time so that they could be provided with adequate advisory and support services.

Some teachers were found to be at the same level of reading and numeracy competency level as the Standard 6 pupils. This is contrary to the expectation that teachers would be more competent than their Standard 6 pupils.

Schools

Many schools reported there were discipline problems involving arriving late at school for teachers. Sexual harassment, drug and alcohol abuse existed minimally in schools but would still need to be kept an eye on. Advisory School Committees, School Boards and local communities have been called upon for assistance in this regard.

School Heads also reported that health problems were common among pupils and teachers alike; and the health problems contributed to a lot of absenteeism.

Many of the school buildings remained in a dilapidated condition and the provision of toilet facilities was far from satisfactory. Other general facilities (libraries, school-halls, school head's offices, storerooms) were inadequate.

With regard to the provision of human and material resources, there appeared to be considerable inequalities among schools within districts. However, between districts there was equality. Thus, the Ministry of Education had provided the resource inputs fairly very equitably between the districts. A big challenge to rectify the issue of inequality between schools within districts therefore remains with the department of Field Inspectorate. It is recommended that the Education Facilities Unit – the central supplies division, should liaise with the Field Inspectorate and the Planning Unit to take corrective measures.

It is against this backdrop that now a schedule of programme implementation to address the issues raised in the SACMEQ II Research Study has been proposed. First and foremost a number of policy suggestions made in the preceding chapters have been used to guide the formulation of the programme implementation plan by spelling out the necessary course of action, the resultant cost implications and the time frame for successful programme implementation of policy suggestions in question.

Classification of policy Suggestions

There was a total of 34 policy suggestions made in the preceding chapters of this report. They are hereunder classified according to their operational implications for the Ministry. It was considered that this form of classification would facilitate a more coherent debate concerning the prioritization of the policy suggestions and the subsequent selection of realistic avenues of action. Five main groups of policy suggestions emerged from this analysis. The subsequent discussion lists the policy suggestions according to group membership, provides a short statement of the operational implications associated with each group, and gives examples of actions required.

Group 1: Consultations with staff, community and experts. There were seven policy suggestions associated with this broad grouping (3.3, 4.9, 4.10, 4.13, 4.14, 4.15, and 5.6) which called upon the Ministry to consult with a wide ranging spectrum of people from inside and outside the education system in order to:

- Mount social mobilization/or sensitization on the benefits of schooling to local communities;
- Encourage all schools to earmark dates for meetings between teachers and parents as regular feature on school calendar of events;
- Mount a sensitization programme and monitor it, for parents to sign that the home work has been done;
- Through the Field Inspectorate, inform teachers about the services offered at the District Resource Centres;
- Educate the schools on the roles of the inspectors and advisors; and
- Distribute to all eligible stakeholders, supervision reports prepared from school visits and educate the schools that courtesy calls should not be regarded as a form of inspection.

Group 2: Reviews of existing planning and policy procedures. The 10 policy suggestions contained in this group (3.1, 3.5, 3.6, 3.8, 3.11, 4.5, 4.8, 5.1, 5.5, and 5.7) required the Ministry to review, amend and/ or update the existing planning and policy procedures. Specifically, this group of policy suggestions called upon the Ministry to:

- Consider implementing a feeding programme in the learning posts for herd-boys and strengthen the NFE programmes so that they complement the FPE scheme for the attainment of Education for All;
- Basic education should be made free and compulsory;
- The Field Inspectorate should ensure that there is a facility for pupils to borrow books from school to read at home, teachers give home work regularly and mark it, and all school reports should have specific section for teachers' comments and that there should be a way by which school days lost because of non-school events are made up for;

- The policy that regulates the provision of extra-tuition should be developed and the policy on in-service training programme should be reviewed such that all teachers benefit from participating in it;
- The minimum entry qualification for school heads should be raised from the primary school certificate to junior secondary certificate; and
- School Committees and/ or school boards, their mandates should be broadened to cover behavioral problems at the school level.

Group 3: Data Collection for Planning Purposes. The six policy suggestions (3.2, 3.4, 4.11, 4.12, 5.2, and 5.3) contained in this group required:

- The Education Management Information System (EMIS) to provide important information that would be useful for planning purposes. EMIS should include new areas such as NFE activities, and every other year or so EMIS should conduct special surveys to identify schools that lack teaching and learning resources including other physical facilities such as toilets and then target those schools that do not have resources. This in turn will reduce regional disparities that leave the mountain districts disadvantaged.

Group 4: Educational policy research projects. This group contained four policy suggestions (3.7, 3.10, 4.6, and 4.7) that identified the need for a research programme which involved surveys on:

- The extent of diversification and responsiveness of curriculum;
- The enhancement of teacher supply and training programme;
- The nature and the extent of extra-tuition for policy elaboration on extra tuition;
- Teachers' perceptions on the effectiveness of in-service training programmes; and
- The development of an integrated curriculum and assessment policy.

Group 5: Investment in infrastructure and human resources. The seven policy suggestions (3.9, 4.1, 4.2, 4.3, 4.4, 5.4, and 6.1) included under this group highlighted several areas requiring the improvement of diverse educational inputs such as:

- Teacher professional qualifications development including a programme for attracting more males into the teaching profession;
- Provision of adequate and decent accommodation for teachers;
- Establishment of school/classroom libraries, and implement an enhanced incentive packages for qualified teachers who work in hardship areas and mountain districts;
- Production of school magazines and/ or journals was recommended as motivational and contributing to learning achievement.

Agenda for Action

In Table 8.1 that follows, the 34 policy suggestions grouped under the five categories described above was linked to the responsible implementing unit/department of the Ministry. In addition broad estimates for the implementation time and costs were included. The headings used in the table have been explained below.

Responsible department: The unit, department or branch within the Ministry that should be leading or initiating the implementation of the policy suggestion has been listed here.

Implementation time: A very approximate time estimate for implementing each policy suggestion was developed as a three-point scale: 'short' (around three to nine months), 'medium' (around one to two years), and 'long' (around three to five years).

Cost: A very approximate cost estimate was also made for implementing each policy suggestion according to the following three-point scale: 'low' cost – for initiatives that required no increased expenditure and could be accommodated within existing budgets through redeployment of staff, more efficient use of resources, and/or refining data collection procedures that were already in place; 'medium' cost – for activities that required substantial data collection and/or research projects that could not be built into existing arrangements and would therefore need to be funded in addition to current Ministry operations; and 'high' cost – for large-scale investments in capital and human resources.

Table 8.1. Policy suggestions listed in association with the responsible Department(s) and the suggested time-frame and costs

Policy Suggestion	Responsible Department	Time	Cost
Group 1: Consultation with staff, community and experts			
<u>Policy Suggestion 3.3:</u> The Targeted-Equity Based Programme (TEBP) is confined to attracting disadvantaged children to schools. The P.S. may wish to consider extending TEBP to cover social mobilization/or sensitization on the benefits of schooling to local communities. The government has made access to school easier by implementing the policy of FPE. However, in order to stimulate sustained demand for education among children, there is need to simultaneously encourage out- of- school adults to participate in non-formal education programmes.	P.S. and Field Inspectorate	Medium	Medium
<u>Policy Suggestion 4.9:</u> Ministry of Education through the office of National Curriculum Development Centre (NCDC) should ensure that schools earmark dates for meetings between teachers and parents as a regular feature of the school calendar of events.	NCDC	Medium	Low
<u>Policy Suggestion 4.10:</u> The Field Inspectorate should initiate and thereafter monitor a sensitization programme for schools principals to insist that all parents should sign that the home work has been done.	Field Inspectorate	Medium	Low
<u>Policy Suggestion 4.13:</u> The Inspectorate and its Education Officers (EOs) in the districts should encourage teachers to visit the resource centers. They should also teach	Field Inspectorate	Short	Low

Table 8.1 (continued)

Policy Suggestion	Responsible Department	Time	Cost
the teachers about the services offered at these centers, and draw a visiting schedule for those teachers in the remote areas.			
<u>Policy Suggestion 4.14:</u> The Chief Inspector Field Services should issue a circular to all schools explaining the role of the inspectors and advisors. Such a circular should be part of the issues to discuss in-service training sessions and pre-service training.	Field Inspectorate	Short	Low
<u>Policy Suggestion 4.15:</u> The Chief Inspector Field Services should ensure that inspectors expeditiously distribute to all eligible stakeholders supervision reports prepared, and that a follow-up on recommendations made in each supervision reports is made, with reports on progress made during each subsequent visit.	Field Inspectorate	Medium	Low
<u>Policy Suggestion 5.6:</u> Because they do not serve any positive purpose, courtesy calls to schools should not be regarded as a form of form of inspection. The P.S. should therefore consider the proposal and issue a circular letter to all the stakeholders to communicate this decision.	P.S.	Short	Low
Group 2: Reviews of policies			
<u>Policy Suggestion 3.1:</u> The P.S. should consider strengthening the Non-Formal Education (NFE) programmes that are conducted by the department of the Lesotho Distance Teaching Centre (LDTC). The NFE could select those adults who have come to school to take advantage of the FPE scheme and come to learn to read and write only. It will also reduce the financial burden on the formal system for catering for the pupils who	P.S., NFE and LDTC	Long	Medium

Table 8.1 (continued)

Policy Suggestion	Responsible Department	Time	Cost
<u>Policy Suggestion 3.5:</u> The P.S. should consider feeding programmes in the learning-posts for herd-boys. This will attract more herd-boys to come to the learning posts. Besides, the nutritional and health status of these children is normally low as they usually eat once a day.	P.S., NFE and LDTC	Long	High
<u>Policy Suggestion:3.6:</u> The P.S. should consider some measures by which the provision of free primary education (FPE) is not only extended to every child, but is compulsory as well. Once all basic education has been made free and compulsory, children will not be kept away from school for any reason. This should ensure the attainment of EFA by 2015.	P.S.	Long	High
<u>Policy Suggestion 3.8:</u> The Field Inspectorate should integrate as important part of their work, monitoring that all teachers give homework regularly and mark it.	Field Inspectorate	Medium	Low
<u>Policy Suggestion 3.11:</u> The P.S should initiate the development of a policy that regulates the provision of extra tuition by encouraging its provision in situations where the need can be justified. The District Resource Teachers (DRT) and the Field Inspectorate could monitor the implementation of the policy.	P.S.	Long	Low
<u>Policy Suggestion 4.5:</u> The Lesotho College of Education (LCE) and the Central Inspectorate need to revisit the current policy on in-service training programmes so that all teachers in the districts get an opportunity to participate in such in-service training programmes.	LCE and Central Inspectorate	Medium	Medium

Table 8.1 (continued)

Policy Suggestion	Responsible Department	Time	Cost
<u>Policy Suggestion 4.8:</u> The Field Inspectorate should as a matter of urgency draft circular letter to the P.S. for endorsement, indicating that all school reports should have specific section for teachers' comments.	P.S. and Field Inspectorate	Short	Low
<u>Policy Suggestion 5.1:</u> The P.S. and the Teaching Service Department (TSD) should consider raising the minimum entry qualification for school heads from the primary school certificate to the junior secondary certificate. This would ensure that every new school head holds a post-primary academic qualification.	P.S. and TSD	Long	Medium
Table 8.1 (continued)			
<u>Policy Suggestion 5.5:</u> School Inspectors should monitor the school days lost by schools, and put in place mechanisms for ensuring that schools make up for the days lost.	Central and Field Inspectorate	Medium	Low
<u>Policy Suggestion 5.7:</u> The P.S. should broaden the mandate of school committees and /or school boards so that they can, through a variety of strategies, deal with and ultimately eradicate the problems of sexual harassment, drug and alcohol abuse at the local school level.	P.S.	Medium	Low
Group 3: Data collection for planning			
<u>Policy Suggestion 3.2:</u> The monitoring and evaluation function embedded in the Education Management Information System (EMIS) should on yearly basis bring to the attention of the authorities the progress in reducing the regional disparities in the provision of educational facilities and opportunities. Otherwise, the mountain districts where overage is more pronounced will remain disadvantaged.	Planning Unit	Medium	Low

Table 8.1 (continued)

Policy Suggestion	Responsible Department	Time	Cost
<u>Policy Suggestion 3.4:</u> EMIS has for a long time concentrated and confined its efforts on formal schooling in Lesotho. Other educational activities including NFE activities for herd-boys should be also covered in EMIS.	Planning Unit	Medium	Low
<u>Policy Suggestion 4.11:</u> The Planning Unit through the office of Education Facilities Unit (EFU) and the inspectors should undertake a survey to identify schools that lack essential teaching and learning resources, so that these schools can be assisted.	Planning Unit	Medium	Medium
<u>Policy Suggestion 4.12:</u> The Planning Unit through the office of EFU should conduct a survey on the availability of essential teaching and learning resources, and then target those schools that do not have such resources.	Planning Unit	Medium	Medium
<u>Policy Suggestion 5.2:</u> The Planning Unit should conduct a national audit of toilet facilities in schools. Where provision is found to be inadequate the assistance of local communities should be solicited in order to improve the pupil-toilet ratio.	Planning Unit	Medium	Medium
<u>Policy Suggestion 5.3:</u> The school-Mapping exercise should be top on the agenda for the next phase of ESDP II that is scheduled for 2004-2008. The mapping exercise can provide valuable information concerning the condition and provision of physical facilities.	Planning Unit	Short	High

Table 8.1 (continued)

Policy Suggestion	Responsible Department	Time	Cost
Group 4: Educational policy research projects			
<u>Policy Suggestion 3.7:</u> PS should establish a Task Force that would ensure that: (a) enrolment of under-age children is completely eliminated, (b) schools are adequately supplied with quality instructional materials and the curriculum is responsive and diversified, and (c) teacher supply and training programme is enhanced.	P.S.	Long	High
<u>Policy Suggestion 3.10:</u> PS should commission a study on the phenomenon of extra tuition in order to establish reasons for practicing it. The study would inform policy elaboration on extra tuition.	P.S.	Long	Medium
<u>Policy Suggestion 4.6:</u> TSD Department might wish to consider conducting a study to find out why perceptions about the effectiveness of in-service training programmes are so different among the different districts, and recommend remedial measures to ensure uniformity of quality. Such a study should also establish the extent to which programmes address teachers' different staff development or professional growth needs.	TSD	Long	Medium
<u>Policy Suggestion 4.7:</u> The National Curriculum Development Centre (NCDC) and the Examination Council of Lesotho (ECOL) should establish a common policy on giving pupils written tests regularly in order to ensure uniformity across the districts.	NCDC and ECOL	Medium	Medium

Table 8.1 (continued)

Policy Suggestion	Responsible Department	Time	Cost
Group 5: investment in infrastructure and human resources			
<u>Policy Suggestion 3.9:</u> The Field Inspectorate and the School Supply Unit (SSU) should establish school/classroom libraries and ensure there is a facility for pupils to borrow books from school to read at home.			
	SSU, EFU and Field Inspectorate	Long	High
<u>Policy Suggestion 4.1:</u> The Teaching Service Commission (TSC) must implement a well co-ordinated programme for attracting more males into the teaching profession.			
	TSC	Long	High
<u>Policy Suggestion 4.2:</u> The Planning Unit through the office of Education Facilities Unit (EFU) and the owners of schools (proprietors) should, with the help of parents, make every effort to improve teachers' living conditions by providing them with adequate accommodation of an acceptable standard.			
	Planning Unit and EFU	Long	High
<u>Policy Suggestion 4.3:</u> LCE should make the in-service training courses available at all times for all untrained teachers and the Chief Inspector Field Services and TSD should encourage teachers holding PH certificate to make use of this facility to improve their professional qualifications.			
	LCE and TSD	Short	Low
<u>Policy Suggestion 4.4:</u> TSD should ensure that teachers with long teaching experience are equitably distributed among all the districts. For instance, incentives could be put in place to help the less hospitable districts attract and retain experienced teachers.			
	TSD	Long	Medium

Table 8.1 (continued)

Policy Suggestion	Responsible Department	Time	Cost
<u>Policy Suggestion 5.4:</u> School magazines and/or journals can be of informative and motivational value, and can provide pupils with opportunity to display and develop diverse talent. NCDC should, therefore, promote the production of school magazines and journals as part of their extra-curricular programme.	NCDC	Medium	Medium
<u>Policy Suggestion 6.1:</u> The Education Facilities Unit should mobilize more resources and ensure that officers at district level distribute them equitably with particular attention paid to the most schools.	Planning Unit	Long	High

Some Feasibility Assessment for Implementation of Policy Suggestions

Some attempt is hereunder made to appraise the feasibility of implementing the policy suggestions listed above. Such an appraisal exercise, it is hoped, would provide a starting point for the Ministry to co-ordinate a constructive debate as to which tasks to tackle immediately, and which tasks to leave until resource levels and other logistical conditions were appropriate to address them effectively. One such an appraisal method used here is that of a 'SWOT' analysis.

Strengths

The Ministry has the advantage that for Group 1 of policy suggestions that require consultations with staff, community and experts, programme implementation of six (4.9, 4.10, 4.13, 4.14, 4.15 and 5.6) policy suggestions would not require no increased resources: material, human and financial and could be accommodated within existing recurrent budget through modified and improved procedures, automation, dissemination and sharing of information. Additional three policy suggestions: 3.8, 4.8, and 5.5 from Group 2 of policy suggestions do not have increased financial implications. Thus, there are nine policy suggestions here that the Ministry can implement with little or no increased costs at all. All these policies can be implemented within a short to a medium term. Besides, the Ministry has adequate staff that has the capacity to implement the policy suggestions.

Opportunities

A 'SWOT' analysis for programme implementation of the policy suggestions listed above indicates that many opportunities exists for the Ministry to effectively implement the 34 policy suggestions within the short, medium to long term. Some additional 13 policy suggestions can be implemented with the existing and on-going fully funded development programmes. This is coming from the fact that many issues around the policy suggestions tabled for programme implementation in Table 8.1, have been identified in some independent education sector analyses as issues to be reckoned with. Generally, these issues have been agreed to and in some cases financial support has been pledged to implement strategies drawn to resolve these issues.

In the Project Appraisal Document (May 20, 2003) for Phase II of the Second Education Sector Development Programme (ESDP II), 1999 – 2011 the strategies laid out to improve equity in access to basic education for all, could accommodate four policy suggestions: 3.3, 3.1, 3.5, and 3.6. Another component of the project is to enhance the institutional capacity of the Ministry including EMIS for data collection, policy analysis, monitoring and evaluation and research activities. Within the framework thereof, implementation of a further six policy suggestions (3.2, 4.11, 4.12, 5.3, 5.2, and 4.2) could be integrated. Efficiency in education service delivery, according to the ESDP II, would be pursued through a number of strategies which upon closer examination, it can be seen that implementation of policy suggestion: - 5.7 could be accommodated. Implementation of two other policy suggestions: 4.7 and 3.9 could be accommodated within the framework of improving quality education for which there is funding already pledged.

Weaknesses

The single most crucial setback is that all major development programmes are heavily depended upon donor funding.

Assumptions and Risks

It is assumed that at the end of the project life, the Ministry would be in a position to operationalise the activities entirely within its resource capability so that all major activities become operationalised and become routine activities. The major challenge therefore for the Ministry is to start thinking and making preparations to absorb the activities for when the project status of the development programme would be over.

It is also assumed that the enabling environment within which there is Government support and commitment to achieving the Millennium Development Goal (MDG) of quality universal primary education by 2015, and pursuing basic Education for All (EFA) by 2015, and the Poverty Reduction Strategy Programme (PRSP) for 2004 - 2006 and other world declarations on the rights of the children, would continue to prevail itself. So would be the financial support that the Ministry has enjoyed over the years, from the donor community.

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Appendix A
General Policy Concerns, Specific Research Questions, and Dummy Tables
for the Design of the SACMEQ II Project

General Policy Concern 1: What were the personal characteristics (for example, age and gender) and home background characteristics (for example, parent education, regularity of meals, home language, etc.) of Grade 6 pupils that might have implications for monitoring equity, and/or that might impact upon teaching and learning?

Specific Research Questions

- What was the age distribution of pupils?
Questionnaire: SI: P2; SII: P2
Dummy Table: 3.1(a), 3.1(b)
- What was the gender distribution of pupils?
Questionnaire: SI: P3 ; SII: P3
Dummy Table: 3.1(a), 3.1(b)
- What was the level of the parents' education?
Questionnaire: SI: P9, P10; SII: P11, P12
Dummy Table: 3.1(a), 3.1(b), 11.17(a), 11.17(b)
- How regularly did pupils eat meals?
Questionnaire: SI: P18; SII: P10
Dummy Table: 3.1(a), 3.1(b)
- What percentage of pupils spoke the language of the test at home?
Questionnaire: SI: P4; SII: P4
Dummy Table: 3.2(a), 3.2(b)
- Where did pupils live during the school week?
Questionnaire: SI: P5; SII: P5
Dummy Table: 3.3(a), 3.3(b)
- How many books were there in pupils' homes?
Questionnaire: SI: P6; SII: P6
Dummy Table: 3.1(a), 3.1(b)
- What other reading materials and electronic media did pupils have at home?
Questionnaire: SI: P8.01, P8.02, P8.03, P8.04, P8.05, P8.06, P8.07 ;
SII: P7.01, P7.02, P7.03, P7.04, P7.05, P7.06, P7.07
Dummy Table: 3.1(a), 3.1(b)
- What was the socio-economic status of pupils' parents in terms of possessions, housing conditions (lighting, floor, wall, roof), and livestock?
Questionnaire: SI: P8 ; SII: P7, P8, P9, P13, P14, P15
Dummy Table: 3.1(a), 3.1(b), 3.4(a), 3.4(b), 3.4(c), 3.4(d), 3.4(e), 3.5

General Policy Concern 2: What were the school context factors experienced by Grade 6 pupils (such as location, absenteeism (regularity and reasons), grade repetition, and homework (frequency, amount, correction, and family involvement)) that might impact upon teaching/learning and the general functioning of schools?

Specific Research Questions

- What was the location of the school?

Appendix A (Ctd.)

Questionnaire: SI: S11, S12; SII: S13, S14

Dummy Table: 7.2

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

Questionnaire: SI: P19; SII: P16, P17

Dummy Table: 3.2(a), 3.2(b), 3.2(c)

- How many pupils had repeated a grade, and were they currently repeating Grade 6?

Questionnaire: SI: P23; SII: P18

Dummy Table: 3.2(a), 3.2(b)

- How frequently did pupils receive homework in reading and mathematics?

Questionnaire: SI: P11; SII: P33, P36

Dummy Table: 8.4(a)

- Did the teachers correct assigned homework?

Questionnaire: SII: P34, P37

Dummy Table: 8.4(b), 8.4(c)

- Did family members monitor, assist with, request demonstrations, ask questions about, and/or look at, pupils' homework?

Questionnaire: : SI: P12, P13, P14, P15, P16; SII: P24, P25, P26, P27, P28, P29, P30

Dummy Table: 9.7(a), 9.7(b), 9.7(c)

General Policy Concern 3: Did Grade 6 pupils have sufficient access to classroom materials (for example, textbooks, readers, and stationery) in order to participate fully in their lessons?

Specific Research Questions

- What percentage of students had reading and mathematics textbooks?

Questionnaire: : SI: P20; SII: P35, P38

Dummy Table: 6.4

- What percentage of pupils had adequate basic classroom supplies for writing, ruling, erasing, etc.?

Questionnaire: : SI: P22; SII: P21

Dummy Table: 6.5(a), 6.5(b)

General Policy Concern 4: Did Grade 6 pupils have access to library books within their schools, and (if they did have access) was the use of these books being maximized by allowing pupils to take them home to read?

Specific Research Questions

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

Questionnaire: : SI: T10.9, S31.01; SII: T12.6, S38.01

Dummy Table: 6.1, 7.3

- Were pupils permitted to take library books home? (This question to be crosschecked from pupil and school head questionnaires.)

Appendix A (Ctd.)

Questionnaire: : SI: P21, S34; SII: P20, S39

Dummy Table: 11.1

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?

Specific Research Questions

- What percentage of pupils received extra tuition?
Questionnaire: : SI: P17; SII: P31
Dummy Table: 8.3(a)
- Was payment made for receiving extra tuition?
Questionnaire: : SII: P32
Dummy Table: 8.3(b)

General Policy Concern 6: What were the personal characteristics of Grade 6 teachers (for example, age, gender, and socio-economic level), and what was the condition of their housing?

Specific Research Questions

- What was the age distribution of teachers?
Questionnaire: SI: T3; SII: T3
Dummy Table: 4.1(a), 4.1(b)
- What was the gender distribution of teachers?
Questionnaire: SI: T2; SII: T2
Dummy Table: 4.1(a), 4.1(b)
- What was the socio-economic status of teachers in terms of possessions and livestock?
Questionnaire: SI: T28; SII: T27, T28
Dummy Table: 4.1(a), 4.1(b), 11.2(a), 11.2(b)
- What was the general condition (repair status and lighting) of teacher housing?
Questionnaire: SI: T31; SII: T29, T30,
Dummy Table: 4.5, 11.3(a), 11.3(b)

General Policy Concern 7: What were the professional characteristics of Grade 6 teachers (in terms of academic, professional, and in-service training), and did they consider in-service training to be effective in improving their teaching?

Specific Research Questions

- How many years of academic education had teachers completed?
Questionnaire: SI: T4; SII: T4
Dummy Table: 4.3(a), 4.3(b), 4.3(c)
- How many years of teacher training had teachers completed?
Questionnaire: SI: T5; SII: T5
Dummy Table: 4.2(a), 4.2(b)

Appendix A (Ctd.)

- How many years of teaching experience had teachers completed?
Questionnaire: SI: T6; SII: T6
Dummy Table: 4.2(a), 4.2(b)
- How much in-service training had teachers completed?
Questionnaire: SI: T7; SII: T7, T8
Dummy Table: 4.4(a), 4.4(b)
- Did teachers consider that in-service training improved their teaching?
Questionnaire: SII: T9
Dummy Table: 9.8

General Policy Concern 8: How did Grade 6 teachers allocate their time among responsibilities concerned with teaching, preparing lessons, and marking?

Specific Research Questions

- How many periods did teachers teach and how long were these periods?
Questionnaire: SI: T11, T12; SII: T14, T15
Dummy Table: 11.4
- How many hours per week did teachers spend in lesson preparation and marking?
Questionnaire: SI: T13; SII: T16
Dummy Table: 8.5

General Policy Concern 9: What were Grade 6 teachers' viewpoints on (a) pupil activities within the classroom (for example, reading aloud, pronouncing, etc.), (b) teaching goals (for example, making learning enjoyable, word attack skills, etc.) (c) teaching approaches/strategies (for example, questioning, whole class teaching, etc.), (d) assessment procedures, and (e) meeting and communicating with parents?

Specific Research Questions

- What did teachers consider to be the most important pupil activities for teaching reading and mathematics?
Questionnaire: SI: T15; SII: T33, T41
Dummy Table: 8.1(a)(i), 8.1(b)(i)
- What did teachers consider to be the most important teaching goals in reading and mathematics?
Questionnaire: SI: T18; SII: T36, T44
Dummy Table: 8.1(a)(ii), 8.1(b)(ii)
- What teaching approaches/strategies were used most frequently by reading and mathematics teachers?
Questionnaire: SI: T19; SII: T37, T45
Dummy Table: 8.1(a)(iii), 8.1(b)(iii)
- How often did teachers give written tests in reading and mathematics?
Questionnaire: SI: T20; SII: T38, T46
Dummy Table: 8.1(a)(iv), 8.1(b)(iv)

Appendix A (Ctd.)

- Was there a specific section in pupil school reports for reading and mathematics?
Questionnaire: SI: T22; SII: T31, T39
Dummy Table: 11.5
- How often did teachers meet with parents each year?
Questionnaire: SI: T21; SII: T17
Dummy Table: 9.3
- What percentage of parents met with teachers each year?
Questionnaire: SII: T18
Dummy Table: 11.6
- Did teachers ask parents to sign homework assignments?
Questionnaire: SI: T16; SII: T34, T42
Dummy Table: 11.7

General Policy Concern 10: What was the availability of classroom furniture (for example, sitting/writing places, teacher table, teacher chair, and bookshelves) and classroom equipment (for example, chalkboard, dictionary, maps, book corner, and teacher guides) in Grade 6 classrooms?

Specific Research Questions

- What percentages of pupils were in classrooms with adequate sitting and writing places?
Questionnaire: SI: P24, P25; SII: P22, P23
Dummy Table: 6.3
- What percentages of pupils were in classrooms with adequate classroom furniture and equipment (for example, a teacher table, teacher chair, bookshelves, and chalkboard)?
Questionnaire: SI: T10; SII: T12
Dummy Table: 6.1, 6.2
- How many books did teachers have in their classroom library or book corner?
Questionnaire: SI: T8; SII: T10
Dummy Table: 11.8
- Did teachers have teaching aids (for example, a map, dictionary, geometrical instruments, and teachers' guides)?
Questionnaire: SII: T13.1, T13.2, T13.3, T13.4, T13.5
Dummy Table: 11.9(a), 11.9(b)

General Policy Concern 11: What professional support (in terms of education resource centres, inspections, advisory visits, and school head inputs) was given to Grade 6 teachers?

Specific Research Questions

- Did teachers use education resource centres?
Questionnaire: SII: T24
Dummy Table: 8.6
- How did teachers use education resource centres?

Appendix A (Ctd.)

Questionnaire: SII: T24, T24.1, T24.2, T24.3, T24.4, T24.5, T24.6

Dummy Table: 11.10(a), 11.10(b)

- What support did Advisors or Inspectors give to teachers in terms of administrative, professional, and pedagogical matters?

Questionnaire: SII: T20, T21

Dummy Table: 9.9

- Did school heads advise teachers on their teaching?

Questionnaire: SI: T25; SII: T22

Dummy Table: 9.2

General Policy Concern 12: What factors had most impact upon teacher job satisfaction?

Specific Research Questions

- What factors (for example, living conditions, school facilities/equipment, staff relationships, career advancement, salaries, etc.) had most impact upon teachers' job satisfaction?

Questionnaire: SI: T26; SII: T25

Dummy Table: 9.1

- What did teachers rate as the most important factor?

Questionnaire: SI: T27; SII: T26

Dummy Table: 11.11

General Policy Concern 13: What were the personal characteristics of school heads (for example, age and gender)?

Specific Research Questions

- What was the age distribution of school heads?

Questionnaire: SI: S2; SII: S2

Dummy Table: 5.1

- What was the gender distribution of school heads?

Questionnaire: SI: S1; SII: S1

Dummy Table: 5.1

General Policy Concern 14: What were the professional characteristics of school heads (in terms of academic, professional, experience, and specialized training)?

Specific Research Questions

- How many years of academic education had school heads completed?

Questionnaire: SI: S3; SII: S3

Dummy Table: 11.12(a), 11.12(b)

- How many years of teacher training had school heads completed?

Questionnaire: SI: S4; SII: S4

Dummy Table: 5.2

- How many years of teaching experience had school heads completed?

Appendix A (Ctd.)

Questionnaire: SI: S5; SII: S6

Dummy Table: 5.2

- How many years of experience had school heads had either as a school head or an acting school head – in the current school and all together?

Questionnaire: SI: S8, S9; SII: S9, S10

Dummy Table: 11.13

- Have school heads received specialized training in school management?

Questionnaire: SII: S5

Dummy Table: 5.2

General Policy Concern 15: What were the school heads' viewpoints on general school infrastructure (for example, electrical and other equipment, water, and basic sanitation) and the condition of school buildings?

Specific Research Questions

- What items of equipment (telephone, fax, photocopier) and general facilities (library, staff room, store room) did schools have?

Questionnaire: SI: S31; SII: S38

Dummy Table: 7.3

- What kind of water supply did schools have?

Questionnaire: SI: S31.10; SII: S38.08

Dummy Table: 7.3

- What was the nature and provision of toilet facilities in schools?

Questionnaire: SI: S30; SII: S37

Dummy Table: 7.1

- What was the general condition of school buildings?

Questionnaire: SI: S29; SII: S36

Dummy Table: 7.1

General Policy Concern 16: What were the school heads' viewpoints on (a) daily activities (for example, teaching, school-community relations, and monitoring pupil progress), (b) organizational policies (for example school magazine, open days, and formal debates), (c) inspections, (d) community input, (e) problems with pupils and staff (for example, pupil lateness, teacher absenteeism, and lost days of school)?

Specific Research Questions

- What amount of teaching did school heads undertake?

Questionnaire: SI: S7; SII: S7, S8

Dummy Table: 5.3

- What level of importance did school heads attach to activities such as community contacts, monitoring pupil progress, administrative tasks, etc.?

Questionnaire: SI: S22; SII: S28

Dummy Table: 9.4

- What was the incidence of school activities such as a school magazine, public speaking day, "open days, etc.?"

Appendix A (Ctd.)

Questionnaire: SI: S24; SII: S30

Dummy Table: 8.2

- How many school days were lost in the last school year due to non-school events?

Questionnaire: SI: S26; SII: S33

Dummy Table: 7.4

- What were the purposes and frequency of school inspections?

Questionnaire: SII: S24, S25

Dummy Table: 8.7, 11.14

- What was the contribution of the school community (in terms of time and resources for maintaining the school and for providing supplementary funding)?

Questionnaire: SII: S40

Dummy Table: 9.10

- What were the main behavioural problems of pupils?

Questionnaire: SI: S25; SII: S31

Dummy Table: 9.5(a), 9.5(b)

- What were the main behavioural problems of teachers?

Questionnaire: SI: S25; SII: S32

Dummy Table: 9.6(a), 9.6(b)

General Policy Concern 17: Have human resources (for example, qualified and experienced teachers and school heads) been allocated in an equitable fashion among regions and among schools within regions?

Specific Research Questions

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

Questionnaire: SI: T4, T5, T6, T23, S3, S4, S5, S13, S18; SII: T4, T5, T6, T19, S3, S4, S6, S15, S18

Dummy Table: 11.15(a), 11.15(b)

General Policy Concern 18: Have material resources (for example, classroom teaching materials and school facilities) been allocated in an equitable fashion among regions and among schools within regions?

Specific Research Questions

- Were (a) general school infrastructure, (b) classroom equipment, and (c) classroom teaching materials distributed equitably among regions and among schools within regions?

Questionnaire: SI: T10, T31, S20, S28, S30, S31; SII: T12, T30, S22, S35, S37, S38

Dummy Table: 11.16(a), 11.16(b)

Appendix A (Ctd.)

General Policy Concern 19: What were the levels (according to Rasch scores and descriptive levels of competence) and variations (among schools and regions) in the achievement levels of Grade 6 pupils and their teachers in reading and mathematics – for my country and for all other SACMEQ countries?

Specific Research Questions

- What were the overall mean Rasch scores of pupils and their teachers in reading and mathematics across the SACMEQ countries?
Questionnaire: SI: PRT; SII: PRT, PMT, TRT, TMT
Dummy Table: 11.18(a), 11.18(b)
- What were the percentages of between and within school variance associated with pupil Rasch scores in reading and mathematics across the SACMEQ countries?
Questionnaire: SI: PRT; SII: PRT, PMT, TRT, TMT
Dummy Table: 11.19(a), 11.19(b)
- What were the overall percentages of pupils and their teachers across the various levels of competence in reading and mathematics across the SACMEQ countries?
Questionnaire: SI: PRT; SII: PRT, PMT, TRT, TMT
Dummy Table: 11.20(a), 11.20(b)

General Policy Concern 20: What were the reading and mathematics achievement levels of important sub-groups of Grade 6 pupils and their teachers (for example, pupils and teachers of different genders, socio-economic levels, and locations)?

Specific Research Questions

- What were the gender differences in reading and mathematics achievement for pupils and teachers?
Questionnaire: SI: PRT, P3; SII: PRT, PMT, TRT, TMT, P3, T2
Dummy Table: 11.21
- What were the school location differences in reading and mathematics achievement for pupils and teachers?
Questionnaire: SI: PRT, S12; SII: PRT, PMT, TRT, TMT, S14
Dummy Table: 11.22
- What were the socioeconomic differences in reading and mathematics achievement for pupils and teachers?
Questionnaire: SI: PRT, P8; SII: PRT, PMT, TRT, TMT, P7, T27
Dummy Table: 11.23

Appendix B**Reading Test Items Considered to be Central to the
Core Curriculum in Each Country)**

item #	Type	BOT	KEN	LES	MAL	MAU	MOZ	NAM	SEY	SOU	SWA	TAN	UGA	ZAM	ZAN
1	Word recognition	Yes		Yes	Yes	Yes	Yes								
2		Yes		Yes	Yes	Yes	Yes								
3		Yes		Yes	Yes	Yes	Yes								
4		Yes		Yes	Yes		Yes								
5		Yes		Yes	Yes	Yes	Yes								
6		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes		Yes	Yes	Yes	Yes
7	Sentence completion with a word	Yes													
8		Yes													
9			Yes												
10		Yes		Yes											
11			Yes		Yes	Yes	Yes								
12	Sentence completion with a phrase	Yes													
13		Yes													
14			Yes		Yes										
15	Narrative	Yes													
16		Yes													
17		Yes													
18	Document	Yes													
19		Yes													
20		Yes													
21		Yes													
22	Narrative	Yes													
23		Yes													
24		Yes													
25		Yes													
26	Document	Yes		Yes											
27		Yes		Yes											
28		Yes		Yes											
29	Expository	Yes													
30		Yes													
31				Yes											
32		Yes													
33	Document	Yes													
34		Yes													
35	Document	Yes													
36		Yes													
37		Yes													
38		Yes													
39		Yes													
40		Yes													

Appendix B (Ctd.)

Item #	Type	BOT	KEN	LES	MAL	MAU	MOZ	NAM	SEY	SOU	SWA	TAN	UGA	ZAM	ZAN
41	Expository	Yes													
42		Yes													
43		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes		Yes
44		Yes													
45	Narrative	Yes													
46		Yes													
47		Yes													
48		Yes													
49		Yes													
50	Expository	Yes													
51		Yes	Yes		Yes										
52		Yes													
53		Yes													
54	Documents	Yes	Yes	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Yes
55		Yes	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes
56		Yes		Yes	Yes	Yes	Yes	Yes	Yes						
57		Yes		Yes	Yes	Yes	Yes	Yes	Yes						
58	Expository	Yes		Yes											
59		Yes		Yes											
60		Yes		Yes											
61	Narrative	Yes													
62		Yes													
63		Yes													
64		Yes													
65	Expository	Yes													
66		Yes	Yes	Yes	Yes		Yes								
67		Yes	Yes	Yes	Yes		Yes								
68				Yes											
69		Yes		Yes		Yes									
70	Expository	Yes	Yes		Yes										
71		Yes	Yes		Yes										
72		Yes	Yes			Yes									
73	Document	Yes		Yes											
74		Yes		Yes											
75		Yes		Yes											
76		Yes		Yes											
77	Expository	Yes	Yes	Yes	Yes		Yes		Yes						
78							Yes		Yes						
79		Yes	Yes	Yes	Yes		Yes		Yes						
80	Expository						Yes			Yes	Yes	Yes	Yes		Yes
81							Yes			Yes	Yes	Yes	Yes		Yes
82		Yes					Yes			Yes	Yes	Yes	Yes		Yes
83							Yes				Yes	Yes	Yes	Yes	

Note: The shaded items were excluded from the final analyses because they failed a Rasch “differential item functioning” test across three groups: SACMEQ I pupils, SACMEQ II pupils, and SACMEQ II teachers.

Appendix C**Mathematics Test Items Considered to be Central to the
Core Curriculum in Each Country)**

Item #	Type	BOT	KEN	LES	MAL	MAU	MOZ	NAM	SEY	SOU	SWA	TAN	UGA	ZAM	ZAN
1	Number	Yes		Yes	Yes	Yes	Yes								
2	Number	Yes		Yes											
3	Number	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes
4	Number	Yes													
5	Space/Data	Yes													
6	Space/Data	Yes	Yes	Yes	Yes		Yes								
7	Space/Data	Yes	Yes	Yes	Yes		Yes								
8	Number	Yes													
9	Measurement	Yes	Yes	Yes	Yes		Yes								
10	Number	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
11	Number	Yes	Yes	Yes			Yes	Yes		Yes	Yes	Yes	Yes	Yes	
12	Number	Yes	Yes	Yes	Yes			Yes		Yes	Yes	Yes	Yes	Yes	Yes
13	Number	Yes													
14	Number	Yes	Yes	Yes	Yes		Yes								
15	Measurement	Yes	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes
16	Measurement	Yes	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes
17	Measurement	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
18	Measurement	Yes													
19	Measurement	Yes													
20	Measurement	Yes	Yes	Yes	Yes		Yes								
21	Space/Data	Yes													
22	Number	Yes	Yes	Yes	Yes			Yes		Yes	Yes	Yes	Yes	Yes	Yes
23	Measurement	Yes	Yes	Yes	Yes		Yes								
24	Measurement	Yes	Yes	Yes	Yes		Yes								
25	Space/Data	Yes													
26	Space/Data	Yes		Yes		Yes		Yes		Yes	Yes	Yes	Yes		
27	Number	Yes	Yes				Yes								
28	Number	Yes	Yes		Yes										
29	Number	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
30	Space/Data	Yes	Yes	Yes			Yes								
31	Measurement	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
32	Space/Data	Yes	Yes		Yes	Yes	Yes			Yes		Yes	Yes		
33	Space/Data	Yes													
34	Number	Yes		Yes	Yes	Yes	Yes								
35	Number	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes
36	Number	Yes													
37	Measurement	Yes	Yes	Yes	Yes		Yes								
38	Number	Yes	Yes	Yes	Yes		Yes								
39	Space/Data	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes
40	Space/Data	Yes	Yes	Yes			Yes								

Appendix C (Ctd.)

item #	Type	BOT	KEN	LES	MAL	MAU	MOZ	NAM	SEY	SOU	SWA	TAN	UGA	ZAM	ZAN
41	Number	Yes													
42	Measurement	Yes	Yes	Yes	Yes		Yes								
43	Number	Yes			Yes	Yes		Yes							
44	Measurement	Yes	Yes		Yes	Yes		Yes							
45	Measurement	Yes													
46	Number	Yes													
47	Measurement	Yes	Yes	Yes	Yes		Yes								
48	Measurement	Yes													
49	Measurement	Yes	Yes		Yes										
50	Measurement	Yes													
51	Measurement	Yes													
52	Space/Data	Yes													
53	Space/Data	Yes	Yes		Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	
54	Measurement	Yes													
55	Measurement	Yes				Yes	Yes			Yes	Yes	Yes	Yes		
56	Number	Yes		Yes	Yes	Yes	Yes	Yes	Yes						
57	Number	Yes													
58	Space/Data	Yes		Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	
59	Number	Yes	Yes		Yes			Yes							
60	Number	Yes	Yes		Yes			Yes							
61	Number	Yes	Yes	Yes	Yes		Yes								
62	Number	Yes	Yes	Yes	Yes		Yes								
63	Measurement	Yes				Yes	Yes			Yes	Yes	Yes	Yes	Yes	

Note: The shaded items were excluded from the final analyses because they failed a Rasch “differential item functioning” test across three groups: SACMEQ I pupils, SACMEQ II pupils, and SACMEQ II teachers.

Appendix D**Sample Design Tables for rho = 0.1, 0.2, 0.3**

Cluster Size b	95% Confidence Limits for Means/Percentages							
	$\pm 0.05s/\pm 2.5\%$		$\pm 0.1s/\pm 5.0\%$		$\pm 0.15s/\pm 7.5\%$		$\pm 0.2s/\pm 10.0\%$	
	a	n	a	n	a	n	a	n
<u>roh = 0.1</u>								
1 (SRS)	1600	1600	400	400	178	178	100	100
2	880	1760	220	440	98	196	55	110
5	448	2240	112	560	50	250	28	140
10	304	3040	76	760	34	340	19	190
15	256	3840	64	960	29	435	16	240
20	232	4640	58	1160	26	520	15	300
30	208	6240	52	1560	24	720	13	390
40	196	7840	49	1960	22	880	13	520
50	189	9450	48	2400	21	1050	12	600
<u>roh = 0.2</u>								
1 (SRS)	1600	1600	400	400	178	178	100	100
2	960	1920	240	480	107	214	60	120
5	576	2880	144	720	65	325	36	180
10	448	4480	112	1120	50	500	28	280
15	406	6090	102	1530	46	690	26	390
20	384	7680	96	1920	43	860	24	480
30	363	10890	91	2730	41	1230	23	690
40	352	14080	88	3520	40	1600	22	880
50	346	17300	87	4350	39	1950	22	1100
<u>roh = 0.3</u>								
1 (SRS)	1600	1600	400	400	178	178	100	100
2	1040	2080	260	520	116	232	65	130
5	704	3520	176	880	79	395	44	220
10	592	5920	148	1480	66	660	37	370
15	555	8325	139	2085	62	930	35	525
20	536	10720	134	2680	60	1200	34	680
30	518	15540	130	3900	58	1740	33	990
40	508	20320	127	5080	57	2280	32	1280
50	503	25150	126	6300	56	2800	32	1600

Appendix D (Ctd.)**Sample Design Tables for rho = 0.4, 0.5, 0.6**

Cluster Size b	95% Confidence Limits for Means/Percentages							
	$\pm 0.05s/\pm 2.5\%$		$\pm 0.1s/\pm 5.0\%$		$\pm 0.15s/\pm 7.5\%$		$\pm 0.2s/\pm 10.0\%$	
	a	n	a	n	a	n	a	n
<u>roh = 0.4</u>								
1 (SRS)	1600	1600	400	400	178	178	100	100
2	1120	2240	280	560	125	250	70	140
5	832	4160	208	1040	93	465	52	260
10	736	7360	184	1840	82	820	46	460
15	704	10560	176	2640	79	1185	44	660
20	688	13760	172	3440	77	1540	43	860
30	672	20160	168	5040	75	2250	42	1260
40	664	26560	166	6640	74	2960	42	1680
50	660	33000	165	8250	74	3700	42	2100
<u>roh = 0.5</u>								
1 (SRS)	1600	1600	400	400	178	178	100	100
2	1200	2400	300	600	134	268	75	150
5	960	4800	240	1200	107	535	60	300
10	880	8800	220	2200	98	980	55	550
15	854	12810	214	3210	95	1425	54	810
20	840	16800	210	4200	94	1880	53	1060
30	827	24810	207	6210	92	2760	52	1560
40	820	32800	205	8200	92	3680	52	2080
50	816	40800	204	10200	91	4550	51	2550
<u>roh = 0.6</u>								
1 (SRS)	1600	1600	400	400	178	178	100	100
2	1280	2560	320	640	143	286	80	160
5	1088	5440	272	1360	122	610	68	340
10	1024	10240	256	2560	114	1140	64	640
15	1003	15045	251	3765	112	1680	63	945
20	992	19840	248	4960	111	2220	62	1240
30	982	29460	246	7380	110	3300	62	1860
40	976	39040	244	9760	109	4360	61	2440
50	973	48650	244	12200	109	5450	61	3050

Appendix D (Ctd.)**Sample Design Tables for rho = 0.7, 0.8, 0.9**

Cluster Size b	95% Confidence Limits for Means/Percentages							
	$\pm 0.05s/\pm 2.5\%$		$\pm 0.1s/\pm 5.0\%$		$\pm 0.15s/\pm 7.5\%$		$\pm 0.2s/\pm 10.0\%$	
	a	n	a	n	a	n	a	n
<u>roh = 0.7</u>								
1 (SRS)	1600	1600	400	400	178	178	100	100
2	1360	2720	340	680	152	304	85	170
5	1216	6080	304	1520	136	680	76	380
10	1168	11680	292	2920	130	1300	73	730
15	1152	17280	288	4320	129	1935	72	1080
20	1144	22880	286	5720	128	2560	72	1440
30	1136	34080	284	8520	127	3810	71	2130
40	1132	45280	283	11320	126	5040	71	2840
50	1130	56500	283	14150	126	6300	71	3550
<u>roh = 0.8</u>								
1 (SRS)	1600	1600	400	400	178	178	100	100
2	1440	2880	360	720	161	322	90	180
5	1344	6720	336	1680	150	750	84	420
10	1312	13120	328	3280	146	1460	82	820
15	1302	19530	326	4890	145	2175	82	1230
20	1296	25920	324	6480	145	2900	81	1620
30	1291	38730	323	9690	144	4320	81	2430
40	1288	51520	322	12880	144	5760	81	3240
50	1287	64350	322	16100	144	7200	81	4050
<u>roh = 0.9</u>								
1 (SRS)	1600	1600	400	400	178	178	100	100
2	1520	3040	380	760	170	340	95	190
5	1472	7360	368	1840	164	820	92	460
10	1456	14560	364	3640	162	1620	91	910
15	1451	21765	363	5445	162	2430	91	1365
20	1448	28960	362	7240	162	3240	91	1820
30	1446	43380	362	10860	161	4830	91	2730
40	1444	57760	361	14440	161	6440	91	3640
50	1444	72200	361	18050	161	8050	91	4550

Appendix E

Random Number Tables for the Selection of 20 Grade 6 Students within each Selected School

Case#	R21	R22	R23	R24	R25	R26	R27	R28	R29	R30	R31	R32	R33	R34	R35	Case#	R36	R37	R38	R39	R40	R41	R42	R43	R44	R45	R46	R47	R48	R49	R50
1	1	1	1	1	1	1	1	1	1	2	2	1	1	2	1	1	1	3	1	1	1	3	4	2	1	1	2	1	2		
2	2	2	2	2	2	2	2	2	3	3	3	2	3	3	3	2	5	2	5	6	2	2	5	4	5	5	2	2	3	2	4
3	3	3	3	3	3	3	3	3	4	4	6	3	4	4	4	3	6	3	6	7	4	6	6	6	6	6	3	6	5	6	5
4	4	4	4	4	4	5	4	6	5	7	7	5	5	6	6	4	8	4	7	8	7	7	8	10	13	8	4	11	7	9	6
5	5	5	5	5	5	6	5	7	6	8	8	7	7	9	7	5	10	7	10	11	10	8	11	12	15	9	10	12	8	10	8
6	6	6	6	6	6	7	6	8	7	9	9	8	9	12	12	6	11	8	11	13	11	10	13	13	16	10	11	13	10	13	9
7	7	7	7	7	7	8	7	11	8	10	11	9	11	14	13	7	13	9	12	15	14	11	14	15	19	12	15	17	13	15	14
8	8	8	8	8	8	10	8	12	9	11	12	10	12	15	15	8	14	12	16	17	16	12	17	16	22	13	19	18	17	16	21
9	9	9	9	9	12	11	9	13	10	13	13	11	14	17	16	9	17	14	17	18	17	13	18	20	23	15	20	20	18	17	22
10	10	10	11	11	13	13	10	14	12	14	14	13	15	18	17	10	18	15	24	19	18	15	20	26	26	17	21	21	19	23	23
11	11	11	12	12	14	14	11	15	13	15	17	14	16	19	20	11	19	16	25	21	21	17	22	28	28	22	26	27	20	32	24
12	13	13	13	15	15	15	12	16	16	17	18	16	17	21	21	12	23	17	26	23	22	19	23	32	33	23	30	28	21	33	25
13	14	14	15	17	16	16	16	17	19	18	20	17	19	23	22	13	24	19	27	26	23	22	24	33	34	25	31	29	25	34	27
14	15	15	16	18	17	17	18	19	20	19	22	20	21	27	23	14	25	20	29	28	24	23	25	34	35	27	33	30	28	35	29
15	16	16	17	19	18	20	19	20	22	20	24	23	22	28	24	15	26	24	30	31	30	26	29	35	36	29	35	35	30	36	31
16	17	18	18	20	19	21	20	21	24	22	26	25	24	29	25	16	30	28	31	33	32	28	30	36	37	30	37	43	32	38	33
17	18	19	20	21	20	22	22	25	23	27	27	27	27	30	28	17	31	30	32	34	34	29	31	38	38	34	38	44	34	41	34
18	19	20	21	22	21	23	23	23	26	24	28	29	30	31	32	18	33	31	33	35	35	31	33	39	39	36	40	45	39	45	40
19	20	21	22	23	23	24	25	24	27	25	29	30	32	32	33	19	35	32	35	36	37	38	34	42	40	41	44	46	44	48	43
20	21	22	23	24	24	25	26	25	29	27	31	31	33	34	34	20	36	35	38	39	39	41	35	43	41	44	45	47	48	49	50

Case#	R51	R52	R53	R54	R55	R56	R57	R58	R59	R60	R61	R62	R63	R64	R65	Case#	R66	R67	R68	R69	R70	R71	R72	R73	R74	R75	R76	R77	R78	R79	R80
1	1	2	3	3	1	6	2	1	1	1	2	4	8	2	3	1	4	1	4	1	4	3	6	1	2	1	1	4	3	7	6
2	3	3	4	5	8	7	5	3	3	2	5	6	15	6	6	2	10	6	6	7	9	5	8	3	7	3	5	7	4	8	12
3	4	5	5	6	9	8	9	6	5	15	10	8	18	7	8	3	11	9	7	10	10	9	10	4	8	21	7	12	13	11	13
4	10	6	8	15	10	12	13	9	7	16	11	11	20	8	14	4	12	15	9	20	14	12	13	9	10	23	17	15	14	13	14
5	15	12	12	16	11	14	15	10	8	17	21	12	21	9	15	5	16	19	10	21	15	14	14	13	14	28	18	18	16	28	27
6	18	16	17	17	13	16	20	12	12	18	22	19	23	13	17	6	19	22	11	25	18	17	16	14	19	30	19	19	20	29	28
7	19	18	21	18	21	19	22	23	16	19	23	25	26	14	21	7	26	23	13	29	20	22	22	17	23	34	23	20	32	39	30
8	23	21	27	20	24	20	25	25	21	20	24	29	33	18	22	8	27	26	15	30	21	25	23	18	26	37	26	21	34	40	31
9	24	24	29	21	25	21	31	27	24	24	27	33	35	23	25	9	28	30	17	32	27	28	24	19	36	41	28	25	41	41	33
10	28	26	30	23	26	24	33	32	28	25	28	34	36	26	29	10	31	36	25	33	38	29	27	22	38	42	29	26	42	42	35
11	29	27	31	25	27	25	36	33	29	26	31	35	37	28	33	11	34	41	32	35	39	38	30	24	41	44	33	32	48	51	36
12	33	29	32	27	31	26	38	38	31	31	32	36	40	29	35	12	44	48	33	38	43	41	31	29	45	45	41	34	53	53	40
13	35	32	33	34	32	30	39	40	36	35	35	41	43	31	36	13	45	50	35	41	46	46	35	33	47	46	45	41	55	55	45
14	37	33	37	36	34	39	42	43	42	38	40	42	45	33	40	14	46	54	38	47	47	49	38	38	56	50	51	47	56	60	48
15	39	35	38	39	36	41	43	45	45	39	45	46	46	36	41	15	48	60	39	51	51	54	39	39	58	52	52	57	63	62	55
16	42	37	40	41	38	43	44	46	49	41	49	48	49	45	53	16	53	61	47	54	57	55	40	45	62	53	57	60	67	68	58
17	43	39	41	46	39	47	45	48	52	49	55	56	50	54	55	17	55	62	53	55	59	57	43	58	63	56	64	64	70	71	66
18	45	44	43	49	40	49	51	51	53	55	57	57	55	58	61	18	57	63	60	60	61	47	64	68	71	65	70	72	73	67	67
19	47	46	45	51	42	53	54	53	54	56	59	58	60	61	62	19	58	66	65	63	61	70	61	69	70	72	68	74	73	74	73
20	51	48	48	53	51	56	56	55	56	60	61	61	63	64	63	20	59	67	67	68	66	71	71	70	71	73	71	75	75	76	75

Appendix E (Ctd.)

Random Number Tables for the Selection of 20 Grade 6 Students within each Selected School

Case#	R81	R82	R83	R84	R85	R86	R87	R88	R89	R90	R91	R92	R93	R94	R95	Case#	R96	R97	R98	R99	R100
1	2	1	4	8	7	13	2	3	2	2	3	4	3	4	6	1	6	7	4	1	2
2	3	3	10	10	11	16	3	5	7	4	4	6	6	11	11	2	7	11	9	2	5
3	6	4	11	11	13	17	10	11	14	5	6	7	8	14	20	3	9	13	15	3	6
4	8	5	14	12	15	19	18	12	16	12	9	10	12	19	22	4	13	15	32	6	7
5	12	10	15	13	20	20	21	18	19	15	10	15	31	20	23	5	17	16	38	9	30
6	13	13	25	18	21	21	22	19	31	16	14	19	36	21	27	6	26	25	39	11	33
7	16	17	28	24	24	30	29	22	32	19	16	20	45	32	32	7	35	29	42	15	42
8	22	24	29	30	30	43	30	28	33	23	22	27	48	35	34	8	41	33	51	16	47
9	24	26	30	35	32	50	32	31	40	28	29	34	51	36	36	9	45	37	53	36	51
10	33	32	33	42	34	53	33	39	45	31	31	35	53	43	37	10	56	41	54	39	53
11	41	42	34	43	36	54	34	41	49	36	37	41	54	44	49	11	65	43	57	47	57
12	43	47	39	55	47	65	35	48	50	37	49	50	57	46	52	12	66	50	61	53	64
13	44	52	48	56	52	67	46	50	58	48	50	58	67	47	57	13	68	60	78	73	65
14	54	54	53	58	56	72	48	52	61	52	53	62	70	48	66	14	73	62	82	78	67
15	59	60	60	62	58	76	56	53	62	58	56	66	73	55	69	15	76	65	86	81	78
16	60	64	64	64	60	79	57	55	64	59	68	75	74	61	73	16	82	72	91	82	79
17	65	65	67	69	63	80	61	72	73	64	73	81	78	74	74	17	83	76	92	85	81
18	66	68	68	70	74	81	65	77	77	70	76	84	82	80	77	18	84	77	93	89	87
19	79	69	70	75	77	83	68	78	79	78	84	90	86	86	86	19	89	80	96	91	93
20	80	82	75	77	84	85	75	79	82	81	88	92	88	94	93	20	95	96	98	93	96

Case#	R101	R102	R103	R104	R105	R106	R107	R108	R109	R110	R111	R112	R113	R114	R115	Case#	R116	R117	R118	R119	R120	R121	R122	R123	R124	R125	R126	R127	R128	R129	R130
1	10	5	4	6	2	4	12	1	1	3	2	6	10	3	2	1	3	4	3	3	20	7	7	12	8	9	2	1	27	1	6
2	11	16	7	8	10	5	21	9	7	4	8	23	13	13	6	2	5	7	12	6	23	13	17	32	10	12	14	8	28	6	15
3	18	22	11	13	16	6	26	10	11	6	10	32	14	15	17	3	6	12	15	8	26	21	18	35	11	18	17	10	30	17	24
4	19	31	25	20	25	8	28	12	13	13	12	54	18	17	25	4	10	19	23	16	38	22	19	38	16	20	20	12	43	20	25
5	25	37	26	28	27	13	37	17	14	20	13	55	22	20	28	5	15	20	27	17	39	27	24	42	26	23	25	24	47	26	28
6	26	42	28	33	39	14	41	25	19	26	18	59	25	25	29	6	19	22	28	22	41	30	29	49	38	25	37	31	48	41	33
7	29	43	38	37	46	15	43	40	21	35	30	66	26	29	39	7	23	28	42	25	43	36	33	68	46	27	41	35	55	50	35
8	45	46	40	42	51	17	44	43	29	44	38	69	30	55	42	8	27	30	53	28	45	41	35	76	47	28	47	43	63	51	36
9	47	51	45	44	52	33	53	44	32	48	48	74	41	56	52	9	33	33	54	44	49	69	37	86	57	36	67	53	65	53	37
10	62	54	49	57	61	40	60	48	34	49	50	78	44	57	62	10	35	39	55	45	61	89	46	90	60	45	71	62	67	68	38
11	65	58	57	62	65	50	61	56	41	50	52	89	47	62	64	11	41	46	60	47	64	92	56	92	65	57	75	65	71	70	41
12	72	61	60	68	68	61	68	59	42	51	56	90	49	74	66	12	52	48	62	52	67	99	65	95	69	59	79	68	79	84	42
13	79	64	67	80	69	63	73	62	47	54	64	98	50	78	79	13	53	54	63	74	71	104	71	96	70	80	88	73	80	88	57
14	88	70	68	85	70	73	74	64	64	66	66	99	64	90	81	14	56	57	73	77	75	105	75	101	81	86	89	79	96	92	67
15	93	73	69	86	77	80	75	68	65	70	81	100	66	92	86	15	57	97	84	78	80	109	78	102	87	92	100	92	103	96	71
16	95	82	72	87	78	85	81	78	71	75	84	104	69	93	87	16	61	99	90	98	83	111	97	106	88	95	101	98	107	115	83
17	96	93	78	88	82	93	88	81	79	78	86	105	73	97	94	17	64	102	105	106	89	114	102	108	94	100	109	99	108	119	85
18	99	94	97	97	90	95	93	87	86	79	91	109	82	99	96	18	83	110	108	107	110	116	115	114	95	106	117	100	112	125	102
19	100	98	101	98	96	96	104	91	97	89	105	110	103	102	103	19	95	113	109	114	115	117	117	121	116	113	119	117	113	126	106
20	101	102	102	102	104	97	105	102	98	108	109	111	107	104	115	20	113	115	111	119	119	119	121	123	119	115	124	119	125	129	122

Appendix E (Ctd.)

Random Number Tables for the Selection of 20 Grade 6 Students within each Selected School

Case#	R131	R132	R133	R134	R135	R136	R137	R138	R139	R140	R141	R142	R143	R144	R145	Case#	R146	R147	R148	R149	R150	R151	R152	R153	R154	R155	R156	R157	R158	R159	R160
1	4	5	2	3	3	5	20	35	15	1	1	10	9	3	1	1	5	3	6	3	12	4	6	6	6	10	1	1	9	9	8
2	8	8	6	10	17	7	22	36	18	2	7	12	12	12	5	2	6	12	10	7	18	13	9	10	16	13	15	2	18	19	31
3	39	11	13	13	30	12	34	37	24	8	11	34	17	15	27	3	10	21	13	17	25	15	15	18	25	30	17	11	19	30	33
4	43	26	36	33	31	13	37	53	26	14	27	37	20	16	31	4	14	34	14	29	30	19	19	21	26	40	21	38	25	51	35
5	46	33	38	38	55	15	41	73	28	15	28	38	34	21	39	5	15	35	17	41	33	29	20	22	32	56	22	44	26	64	38
6	54	49	42	55	56	23	51	75	29	18	42	39	37	43	46	6	16	43	20	46	41	30	21	26	39	73	25	49	30	67	57
7	71	62	44	57	70	32	52	78	30	34	45	60	52	48	49	7	17	51	40	50	45	36	22	34	49	74	29	50	36	69	60
8	85	64	51	58	92	42	64	83	38	46	49	61	69	68	52	8	29	62	42	52	51	39	34	40	51	75	47	83	39	81	62
9	86	73	58	59	96	51	70	89	53	49	58	67	72	80	62	9	44	68	45	64	53	46	39	44	52	82	55	89	46	89	72
10	100	78	65	61	102	53	74	90	64	58	59	82	85	93	74	10	54	73	53	69	54	51	43	46	54	83	63	104	51	94	74
11	101	79	67	62	103	59	75	93	65	71	67	85	86	96	76	11	55	75	59	71	58	58	65	51	57	90	72	105	52	100	97
12	104	86	77	66	105	62	76	96	77	81	71	86	90	97	82	12	69	83	60	80	60	62	76	55	63	103	80	107	66	101	123
13	106	88	90	73	107	66	78	105	85	96	77	95	93	106	86	13	76	101	71	87	64	77	82	56	73	108	81	108	70	106	124
14	107	90	99	79	108	92	83	115	86	106	79	97	100	115	111	14	84	103	83	93	102	82	91	60	90	110	86	122	75	109	127
15	108	97	100	86	109	94	85	116	96	114	84	107	105	120	114	15	104	107	92	98	103	98	100	67	102	121	93	125	87	124	128
16	113	115	117	98	110	105	93	117	102	116	101	112	106	127	115	16	108	125	102	107	110	103	105	85	104	125	97	142	94	133	149
17	117	119	118	99	113	107	96	121	107	120	126	118	115	133	118	17	111	128	108	110	117	109	113	90	125	129	103	145	119	142	154
18	127	120	119	112	120	115	99	124	114	122	129	124	122	134	132	18	130	130	135	131	127	111	114	94	133	130	128	148	138	149	155
19	129	129	121	113	129	120	105	130	127	123	136	129	131	142	141	19	133	143	136	134	140	112	132	109	134	140	154	149	145	151	156
20	130	131	133	121	131	125	122	137	137	125	138	135	142	143	142	20	140	145	146	139	150	139	147	149	142	153	155	157	152	154	158
Case#	R161	R162	R163	R164	R165	R166	R167	R168	R169	R170	R171	R172	R173	R174	R175	Case#	R176	R177	R178	R179	R180	R181	R182	R183	R184	R185	R186	R187	R188	R189	R190
1	1	10	16	14	3	13	10	7	2	5	1	7	2	19	8	1	5	2	2	1	1	15	1	2	8	12	6	15	1	5	4
2	2	31	21	27	5	15	29	21	6	18	8	9	6	31	11	2	19	15	5	2	15	17	8	4	9	17	10	17	6	10	10
3	4	52	28	36	16	19	35	23	28	40	14	19	24	38	21	3	20	25	9	21	17	35	15	38	16	38	15	18	13	14	27
4	10	54	29	46	33	42	39	36	41	58	23	27	28	44	44	4	22	31	11	29	27	41	19	44	17	39	28	33	15	16	33
5	39	64	41	51	35	46	53	69	48	64	38	59	37	48	48	5	29	37	13	42	37	45	28	52	26	45	39	40	30	20	37
6	56	66	42	54	42	49	54	90	70	86	39	75	53	51	49	6	45	47	22	44	40	55	52	59	54	51	53	52	44	21	45
7	58	69	46	57	49	64	66	91	74	87	43	77	62	62	59	7	67	62	52	46	58	64	65	74	66	57	88	62	61	38	49
8	63	71	49	62	55	67	81	95	84	105	49	89	71	71	64	8	68	67	69	53	73	70	72	88	73	59	91	68	63	44	56
9	64	75	62	72	61	73	103	107	88	109	59	90	91	77	67	9	73	86	76	64	78	80	73	93	75	60	92	78	82	52	71
10	77	77	70	79	63	104	106	115	101	112	72	93	103	79	70	10	80	87	80	70	104	111	74	97	82	61	97	80	85	69	82
11	84	84	75	89	65	107	117	124	106	125	82	94	119	108	72	11	91	96	81	75	116	114	78	115	85	72	112	107	91	81	119
12	85	87	78	98	78	113	122	128	115	126	87	96	127	111	79	12	99	103	88	76	117	115	80	116	90	73	116	109	104	86	122
13	87	91	79	99	105	115	130	133	117	131	95	113	128	113	94	13	110	109	94	82	118	117	98	123	120	76	126	116	119	105	128
14	97	92	111	119	107	116	134	134	121	134	106	123	129	117	122	14	126	117	101	90	119	119	99	124	133	87	130	124	120	109	134
15	107	93	117	128	119	127	136	138	126	139	127	125	133	131	123	15	129	119	106	129	142	127	120	130	148	96	151	132	123	113	139
16	111	96	146	134	131	146	139	142	137	141	137	134	140	142	131	16	133	124	114	141	144	134	122	149	151	126	153	133	138	114	146
17	115	126	147	142	134	148	147	152	158	152	142	141	146	149	132	17	137	146	133	151	163	140	143	155	167	129	159	155	143	131	148
18	125	128	156	147	143	159	152	153	160	159	143	143	151	153	146	18	140	162	136	159	164	159	163	161	168	146	167	157	148	143	164
19	128	153	157	156	161	164	157	161	163	162	146	159	154	156	159	19	154	164	142	167	167	176	164	164	175	151	168	159	153	171	167
20	155	155	161	162	162	165	162	164	168	163	147	172	163	157	163	20	155	173	154	168	176	178	171	170	180	157	182	167	160	184	187

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Random Number Tables for the Selection of 20 Grade 6 Students within each Selected School

Case#	R191	R192	R193	R194	R195	R196	R197	R198	R199	R200	Case#	R201	R202	R203	R204	R205	R206	R207	R208	R209	R210	R211	R212	R213	R214	R215
1	12	5	9	11	21	2	4	4	7	4	1	7	1	7	16	4	11	5	9	8	2	17	1	6	1	5
2	22	10	12	14	22	6	14	8	9	16	2	17	16	8	30	40	15	23	10	15	16	19	26	11	8	9
3	24	13	30	17	35	12	40	27	13	38	3	21	28	21	63	47	37	38	12	19	20	25	40	14	31	25
4	45	15	42	25	39	13	53	28	32	41	4	56	29	22	72	55	41	43	21	29	39	34	42	25	39	31
5	49	23	46	32	45	18	54	41	64	43	5	62	38	31	75	96	46	58	34	69	50	41	65	36	45	32
6	55	26	56	35	54	25	78	49	66	54	6	66	44	32	76	105	49	67	41	72	67	44	69	37	52	38
7	59	35	70	37	75	42	84	77	88	56	7	78	58	44	88	120	50	70	45	84	92	62	73	42	54	39
8	60	52	73	67	79	44	85	80	117	61	8	80	70	57	89	123	52	79	84	90	104	67	75	47	60	55
9	76	57	78	70	100	58	106	89	119	68	9	106	96	59	94	124	70	81	110	95	106	73	110	70	65	58
10	109	84	88	71	109	61	111	94	130	94	10	122	98	71	126	138	73	118	120	114	114	87	113	91	73	60
11	116	86	90	72	111	65	113	95	133	96	11	124	102	78	135	142	94	121	125	117	118	113	114	94	75	71
12	120	105	92	74	113	98	122	104	139	100	12	125	121	86	139	143	121	126	129	118	135	132	158	99	90	79
13	123	123	102	83	115	111	142	105	144	105	13	126	123	87	147	149	139	131	133	124	137	143	159	133	96	92
14	148	126	104	105	132	116	172	111	146	124	14	132	124	90	153	152	142	151	138	148	142	148	163	139	107	93
15	149	132	113	117	144	133	181	151	151	130	15	150	155	146	160	153	151	165	139	149	148	153	164	141	129	107
16	150	140	118	123	154	134	182	154	170	150	16	163	163	147	173	163	155	166	150	152	156	159	177	182	173	115
17	162	152	130	128	156	160	185	166	172	151	17	166	172	164	179	164	166	178	160	155	159	165	187	199	174	118
18	169	154	152	130	162	168	194	175	174	169	18	170	182	172	184	165	179	179	191	176	185	168	191	201	186	160
19	170	160	153	135	167	173	195	196	177	172	19	192	185	178	190	171	201	185	201	198	190	200	208	202	189	210
20	184	166	173	156	173	174	196	198	182	198	20	194	190	180	193	198	204	189	202	199	203	206	211	206	198	213

Case#	R216	R217	R218	R219	R220	R221	R222	R223	R224	R225	R226	R227	R228	R229	R230	Case#	R231	R232	R233	R234	R235	R236	R237	R238	R239	R240	R241	R242	R243	R244	R245
1	10	21	14	1	2	1	10	1	5	1	10	35	2	6	3	1	22	3	14	19	4	43	21	2	1	15	24	4	4	24	12
2	12	31	31	7	5	12	18	3	13	12	14	40	5	12	7	2	24	7	35	31	22	46	24	8	5	36	27	8	67	28	30
3	16	37	32	8	11	13	20	4	35	19	47	70	36	49	24	3	36	23	39	44	28	48	55	31	11	49	30	16	77	38	61
4	20	48	34	12	15	25	24	18	41	29	66	77	44	60	28	4	38	65	55	58	38	55	56	35	42	76	42	30	85	49	62
5	23	71	37	22	68	51	25	37	46	32	71	78	55	78	33	5	54	103	66	62	39	62	66	40	45	79	61	41	109	52	74
6	43	79	46	86	75	54	29	54	54	50	78	79	56	85	75	6	72	106	98	65	46	65	79	45	49	84	79	44	110	56	77
7	51	102	54	87	83	60	31	57	55	70	102	137	57	100	88	7	77	107	112	79	58	66	88	56	68	88	93	45	116	57	89
8	53	109	65	91	94	86	72	77	64	101	108	138	65	110	121	8	94	143	115	80	61	75	89	59	70	120	96	46	122	67	91
9	72	125	69	108	98	98	75	81	81	126	111	139	79	114	126	9	95	144	121	82	77	86	93	63	79	126	101	49	129	70	96
10	87	127	79	122	108	103	82	101	120	135	120	152	82	121	131	10	137	153	126	87	79	87	112	64	116	141	112	96	133	107	101
11	120	147	92	124	124	139	104	115	126	152	125	166	83	123	136	11	149	154	133	89	99	101	117	87	118	143	124	156	138	163	102
12	124	158	104	152	132	158	116	122	141	164	132	172	92	126	137	12	170	155	137	92	103	107	134	99	143	159	171	162	139	177	104
13	140	163	116	157	147	175	118	128	155	167	135	173	109	144	139	13	177	175	141	151	127	145	135	105	145	165	173	163	160	185	114
14	142	164	119	164	150	184	122	144	156	173	142	176	126	151	143	14	180	179	151	159	133	170	145	122	186	172	174	174	163	188	128
15	146	170	135	169	159	185	131	152	159	179	147	179	152	162	148	15	185	180	160	181	168	190	155	143	200	201	184	178	170	191	150
16	169	185	137	178	160	186	143	182	171	187	171	184	166	163	182	16	186	184	174	184	182	196	183	178	207	206	197	191	197	207	190
17	171	188	139	180	168	188	148	196	183	210	189	196	173	177	201	17	201	195	180	189	191	199	202	187	208	208	201	209	199	209	196
18	176	199	145	205	171	193	167	199	193	213	203	200	179	178	209	18	209	208	210	213	203	222	210	204	213	218	223	220	200	221	198
19	186	203	159	206	197	217	174	207	205	214	218	214	203	217	218	19	217	216	217	218	217	227	211	225	221	222	229	229	219	232	235
20	199	214	165	219	209	219	210	216	216	225	219	219	205	224	221	20	228	223	228	233	230	230	236	229	228	240	241	241	228	243	240

Appendix F**The 148 Test Items (and their Sources) that were Used in the “Hypothetical Test” for Calibrating the Reading Test Items**

Section	RUMM VarName	SPSS VarName	KEY	S2P	S2T	S1P	Zim91	IEA Pop1	IEA Pop2
Section A	I0001	RA01XXXX	2	pread01					
	I0002	RA02XXXX	2	pread02					
	I0003	RA03XXXX	3	pread03					
	I0004	RA04XXXX	1	pread04					
	I0005	RA05XXXX	2	pread05					
	I0006	RA06XXXX	1	pread06					
	I0007	RA07XXXX	2	pread07					
	I0008	RA08XXXX	2	pread08					
	I0009	RA09XXXX	2	pread09					
	I0010	RA10XXXX	3	pread10					
	I0011	RA11XXXX	2	pread11					
	I0012	RA12XXXX	2	pread12					
	I0013	RA13XXXX	4	pread13					
	I0014	RA14XXXX	4	pread14					
	I0015	RA22XXXX	3	pread22					
	I0016	RA23XXXX	3	pread23					
	I0017	RA24XXXX	1	pread24					
	I0018	RA25XXXX	1	pread25					
	I0019	RA26XXXX	4	pread26					
	I0020	RA27XXXX	2	pread27					
	I0021	RA28XXXX	2	pread28					
	I0022	RA33XXXX	2	pread33					
	I0023	RA34XXXX	1	pread34					
	I0024	RA35XXXX	1	pread35					
	I0025	RA36XXXX	2	pread36					
	I0026	RA37XXXX	2	pread37					
	I0027	RA38XXXX	2	pread38					
	I0028	RA39XXXX	2	pread39					
	I0029	RA40XXXX	1	pread40					
	I0030	RA41XXXX	1	pread41					
	I0031	RA42XXXX	4	pread42					
	I0032	RA43XXXX	1	pread43					
	I0033	RA44XXXX	1	pread44					
	I0034	RA45XXXX	3	pread45					
	I0035	RA46XXXX	1	pread46					
	I0036	RA58XXXX	1	pread58					
	I0037	RA59XXXX	2	pread59					
	I0038	RA61XXXX	2	pread61					
	I0039	RA62XXXX	2	pread62					
	I0040	RA63XXXX	4	pread63					
	I0041	RA64XXXX	1	pread64					
	I0042	RA70XXXX	1	pread70					
	I0043	RA71XXXX	4	pread71					
	I0044	RA72XXXX	2	pread72					

Section	RUMM VarName	SPSS VarName	KEY	S2P	S2T	S1P	Zim91	IEA Pop1	IEA Pop2
	I0045	RA73XXXX	4	pread73					
	I0046	RA74XXXX	3	pread74					
	I0047	RA75XXXX	3	pread75					
	I0048	RA76XXXX	2	pread76					
	I0049	RA80XXXX	4	pread80					yes
	I0050	RA81XXXX	2	pread81					yes
	I0051	RA82XXXX	4	pread82					yes
	I0052	RA83XXXX	4	pread83					yes
	I0053	RA29XX20	4	pread29		porange1			
	I0054	RA30XX21	1	pread30		porange2			
	I0055	RA31XX22	3	pread31		porange3			
	I0056	RA32XX23	4	pread32		porange4			
Section B	I0057	RA47XX08	4	pread47		pbird3	bird3	yes	
	I0058	RA48XX10	2	pread48		pbird5	bird5	yes	
	I0059	RA49XX06	3	pread49		pbird1	bird1	yes	
	I0060	RA54XX12	3	pread54		pisland2	island2	yes	
	I0061	RA55XX11	1	pread55		pisland1	island1	yes	
	I0062	RA56XX14	4	pread56		pisland4	island4	yes	
	I0063	RA57XX13	2	pread57		pisland3	island3	yes	
	I0064	RA160304	2	pread16	tread03	ptembo4	tembo4		
	I0065	RA170405	2	pread17	tread04	ptembo5	tembo5		
Section C	I0066	RA180524	1	pread18	tread05	pmaria1	maria1	yes	
	I0067	RA190625	2	pread19	tread06	pmaria2	maria2	yes	
	I0068	RA200726	4	pread20	tread07	pmaria3	maria3	yes	
	I0069	RA651456	1	pread65	tread14	ptree1	tree1	yes	
	I0070	RA661557	1	pread66	tread15	ptree2	tree2	yes	
	I0071	RA671658	1	pread67	tread16	ptree3	tree3	yes	
	I0072	RA691860	2	pread69	tread18	ptree5	tree5	yes	
	I0073	RA1501XX	2	pread15	tread01				
	I0074	RA2108XX	3	pread21	tread08				
	I0075	RA5031XX	1	pread50	tread31				
	I0076	RA5132XX	3	pread51	tread32				
	I0077	RA5233XX	3	pread52	tread33				
Section D	I0078	RA5334XX	1	pread53	tread34				
	I0079	RA6035XX	2	pread60	tread35			yes	
	I0080	RA6817XX	3	pread68	tread17				
	I0081	RA7741XX	4	pread77	tread41				
	I0082	RA7843XX	1	pread78	tread43				
	I0083	RA7944XX	2	pread79	tread44				
	I0084	RAXX02XX	3		tread02				
	I0085	RAXX09XX	4		tread09				
	I0086	RAXX13XX	1		tread13				
Section E	I0087	RAXX19XX	2		tread19				yes
	I0088	RAXX20XX	3		tread20				yes
	I0089	RAXX21XX	2		tread21				yes
	I0090	RAXX22XX	2		tread22				yes
	I0091	RAXX23XX	2		tread23				
	I0092	RAXX24XX	3		tread24				yes
	I0093	RAXX25XX	1		tread25				

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Section	RUMM VarName	SPSS VarName	KEY	S2P	S2T	S1P	Zim91	IEA Pop1	IEA Pop2
	I0094	RAXX26XX	4		tread26				
	I0095	RAXX27XX	2		tread27				
	I0096	RAXX28XX	2		tread28				
	I0097	RAXX29XX	2		tread29				
	I0098	RAXX30XX	1		tread30				
	I0099	RAXX36XX	3		tread36			yes	
	I0100	RAXX37XX	2		tread37			yes	
	I0101	RAXX38XX	4		tread38				
	I0102	RAXX39XX	3		tread39				
	I0103	RAXX40XX	3		tread40				
	I0104	RAXX42XX	2		tread42				
	I0105	RAXX45XX	3		tread45				
	I0106	RAXX46XX	1		tread46				
	I0107	RAXX47XX	1		tread47				
	I0108	RAXX48XX	1		tread48				
	I0109	RAXX49XX	3		tread49				
Section F	I0110	RAXX1027	1		tread10	pquick1	quick1	yes	
	I0111	RAXX1128	4		tread11	pquick2	quick2	yes	
	I0112	RAXX1229	3		tread12	pquick3	quick3	yes	
	I0113	RAXXXX01	4			ptembo1			
	I0114	RAXXXX02	3			ptembo2			
	I0115	RAXXXX03	4			ptembo3			
	I0116	RAXXXX07	3			pbird2		yes	
	I0117	RAXXXX09	3			pbird4		yes	
	I0118	RAXXXX15	4			pjoseph1	joseph1		
	I0119	RAXXXX16	4			pjoseph2	joseph2		
	I0120	RAXXXX17	1			pjoseph3	joseph3		
	I0121	RAXXXX18	2			pjoseph4	joseph4		
	I0122	RAXXXX19	4			pjoseph5			
	I0123	RAXXXX30	4			pempty1	bottles1	yes	
	I0124	RAXXXX31	3			pempty2	bottles2	yes	
	I0125	RAXXXX32	4			pempty3	bottles3	yes	
	I0126	RAXXXX33	1			pempty4	bottles4	yes	
Section G	I0127	RAXXXX34	3			pcarrot1	carrots1		
	I0128	RAXXXX35	4			pcarrot2	carrots2		
	I0129	RAXXXX36	1			pcarrot3	carrots3		
	I0130	RAXXXX37	1			pcarrot4	carrots4		
	I0131	RAXXXX38	4			pcarrot5	carrots5		
	I0132	RAXXXX39	2			ptempra1	temper1		
	I0133	RAXXXX41	2			ptempra3	temper3		
	I0134	RAXXXX42	4			ptempra4	temper4		
	I0135	RAXXXX43	2			ptempra5	temper5		
	I0136	RAXXXX44	3			pmaize1			
	I0137	RAXXXX45	3			pmaize2			
	I0138	RAXXXX46	3			pmaize3			
	I0139	RAXXXX47	2			pmaize4			
	I0140	RAXXXX48	3			pmaize5			
	I0141	RAXXXX49	1			pmaize6			
	I0142	RAXXXX50	3			pgrandp1			

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Section	RUMM VarName	SPSS VarName	KEY	S2P	S2T	S1P	Zim91	IEA Pop1	IEA Pop2
	I0143	RAXXXX51	4			pgrandp2			
	I0144	RAXXXX52	2			pgrandp3			
	I0145	RAXXXX53	3			pgrandp4			
	I0146	RAXXXX54	4			pgrandp5			
	I0147	RAXXXX55	3			pgrandp6			
	I0148	RAXXXX59	1			ptree4			

Appendix G**The 91 Test Items (and their Sources) that were Used in the “Hypothetical Test” for Calibrating the Mathematics Test Items**

Section	RUMM VarName	SPSS VarName	KEY	S2P	S2T	TIMSS Pop1	TIMSS Pop2
Section A	I0001	MA01XX	2	pmath01			
	I0002	MA02XX	2	pmath02			
	I0003	MA03XX	3	pmath03			
	I0004	MA04XX	2	pmath04			
	I0005	MA05XX	2	pmath05			
	I0006	MA06XX	3	pmath06			
	I0007	MA07XX	4	pmath07			
	I0008	MA08XX	2	pmath08			
	I0009	MA09XX	2	pmath09			
	I0010	MA10XX	4	pmath10			
	I0011	MA11XX	1	pmath11			
	I0012	MA12XX	3	pmath12			
	I0013	MA13XX	2	pmath13			
	I0014	MA14XX	4	pmath14			
	I0015	MA15XX	3	pmath15			
	I0016	MA16XX	2	pmath16			
	I0017	MA17XX	2	pmath17			
	I0018	MA18XX	2	pmath18			
	I0019	MA19XX	1	pmath19			
	I0020	MA20XX	1	pmath20			
	I0021	MA21XX	2	pmath21			
	I0022	MA22XX	1	pmath22			
	I0023	MA23XX	3	pmath23			
	I0024	MA24XX	2	pmath24			
	I0025	MA25XX	2	pmath25			
	I0026	MA31XX	2	pmath31			
	I0027	MA34XX	3	pmath34			
	I0028	MA35XX	2	pmath35			
	I0029	MA36XX	2	pmath36			
	I0030	MA37XX	2	pmath37			
	I0031	MA38XX	1	pmath38			
	I0032	MA39XX	3	pmath39			
	I0033	MA40XX	2	pmath40			
	I0034	MA41XX	4	pmath41			
	I0035	MA42XX	1	pmath42			
	I0036	MA43XX	4	pmath43			
	I0037	MA45XX	3	pmath45			
	I0038	MA46XX	3	pmath46			
	I0039	MA47XX	2	pmath47			L-10
	I0040	MA48XX	2	pmath48			
	I0041	MA49XX	1	pmath49			
	I0042	MA50XX	2	pmath50			P-17
	I0043	MA51XX	3	pmath51			

Section	RUMM VarName	SPSS VarName	KEY	S2P	S2T	TIMSS Pop1	TIMSS Pop2
	I0044	MA52XX	3	pmath52			
	I0045	MA53XX	2	pmath53			
	I0046	MA54XX	3	pmath54			
	I0047	MA59XX	1	pmath59			
	I0048	MA60XX	2	pmath60			
	I0049	MA61XX	3	pmath61			
	I0050	MA62XX	1	pmath62			
Section B	I0051	MA2616	2	pmath26	tmath16		
	I0052	MA2701	4	pmath27	tmath01	I-3	
	I0053	MA2803	1	pmath28	tmath03	I-8	
	I0054	MA2905	3	pmath29	tmath05	K-6	
	I0055	MA3007	3	pmath30	tmath07	L-5	
	I0056	MA3212	3	pmath32	tmath12		
	I0057	MA3315	2	pmath33	tmath15		
	I0058	MA4411	2	pmath44	tmath11		
	I0059	MA5514	2	pmath55	tmath14		
	I0060	MA5602	4	pmath56	tmath02	I-7	
	I0061	MA5706	3	pmath57	tmath06	K-9	
	I0062	MA5833	1	pmath58	tmath33		
	I0063	MA6328	1	pmath63	tmath28		N-17
	Section C	I0064	MAXX04	2		tmath04	I-9
I0065		MAXX08	3		tmath08		
I0066		MAXX09	4		tmath09		P-8
I0067		MAXX10	4		tmath10		
I0068		MAXX13	3		tmath13		
I0069		MAXX17	3		tmath17		I-8
I0070		MAXX18	4		tmath18		J-14
I0071		MAXX19	2		tmath19		J-18
I0072		MAXX20	2		tmath20		K-4
I0073		MAXX21	2		tmath21		
I0074		MAXX22	2		tmath22		K-6
I0075		MAXX23	3		tmath23		L-11
I0076		MAXX24	2		tmath24		K-8
I0077		MAXX25	1		tmath25		L-14
I0078		MAXX26	2		tmath26		L-17
I0079		MAXX27	3		tmath27		M-6
I0080		MAXX29	2		tmath29		Q-1
I0081		MAXX30	2		tmath30		R-7
I0082		MAXX31	4		tmath31		R-9
I0083		MAXX32	3		tmath32		S-2
I0084		MAXX34	3		tmath34		V-3
I0085		MAXX35	3		tmath35		
I0086		MAXX36	3		tmath36		
I0087		MAXX37	3		tmath37		
I0088	MAXX38	3		tmath38			
I0089	MAXX39	2		tmath39			
I0090	MAXX40	3		tmath40			
I0091	MAXX41	3		tmath41			

Appendix H

Example Test Items for Each Level of Competence in Reading

Level 1: Pre Reading (Linked with Level 1 in the Test Blueprint)

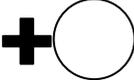
(a) Skills: Matches words and pictures involving concrete concepts and everyday objects.
Follows short simple written instructions.

(b) Example Test Items

- locate familiar words in a short (one line) text
- match words to pictures
- follow short and familiar instructions

In the questions on this page, choose the diagram that matches the word or sentences.

2. This cross is inside the circle.

A. <input style="width: 20px; height: 15px;" type="text"/> (1)	B. <input style="width: 20px; height: 15px;" type="text"/> (2)	C. <input style="width: 20px; height: 15px;" type="text"/> (3)	D. <input style="width: 20px; height: 15px;" type="text"/> (4)
			

Source: SACMEQ II Pupil Test.

Rasch Difficulty: -1.895

Comment: In this item the pupil needs to match the words “cross” and “circle” with the two items in each diagram – and then match the word “inside” with the diagram that illustrates the meaning of the word.

Appendix H (Ctd.)

Level 2: Emergent Reading (Linked with Level 2 in the Test Blueprint)

(a) Skills: Matches words and pictures involving prepositions and abstract concepts; uses cuing systems (by sounding out, using simple sentence structure, and familiar words) to interpret phrases by reading on.

(b) Example Test Items

- read familiar words and identify some new words
- use simple and familiar prepositions and verbs to interpret new words
- match words and very simple phrases

The Indian Tailor Bird

One of the most interesting birds I have seen is the Indian Tailor Bird. It is a small olive green bird that doesn't look at all unusual, yet it has a most unusual way of making its nest. The birds work together in pairs. First they find a leaf, the right size, and make holes along the edges with their beaks. Through these holes they thread grass. One bird pushes the thread from the outside, while the other bird sits in the nest and pushes it back until the edges of the leaf are sewn together to make a kind of bag, still hanging on the tree, in which the Tailor Bird lays its eggs.

50. What does the Tailor Bird use in place of thread?

- A. (1) Grass (*)
- B. (2) String
- C. (3) Spider web
- D. (4) Thorns

Source: SACMEQ II Pupil Test and SACMEQ II Teacher Test.

Rasch Difficulty: -1.634

Comment: In this item the words "thread" and "grass" are adjacent in both the question and in the text. The pupil needs to match a word in the question to a word in the text and then use the text immediately adjacent to it by reading on - but only within a very restricted range of text. The skill involved is essentially a word matching skill.

Appendix H (Ctd.)

Level 3: Basic Reading (Linked with Level 3 in the Test Blueprint)

(a) Skills: Interprets meaning (by matching words and phrases, completing a sentence, or matching adjacent words) in a short and simple text by reading on or reading back.

(b) Example Test Items

- use context and simple sentence structure to match words and short phrases
- use phrases within sentences as units of meaning
- locate adjacent words and information in a sentence

The Bird And The Elephant

A large tree grew in the middle of the jungle. At the top, a small bird had made a nest for her family of three baby birds. One day, an elephant came by. He leaned against the trunk, and scratched his back. The tree started to crack and sway. The baby birds, full of fear, huddled against their mother. She stuck the tip of her beak out of the nest, and said: "Hey, big animal, there are many trees around here! Why shake this one? My children are afraid, and could fall out of their nest."

The elephant said nothing, but he looked at the bird with his small eye, flapped his large ears in the wind, and left.

The next day, the elephant returned and scratched against the trunk once more. The tree began to sway. The frightened baby birds once again huddled against their mother's wings. Now Mother Bird was angry. "I order you to stop shaking our tree," she cried, "or I will teach you a lesson!"

"What could you do to a giant like me?" laughed the elephant. "If I wanted to, I could give such a push to this tree that your nest and your children would be flung far and wide."

The mother bird said nothing.

The next day, the elephant returned and scratched again. Quick as a flash, the mother bird flew into one of the elephant's enormous ears, and there, tickled the elephant by scratching him with her feet. The elephant shook his head ... nothing happened. So he begged the bird to leave and promised to stop scratching against the trunk.

The bird then left the elephant's ear and returned to her nest, beside her children. Never again did the elephant return to scratch his back.

45. Where exactly did the large tree grow?

- A. ₍₁₎ In the thick jungle
- B. ₍₂₎ In the forest
- C. ₍₃₎ In the middle of the jungle (*)
- D. In the garden

Source: SACMEQ II Pupil Test.

Rasch Difficulty: -1.049

Comment: This item is similar to those in the previous level - but in this instance the pupil needs to first match phrases, and then locate the adjacent phrase by reading on in the text.

Appendix H (Ctd.)

Level 4: Reading for Meaning (Linked with Level 4 in the Test Blueprint)

(a) Skills: Reads on or reads back in order to link and interpret information located in various parts of the text.

(b) Example Test Items

- interpret sentence and paragraph level texts
- match phrases across sentences
- read forwards and backwards in order to locate information in longer texts

Grandpa

Once upon a time, there was a very old man. His eyes had become weak. His ears were deaf, and his knees would shake. When he sat at the table, he was hardly able to hold the spoon. He spilled soup on the tablecloth, and he often slobbered.

He lived with his son and daughter-in-law. They also had a small boy who was four years old, so the old man was a grandfather.

His son and his son's wife found it disgusting to see him spilling food at the table. And so they finally ordered him to sit in a corner behind the stove. Here, they served him his food on a small earthenware plate. Now, Grandpa didn't even get enough to satisfy his hunger. He sat there feeling sad. He looked at the table, where the others were eating, and his eyes filled with tears.

Then, one day his shaking hands could not even hold the plate. It fell to the floor, and was broken into many pieces. The young wife scolded him. But the old grandfather said nothing. He just sighed. Then the young wife bought him a very cheap wooden bowl. Now he had to eat from that.

One day, while they were having dinner, the grandchild sat on the floor, and was very busy with some small pieces of wood.

"What are you doing?" asked his father.

"I am making a bowl," the boy answered.

"What is it for?"

"It is for my father and mother to eat from when I grow up."

The man and wife looked at each other for a long time. Then, they started crying. At once, they asked the old grandpa back to the table, and from then on he always ate with them. After that, even if he sometimes spilt his food, they never said a word about it.

54. How did grandfather feel when he sat by the stove?

A. (1) Bored.

B. (2) Tired.

C. (3) Pleased.

D. Unhappy (*)

Source: SACMEQ I Pupil Test

Rasch Difficulty: -0.544

Comment: In this item the pupil needs to be able to read on and read back once the key idea is located in the text. The pupil needs to read for meaning and then to link and interpret information from various parts of the text - not simply adjacent to the central idea of the task.

Appendix H (Ctd.)

Level 5: Interpretive Reading (Linked with Level 5 in the Test Blueprint)

(a) Skills: 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.

(b) Example Test Items

- locate, interpret, and read forward to join two pieces of adjacent information
- use multiple pieces of information to interpret general purpose of a document
- paraphrase and interpret a single non-adjacent piece of information

Read the following passage and then answer the questions below.

What Is Quicksand?

Quicksand is a special kind of sand. Quicksand can swallow a pig, or a human, or an elephant.

Quicksand often looks like plain wet sand. But it is really soupy sand with so much water between the grains that you can't stand on it.

If you step onto quicksand, you will slowly sink up to your knees. If you thrash and squirm, you will sink deeper and deeper. But, if you lie flat on your back with your arms stretched out, you can float on the sand, as you can float in water.

Watch out for quicksand on sand bars, on the bottom of streams, or along sandy seacoasts.

You can test for quicksand by poking it with a long stick or pole. If the sand shakes and quakes, don't try to walk on it! It may be quicksand.

10. What is the main purpose of the passage?

- A. (1) To tell people how to avoid the dangers of quicksand. (*)
- B. (2) To encourage people to protect the beauty of nature.
- C. (3) To describe how people and animals have been swallowed by quicksand.
- D. (4) To explain how quicksand got its name.

Source: SACMEQ I Pupil Test and SACMEQ II Teacher Test.

Rasch Difficulty: 0.073

Comment: The pupils need to read on and read back in order to combine and interpret information from different parts of the text – and then use this to interpret the general purpose of the document.

Appendix H (Ctd.)

Level 6: Inferential Reading (Linked with Level 5 in the Test Blueprint)

(a) Skills: Reads on and reads back through longer texts (narrative, document or expository) in order to combine information from various parts of the text so as to infer the writer’s purpose.

(b) Example Test Items

- interpret, and make inferences from, different types of texts by reading backwards and forwards to confirm links between widely separated information pieces
- extract information from a non-traditional (left to right) document
- make judgments about an author's intentions or purpose beyond the text content

Photography

Read the comic strip and then answer the questions below.

1 ALWAYS CHECK TO SEE THAT THERE IS A FILM IN THE CAMERA BEFORE YOU GO OUT.

2 MAKE SURE THE PERSON YOU ARE PHOTOGRAPHING IS IN THE CENTRE OF THE PICTURE AND IS AS LARGE AS POSSIBLE.

3 DO NOT TAKE A PHOTO WITH THE SUN SHINING STRAIGHT INTO THE CAMERA.

4 DO NOT GET TOO CLOSE TO THE PERSON YOU ARE PHOTOGRAPHING. IF YOU DO THE PICTURE WILL BE BLURRED.

5 TAKE THE LENS CAP OFF! ALWAYS CHECK TO SEE THAT THERE IS NOTHING IN THE WAY OF THE APERTURE.

6 PRESS THE SHUTTER RELEASE SLOWLY WHEN YOU ARE READY TO TAKE THE PICTURE. SHUTTER RELEASE.

72. Why should you take the lens cap off?

A. (1) To let a lot of light into the camera.

B. (2) So that it doesn't get in the way of the aperture. (*)

C. (3) To move the camera closer to you.

D. (4) So the camera will be quiet.

Source: SACMEQ II Pupil Test.

Rasch Difficulty: 0.453

Comment: The pupil needs to examine and interpret information related to different pictures and words in a non-traditional (comic strip) instructional document, and then make a judgement about the purpose of a particular instruction made by the author.

Appendix H (Ctd.)

Level 7: Analytical Reading (Linked with Level 5 in the Test Blueprint)

(a) Skills: locates information in longer texts (narrative, document or expository) 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 (value systems, prejudices, and/or biases).

(b) Example Test Items

- combine several pieces of information from a range of locations in complex and lexically dense text or documents
- analyse detailed text or extended documents for an underlying message
- identify meaning from different styles of writing

<p>Vacancy Read the following advertisement and then answer the questions below.</p>
<p>Vacancy - Job opportunity Post - Clerical Assistant</p>
<p>A vacancy exists for the post of a clerical assistant in a large farm located in Mbwewe.</p>
<p>Qualifications:</p> <p>The applicant,</p> <ul style="list-style-type: none">• Should be a female of between 20 and 25 years of age;• Must have successfully completed Primary 6;• Should be fluent in either of the following languages: Kiswahili, English, or Portuguese;• She must have a minimum work experience of three years in clerical duties.
<p>Application should be sent to: The General Manager Mbwewe Farm P.O. Box 70 Mbwewe</p>
<p>The deadline for application is 15 October 1999.</p>

50. The job opportunity is for ...

A. (1) a female clerk.

B. (2) the general manager.

C. (3) a large pineapple farm.

D. (4) a clerical assistant. (*)

Source: SACMEQ II Teacher Test.

Rasch Difficulty: 1.348

Comment: In this item the pupil needs to read on and read back in order to combine information from various parts of a document, and then to decide upon the kind of person that the writer has in mind for the position.

Appendix H (Ctd.)

Level 8: Critical Reading (A New Level Generated from the Skills Audit)

(a) Skills: Locates information in a longer texts (narrative, document or expository) by reading on and reading back in order to combine information from various parts of the text so as to infer and evaluate what the writer has assumed about both the topic and the characteristics of the reader – such as age, knowledge, and personal beliefs (value systems, prejudices, and/or biases).

(b) Example Test Items

- use text structure and organisation to identify an author's assumptions and purposes
- identify an author's motives, biases, beliefs in order to understand the main theme
- link text to establish multiple meanings including analogy and allegory

Effective Thinking

Effective thinking, while starting with logic, goes further so as to include broad mental skills. It includes the understanding of complex and fluid situations, in dealing with which logical methods are inadequate as mental tools. Of course, thinking must never violate the rules of logic, but it may use techniques beyond those of exact mathematical reasoning. In the fields of social study and history, and in the problems of daily life, there are large areas where evidence is incomplete and may never be completed. Sometimes the evidence may also be untrustworthy; but if the situation is practical, a decision must be made. The scientist has been habituated to deal with properties which can be abstracted from their total background and with variables which are few and well defined. Consequently, where the facts are unique and unpredictable, where the variables are numerous and their interactions too complicated for precise calculation, the scientist is apt to throw up his hands in despair and perhaps turn the situation over to the sentimentalists or the mystics. But surely he would be wrong to ignore both this type of problem and this type of thinking; for the methods of logical thinking do not exhaust the resources of reason. In coping with complex and fluid situations we need thinking which is relational and which searches for cross bearings between areas; this is thinking in a context. By its use it is possible to reach an understanding of historical and social materials and of human relations, although not with the same degree of precision as in the case of simpler materials and recurring events. As Aristotle says, "It is the mark of an educated man to expect no more exactness than the subject permits."

46. The author believes scientists should widen their field of work by undertaking problems that are ...

- A. (1) less specific and less precise. (*)
- B. (2) more exact.
- C. (3) more abstract.
- D. (4) less complex and fluid.

Source: SACMEQ II Teacher Test

Rasch Difficulty: 3.372

Comment: In this task the pupil needs to read through the entire passage, to locate information relevant to scientists' thinking processes, and to distinguish this from alternative thinking styles. Then the pupil needs to identify the beliefs of the author by inference.

Appendix I

Example Test Items for Each Level of Competence in Mathematics

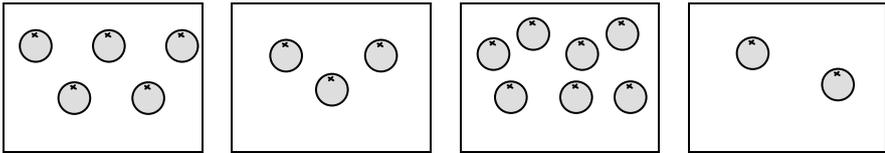
Level 1: Pre Numeracy (Linked with Level 1 in the Test Blueprint)

(a) Skills: Applies single step addition or subtraction operations. Recognizes simple shapes. Matches numbers and pictures. Counts in whole numbers.

(b) Example Test Items

- count illustrated objects
- recognise basic numbers and shapes
- carry out simple single operations of addition and subtraction

1. Which box has 7 oranges? Tick the correct box.



A. (1) B. (2) C. (3) (*) D. (4)

3. $73 + 27 =$

A. (1) 46

B. (2) 90

C. (3) 100 (*)

D. (4) 110

Source: Both from SACMEQ II Pupil Test.

Rasch Difficulty: -4.584 and -2.717

Comment: In the first item the pupil needs to match the numeral with the picture representing the same number. This skill represents the ability to count and recognise numerical representations. In the second item the pupil needs to demonstrate the ability to perform a simple single arithmetic operation.

Appendix I (Ctd.)

Level 2: Emergent Numeracy (Linked with Level 1 in the Test Blueprint)

(a) Skills: 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. Recognizes common two-dimensional shapes.

(b) Example Test Items

- link simple verbal, graphic, and number forms with single arithmetic operations on whole numbers up to four digits
- recognise common shapes or figures in two dimensions
- estimate accurately lengths of simple shapes

4. Subtract ...

$$\begin{array}{r} 6,000 \\ - 2,369 \\ \hline \\ \hline \end{array}$$

- A. ₍₁₎ 3,531
- B. ₍₂₎ 3,631 (*)
- C. ₍₃₎ 3,742
- D. ₍₄₎ 4,369

Source: SACMEQ II Pupil Test and SACMEQ II Teacher Test.

Rasch Difficulty: -2.043

Comment: The pupil needs to perform the task of subtraction - with carrying.

Appendix I (Ctd.)

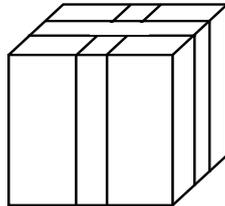
Level 3: Basic Numeracy (Linked with Level 2 in the Test Blueprint)

(a) Skills: 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.

(b) Example Test Items

- recognise three-dimensional shapes and number units
- use a single arithmetic operation in two or more steps
- convert in single step units using division

40. What shape is this present?



- A. (1) sphere
- B. (2) cube (*)
- C. (3) cylinder
- D. (4) pyramid

Source: SACMEQ II Pupil Test.

Rasch Difficulty: -1.26

Comment: The pupil needs to know the names of 3 dimensional regular shaped objects, and then to be able to link them to everyday objects (for example, gifts).

Appendix I (Ctd.)

Level 4: Beginning Numeracy (Linked with Level 3 in the Test Blueprint)

(a) Skills: Translates verbal or graphic information into simple arithmetic problems. Uses multiple different arithmetic operations (in the correct order) on whole numbers, fractions, and/or decimals.

(b) Example Test Items

- convert units in two steps and count tabulated data
- analyse a visual prompt and interpret triangular shapes
- translate verbal to arithmetic form using two operations on fractions

11. A cake was shared among four pupils as follows: John gets $\frac{1}{2}$, Peter gets $\frac{1}{8}$, Sarah gets $\frac{1}{4}$ and Janet gets $\frac{1}{16}$. Who gets the largest share?

A. (1) John (*)

B. (2) Janet

C. (3) Sarah

D. (4) Peter

Source: SACMEQ II Pupil Test

Rasch Difficulty: -0.356

Comment: The pupil needs to translate the verbal description of a problem into an arithmetic problem – and then use several operations with fractions to obtain an answer.

Appendix I (Ctd.)**Level 5: Competent Numeracy (Linked with Level 3 in the Test Blueprint)**

(a) Skills: Translates verbal, graphic, or tabular information into an arithmetic form in order to solve a given problem. Solves multiple-operation problems (using the correct order of arithmetic operations) involving everyday units of measurement and/or whole and mixed numbers. Converts basic measurement units from one level of measurement to another (for example, metres to centimetres).

(b) Example Test Items

- convert basic measurement units
- understand the order of magnitude of simple fractions
- conduct multiple steps with a range of basic operations in a strict sequence using an analysis of a short verbal or visual prompt

37. On a trip a bus driver keeps a record of how far he travels each day and the time taken. Here is the first part of his record. How far did the driver most likely travel on Day 3?

Day	Distance travelled (km)	Time taken (hours)
1	42	6
2	63	9
3		8
4	49	7

- A. (1) 23 km
- B. (2) 56 km (*)
- C. (3) 64 km
- D. (4) 84 km

Source: SACMEQ II Pupil Test and SACMEQ II Teacher Test.

Rasch Difficulty: -0.024

Comment: The pupil needs to translate tabular information into an arithmetic form and then solve the problem using multiple steps and multiple arithmetic operations in the correct sequence.

Appendix I (Ctd.)**Level 6: Mathematically Skilled (Linked with Level 4 in the Test Blueprint)**

(a) Skills: Solves multiple-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).

(b) Example Test Items

- perform complex and detailed mathematical tasks (involving considerable abstraction of verbal, visual, and tabular information into symbolic forms and algebraic solutions) using knowledge not supplied with the task
- use of an extended verbal or graphic prompt (involving an analysis of steps) to identify the correct sequence of calculations
- convert, and operate on, units of measurement (time, distance, and weight)

The chart below shows some temperature readings made at different times on four days. Use the chart to answer questions 47 to 50.

	6 a.m.	9 a.m.	12 noon	3 p.m.	8 p.m.
Monday	15°C	17°C	20°C	21°C	19°C
Tuesday	15°C	15°C	15°C	10°C	9°C
Wednesday	8°C	10°C	14°C	13°C	15°C
Thursday	8°C	11°C	14°C	17°C	20°C

49. *What was the average temperature on Wednesday?*

- A. ₍₁₎ 12° C (*)
- B. ₍₂₎ 13° C
- C. ₍₃₎ 14° C
- D. ₍₄₎ 15° C

Source: SACMEQ II Pupil Test.

Rasch Difficulty: 0.710

Comment: The pupil needs to identify appropriate information expressed as temperatures in tabular form, and then to convert this into numbers, and then translate these into an arithmetic form in order to solve a problem.

Appendix I (Ctd.)**Level 7: Concrete Problem Solving (Linked with Level 5 in the Test Blueprint)**

(a) Skills: Extracts and converts (for example, with respect to measurement units) information from tables, charts, visual and symbolic presentations in order to identify, and then solves multi-step problems.

(b) Example Test Items

- use multiple verbal order of steps with conversion of time units
- translate verbal to arithmetic form, apply units conversion with long division
- convert from mixed number fractions to decimals

24. The table shows the values of x and y , where x is proportional to y . What are the values of P and Q ?

x	3	6	P
y	7	Q	35

- A. ₍₁₎ $P=15$ and $Q=14$ (*)
- B. ₍₂₎ $P=14$ and $Q=31$
- C. ₍₃₎ $P=10$ and $Q=14$
- D. ₍₄₎ $P=14$ and $Q=15$

Source: SACMEQ II Teacher Test.

Rasch Difficulty: 1.573

Comment: The pupil needs to extract information from several places in a table of figures and then apply proportionate calculations in order to solve a multi-step problem involving fractions and conversions into whole numbers.

Appendix I (Ctd.)

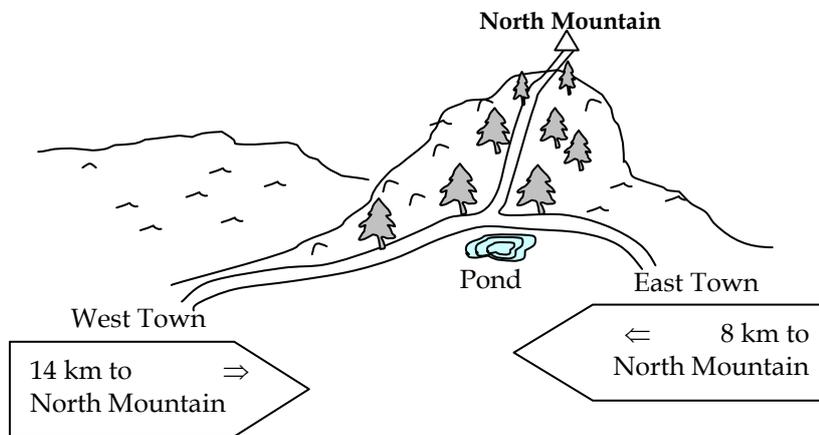
Level 8: Abstract Problem Solving (A New Level Generated from the Skills Audit)

(a) Skills: Identifies the nature of an unstated mathematical problem embedded within verbal or graphic information, and then translate this into symbolic, algebraic, or equation form in order to solve the problem.

(b) Example Test Items

- identify the nature of a problem, translate the information given into a mathematical approach, and then identify the correct mathematical strategies to obtain a solution a solution

35. There are two ways to go to North Mountain. One is from East Town and the other is from West Town. The distance from East Town to the pond in the map below is $\frac{1}{3}$ of the distance from West Town to the pond. What is the distance from West Town to the pond?



- A. (1) 7 km
- B. (2) 8 km
- C. (3) 9 km (*)
- D. (4) 10 km

Source: SACMEQ II Teachers Test.

Rasch Difficulty: 1.934

Comment: The pupil needs to translate the information given into a form of mathematical thinking and then search for a solution strategy. The pupil needs to link the unknown distances to variables and then solve simultaneous equations. The key skills are the identification of the problem, its translation into a symbolic form, and the solution of the equations.