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

## Zanzibar
## Working Report

by

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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

Zanzibar comprises two main islands, Unguja and Pemba, and a number of sparsely populated smaller islands, all of which make up a total area of 2,643 square kilometres. Since 1964, Zanzibar forms part of the United Republic of Tanzania. The Union Government is responsible for defence, external affairs, fiscal policy and monetary issues, while Zanzibar has autonomy over development policy and execution of both recurrent and capital activities. While Tanganyika and Zanzibar constitute the United Republic of Tanzania, education is not a union matter. Consequently, the responsibility for ensuring its development falls under the full responsibility of Zanzibar.

In 2002, Zanzibar's population was estimated 981,754 inhabitants, 51% of which was female and 57 percent rural. The population was growing at an estimated 3.1 percent per annum. Of the total population, 54 percent was in the 15-55 age group, which is indicative of the size of the active labour force. Administratively, Zanzibar has five regions, three in Unguja and two in Pemba. North Pemba had a population of 185,326 while South Pemba had 175,471 inhabitants. North Unguja had a population of 136,639, the Urban/West had 390,074 inhabitants and South Unguja had the smallest population of 94,244. Each region has two districts under the District Commissioner. The head of the region is the Regional Commissioner. Each district is also subdivided into several smaller administrative units knows as "Shehias".

Zanzibar's economy is based on agriculture, but the tourist industry is also gradually becoming a major contributor to the country's economy. Income per capita in 2000 was US$220, and was growing at 1.2 percent per annum. Levels of employment in the formal sector were low as a result of low domestic investment and negative fiscal pressure. A summary of Zanzibar's economic situation has been presented in Table 1.1.

**Table 1.1:  Zanzibar: Selected Macro-economic Indicators (%), 1990-2000**

| Year | 1990 | 1992 | 1994 | 1996 | 1998 | 2000 |
|---|---|---|---|---|---|---|
| Real GDP growth | 5.2 | 3.8 | 0.3 | 7.1 | 0.3 | 4.2 |
| Per Capital GDP growth | 8.5 | 0.8 | 3.3 | 4.1 | 2.7 | 1.2 |
| Inflation Rate | 39.9 | 23.6 | 23.1 | 18.0 | 7.7 | 7.0 |
| Exports/Imports | 27.8 | 8.2 | 21.6 | 52.7 | 69.5 | 55.2 |
| Investment/GDP | 25.0 | 29.0 | 15.9 | 17.0 | 16.2 | 12.4 |
| Domestic Rex/GDP | 29.7 | 22.9 | 39.0 | 31.5 | 37.8 | 34.1 |
| Domestic Expenditure/GDP | 28.9 | 21.8 | 22.0 | 30.6 | 32.7 | 36.2 |
| Tax Revenue/GDP | 15.0 | 21.0 | 25.0 | 14.9 | 26.5 | 21.8 |
| Recurrent Exp./GDP | 45.3 | 10.3 | 26.1 | 18.0 | 28.6 | 32.9 |
| Overall deficit after Grants/GDP | -0.8 | 0.2 | -24.1 | -0.02 | -0.4 | -10.2 |

**Source:** Various Government Official Statistical Reports.

The negative growth rate of Zanzibar's Gross Domestic Product (GDP) averaging -5.2 percent during 1980-90 was reversed to 3 percent between 1992 and 2000.  The inflation rate averaged 33.9 percent between 1980 and 1990, 17.2 percent between 1991 and 2000 and a reached a record low of 7.0 percent in 2000. This trend showed that the GDP and inflation rate fluctuated considerably over the last two decades.

In 2000, about 51 percent of the population of Zanzibar was categorized as poor.  Poverty is more widespread in rural areas although its incidence is increasing in urban areas.  There are many ways in which poverty manifests itself in Zanzibar, both in income and non-income terms.  The indicators of poverty incidence have been presented in Table 1.2.

**Table 1.2: Indicators of Poverty Incidence in Zanzibar (1992-2000)**

| Indicator | Percentage |
|---|---|
| Population poor | 51 |
| Incidence of poverty by female-headed household | 29 |
| Infant mortality per 1000 live births | 83 |
| Literacy rate | 74.6 |
| Net enrolment ratio, primary | 66.7 |
| Population with access to safe drinking water | 40 |
| Households which are food insecure | 10 |
| Children 0-35 months who are malnourished (weight for height) | 50 |
| Population relying on traditional fuels for energy | 89.1 |
| Life expectancy | 57 |
| Unemployment rate | 18-20 |

**Source:** Various Government Officials Statistical Reports.

Among the noticeable manifestations of poverty, the provision of social services is very revealing. Adult literacy rate stood at 74.6 percent, life expectancy at 57 years, and only 40 percent of the population had access to safe drinking water. Un-employment was estimated between 18 percent and 20 percent.

## The Structure of the School System

One of the key features of Zanzibar's education system is that, according to Zanzibar's Education Act of 1982, the provision of basic education up to secondary level was compulsory and free. The span of basic education has changed over the years. Up to the revolution in 1964, basic (primary) education was eight years. Between 1968 and 1976 the number of years increased to ten. From then up to 1992 basic education was 11 years. In 1992 it was reduced to 10 years. The overall structure of education as laid down in the 1991 Zanzibar Education Policy is 3-7-3-2-2. This means the school system comprises 3 years of pre-primary education. However, this is not considered as part of basic education. Primary education comprises seven years followed by 3 years of the first cycle of lower secondary education. These ten years are basic compulsory education, and pupils take a terminal examination at the end of this cycle.

About 40 percent of the first cycle of lower secondary education graduates are selected to continue for two years to complete the second cycle of lower secondary education, at the end of which they sit for the Certificate of Secondary Education Examination (CSEE). The Advanced Certificate is taken after a further two years of upper secondary education on the basis of their performance in the CSEE. A more detailed description of the three selected levels of the education system has been provided below.

### i)  Pre-primary Education
Pre-primary education is provided by public, private and Quranic schools, and is not compulsory. Access and participation is still low, and in 2000 it stood at around 13 percent of the 4-6 age group.

### ii)  Basic Education
Basic education in Zanzibar is made up of seven years of primary and three years of lower secondary education. The first year of junior secondary is termed "Orientation Secondary

Class" (OSC). This year was introduced to strengthen the language and mathematical ability of pupils. The Gross Enrolment Rate (GER) in 2000 was 85.5 percent while the Net Enrolment Rate (NER) was 54.7 percent, with a drop out rate and repetition rate of 7.3 percent and 4.9 percent per annum respectively.

### iii) Secondary Education

There are three cycles of secondary education. The first cycle, termed the "junior secondary education" is a three-year cycle and constitutes part of the basic education. The second cycle, termed the "senior secondary education" lasts two years and covers Form III and Form IV. At the end of Form IV, pupils write a qualifying entrance examination to gain entry into the third cycle. This third two-year cycle covers Form V and Form VI, and is termed the "Advanced level".

### The Administration of School Education

In 2000 there were 207 government schools and 118-private owned schools. All government schools are administered and managed by the Department of Education. The role of the Department is to provide management support to the schools, and also includes the deployment of new teachers. The Department also has the role of ensuring that all programmes at school level are well implemented. At district and regional levels the district and regional education officers are in-charge of their areas respectively. The deployment of teachers is done at district level, but the process is coordinated at central level by the Department of Education.

From an instructional perspective, the school is divided into several sections. At the primary level there are two sections. Section one is comprised of Standard One to Three and section two comprises Standard Four to Seven. Section three covers Orientation Secondary Class to Form Two. Moreover, each section has a section leader who is the supervisor and advisor to the teachers in the section.

According to the Zanzibar Education Decree No. 6 of 1982 each school must have a school committee. The members of the committee are selected and appointed as follows: (a) a chairperson who is appointed by the District Commissioner. Normally the "Sheha" (an officer in charge of a locality) is the chairperson; (b) two members appointed by the Sheha;

(c) two members appointed by the District Education Officer; (d) three members elected by the parents themselves. The school head is the secretary of the committee.

The function of the school committee is two-fold, namely:

i)     to bring the community closer to the school in order to promote ownership; and
ii)    to assist in the administration and management of the school, and thus promote its development.

Although the formation of the school committees had been decreed, the committees have not been given legal powers to exercise their duties and functions.

The inspection of schools is administered by officials at national level. Between 1995 and 2000 a number of reforms have been introduced in the inspection and supervision of schools. The purpose was to improve the quality of teaching and learning. Of these reforms, the two important ones were the revision of the inspectorate system and the introduction of teacher centre advisors. The inspectorate was revised to be in line with other systems in the Southern Africa Development Community (SADC) countries. The major changes in the system was the introduction of the basic inspection component whose purpose was to assess the overall strength and weakness of the school rather than pointing at the mistakes of a particular teacher. Secondly, the school heads were appointed as associate inspectors in order to make them more accountable. The inspection was designed in a way that made it more transparent and the inspection reports are distributed and discussed with all stakeholders including school committees.

Since 1997, teacher professional development has been decentralized to the zonal Teacher Centers (TCs). There are nine Teacher Centres and training is conducted by TC advisors. The role of the advisors is to visit schools and identify teachers who need advice, provide such advice, and guide teachers in their particular subject area. It is around the findings from these visits and discussions with teachers that training is planned and conducted.

## Financing of Education

The education sector has been accorded high priority in total government spending. Between the financial years 1990/91 and 2000/2001 the highest allocation was 14.9 percent of the 1999/2000 budget, and the lowest was 8.4 percent for 1991/92. The aspects of education spending between these years have been presented in Table 1.3 as the percentage of total government spending and as a percentage of GDP.

**Table 1.3: Zanzibar Aspects of Education Spending 1990/91-2000/01**

| Year | As% of GDP | As % of Total Government spending |
|------|-----------|-----------------------------------|
| 1990/91 | 2.9 | 10.6 |
| 1991/92 | 4.1 | 8.4 |
| 1992/93 | 2.9 | 9.7 |
| 1993/94 | 3.1 | 13.1 |
| 1994/95 | 2.7 | 11.5 |
| 1995/96 | 3.6 | 13.6 |
| 1996/97 | 3.5 | 12.8 |
| 1997/98 | 4.2 | 14.2 |
| 1998/99 | 3.4 | 10.1 |
| 1999/00 | 3.9 | 14.9 |
| 2000/01 | 2.8 | 10.8 |

**Source**: Ministry of Education Budget Speeches 1991-2001.

The bulk of the government spending in education is recurrent expenditure. The recurrent expenditure has fluctuated from one year to another, the highest being the one for in the year 1996/97 which stood at 99.7 percent. Around 83 percent of the recurrent budget was channeled to staff salaries in 1999/2000. The remaining 17 percent went to the purchase of educational materials, to training and to other administrative functions. The high proportion of the recurrent budget also means the financial resources left to support capital development are very limited. As a result, there is low investment in school infrastructure, with the result that the implementation of education plans has frequently been compromised.

From 1964 to the late 1970s, the main source of funding for education was the government, with communities contributing through self-help schemes in the building of schools. From 1980 up to 1995 government funding has been complemented by donor funds especially in the capital development budget. Parent and community contributions have been increasing

over the years, and it is estimated that by the year 1998/1999 parent and community contributions reached about 71 percent of the capital budget on classroom construction.

## Curriculum Development

All government and private schools follow the curriculum prescribed by the Ministry of Education. The Department of Curriculum Development, Examination and Teacher Support is in charge of curriculum development. Curriculum revision can be initiated by the Department itself or by the school subject panels that are found in each school. The function of the panels is to oversee the overall implementation of the curriculum within the school. The panel heads give guidance to the subject teachers and identify problems in the curriculum. The panel heads can also conduct in-house training for teachers.

The centre for curriculum development is the National Teachers Resource Centre. The national subject advisors stationed at the Centre are the leaders in the development of the curriculum for each subject. Others involved in the development of syllabus guidelines, teaching and learning materials are zonal TC advisors, school inspectors, teachers and subject specialists. The size of each group depends upon the scope and complexity of the activities each group is responsible for. After the development of materials, pilot schools are identified and the teachers in the pilot schools are trained on how to use the materials. At the end of the pilot stage the materials are revised and sent to schools as part of the revised curriculum while the zonal teachers centre advisers conduct the training for the teachers.

## Teacher Training

In Zanzibar, there are two types of institutions which conduct training for teachers. Initial training of teachers takes place at the two teacher training colleges. These colleges train certificate teachers for primary schools and also diploma teachers for those who teach lower secondary classes. The selection of trainees is merit based, and prospective teacher trainees have to meet the set criteria. Trainees selected for a certificate course must have passes in not less than four subjects in the Certificate of Secondary Education Examination. To gain entry into a diploma course, a trainee must have passes in the higher secondary school certificate examination in particular specialized subjects. Until year 2000 the primary teachers'

certificate was general. Specialization was due to be introduced in 2001. A primary school teacher can specialize in social studies, primary science and mathematics, or in languages.

Professional development and in-service training are carried out at the national and zonal TCs. In 1978 Universal Primary Education (UPE) was introduced. Because the introduction of UPE was accompanied with a rapid expansion of enrolment, the Ministry has been employing untrained teachers each year since then. After a period of teaching these untrained teachers go to the teacher training college for regular training. In 1997 the Ministry established teacher training through distance learning, and some of the untrained teachers have benefited from this distance learning programme. This programme is managed by the TCs. Instead of being full time students for two years, the trainee teachers on the distance learning programme remain in school for three days of the week and attend face-to-face training for two days each week at the TCs. At the end of training the new teachers are employed by the Ministry. The regional/district offices allocate the teachers to each school depending on staffing its needs.

## Recent Educational Policy Review and Policy Reform

Since 1964, education in Zanzibar has been offered free at all levels. However, the adverse and deteriorating economic conditions in the country have forced the government to introduce parental contributions. From 1998 the Ministry has determined the amounts of money that parents should contribute each year at the different levels of education. However, existing policy requires that those students who cannot make such a contribution should not be forced out of school.

The policy on privatization has also encouraged the participation of private players in education. In the early 1990s a number of private schools of all levels, both primary and secondary, have been established by religious organizations, communities and individual investors.

The Zanzibar Education Policy was published in 1991. The main areas that the policy dealt with focus on two broad goals, namely:

a)      promoting cognitive development of the students; and

b) providing education which will cater for learners' development in the affective and psychomotor domains.

The Ministry of Education developed the Zanzibar Education Master Plan 1996 – 2006 (ZEMAP) in order to address issues of access, equity, quality, relevance, decentralization and the promotion of science and technology. This Master Plan was synchronized with other national development plans such as the Zanzibar Poverty Reduction Plan (ZPRP) and the Zanzibar Vision 2020. The ZPRP addressed two main areas, namely, the integration of education and improving the quality of education for the poor and socially excluded. The target for Vision 2020 is to achieve universal basic education by 2020, and raising primary school enrolment to 100 percent by 2010.

In 2000 a mid-term review of the Master Plan was made, and this culminated in an education sector study which produced a status report. This and other studies and reviews on education have raised concerns on the need for curriculum review and reform. The major criticism leveled against the curriculum has been its functionality and utility to school leavers. Another criticism made was that there was overcrowding in the primary level curriculum. This led to the revision of the primary school curriculum. A skills development curriculum was developed and a new subject on "life skills" was introduced. At the secondary level the review focuses on the re-introduction of biased streams like agriculture, fisheries and marine.

In addition, concerns have been expressed with regard to girls' access to education. Dialogue has been going on among various stakeholders with a view to reviewing the existing policy regarding school-girl pregnancies and early marriages. In 2000, the policy still required girls who got pregnant, or who got married, to leave school, and this resulted in a high girl dropout rate.

## Policy Concerns

The three policy documents that guide the Ministry of Education's pursuit of its goals are the Zanzibar Education Policy, the Zanzibar Education Master Plan, and the Zanzibar Poverty Reduction Plan. However, there are several major concerns which need to be addressed in order to strengthen the efforts. All the three documents, nevertheless, have to deal with the

four key challenges if they are to facilitate the achievement of the goals set for the education sector. These challenges are:

1)       expanding access to education

2)       ensuring an equitable distribution of resources

3)       ensuring quality, and

4)       achieving efficiency both internal and external.

In order to fully appreciate the importance of these challenges, it is necessary to explore each in some detail.

**Access to education**

The critical issues that need to be addressed in this area are expanding access to education for the socially excluded, including education for the disabled, ensuring expansion of girls' access to and participation in education, and enhancing the retention of pupils at different levels.

**Equitable distribution of resources**

Observations have shown that there are some geographical inequities in the provision of education services across the different regions and districts, particularly in terms of the provision of physical inputs (especially school facilities such as libraries, the provision of water, adequate number of toilets, school gardens and playgrounds) and human inputs (namely, teachers with the appropriate qualifications and experience).

**Quality**

The expansion of access has resulted in the deterioration of the quality of the education provided. The problems relate to overcrowding in the available classes and in the shortage of instructional materials. Curriculum-related issues like relevance and the infusion of life skills in the curriculum and management of the schools have also been of concern.

**Internal and external efficiency**

The education system seems to have low internal efficiency, and this is manifested in the high rates of wastage in basic education. The overall dropout rate in 2000 was 7.3 percent per year. Around 45 percent of the enrolled pupils at basic education level are overage. In 2000, the survival rate of a cohort was around 76 percent.

There is evidence that external efficiency at the basic education and senior secondary levels of education is low. The lower secondary curriculum seems to be less relevant to the life of work, hence many pupils cannot employ themselves, and those who are employed seem to have little education that can be applied to their areas of employment. Also, a large and increasing proportion of Form IV leavers is not employed.

## The SACMEQ Consortium and its Perceived Importance

The first SACMEQ study took place in 1995. At first five reports were produced, and among these five was the Zanzibar Report. The study involved reading literacy for Standard 6 pupils. The second SACMEQ study took place in 2000 and this publication reports the results of the study. SACMEQ II also focused on Standard 6, but this time it assessed achievement in both reading literacy and mathematics.

The SACMEQ study is very important and useful for the measurement of progress towards the achievement of Ministry of Education goals. Until the time of SACMEQ I, the only indicator of the achievement of pupils was from the Standard 7 Primary School Examination. One problem was that the data were rarely analyzed to examine either the differences in achievement between the educational administrative regions in the country between different points in time. However, the SACMEQ I results proved to be very useful to the Ministry of Education in terms of policy suggestions for action. These policy suggestions were not only to do with the Standard 6 achievement in reading literacy, but also with actions required in order to improve the conditions of learning in the schools. SACMEQ II results would provide further information on the conditions of schooling and also measure achievement in reading literacy and mathematics. The results also will indicate whether there has been an improvement or deterioration in the level of educational inputs between SACMEQ I and SACMEQ II.

The Ministry of Education's EFA goals, particularly on the improvement of quality, would depend on the capacity and capability of the teachers. The acceptance of the Standard 6 teachers teaching Kiswahili and Mathematics to take part in the survey provides information on matters related to teacher motivation, teacher working conditions, their strengths and weaknesses in management and their training needs. Such information can serve as the basis for policy development.

SACMEQ I and SACMEQ II studies have provided training in large-scale survey research work which includes data collection, data entry and data cleaning, to regional and district officers, inspectors and planners who were involved in carrying out these activities. The training is an investment for future activities.

SACMEQ studies have been a cooperative endeavor among African countries. The whole concept of sharing information, knowledge and skills would build closer relationships for further development of education in the region. Also, the cooperative analysis of pupil achievement and educational inputs between countries in the region would enable countries to learn from their weaknesses and strengths.

**Structure and contents of the report**

The report started with the background information about Zanzibar and the education system. The rest of the report will provide information from the analysis of the data from SACMEQ II study. In Chapter 2 the conduct of the study has been explained. This includes the description of the construction of the reading and mathematics tests for the pupils and their teachers. The chapter also includes the sampling procedures used and the calculation of sampling errors, data collection, data entry and the cleaning and weighting of the data.

The general policy concerns regarding pupils, their homes and classroom inputs have been reported in Chapter 3. Information on teachers' characteristics and their viewpoints on teaching, classroom resources and job satisfaction have been provided in Chapter 4. In Chapter 5 the school head's characteristics and their viewpoints on educational infrastructure, the organization and operation of schools, and problems with pupils and staff have been presented. In Chapter 6, the results of the analysis of the equity in the allocation of

educational inputs to regions and also to schools within regions have been provided. The achievement levels for both pupils and their teachers in reading and mathematics have been reported in Chapter 7. This chapter also compared the achievement results between SACMEQ I and SACMEQ II across the Zanzibar's education regions. In the final chapter, Chapter 8, the summarized policy concerns and suggested agenda for action have been presented.

## <u>Conclusion</u>

In this chapter the socio-economic and educational background of Zanzibar has been provided. The chapter has also given the description of the structure of the school system and administration of school education. The analysis of the financing of education has highlighted the key challenges faced, and indicated that there is a need for a review of the education sector's expenditure budget, and specifically on the need for an increase in the allocation of inputs to the education sector. The chapter has also explained how curriculum development takes place, and described how teachers are selected for training as well as how they are allocated to schools after training. The issue of policy reviews, reforms and concerns has also been addressed.

## Chapter 2
## The Conduct of the Study[1]

### Introduction

In this chapter the way in which the SACMEQ II study was conducted in the sub-region and in Zanzibar is described. This description focuses on the planning of the study, the instrument development process, the sampling procedures, the data collection, data entry, data cleaning and merging, data analysis and writing up of the results.

### Planning of the study

The first step was to identify the major policy concerns that were of interest to the ministries of education in the fourteen ministries actively participating in SACMEQ II. In each of the ministries 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 general, there were twenty general policy concerns which can be summarised under five themes as follows:

- 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.

Each of the general policy concerns has been presented in Appendix 2.1. In total, there were twenty general policy concerns covering 75 specific research questions that resulted in around 150 dummy tables. For each specific research question a dummy table (blank table) was

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

developed. Dummy tables are empty or blank tables that specify the variables and the type of data analysis to be used to complete the table. The advantage of producing these dummy tables was that the process forced the researcher to: check the data collection instruments covered all information needs; ensure close linkages between specific research question and the question on the data collection instruments; reach agreement on the selection of variables and the type of the data analysis to be applied; and design and justify the data tabulation templates to be used in the reporting the data analysis.

## Instrument development

The following instruments were developed: a pupil test of basic reading literacy and mathematics; a pupil questionnaire; a reading[2]/mathematics teacher questionnaire; and a school head questionnaire.

For the purposes of this study, reading literacy was defined as: *'the ability to understand and use those written language forms required by society and/or valued by the individual'*. Such definition was used in SACMEQ I and also in the IEA Reading Literacy Study. It accommodates the diversity of traditions and languages represented in the participating countries, but specific enough to provide some guidance for test construction. Writing ability was purposely excluded from the definition and therefore only a minimal amount of writing was required of pupils throughout the testing process.

The domains or types of reading literacy materials included in the pupils reading test were categorized in the following three dimensions:

**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.

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[2] Reading refers to Kiswahili in Zanzibar school system.

**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.

## Questionnaire development

Questions were developed for each variable or each sub-part of a variable required. Decisions about the number of questions that will be required was determined by the number of the variables in the dummy tables. In some cases, only one question was needed (e.g. pupil's age) but in others several questions were needed (e.g. parental education, home possessions, and others). These were then trialled in the pilot study and, where necessary, revised.

## Test construction

Tests were 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 or "link" items in SACMEQ tests and the tests from these 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, examinations, and textbooks used in the SACMEQ countries. The selection of teacher test items covered the full range of pupil item difficulties but did not, of course, 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

Following the definition given above, a blueprint of the test in terms of items and domains by hierarchy has been presented in Appendix 2.2. 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 skills levels 1 to 5, respectively.

**Mathematics test**

A similar exercise was undertaken for the development of the mathematics test except that this time there was 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 proposed blueprint with levels and items have been presented in Appendix 2.3.

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

Following the construction of the test blueprint, the reading and mathematics tests were prepared and then reviewed by the National Research Coordinators (NRCs). All items were in a multiple choice format with four options per item. For Zanzibar, the questionnaires and the test items were translated from the English version into Kiswahili which was the language of instruction at primary level. Two different translators were used for this process. They translated the text and items separately and then compared their translation. Finally, a third translator was given the Kiswahili final version for translation from Kiswahili back into English. The back translations were deemed to be very similar to the original English version and hence the Kiswahili translations were also deemed to be of good quality.

After the test blueprints had been developed the NRCs worked in teams to either select or 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 focused 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 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 Zanzibar the pilot study was conducted in 30 schools selected from each of Zanzibar's five regions, comprising 600 pupils. The pilot training took place between 10 September and 14 September 1999, while the pilot study was conducted between 15 September and 16 September 1999. The pilot study also provided an opportunity for the training of the ten first data collection team leaders who took part in the main study held on 17 October and 26 October 2000. The data were returned to a central data processing centre at the International Institute for Educational Planning (IIEP) in Paris, France.

## 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, 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. However, for SACMEQ I in Zanzibar the correlation between the 'essential' items and all items was 1.00 and for SACMEQ II the correlation was 0.99. 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 result was between 0.98 and 1.00. This is proof that the tests were valid for Zanzibar and also for other countries.

The mean for all SACMEQ II countries was set at 500 and the standard deviation at 100. For Zanzibar the mean pupils test score was 478.2 for reading and 478.1 for mathematics. The mean teacher reading and mathematics test scores for all SACMEQ II countries was 733, while the mean for Zanzibar teachers in reading and mathematics was 653.7 and 689.3 respectively. This

meant that in reading and mathematics, both the learners and the teachers scored below the SACMEQ II means. Details of pupil and teacher achievement have been provided in Chapter 7.

### *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 <u>and</u> 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 2.4.

An abbreviated version has been presented in Table 2.1. 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. Match 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. |
| **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. | **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. |
| 4 | **Reading for meaning**: Reads on or reads back in order to link and interpret information located in various parts of the text. | **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. |
| 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. | **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 centimetres) |
| 6 | **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. | **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). |
| 7 | **Analytical reading**: Locates information in longer texts (narrative, document, or expository) by reading on and reading backing 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). | **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 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 the characteristics of the reader – such as age, knowledge, and personal beliefs (values systems, prejudices, and/or biases) | 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. |

*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 were 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

For any project the "best" sample design 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 Standard 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 <u>overall response rate</u> for pupils of 80 percent. This figure was based on the wish to achieve or exceed a response rate of 90 percent for <u>schools</u> and a response rate of 90 percent for <u>pupils within schools</u>.

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 Zanzibar, the *desired* target population was "all pupils enrolled in Standard 6 in the ninth month of the school year (i.e., in September 2000)**"**. The net enrolment ratio in Zanzibar in 2001 was 76.0. However, it was decided to exclude certain pupils. These were pupils in schools having fewer than 20 Standard 6 pupils in them and pupils in special schools. In all 138 pupils from 10 schools were excluded but this only amounted to 0.6 percent of all pupils. In Zanzibar there were 161 schools having 22,179 pupils in 2000. After excluding the 0.6 percent of pupils, the defined population from which a sample had to be drawn consisted of 22,041 pupils from 151 schools.

The number of schools required in the sample is in part a function of the intra-class correlation or "rho", which is an indicator of the proportion of variation (in achievement in this case) among schools of total variation. The formula often used for estimating the value of rho in situations where two-stage cluster sampling (in approximately equal sized clusters) is as shown below:

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

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.

In SACMEQ I the rho value for Zanzibar was 0.17. That is, only 17 percent of the variation was among schools and 70 percent within schools. Therefore, in the case of Zanzibar a rho of 0.17 was used. This meant drawing a sample of about 100 schools.

In Table 2.2 the numbers of schools and pupils in the planned and achieved samples have been presented. The sample was stratified into regions and the number of school required for each region was can be seen. The actual number of schools was 145.  In all, 87 percent of the planned number of pupils were in the final sample and 100 percent of the schools. The reason for the shortfall in pupil numbers was absenteeism by some pupils in some of the schools on the day of data collection. However, sampling weights were used to correct for disproportionality among strata in the calculation of all statistics.

It will be recalled that the major aim of the sampling was to have the equivalent of a simple random sample of 400 pupils. In SACMEQ II the rho value was 0.25 for reading and 0.33 for mathematics. Thus, in 2000 the variation among schools was slightly higher than in 1995.

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

|              | Planned Sample | | Achieved Sample | | Percent Achieved | |
|--------------|---------|--------|---------|--------|---------|--------|
| **Region**   | Schools | Pupils | Schools | Pupils | Schools | Pupils |
| North Pemba  | 30      | 600    | 30      | 502    | 100     | 84     |
| South Pemba  | 33      | 440    | 22      | 373    | 100     | 85     |
| North Unguja | 33      | 660    | 33      | 557    | 100     | 84     |
| Urban/West   | 28      | 560    | 28      | 519    | 100     | 93     |
| South Unguja | 32      | 640    | 32      | 563    | 100     | 88     |
| **Zanzibar** | 145     | 2900   | 145     | 2514   | 100     | 87     |

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 Zanzibar technical committee proposed two categories of people responsible for data collection. The first category consisted of education officers (including Regional and District education officers, and school inspectors) who were to carry out the main data collection. The second category consisted of Ministry officials, who supervised and facilitated the smooth running of data collection and the return of data collection instruments to the Ministry.

Before the fieldwork commenced, training sessions were conducted. The first session was for the supervisory group and those who assisted in the training. Due to geographical location, the training sessions were conducted in two islands: Unguja Island and Pemba Island. A total of 25 data collection team leaders were trained between 3 October and 11 October 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 Ministry. The main data collection then took place between 17 October and 26 October 2000.

The survey required school heads to undertake some work before the questionnaires were administered in order to answer some of the questions. Letters were therefore sent to each school two weeks in advance of the data collection so that there would be enough time for the preparatory work. Further, the data collectors visited the schools a day early in order to undertake the sampling of the 20 pupils and to arrange for a testing room.

Each data collector was given 20 pupil booklets (plus two spares) and two or more Teacher Questionnaires, depending on the number of teachers teaching Kiswahili and the number of teachers teaching mathematics at Standard 6 level in the particular school. Each data collector was given one School Head Questionnaire.

All completed questionnaires were returned to the head office of the Ministry on the same day. The conduct of the study went according to plan. However, as expected, some data collectors were more thorough than others. The plan of having supervisors did help in the reducing mistakes by solving problems on the sport. Data collectors were asked to write a brief report on the fieldwork.

## Data entry and data cleaning

A team of eight persons from the Ministry of Education were appointed and trained in the use of WINDEM, a special data entry package to be used in SACMEQ. They were supervised by one person trained during the main training at IIEP Paris.

The numbers of keystrokes required to enter one copy of each data collection instrument were as follows: pupil booklet: 300; pupil reading test: 85; pupil mathematics test: 65; teacher booklet: 681; teacher reading test: 51; teacher mathematics test: 53; school head questionnaire: 319; school form: 58; and pupil name form: 51.

In the case of Zanzibar the total number of keystrokes was as follows: pupil booklet: 754,200; pupil reading test: 213,690; pupil mathematics test: 163, 410; teacher booklet: 247,203; teacher reading test: 9,945; teacher mathematics test: 9,116; school head questionnaire: 46,255; school form: 8,410; and pupil name form: 128,214. That is, a total of 1,580,443 keystrokes were required to enter all of the data for Zanzibar.

An experienced keyboard operator can work at a rate of 25 keystrokes per minute (working from multi-paged questionnaires and stopping occasionally to clarify individual questionnaire entries with the supervisor). Assuming that this kind of work rate could be sustained for, say, around a maximum of six hours per day, then the whole data entry operation for Zanzibar was estimated to amount to around 176 person days of data entry work. This implied an estimated five weeks of work for the eight-person data entry team that operated in Zanzibar. However, the work was completed in 28 weeks from November 2000 to June 2001 because only few computers were available for the work.

At the end of this procedure the data files were sent by e-mail to the 'Monitoring Educational Quality Unit' at the IIEP in Paris. Many consistency checks were made for many variables as well as for the identification codes used. The IIEP team had many queries. The first data files were sent to Paris in 15 June 2001 and after 27 cleaning cycles that took almost two years (22 months) of cleaning the files were finally declared to be clean on 23 April 2003.

### 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.

## <u>Conclusion</u>

In this chapter, the procedures undertaken in order to conduct the Zanzibar component of the second educational policy research project of the 'Southern and Eastern Africa Consortium for Monitoring Education Quality' has been described. Detailed explanations were given on the development of data collection instruments, the development of reading and mathematics tests, sampling methods and procedures, and field work operations. The measures taken at every stage of the process ensured that the highest possible quality was reached, and that international standards of good large-scale survey research were attained.

## Chapter 3

## Pupils Characteristics and their Learning Environments

### Introduction

The main aim of this chapter is to present information and discuss data related to the characteristics of pupils and their homes. The reasons for presenting these data are two-fold. Firstly, the data provide a 'context' for subsequent analyses to be presented in this report. Secondly, over time, the levels and distribution of the data may well change and when Zanzibar undertakes a similar Standard 6 study in the future, it will be possible to compare the extent to which such context variables have changed with time.

**A note on the interpretation of data analyses**

Before presenting the results, it is important to highlight two points. The first point is that the variables presented in this chapter represent only a small subset of a larger number of variables for which data were collected. 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 Zanzibar, such that a sample estimate of a population percentage would have a standard error of $\pm$ 2.5 percent. For this level of sampling accuracy we can be sure 19 times out of 20 that the population value percentage is within $\pm$ 5 percent of the estimates derived from the sample. The sampling errors for means are also given in the tables and the same principle applies for limits of two standard errors of sampling.

Where a percentage or a mean is presented for a subgroup of pupils (such as for regions) then the standard error will be greater than for the sample as a whole. This occurs, in part, because the sample sizes for subgroups are smaller than the total sample sizes.

As an illustration, consider the first column of entries in Table 3.1(b). The average age of pupils in months at the time of data collection has been presented separately for

each region and for Zanzibar overall. The standard error (SE) of each average has also been presented. For the first region, North Pemba, the average pupil age was 182.8 months at the time of the data collection, and the standard error for this estimate was 0.91 months. That is, there were 19 chances in 20 that the average age of the population of Standard 6 pupils in North Pemba was 182.8±2 (0.91). In other words it can be said that we can be 95 percent confident that the population value for North Pemba was between 180.98 months and 184.62 months (or, if rounded, between 181 months and 184 months).

It is important to note that the value of the standard error for each estimate varied from region to region. The variation was caused by two main factors: differences in the distribution of pupils among schools within the regions and the structure of the sample design within each region. The standard error of month which occurred for the sample estimate of average age for the whole population of Standard 6 in Zanzibar was 0.42. This result was to be expected because the overall sample was based on a much larger sample of schools and pupils than the corresponding estimate for any single region.

In interpreting the values in Table 3.1(b) 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 who were 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 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?**

According to the Ministry's guidelines, all children should be seven years old by the time they enter primary school. The problem of not having adequate classrooms is

associated with delays in the entry of some of the children in schools, resulting in large numbers of over-aged pupils.  The study explored the ages of Standard 6 pupils with the assumption that a normal child who entered the system aged seven years should have been 142 months of the data collection.

**(a) Age distribution of Standard 6 pupils**

In the first column of the figures in Table 3.1(a) and 3.1(b), the average age of Standard 6 pupils in months for Zanzibar overall and the regions have been presented for SACMEQ I (1998) and SACMEQ II (2000) projects respectively.

**Table 3.1(a): Means, percentages, and sampling errors for the pupil age, sex, and home-related characteristics (SACMEQ I)**

| Region | 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 |
| North Pemba | 183.2 | 1.51 | 43.4 | 2.73 | 9.2 | 1.96 | 3.0 | 0.13 | 10.4 | 0.10 | 2.1 | 0.06 |
| South Pemba | 177.2 | 1.10 | 53.9 | 2.63 | 16.4 | 3.12 | 3.2 | 0.15 | 10.5 | 0.11 | 2.1 | 0.06 |
| North Unguja | 177.0 | 1.22 | 51.5 | 3.09 | 13.4 | 2.62 | 4.2 | 0.29 | 10.0 | 0.18 | 2.1 | 0.08 |
| Urban/West | 168.9 | 0.98 | 57.5 | 2.48 | 19.0 | 2.54 | 5.8 | 0.13 | 11.0 | 0.10 | 3.2 | 0.06 |
| South Unguja | 173.3 | 0.90 | 54.0 | 2.75 | 12.8 | 2.27 | 3.2 | 0.13 | 10.3 | 0.11 | 2.2 | 0.06 |
| **Zanzibar** | 174.0 | 0.55 | 53.5 | 1.34 | 15.6 | 1.33 | 4.4 | 0.07 | 10.6 | 0.06 | 3.6 | 0.03 |

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

| Region | 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 |
| North Pemba | 182.8 | 0.91 | 51.0 | 2.64 | 6.1 | 1.49 | 3.9 | 0.11 | 11.2 | 0.07 | 2.8 | 0.06 |
| South Pemba | 180.8 | 0.86 | 52.8 | 2.41 | 7.8 | 1.69 | 3.5 | 0.11 | 11.2 | 0.09 | 2.6 | 0.06 |
| North Unguja | 185.7 | 1.13 | 51.9 | 3.05 | 11.4 | 2.40 | 3.3 | 0.10 | 10.4 | 0.12 | 2.4 | 0.07 |
| Urban/West | 173.9 | 0.78 | 51.6 | 2.52 | 16.2 | 2.24 | 6.5 | 0.16 | 11.6 | 0.07 | 3.6 | 0.06 |
| South Unguja | 177.0 | 0.95 | 50.8 | 2.53 | 7.3 | 1.79 | 3.5 | 0.10 | 11.2 | 0.07 | 2.9 | 0.06 |
| **Zanzibar** | 179.1 | 0.42 | 51.7 | 1.23 | 10.8 | 0.97 | 4.6 | 0.06 | 11.2 | 0.04 | 3.0 | 0.03 |

At the national level, the average age of a Standard 6 pupil was 174.0 months (14 years and 6 months) in 1995 and 179.1 months (14 years and 11 months) in 2000. These figures indicate that in 2000 the pupils were 37.1 months (or about 3 years and 1 month) older than the expected official age for Standard 6 pupils. It can also be observed that the average age of a Standard 6 pupil had increased by five months in 2000 compared to 1995.

There were also regional disparities in the age of the pupils. In both SACMEQ I and SACMEQ II studies, the average age of pupils was lower in the Urban West Region (168.9 months and 173.9 months respectively) than in the other four regions. In contrast, the oldest Standard 6 pupils were found in North Pemba (183.2 months and 182.8 months for SACMEQ I and SACMEQ II respectively) and North Unguja Regions (177.0 months for SACMEQ I and 185.7 for SACMEQ II). The highest average age for North Pemba Region in 2000, which was 185.7 months represented 43.7 months (or 3 years and 9 months) more than might have been expected.

There were several factors that might have contributed to the many 'over age' pupils in Zanzibar's Standard 6 pupils. First, there was a problem of insufficient number of classrooms to accommodate all the registered Standard 1 pupils. The result was an accumulation of older children who were waiting to enter Standard 1. This problem affected Unguja, Urban/West Region and the towns of North and South Pemba due to rural/urban migration and due to migration from one town to another. North Unguja Region has also been affected due to high population growth (3.1% birth rate).
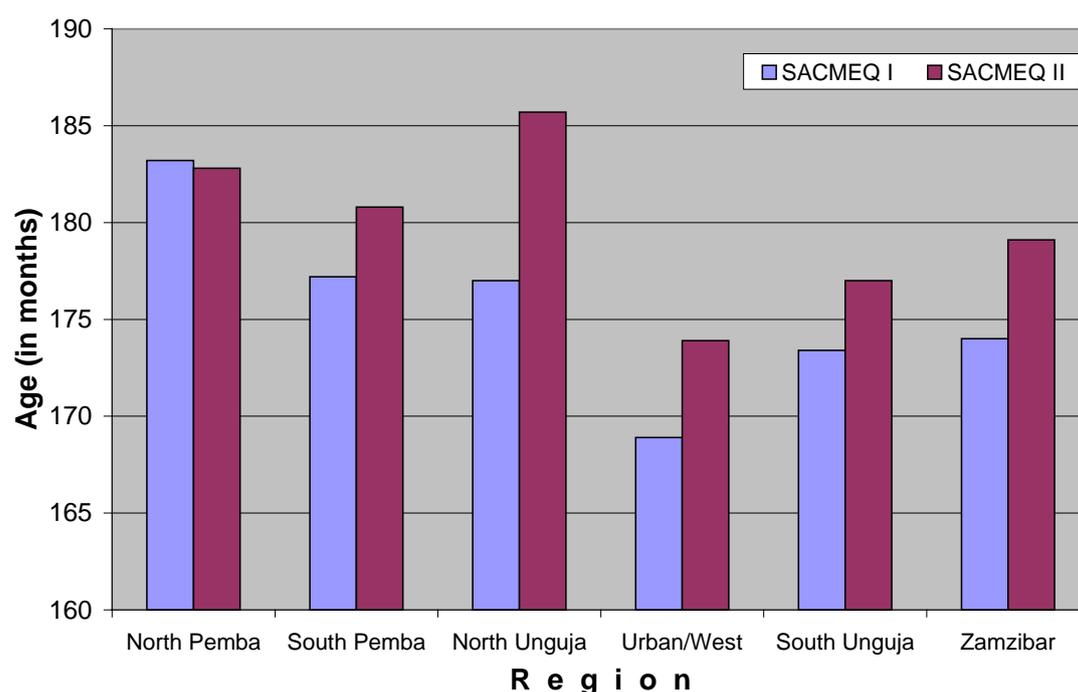
**Figure 3.1: Pupils' age (SACMEQ I and SACMEQ II)**

The second causal factor for over-age children was grade repetition. Although this is not a serious problem, it is common across all regions. Grade repetition is partly caused by over crowding in classes, with the result that teachers cannot give attention to all pupils. The problem is further compounded by truancy among pupils.

### (b) Gender distribution of pupils

The overall percentage of the girls in Standard 6 in the regions of Zanzibar for SACMEQ I and SACMEQ II have been presented in the second column of Table 3.1 (a) and 3.1 (b) respectively.

Nationally, in 1995 the percentage of female pupils was 53.5 whereas in 2000 the percentage of girls was 51.7. In 2000 the percentages of girls in the five regions were very close to the national average of 51.7 percent. The highest figure from the mean, representing 1.1 percent, was recorded in South Pemba. This is different from the percentage distribution of girls in 1995 where the percentage of girls in North Pemba Region was 10 percentage points below the national mean of 53.5, and the percentage for Urban West was 4.0 percentage points above the national mean.

Between 1998 and 2000 the Government, non-governmental and community organizations had been conducting advocacy programmes on the participation of women in national development. The importance of girls' education was emphasised. This created awareness among parents, especially in areas where levels of awareness on the need for parents to send their girl-children to school and to allow them to continue were previously low (for example, in North Unguja and North Pemba Regions). The prevalence of early marriages has also decreased to some extent. The success of these efforts is seen in the narrowing of gender disparities in Standard 6 enrolments between 1995 and 2000 and in the greater equity of this variable among regions. This is a very positive development in Zanzibar's education system, and such efforts must be sustained.

Dropout is one of the problems that affected all regions. It has been observed that boys around the age of 11 to 13 tended to dropout more than did girls of the same age group. Some of these children eventually find their way back into school and this therefore increases the average population of pupils in different classes.

> **Policy suggestion 3.1:** The Research Section of the Department of Planning and Finance should conduct an in-depth study on dropouts in order to understand the causes of this problem and then suggest strategies for dealing with the causes.

### (c) Socio-economic profiles of pupils' homes

The home background of pupils is made up of various components. One component concerned the wealth of the home in monetary terms. Unfortunately, it was not practical to ask children what their parents earn because in this specific context very few of them would know their parents' income. Therefore, indirect methods of assessing the wealth of a home had to be used. One proxy used was the material wealth at home (home possessions). The second was related to health and nutrition (for example whether regular meals were provided). The third was the intellectual milieu as characterized by the education of the parents and the number of books that they have at home. The data on some of these selected aspects have been summarized in Table 3.1(b).

## (i) Possessions in the home

Information about possessions in the homes has been presented in the fourth column of Tables 3.1 (a) and 3.1(b). A question was asked on the pupil questionnaire on thirteen possessions that might be in the pupil's home. These were: daily newspaper, weekly or monthly magazine, TV set, radio, video cassette recorder (VCR), cassette player, telephone, car, motorcycle, bicycle, piped water, electricity (mains, 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 was 13.0. The national average number of items was 4.4 in 1995 and in 2000 it had risen to 4.6. This showed that, as a general trend, there was an improvement in pupils' economic context between 1995 and 2000. The parents of the pupils in the Urban/West Region tended to be better off than those in other regions in terms of the possessions in the home during SACMEQ 1 (5.8 items) and also in SACMEQ II (6.5 items). The other four regions were below the national average, with possessions ranging from 3 and 4 items.

This result can be expected because the income for most of the people in the urban areas is higher than that for most of the rural people. The reason for this is that employment opportunities, both in the public and private sector, are higher for those who live in the urban areas than for those in rural areas. Furthermore, the people in the urban area have greater access to many facilities and services such as electricity (62.1% compared to below 10% in the rural areas) and to piped water. The most common possessions in the rural areas were bicycles and radios.

Another important aspect to consider about pupils' home-related characteristics is the quality of their homes. The kind of environment in the homes where pupils stay while attending school is very critical in determining learner achievement. Pupils were asked to describe their homes in terms of the type of lighting as well as structures of the floor, walls and roofs. The results have been presented in Tables 3.2(a), 3.2(b), 3.2(c) and 3.2(d).

**Table 3.2(a): Percentages and sampling errors for the lighting in pupils' homes (SACMEQ II)**

| Region | No light | | Candle/Oil Lamp | | Gas lamp | | Electric lighting | |
|---|---|---|---|---|---|---|---|---|
| | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 2.3 | 0.70 | 83.8 | 1.84 | 0.9 | 0.38 | 13.0 | 1.73 |
| South Pemba | 4.0 | 0.95 | 80.0 | 1.82 | 2.4 | 0.71 | 13.6 | 1.48 |
| North Unguja | 2.4 | 0.70 | 89.4 | 1.88 | 3.0 | 1.22 | 5.2 | 1.35 |
| Urban/West | 2.1 | 0.74 | 34.2 | 2.18 | 1.6 | 0.71 | 62.1 | 2.20 |
| South Unguja | 1.8 | 0.55 | 84.3 | 1.83 | 4.1 | 1.15 | 9.8 | 1.45 |
| **Zanzibar** | 2.5 | 0.36 | 67.2 | 0.96 | 2.2 | 0.37 | 28.2 | 0.91 |

**Table 3.2(b):   Percentages and sampling errors for structure of floors in pupils' homes (SACMEQ II)**

| Region | Not sealed | | Wood | | Cement | | Carpet/Tiles | |
|---|---|---|---|---|---|---|---|---|
| | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 45.8 | 2.32 | 1.5 | 0.51 | 51.4 | 2.34 | 1.3 | 0.65 |
| South Pemba | 42.2 | 2.23 | 5.0 | 1.07 | 51.0 | 2.26 | 1.8 | 0.72 |
| North Unguja | 61.6 | 2.65 | 4.1 | 0.96 | 34.1 | 2.68 | 0.2 | 0.19 |
| Urban/West | 11.9 | 1.54 | 2.7 | 0.97 | 80.1 | 1.92 | 5.3 | 0.90 |
| South Unguja | 36.5 | 2.30 | 2.4 | 0.72 | 60.0 | 2.33 | 1.1 | 0.48 |
| **Zanzibar** | 34.9 | 0.95 | 3.1 | 0.44 | 59.5 | 1.03 | 2.5 | 0.36 |

**Table 3.2(c): Percentages and sampling errors for structure of walls in pupils' homes (SACMEQ II)**

| Region | Not sealed | | Stones | | Sheets/Wood | | Cut stone/Bricks | |
|---|---|---|---|---|---|---|---|---|
| | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 63.9 | 2.00 | 20.7 | 1.94 | 5.1 | 1.26 | 10.4 | 1.71 |
| South Pemba | 33.7 | 2.12 | 45.8 | 2.28 | 9.8 | 1.40 | 10.8 | 1.49 |
| North Unguja | 19.0 | 1.95 | 53.8 | 2.85 | 3.0 | 0.85 | 24.2 | 2.60 |
| Urban/West | 9.1 | 1.43 | 33.7 | 2.16 | 8.2 | 1.31 | 49.0 | 2.16 |
| South Unguja | 17.5 | 1.86 | 60.0 | 2.46 | 4.2 | 0.94 | 18.2 | 2.01 |
| **Zanzibar** | 26.8 | 0.83 | 40.0 | 1.07 | 6.6 | 0.60 | 26.7 | 0.98 |

**Table 3.2(d): Percentages and sampling errors for structure of roof in pupils' homes (SACMEQ II)**

| Region | Not sealed | | Metal/Asbestos | | Cement concrete | | Tiles | |
|---|---|---|---|---|---|---|---|---|
| | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 45.9 | 2.53 | 51.3 | 2.53 | 1.9 | 0.61 | 0.9 | 0.34 |
| South Pemba | 27.4 | 2.06 | 66.5 | 2.21 | 4.3 | 1.02 | 1.9 | 0.64 |
| North Unguja | 47.4 | 2.91 | 47.3 | 2.85 | 3.8 | 1.12 | 1.5 | 0.70 |
| Urban/West | 11.1 | 1.38 | 72.2 | 2.08 | 9.3 | 1.40 | 7.3 | 1.20 |
| South Unguja | 36.9 | 2.22 | 56.9 | 2.30 | 3.5 | 0.94 | 2.7 | 0.80 |
| **Zanzibar** | 29.7 | 0.94 | 61.3 | 1.09 | 5.4 | 0.57 | 3.6 | 0.46 |

The data indicated that Urban/West Region had better quality houses in terms of the structure of floors (80.1% were cement sealed), the structure of walls (33.7% and 49% were of stones and cement respectively) and the structure of roofs (with 72% of the roofs made of metal sheets or asbestos). Some of the pupils in the rural areas lived in homes of varying but generally low quality. For example, 45.8 percent of the pupils in North Pemba lived in homes with unsealed floors, and 63.9 percent lived in homes with unsealed walls.

A measure of the overall general quality of pupils' homes was made using the information presented in Tables 3.2(a) to 3.2(d). Each variable was measured on a 4-point scale and combined to give a maximum of 16. The results of this analysis have been presented in Table 3.3.

**Table 3.3: Means and sampling errors for the general quality of pupils' homes (SACMEQ II)**

| Region | General quality of pupil's homes (Index) | |
| --- | --- | --- |
| | Mean | SE |
| North Pemba | 7.5 | 0.11 |
| South Pemba | 8.2 | 0.10 |
| North Unguja | 7.8 | 0.13 |
| Urban/West | 11.1 | 0.10 |
| South Unguja | 8.4 | 0.11 |
| **Zanzibar** | 9.0 | 0.05 |

As indicated in Table 3.3, the average index of the quality of the home for Zanzibar was 9.0, and the range among regions was from 11.1 (Urban/West) to 7.5 (North Pemba). This information should be compared to the data on the separate aspects of type of lighting, finishing of the floors; walls and roofs presented in Tables 3.2(a) to (d).

Overall, the figures presented painted a gloomy picture of the conditions of homes in the rural areas of Zanzibar. This is an indication of poverty and unemployment opportunities in the rural areas. Also, the movement of educated people from the rural areas to the urban areas and other small towns exacerbate this condition.

**Policy suggestion 3.2:** The Principal Secretary should consult with his counterpart in the Ministry of Finance and with the Regional Commissioners to ensure that the Poverty Reduction Programmes in place are fully implemented. In particular, interventions and measures to provide conducive learning environments for pupils in the homes should be prioritised.

### (ii) Books in the home

Many international studies have confirmed that books in the home can constitute a very important reading resource that helps pupils develop literacy skills. For example, Elley (1992), had demonstrated that the availability of books in the home is associated with higher school achievement in reading. In the SACMEQ II survey the pupils were asked to indicate the number of books in their homes (column 3 of Table 3.1(a) and 3.1(b)). As can be seen from the tables, the number of books decreased significantly from 15.6 in SACMEQ I to 10.8 in SACMEQ II. The result also showed considerable regional variation. The highest number of books was recorded in Urban West (16.2) and the lowest was in North Pemba (6.1).

**Policy suggestion 3.3:** The Ministry of Education should take note of the fact that, pupils in rural areas live in homes that are relatively deprived of books and ensure that this handicap is partly compensated for through the provision of sufficient numbers of books in schools.

### (iii) Index of regular meals

Pollit (1990) pointed out that poor nutrition negatively affected pupil's concentration and learning in school. The survey attempted to find out if there were any pupils who were affected by not having sufficient food, particularly in terms of them not having three meals they were expected to have per day. The question asked them whether they had a morning meal, a mid-day meal, and an evening meal, and how many times a week they ate each of the meals. 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. The data presented in column 5 of Tables 3.1(a) and (b) shows that the national average was 10.6 and 11.2 for 1995 and 2000 respectively. This indicated that most of Zanzibar pupils were

having three meals per day, although there were some children who were having at least two meals a day. There were no regional variations with regard to pupils' access to regular meals.

## (iv) Level of parents' education

Questions were asked in the pupil questionnaire about the education level of the parents of the pupils. This information was coded as follows 1 = no school, 2 = some primary, 3 = completed primary, 4 = some secondary, 5 = completed secondary and 6 = completed post secondary education. The answers for each pupil's mother and father were then added together and it was this index that was used to generate the information presented in the last column of Table 3.1(a) for SACMEQ I and Table 3.1(b) for SACMEQ II. The national average for Zanzibar was 2.6 in SACMEQ 1 and 3.0 in SACMEQ II, reflecting a rise in parents' level of education. The highest regional average was for Urban/West (3.6) and the lowest was for South Pemba (2.6). The difference in results between Urban/West and the other regions that were mostly rural could be interpreted as the typical phenomenon observed in developing countries. In these countries most educated people move to the urban areas to seek employment in government or in the private sector. Yet others join a variety of other commercial activities. Another phenomenon is that of students who came to town for further studies. In Zanzibar opportunities for upper and higher secondary are mostly available in town. Students who come to town for further education or on-the-job training rarely go back to live in the villages.

### (d) Where do pupils live during the school week?

Pupils were also asked to mention where they lived during the weekdays. This information was considered to be very important because children need various forms of support in their learning, and such support was usually provided by the adults they lived with. It was felt that those children who, for example, did not live with adults, or lived with adults who had a lower sense of responsibility for their school work, were disadvantaged in this regard. The results were then presented in Table 3.4(a) for SACMEQ I and Table 3.4(b) for SACMEQ II.

**Table 3.4(a):  Percentages and sampling errors for the pupils' stay during the school week (SACMEQ I)**

| Region | Place where pupils stay during the school week | | | | | | | |
| | Parent/Guardian | | Relatives/Family | | Hostel/Board | | Self/Children | |
| | % | SE | % | SE | % | SE | % | SE |
|---|---|---|---|---|---|---|---|---|
| North Pemba | 92.4 | 1.43 | 3.0 | 0.98 | 3.7 | 0.96 | 0.9 | 0.51 |
| South Pemba | 88.0 | 1.56 | 4.9 | 1.25 | 4.7 | 0.96 | 2.3 | 0.24 |
| North Unguja | 85.4 | 2.33 | 2.8 | 1.07 | 8.1 | 1.91 | 3.7 | 1.36 |
| Urban/West | 88.2 | 1.69 | 7.5 | 1.35 | 2.5 | 0.77 | 1.8 | 0.78 |
| South Unguja | 85.4 | 1.84 | 7.4 | 1.45 | 3.7 | 0.98 | 3.5 | 0.88 |
| **Zanzibar** | 88.2 | 0.89 | 5.8 | 0.68 | 3.9 | 0.47 | 2.2 | 0.40 |

**Table 3.4(b): Percentages and sampling errors for the pupils' stay during school week (SACMEQ II)**

| Region | Place where pupils stay during the school week | | | | | | | |
| | Parent/Guardian | | Relatives/Family | | Hostel/Board | | Self/Children | |
| | % | SE | % | SE | % | SE | % | SE |
|---|---|---|---|---|---|---|---|---|
| North Pemba | 97.6 | 0.59 | 1.6 | 0.49 | 0.5 | 0.28 | 0.3 | 0.19 |
| South Pemba | 93.2 | 1.07 | 4.1 | 0.88 | 1.8 | 0.56 | 0.8 | 0.33 |
| North Unguja | 90.9 | 1.71 | 2.1 | 0.73 | 5.6 | 1.46 | 1.4 | 0.66 |
| Urban/West | 94.5 | 1.10 | 2.2 | 0.73 | 2.3 | 0.76 | 1.0 | 0.42 |
| South Unguja | 95.3 | 1.01 | 2.7 | 0.75 | 1.5 | 0.60 | 0.5 | 0.40 |
| **Zanzibar** | 94.4 | 0.53 | 2.5 | 0.35 | 2.3 | 0.37 | 0.8 | 0.20 |

It can be seen that in 1995, 88.2 percent of the pupils lived with their parents while in 2000, the number of pupils living with their parents increased to 94.4 percent. The reasons for this increase are not very clear. The results presented in Table 3.4(b) show little variation between regions, but the percentage for North Unguja (90.9%) was far below the national mean of 94.4 percent. These results were based on the data furnished by the pupils and there is the possibility that some answers might have been incorrect.  For example, in North Unguja Region 5.6 percent of the pupils indicated

living in the hostels/boarding.  It is known, however, that in the North region there are no boarding houses where pupils could stay.

**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 the school?**

This section explores some school factors that might have an impact on teaching and learning and also on the functioning of the school.  Several questions were asked regarding the school location, pupil absenteeism and other classroom and school practices.

**(a)  Location of the school**

Several researches have found out that pupils attending schools in urban areas generally realise higher learning outcomes than pupils in schools located in rural areas.  School heads were asked to indicate whether their schools were located in an isolated area, a village, a small town or a city.  The first two categories were put together and called 'rural' and the last two categories were collapsed into one category and called 'urban'.  The percentages of pupils in schools located in the 'urban' areas have been reported in Table 3.5 for SACMEQ I and SACMEQ II.  At the same time, the heads were further asked to indicate how many kilometres their schools were from the school to a health centre or clinic, a tarmac road, a public library, a bookshop and a secondary school.  These distances were averaged for each school.  The average distances to the sum of the facilities have been presented in Table 3.5.

**Table 3.5: School location and average travelling distance**

| Region | SACMEQ I | | | | SACMEQ II | | | |
| | Urban | | Distance (km) | | Urban | | Distance (km) | |
| | % | SE | Mean | SE | % | SE | Mean | SE |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| North Pemba | 22.0 | 0.00 | 10.0 | 0.00 | 26.0 | 0.00 | 8.4 | 0.00 |
| South Pemba | 34.0 | 0.00 | 8.9 | 0.00 | 26.4 | 0.00 | 7.8 | 0.00 |
| North Unguja | 7.9 | 0.00 | 10.2 | 0.00 | 0.0 | 0.00 | 11.7 | 0.00 |
| Urban/West | 77.9 | 0.00 | 5.6 | 0.00 | 86.4 | 0.00 | 2.2 | 0.00 |
| South Unguja | 30.1 | 0.00 | 16.8 | 0.00 | 14.9 | 0.00 | 16.7 | 0.00 |
| **Zanzibar** | 47.8 | 0.00 | 8.3 | 0.00 | 41.1 | 0.00 | 7.8 | 0.00 |

It can be seen that 41.1 percent of the Standard 6 pupils were in urban schools in 2000. This was 6.7 percent lower than in 1995 where the corresponding percentage was 47.8. This percentage is quite significant and is an indication of the growth of the school population in rural schools. The average distance from schools to public facilities was 8.3 kilometres in 1995 and 7.8 kilometres in 2000. The difference is also an indication of the increase of public facilities and infrastructure like tarmac roads and clinics, especially in the rural areas. The data in the table also reported a great variation in distance between regions. The farthest was South Unguja with a mean of 16.7 kilometres. The second farthest was North Unguja with 11.7 kilometers.

**(b) Proportion speaking the language of test at home**

The official language in Zanzibar is Kiswahili and it is the medium of instruction in primary schools. Information concerning the pupil's language has been presented in the first column of Tables 3.6(a) and 3.6(b) for SACMEQ I and SACMEQ II respectively. The figures presented here refer to the percentages of pupils speaking Kiswahili at home. The pupils' responses showed that 94.1 percent of the pupils in 1995 spoke Kiswahili at home while in 2000, 96.2 percent did so. The results showed no significant regional differences for both SACMEQ I and SACMEQ II except for Unguja North, which registered a much lower percentage. Zanzibar is a monolingual

country and hence virtually everybody speaks Kiswahili. Those pupils who indicated that they did not speak Kiswahili at home most probably meant that they spoke a different dialect of Kiswahili.

**Table 3.6(a): Percentages, mean, and sampling errors for the pupil language, days absent, and repetition (SACMEQ I)**

| Region | Speak Kiswahili | | Days absent | | Repetition | |
|---|---|---|---|---|---|---|
| | % | SE | Mean | SE | % | SE |
| North Pemba | 93.3 | 1.35 | 1.3 | 0.17 | 25.2 | 2.39 |
| South Pemba | 92.2 | 1.20 | 1.1 | 0.10 | 27.0 | 2.41 |
| North Unguja | 90.5 | 1.76 | 1.0 | 0.12 | 31.5 | 2.85 |
| Urban/West | 96.7 | 0.85 | 2.4 | 0.32 | 23.0 | 2.03 |
| South Unguja | 91.6 | 1.43 | 1.7 | 0.19 | 33.5 | 2.69 |
| **Zanzibar** | 94.1 | 0.54 | 1.8 | 0.15 | 26.1 | 1.15 |

**Table 3.6(b): Percentages mean, and sampling errors for the pupil language, days absent, and repetition (SACMEQ II)**

| Region | Speak Kiswahili | | Days absent | | Repetition | |
|---|---|---|---|---|---|---|
| | % | SE | Mean | SE | % | SE |
| North Pemba | 98.2 | 0.47 | 2.2 | 0.15 | 25.0 | 2.19 |
| South Pemba | 96.7 | 0.78 | 2.5 | 0.17 | 28.7 | 2.05 |
| North Unguja | 92.8 | 1.62 | 2.1 | 0.20 | 30.6 | 2.72 |
| Urban/West | 96.7 | 0.93 | 1.6 | 0.13 | 23.3 | 2.11 |
| South Unguja | 95.2 | 1.01 | 1.9 | 0.12 | 37.2 | 2.28 |
| **Zanzibar** | 96.2 | 0.46 | 2.0 | 0.07 | 27.6 | 1.05 |

 **(c) Pupil absenteeism**

Pupils were asked to indicate the number of days they were absent in the month prior to the data collection. The data were validated during the data collection by comparing pupil responses with information in the class register. The responses have been presented in Table 3.6(a) and 3.6(b). The average number of days that the pupils were absent in 1995 was 1.8 days and in 2000 it had risen to 2.0 days. Although there was a slight rise in the rate of absenteeism between 1995 and 2000, the low figures suggest that absenteeism was not a major problem among Standard 6 pupils in Zanzibar.

An investigation was further made on the reasons why the pupils were absent. Four possible reasons were provided, and these were: illness, family reasons, fees and work. Information about this has been presented in Table 3.7.

**Table 3.7: Percentages and sampling errors for reasons of pupil absenteeism (SACMEQ II)**

| Region | Illness | | Family Reasons | | Fees | | Work | |
|---|---|---|---|---|---|---|---|---|
| | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 66.1 | 2.74 | 2.7 | 0.98 | 0.0 | 0.00 | 0.9 | 0.51 |
| South Pemba | 61.2 | 2.96 | 3.1 | 1.13 | 0.7 | 0.49 | 4.0 | 1.30 |
| North Unguja | 57.3 | 4.02 | 2.0 | 1.24 | 0.0 | 0.00 | 0.0 | 0.00 |
| Urban/West | 50.5 | 3.55 | 3.7 | 1.14 | 0.7 | 0.54 | 0.5 | 0.46 |
| South Unguja | 67.0 | 3.26 | 1.5 | 1.11 | 0.4 | 0.41 | 1.0 | 0.73 |
| **Zanzibar** | 59.3 | 1.54 | 2.8 | 0.52 | 0.4 | 0.19 | 1.3 | 0.33 |

The main reason given by the pupils was illness (59.3%). A small percentage of the pupils were absent due to family reasons (2.8%) and work (1.3%). A very negligible percentage indicated the reason of fees (0.4%). The last reason does not apply to Zanzibar public schools as there are no school fees charged. Because illness has been specified as the main reason, further research is required to explore the specific nature of the illness so that appropriate actions can be taken to address the problem. Further analysis of the data indicated that quite a large proportion of pupils did not cite any of the four reasons specified in the Table 3.7 as their main reasons for being absent. It seems that 36.2 percent of the pupils stayed away from school without any acceptable

reasons. Observations that have been made suggest that a large proportion of boys missed classes without specific reasons, and that truancy accounts for much of the pupil absenteeism at primary school level reported.

**Policy suggestion 3.4:** The Director of Education should commission a survey on pupil absenteeism and the reasons for it so as to know the magnitude of the problem and recommend ways of addressing the problem.

**Policy suggestion 3.5:** While the rate of absenteeism is very low in Zanzibar, the Principal Secretary can reduce it further by reviewing and strengthening regulations regarding student absenteeism. In particular, truancy should be strongly discouraged.

## (d) Grade repetition

Although the government does not encourage repetition, schools have allowed repetition for various reasons. It should be acknowledged that pupils are supposed to progress to the next grade after acquiring a certain level of competency in a certain subject. Overcrowding, illness and truancy might be some of the factors responsible for repetition by some of the pupils, because they lead to low achievement which, in turn, prevents pupils from proceeding to another grade. The competition for special secondary schools which select pupils on the basis of their good performance has also contributed to high repetition rates. Some parents request that their children be allowed to repeat in order to enhance their chances of enrolment into such schools.

In Tables 3.6(a) and 3.6(b) the percentage of pupils who had repeated at least one class in SACMEQ I and SACMEQ II have been presented. The national average repetition rate for SACMEQ I was 26.1 percent and it rose marginally to 27.6 percent in SACMEQ II. The highest percentage of Standard 6 pupils repeating was in South Unguja (37.2%) followed by North Unguja (30.6%). The high repetition rates for North Unguja could partly be a result of the age of the pupils presented in Table 3.1(b). Overall, Zanzibar's pupils were more than three years older than the expected age of Standard 6 pupils. It remains unclear why repetition rates were so high in South

Unguja. If this trend in repetition has to be arrested, the Ministry of Education has to develop benchmarks for class sizes and address the quality assurance issues.

**Policy suggestion 3.6:** The Commissioner for Education should set clear performance benchmarks that specify the competency levels in key subjects which pupils must fail to attain before they are allowed to repeat a grade.

**Policy suggestion 3.7:** The Principal Secretary should set benchmarks for the class size in order to minimise overcrowding.

## (e) Frequency of homework given and corrected

Homework is regarded as an exercise which helps pupils to gain more practice in learning the subjects that they study in school. Educationists have shown that those pupils receiving more homework achieve more than those pupils who do not receive homework. Furthermore, when the homework was marked or corrected by the teacher and worked through with the pupils, then those pupils achieved more than those who did homework but did not have it marked or corrected by the teacher and worked through with them.

In SACMEQ I pupils were asked if they were given homework in any subject. In SACMEQ II pupils were asked to specifically indicate whether homework in reading and mathematics were given to them. The results have been presented in Table 3.8.

**Table 3.8: Percentages and sampling errors for the frequency of homework given most days (SACMEQ I and SACMEQ II)**

| Region | SACMEQ I | | SACMEQ II | | | |
| --- | --- | --- | --- | --- | --- | --- |
| | Homework on any subject | | Reading homework | | Mathematics homework | |
| | % | SE | % | SE | % | SE |
| North Pemba | 13.1 | 1.72 | 10.5 | 1.58 | 18.1 | 1.71 |
| South Pemba | 13.4 | 1.65 | 15.8 | 1.72 | 14.7 | 1.64 |
| North Unguja | 17.6 | 2.18 | 19.6 | 2.25 | 19.1 | 2.11 |
| Urban/West | 16.9 | 1.74 | 27.7 | 2.09 | 23.8 | 1.98 |
| South Unguja | 15.8 | 1.87 | 22.3 | 2.07 | 15.6 | 1.66 |
| **Zanzibar** | 15.7 | 0.92 | 20.3 | 0.94 | 19.2 | 0.90 |

In 1995, only 15.4 percent of the pupils were given homework while in 2000, 19.2 percent of Standard 6 pupils were given reading homework. There was considerable variation among regions. North Pemba had the lowest percentage of pupils who were given homework (10.5%) and Urban/West had the highest percentage of pupils who received homework (27.7%) in reading. In Mathematics the Standard 6 pupils in Urban/West Regions were given more homework (23.8%) while those in South Pemba were given the least homework (14.7%).

There are several possible reasons for teachers not giving pupils homework. The first one is related to the shortage of textbooks both in reading and mathematics. Teachers find it difficult to write homework exercises on the black boards for pupils to copy and do at home. The second reason could be overcrowding or large classes sizes. Teachers may be unable to cope with the extra work involved with marking too many classwork and homework books.

The shortage of teachers, especially in rural areas, affects the efficiency of classroom teaching. Teachers find themselves overloaded with many teaching periods and have little time to mark homework. Finally, it has been observed that schools generally do not put particular emphasis on giving pupils homework.

> **Policy suggestion 3.8:** The Commissioner for Education should work with other stakeholders in the education sector to develop enforceable standards and regulations governing the provision and marking of homework by teachers.

While it is important to give pupils homework, it is equally important that they correct the homework they have given to pupils. Information on how frequently pupils got their reading and mathematics homework corrected by their teachers has been presented in Tables 3.9(a) and 3.9(b).

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

| Region | Never corrected | | Sometimes corrected | | Mostly/always corrected | |
|---|---|---|---|---|---|---|
| | % | SE | % | SE | % | SE |
| North Pemba | 11.7 | 2.09 | 20.9 | 2.08 | 67.4 | 2.63 |
| South Pemba | 17.0 | 2.03 | 20.5 | 2.19 | 62.6 | 2.50 |
| North Unguja | 20.3 | 2.29 | 29.2 | 2.78 | 50.5 | 3.10 |
| Urban/West | 13.2 | 1.74 | 22.2 | 2.13 | 64.6 | 2.42 |
| South Unguja | 11.8 | 1.68 | 22.7 | 2.17 | 65.5 | 2.28 |
| **Zanzibar** | 14.6 | 0.92 | 22.9 | 1.08 | 62.5 | 1.23 |

It can be seen that 62.5 percent of the pupils said that homework was mostly or always corrected while 22.9 percent said it was "sometimes corrected". On the whole, 14.6 percent of the Standard 6 pupils reported that their homework was never corrected.

**Table 3.9(b): Percentages and sampling errors for the frequency of mathematics homework being corrected by teacher (SACMEQ II)**

| Region | Never corrected | | Sometimes corrected | | Mostly/always corrected | |
|---|---|---|---|---|---|---|
| | % | SE | % | SE | % | SE |
| North Pemba | 17.6 | 1.63 | 18.0 | 1.86 | 64.5 | 2.24 |
| South Pemba | 15.4 | 1.83 | 18.3 | 1.86 | 66.3 | 2.26 |
| North Unguja | 26.6 | 2.04 | 14.5 | 2.12 | 58.9 | 2.37 |
| Urban/West | 12.7 | 1.78 | 11.1 | 1.63 | 76.2 | 2.20 |
| South Unguja | 11.2 | 1.72 | 17.7 | 2.00 | 71.1 | 2.27 |
| **Zanzibar** | 16.2 | 0.86 | 15.0 | 0.85 | 68.8 | 1.07 |

Similarly, the data presented in Table 3.9(b) shows that 68.8 percent of the Standard 6 pupils' homework in mathematics was mostly or always corrected while 15.0 percent reported that it was "sometimes corrected". On the other hand, 16.2 percent of the Standard 6 pupils said that their homework was never corrected.

**(f) Parents assisting children with school work**

One important aspect of the home is how much parents or other members of the family interact with the child in order to show interest in their school work or to help with schoolwork. Pupils were asked questions about the assistance they received from their parents or someone else at home. The results have been presented in Tables 3.10 - 3.12.

**Table 3.10: Home assistance with school related work (SACMEQ I and SACMEQ II)**

| Region | Home assistance 'most of the time' with school work | | | | | | | | | | | |
| | SACMEQ I | | | | | | SACMEQ II | | | | | |
| | Ensure homework done | | Help with the homework | | Look at school work done | | Ensure homework done | | Help with the homework | | Look at school work done | |
| | % | SE | % | SE | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 23.9 | 2.47 | 23.2 | 2.43 | 25.2 | 2.43 | 8.1 | 1.16 | 5.8 | 1.12 | 9.8 | 1.55 |
| South Pemba | 32.0 | 2.10 | 27.9 | 2.65 | 25.9 | 2.49 | 15.9 | 1.70 | 14.4 | 1.68 | 19.6 | 1.90 |
| North Unguja | 31.0 | 2.96 | 27.1 | 2.85 | 19.2 | 2.62 | 16.8 | 2.07 | 15.1 | 1.95 | 16.5 | 2.11 |
| Urban/West | 30.1 | 2.13 | 29.1 | 2.17 | 31.9 | 2.02 | 18.5 | 1.77 | 15.2 | 1.59 | 24.6 | 2.12 |
| South Unguja | 22.2 | 2.31 | 27.0 | 2.43 | 17.4 | 2.06 | 12.5 | 1.53 | 11.6 | 1.57 | 16.9 | 1.89 |
| **Zanzibar** | 28.7 | 1.17 | 27.5 | 1.21 | 26.7 | 1.12 | 15.0 | 0.81 | 12.8 | 0.75 | 18.6 | 0.95 |

In Table 3.10 reference has been made to parental behaviours such as ensuring that the homework was done, actually helping with homework in general, and also looking at the work once it had been done. In SACMEQ I, 28.7 percent of the pupils reported that someone at home made sure that homework had been done. A slightly smaller percentage reported being helped with homework and that someone also actually looked at the work done.

In SACMEQ II only 15 percent of the pupils reported that someone ensured that homework had been done. Similarly, low percentages of pupils reported receiving help with homework (12.8%) and that somebody actually checked the work done (18.6%). This discouragingly low result could be associated with the low level of education of parents or guardians, particularly in the rural areas where the level of education of parents was reported to be relatively lower than in the urban areas.

Pupils were also asked to indicate the extent to which a person other than the teacher asked them to read to him or her. The percentages of pupils who said that this happened most of the time have been presented in Table 3.11.

**Table 3.11:  Home assistance with reading work (SACMEQ I and SACMEQ II)**

| | Home assistance 'most of the time' with school work | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | SACMEQ I | | | | SACMEQ II | | | |
| Region | Ask to read | | Questions on school reading work | | Ask to read | | Questions on school reading work | |
| | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 12.0 | 1.78 | 22.2 | 2.29 | 8.2 | 1.40 | 8.1 | 1.30 |
| South Pemba | 11.3 | 1.84 | 27.8 | 2.06 | 13.7 | 1.61 | 12.5 | 1.55 |
| North Unguja | 13.8 | 2.44 | 22.3 | 2.50 | 18.5 | 2.02 | 11.4 | 1.78 |
| Urban/West | 10.6 | 1.51 | 32.4 | 1.92 | 20.2 | 1.98 | 15.5 | 1.76 |
| South Unguja | 10.1 | 1.69 | 21.2 | 2.17 | 8.1 | 1.28 | 12.1 | 1.64 |
| **Zanzibar** | 11.2 | 0.86 | 27.5 | 1.05 | 14.9 | 0.86 | 12.5 | 0.79 |

The extent to which learners said someone else asked them to read to them 'most of the time' has also been presented in the same table. It can be seen that for the question on somebody asking children to read to them, the percentage for SACMEQ II (14.9%) was higher than that for SACMEQ I (11.2%).  However, both were still very low. There is need for the school committees and the teachers to educate parents on the importance of their involvement in their children's education.

The same questions were asked to pupils but this time about mathematics and the results have been presented in Table 3.12. There were no big differences between the results for reading and mathematics. In general, the situation regarding parent involvement in their children's schoolwork was unsatisfactory.

**Table 3.12:    Home assistance with mathematics work (SACMEQ II)**

| Region | Do mathematical calculations | | Questions on school mathematics work | |
|---|---|---|---|---|
| | % | SE | % | SE |
| North Pemba | 5.6 | 1.23 | 9.1 | 1.47 |
| South Pemba | 10.2 | 1.35 | 12.4 | 1.61 |
| North Unguja | 10.4 | 1.91 | 12.4 | 2.11 |
| Urban/West | 16.8 | 1.92 | 17.5 | 1.90 |
| South Unguja | 7.8 | 1.37 | 8.4 | 1.42 |
| **Zanzibar** | 11.3 | 0.81 | 13.0 | 0.85 |

The header spanning row above the sub-columns reads: **Home assistance 'most of the time' with school work**

Learning is something that does not happen in school alone, and the home should play a bigger role in influencing and enhancing it. The schools and the government should organize intervention programmes which will change the behaviour of the parents.

**Policy suggestion 3.9:** The Director of Education should design a programme for a massive awareness campaign or meetings with parents which emphasize the importance of parental involvement in the education of their children.

Among the reasons for little involvement of parents in the education of their children is the low education of parents. If pupils are to receive enhanced help and support with schoolwork, efforts have to be made to improve the education of parents. This should be done through advocacy and encouraging the establishment of adult literacy classes and continuing education programmes.  This process takes time, but will provide opportunities for adult learning, and this will have a positive impact on the pupil learning in the long term.

**Policy suggestion 3.10:** The Commissioner for Education, the Director of Adult Education and the Regional Education Officers should conduct an in-depth study on the type of adult programmes suitable for different groups of adults and then put in place a plan for the provision of more classes for adult literacy and continuing education.

**General Policy Concern 3**

**Did Standard 6 pupils have sufficient access to classroom materials (e.g. textbooks, readers, and stationery) in order to participate fully in their lessons?**

If learners are to learn effectively, it is essential that they have textbooks and other materials to write with. A number of questions were therefore asked to learners about these matters.

**(a) Access to reading and mathematics books**

Pupils were asked if they had their own reading or mathematics textbook, if they had to shared it with other pupils, or if they had no textbooks at all. The percentages of pupils with own reading textbooks were then summarized in Table 3.13.

**Table 3.13: Percentages and sampling errors for pupils having own reading textbook (SACMEQ I and SACMEQ II)**

| Region | SACMEQ I Own reading textbook | | SACMEQ II Own reading textbook | | Own mathematics textbook | |
|---|---|---|---|---|---|---|
| | % | SE | % | SE | % | SE |
| North Pemba | 17.0 | 1.53 | 1.8 | 0.48 | 6.3 | 0.80 |
| South Pemba | 6.5 | 0.74 | 5.2 | 0.96 | 6.6 | 0.94 |
| North Unguja | 13.6 | 1.60 | 3.9 | 0.57 | 3.5 | 0.89 |
| Urban/West | 6.2 | 0.93 | 4.0 | 0.75 | 3.5 | 0.55 |
| South Unguja | 20.7 | 1.44 | 4.4 | 0.55 | 7.1 | 0.91 |
| **Zanzibar** | 10.5 | 0.55 | 3.8 | 0.34 | 5.1 | 0.35 |

The data showed that in 1995, 10.5 percent of pupils had their own reading text book, whereas in 2000 only 3.8 percent of the pupils had reading textbooks. Similarly, in 2000 only 5.1 percent of the pupils had their own mathematics textbooks.

In Zanzibar the shortage of textbooks in schools is a common problem and the results presented in Table 3.13 show little variation among regions. The shortage of supplies was also highlighted in SACMEQ I but in SACMEQ II the problem had got worse due to several reasons. Textbooks are provided free of charge by the Ministry. Pupils generally share textbooks since they are insufficient for each pupil to have one. Primary school textbooks have been published by the Ministry and cannot be bought in the bookshops. Therefore even if parents wanted to buy them for their children, it would be impossible.

From 1999 there have been revisions to the primary school curriculum. As a result, new textbooks were written. The writing and printing of the books has taken longer than expected. This has increased the scarcity of the books. Furthermore, the Ministry had established a new textbook policy that requires each pupil to have his or her own book. Therefore when the new books are ready, the problem of the shortage of books is likely to be solved. However, pupils will not have access of books to take home for revision and for homework. The Ministry will therefore have to reconsider the policy and allow disadvantaged children to have access to books.

> **Policy suggestion 3.11:** The Director of Planning should review the policy on the publication of books with a view to allowing private players to publish or sell textbooks in bookshops.

**(b) Pupils with adequate basic classroom supplies**

Children learn most effectively when there is an adequate supply of learning resources in the classroom. Where such resources are in short supply, or where children have to share them among themselves, learning becomes difficult. It was therefore considered important to make an assessment of the level of provision of basic learning materials such as exercise books, notebook, pencils, erasers, pens and rulers. The percentages of pupils in 1995 and 2000 not possessing a selected set of classroom materials have been presented in Tables 3.14 and 3.15 for each item.

It can be seen that the situation with regards the provision of exercise books and notebooks had deteriorated between 1995 and 2000. There was a slight improvement

in the provision of the rest of the resources. While this is a positive trend, it is a matter of great concern that there are still large percentages of pupils (exceeding one fifth of all pupils) who do not have essential items of stationery such as exercise books, rulers and erasers. These results are shocking because the lack of basic supplies hinders pupils' progress and makes curriculum implementation difficult. The schools should assess the magnitude of the problem so that proper actions can be taken. The general expectation is for parents to buy the materials and supplies for their children. Some of the parents are poor and cannot afford to do this, or have other financial commitments and priorities that discourage them from buying school supplies for their children.

> **Policy suggestion 3.12:** The existing decree should require school committees to consider the provision of some essential inputs to schools as one of their responsibilities. In this regard, they should allocate a budget for the purchase of some key classroom materials that they should sell to pupils at a subsidised price.

**Table3.14: Percentages and sampling errors for shortages of basic classroom materials: Exercise books, notebook, and pencil (SACMEQ I and SACMEQ II)**

| Region | SACMEQ I | | | | | | SACMEQ II | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Exercise books | | Notebook | | Pencil | | Exercise books | | Notebook | | Pencil | |
| | % | SE | % | SE | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 7.0 | 1.68 | 41.8 | 2.70 | 10.0 | 1.81 | 5.9 | 1.26 | 63.5 | 2.20 | 5.6 | 1.11 |
| South Pemba | 6.6 | 1.50 | 39.9 | 2.03 | 12.2 | 1.39 | 11.6 | 1.38 | 47.1 | 2.22 | 10.3 | 1.36 |
| North Unguja | 1.9 | 1.19 | 36.2 | 2.75 | 7.1 | 1.67 | 17.0 | 1.70 | 61.4 | 2.55 | 12.8 | 1.89 |
| Urban/West | 10.8 | 1.84 | 28.2 | 2.61 | 11.1 | 1.86 | 12.2 | 1.51 | 48.8 | 2.12 | 12.3 | 1.44 |
| South Unguja | 6.8 | 1.46 | 36.7 | 3.10 | 7.1 | 1.74 | 4.0 | 0.77 | 53.1 | 2.05 | 6.7 | 1.07 |
| **Zanzibar** | 7.7 | 0.85 | 35.1 | 1.26 | 10.3 | 0.86 | 10.6 | 0.68 | 53.8 | 1.05 | 10.0 | 0.67 |

**Table 3.15: Percentages and sampling errors for shortages of basic classroom materials: Eraser, pen, and ruler (SACMEQ I and SACMEQII)**

| Region | SACMEQ I | | | | | | SACMEQ II | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Eraser | | Pen | | Ruler | | Eraser | | Pen | | Ruler | |
| | % | SE | % | SE | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 50.7 | 3.05 | 8.2 | 1.87 | 27.0 | 2.49 | 27.2 | 2.12 | 3.2 | 0.84 | 20.2 | 1.97 |
| South Pemba | 48.8 | 2.35 | 13.6 | 1.39 | 32.6 | 2.08 | 30.5 | 2.12 | 10.5 | 1.34 | 25.1 | 2.00 |
| North Unguja | 22.8 | 2.48 | 4.5 | 1.58 | 21.6 | 2.46 | 35.9 | 2.82 | 10.5 | 1.65 | 26.1 | 2.56 |
| Urban/West | 34.7 | 2.92 | 13.2 | 1.73 | 25.7 | 2.58 | 30.8 | 2.17 | 12.3 | 1.37 | 25.0 | 2.02 |
| South Unguja | 40.0 | 3.62 | 11.2 | 2.26 | 27.7 | 3.13 | 33.6 | 2.13 | 4.0 | 0.92 | 22.2 | 1.96 |
| **Zanzibar** | 40.3 | 1.41 | 11.3 | 0.85 | 27.4 | 1.24 | 31.2 | 1.06 | 8.9 | 0.62 | 23.9 | 0.99 |

## General Policy Concern 4

### Did Standard 6 pupils have access to library books within their classroom/schools and was the use of these books being maximized by allowing pupils to take them home to read?

**(a) Access to school and classroom library facilities**

One of the best predictors of reading ability and comprehension is the number of books that pupils have read. This has been reported by Elley (1992) who stated that children had much higher literacy skills when they were able to read a wide range of books. In SACMEQ II several questions were asked about the availability of a classroom library or book corner, a school library and the arrangements for allowing pupils to borrow books from these libraries. The responses have been presented in Table 3.16.

**Table 3.16: Percentages and sampling errors for availability of classroom resources for the teachers (SACMEQ I and SACMEQ II)**

| Resource | Availability of classroom resources | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| | SACMEQ I | | SACMEQ II | | | |
| | Reading Teacher | | Reading teacher | | Mathematics teacher | |
| | % | SE | % | SE | % | SE |
| A usable writing board | 76.4 | 0.58 | 95.1 | 0.26 | 92.9 | 0.28 |
| Chalk | 79.5 | 0.60 | 91.1 | 0.38 | 90.4 | 0.35 |
| A wall chart of any kind | 31.2 | 0.55 | 22.2 | 0.35 | 27.3 | 0.41 |
| A cupboard | 29.3 | 0.56 | 8.3 | 0.48 | 7.1 | 0.31 |
| One or more bookshelves | 16.0 | 0.34 | 5.7 | 0.20 | 6.4 | 0.35 |
| A classroom library or  book corner | 14.5 | 0.12 | 35.9 | 0.43 | 29.7 | 0.36 |
| A teacher table | 54.5 | 0.46 | 65.3 | 0.54 | 57.8 | 0.48 |
| A teacher chair | 59.0 | 0.55 | 69.5 | 0.43 | 64.4 | 0.56 |

The results presented show that only 14.5 percent of pupils had reading teachers who indicated existence of a classroom library or book corner during SACMEQ I. In SACMEQ II, 35.9 percent of pupils had reading teachers who indicated existence of a classroom libraries or book corners. The corresponding figure for mathematics was

29.7 percent. Although the Ministry must be highly commended for marked improvement between 1995 and 2000, the percentages were still low.

In Zanzibar schools operate in double shift systems. Most of the classrooms are open, with low walls which allow anybody easy access. The classrooms also do not have cupboards for storage, and therefore do not offer security for items of value. As a result teachers cannot keep books in the classroom. It is important for schools to put in place safe storage facilities for library books and other materials.

**Policy suggestion: 3.13:** It is important that schools put in place safe storage facilities for library books or other materials. Head teachers should also consider a system of mobile or movable libraries, which could be carried to the classroom for use during teaching sessions.

### (b) Permission for pupils to take library books home

Pupils and school heads were asked if the pupils could take books home to read and the results have been presented in Table 3.17.

**Table 3.17: 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 I and SACMEQ II)**

| Region | SACMEQ I | | | | SACMEQ II | | | |
|---|---|---|---|---|---|---|---|---|
| | Pupil* | | School Head | | Pupil* | | School Head | |
| | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 74.5 | 2.97 | 0.0 | 0.00 | 16.9 | 2.12 | 51.2 | 0.00 |
| South Pemba | 85.9 | 2.86 | 100.0 | 0.00 | 59.6 | 2.78 | 77.0 | 0.00 |
| North Unguja | 85.1 | 2.35 | 100.0 | 0.00 | 64.3 | 2.87 | 100.0 | 0.00 |
| Urban/West | 74.1 | 2.52 | 83.3 | 0.00 | 53.7 | 2.59 | 72.2 | 0.00 |
| South Unguja | 78.8 | 2.32 | 100.0 | 0.00 | 70.5 | 2.31 | 76.9 | 0.00 |
| **Zanzibar** | 78.0 | 1.34 | 91.8 | 0.00 | 55.4 | 1.31 | 75.3 | 0.00 |

The results indicated that in those schools where there are school or classroom libraries, pupils could borrow books and take them home. In SACMEQ I, 78.0 percent of the pupils responded positively, but in SACMEQ II the percentage of pupils who gave a positive response went down to 55.4. The school head responses also declined from 86.2 percent in 1995 to 75.3 percent in 2000. Both the pupils and the school heads responses showed that there were significant differences between 1995 and 2000 in pupils who borrowed books from the libraries, although the reasons for the negative trend were not clear.

**Policy suggestion 3.14:** The Director of Curriculum Development, Examination and Teacher Support should set guidelines on the establishment and operation of libraries in schools.

**General Policy Concern 5**

**Has the practice of Standard 6 pupils receiving extra lessons in school subjects outside school hours become widespread, and have there been paid-for lessons?**

**(a) Percentage of pupils who received extra tuition**

The practice of providing extra tuition has become common in Zanzibar's urban areas. Most of the teachers who teach in the schools conduct provide private or extra tuition in the evenings and on weekends. Rural schools also organize themselves and give extra tuition to pupils, especially those who are in classes preparing for the national examinations. A question was asked about pupils taking extra tuition and the results have been presented in Table 3.18.

**Table 3.18: Percentages and sampling errors for the extra tuition taken by pupils outside school hours (SACMEQ I and SACMEQ II)**

| Region | Extra tuition on any subject | | | |
| | SACMEQ I | | SACMEQ II | |
| | % | SE | % | SE |
| --- | --- | --- | --- | --- |
| North Pemba | 43.9 | 2.58 | 52.7 | 1.92 |
| South Pemba | 45.6 | 2.42 | 43.5 | 1.92 |
| North Unguja | 57.2 | 3.03 | 46.8 | 1.95 |
| Urban/West | 44.6 | 2.35 | 68.2 | 2.04 |
| South Unguja | 45.0 | 2.29 | 57.1 | 1.86 |
| **Zanzibar** | 46.1 | 1.26 | 55.9 | 0.95 |

As can be seen from the table, there was a statistically significant increase of 11.8 percent of pupils taking extra tuition between 1995 (46.1%) and 2000 (55.9%). The results also show that, generally, more pupils in the urban areas took extra tuition (68.2%) than those in rural areas.

**(b)  Payment made for receiving tuition**

The pupils who indicated that they were getting extra tuition were also asked whether they paid for such tuition. The results have been presented in Table 3.19.

**Table 3.19: Percentages and sampling errors for the payment of extra tuition taken by pupils outside school hours (SACMEQ II)**

| Region | There is payment | | There is no payment | | Don't know | |
|---|---|---|---|---|---|---|
| | % | SE | % | SE | % | SE |
| North Pemba | 24.0 | 2.43 | 36.2 | 2.01 | 39.8 | 2.72 |
| South Pemba | 26.8 | 3.08 | 19.4 | 2.49 | 53.8 | 3.41 |
| North Unguja | 27.9 | 3.86 | 27.1 | 3.61 | 45.1 | 4.31 |
| Urban/West | 55.7 | 2.98 | 18.2 | 2.19 | 26.1 | 2.70 |
| South Unguja | 24.1 | 3.07 | 31.0 | 3.06 | 45.0 | 3.16 |
| **Zanzibar** | 38.0 | 1.54 | 24.4 | 1.21 | 37.5 | 1.50 |

The results indicated that the percentage of pupils who responded that they paid for extra tuition and those who did not know whether they paid for it was almost the same (38% and 37.5% respectively). More than half of the pupils in the Urban/West Region indicated that they paid for the extra tuition they received (55.7%). As stated earlier extra tuition was most common in urban centres where parents had salaries or better income and could afford to pay for it. Parents in the urban areas were also more educated, and thus had a more competitive spirit with regard to getting better performance out of their children. Good performance would enhance their children's chances of entry into the special secondary schools. This has resulted in the mushrooming of private tuition services that are paid for.

It has been observed that the practice of offering extra tuition has both positive and negative effects on pupils. The positive outcome is the improved performance of pupils. On the other hand, some of the teachers who provide extra tuition classes outside school tend to put more teaching effort outside working hours than they do during the official school hours and they, therefore lag behind with the implementation of the official curriculum. These teachers also make pupils put more effort in the extra tuition classes than in the regular classes. The Ministry of Education needs to investigate the impact of extra tuition on pupils and teachers as well as working out mechanisms of control.

**Policy suggestion 3.15:** The Director of Education and Director of Inspectorate should undertake an investigation on the positive and negative impacts of extra tuition for primary schools children and ensure that the practice is carefully regulated.

### Conclusion

This chapter provided the reader with baseline data on pupils' home characteristics and the learning environment. A general observation that can be made from the results is that between 1995 and 2000 there appears to have been a decline and deterioration overall of pupils' learning environment both at the homes and at school.

The study revealed that, on the average, Standard 6 pupils in Zanzibar were far above the expected age by about 3 years. This shows that some children entered the education system late or that there was a lot of grade repetition along the way. This needs to be further investigated, and corrective action needs to be taken

The study also revealed that, in general, the education level of most of the parents was low. As a result, parents' support for their children's learning at home is minimal. This problem needs to be further examined in order to develop more holistic strategies that will benefit both parents and their children.

Another challenge that needs Ministry's serious attention is the shortage or lack of classroom resources like textbooks, exercise books and library books. A significant number of pupils lack these resources that are essential for effective learning. Furthermore, schools should be encouraged to allow pupils to take books home, particularly those whose home backgrounds are so poor that they offer fewer alternative learning materials.

It was also observed that, generally, pupils did not get homework from their teachers on a regular basis. For those who did, there was inadequate support for the pupils at home, with a considerable percentage of pupils reporting that the homework given was not corrected. All these are important areas to be addressed by the Ministry.

Finally, the issue of extra tuition needs further investigation. This issue should be of concern to both education authorities (Ministry, regional and district education offices and schools) and parents. The education authorities need to examine the teaching/learning process and teacher behaviours so that these offer equality of learning opportunity for all children. For parents, the concern should be the well being of their children and the long hours children spend studying, with little time for rest and leisure.

## Chapter 4

**Teachers' characteristics and their views about teaching, classroom resources, professional support and job satisfaction**

## <u>Introduction</u>

In this chapter the characteristics and behaviours of Standard 6 teachers, their views on teaching, classroom resources, professional support and job satisfaction have been analysed. The results have been presented in seven major categories of policy concerns as follows:

1. Personal characteristics of Standard 6 teachers including the condition of housing;

2. Professional characteristics of Standard 6 teachers and the role of in-service training to achieve effective teaching;

3. Allocation of time among responsibilities concerned with teaching such as preparing lessons and marking;

4. Standard 6 teachers' views about
   (a) Pupil activities in the classroom
   (b) Teaching goals
   (c) Teaching approaches/strategies
   (d) Meeting and communicating with parents;

5. Availability and adequacy of the classroom furniture and equipment;

6. Professional support given to Standard 6 teachers; and

7. Factors which had the most impact on upon teachers' job satisfaction.

The reasons for these analyses are to present the context for interpreting the data on achievement later and also to have such information available to see whether such inputs to Standard 6 classes have changed overtime since SACMEQ I in 1995.

**General Policy Concern 6**

**What were the personal characteristics of Standard 6 teachers (for example age, gender and socio-economic level) and what was the condition of their housing?**

**(a) Age, gender and socio-economic level of Standard 6 teachers**

The figures presented in Table 4.1(a) and Table 4.1(b) provide information about the personal characteristics of Standard 6 teachers in Zanzibar in SACMEQ I and SACMEQ II respectively.

**Table 4.1(a): Means, percentages, and sampling errors for age, gender, and socio-economic background of reading teachers (SACMEQ I)**

| Region | Age (years) | | Gender (female) | | Possession at home (index) | |
|---|---|---|---|---|---|---|
| | Mean | SE | % | SE | Mean | SE |
| North Pemba | 33.8 | 0.16 | 37.7 | 1.67 | 2.5 | 0.07 |
| South Pemba | 31.1 | 0.18 | 54.6 | 0.83 | 3.2 | 0.09 |
| North Unguja | 32.9 | 0.28 | 29.6 | 2.40 | 2.8 | 0.12 |
| Urban/West | 30.1 | 0.19 | 88.4 | 0.78 | 3.5 | 0.05 |
| South Unguja | 32.6 | 0.06 | 28.9 | 0.38 | 3.7 | 0.00 |
| **Zanzibar** | **31.5** | **0.10** | **60.6** | **0.53** | **3.2** | **0.03** |

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

| Region | Reading teacher | | | | | | Mathematics teacher | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Age (years) | | Gender (female) | | Possessions at home (index) | | Age (years) | | Gender (female) | | Possessions at home (index) | |
| | Mean | SE | % | SE | Mean | SE | Mean | SE | % | SE | Mean | SE |
| North Pemba | 35.1 | 0.21 | 46.5 | 1.68 | 3.8 | 0.08 | 36.2 | 0.13 | 35.8 | 0.00 | 4.5 | 0.02 |
| South Pemba | 38.2 | 0.06 | 63.6 | 0.00 | 3.8 | 0.03 | 34.0 | 0.15 | 59.8 | 0.63 | 2.8 | 0.01 |
| North Unguja | 31.1 | 0.18 | 46.6 | 1.37 | 2.8 | 0.06 | 37.3 | 0.22 | 46.2 | 1.78 | 3.4 | 0.07 |
| Urban/West | 32.7 | 0.17 | 87.3 | 0.93 | 5.2 | 0.09 | 31.8 | 0.18 | 83.7 | 0.86 | 5.4 | 0.08 |
| South Unguja | 31.3 | 0.12 | 43.4 | 0.45 | 3.9 | 0.02 | 35.5 | 0.19 | 37.9 | 0.83 | 3.7 | 0.03 |
| **Zanzibar** | 33.7 | 0.08 | 63.0 | 0.50 | 4.2 | 0.04 | 34.4 | 0.08 | 57.9 | 0.45 | 4.2 | 0.03 |

**(i) Age of Teachers**

The age of Standard 6 teachers has been described in the first and seventh column of figures in Table 4.1(a) and 4.1(b), and these are for both reading and mathematics teachers in SACMEQ I and SACMEQ II. In SACMEQ I the mean age of the teachers was 31.5 years whereas in SACMEQ II the average age of reading teachers was 33.7 years and that of mathematics teachers was 34.4 years. It can be inferred from the two tables that, on average, the teachers in 2000 were more mature age-wise than the teachers in 1995. This might in a way also imply that in SACMEQ II, teachers were more experienced.

However, regional disparities were noticeable. As an example, the average pupil in South Pemba had a reading teacher who was 38.2 years while the average pupil in North Unguja had mathematics teacher who was 37.3 years.

**(ii) Gender of Teachers**

In 1995, 60.6 percent of the reading teachers were female. By 2000 the percentage of female teachers had risen to 63.0 percent for reading teachers. The percentage of mathematics teachers who were female was 57.9 percent. From a further examination of Table 4.1(b) it can be seen that there were regional variations. The Urban/West Region again had the highest percentage of female reading and mathematics teachers, with percentages of 87.3 and 83.7 respectively. This was followed by South Pemba which had corresponding figures of 63.6 percent and 59.8 percent.

The influx of female teachers in the Urban/West region can be attributed to the movement of female teachers from other regions to town because of marriage. Furthermore, a large number of girls from urban areas qualify for teacher training courses compared with the small number of girls from rural areas who qualify. While, on one hand, it is positive to have female teachers who are as many as, or more than, the number of male teachers, on the other hand it is professionally unhealthy to distribute most of them in one region, especially in towns. It should be borne in mind that most female teachers would be expected to take maternity leave during their teaching career. In Zanzibar female teachers also tend to have more demanding responsibilities in the home. Since these two factors might affect their attendance, it is important to ensure that they are equitably distributed. Efforts need to be made by the Ministry of Education to have more female teachers allocated to rural areas so that they can serve as role models to the girls and thus motivate them in their school career.

**Policy suggestion 4.1:** The Director of Education should make a thorough analysis of the allocation of male and female teachers in schools in all the regions and develop a system of proportionate distribution that should be implemented in order to reduce inequities in their allocation to regions and schools within regions.

**(iii) Socio-economic status in terms of possessions**

The researchers explored the socio-economic status of the teachers by looking at the possessions they had where they were housed. The possessions included items like

television, radio, video cassette player and magazines. There was a total of thirteen items that were counted and averaged, and the results have been presented in Table 4.1(a) and 4.1(b). In 1995 the average number of possessions was 3.2 while in 2000 the average number of possessions for both reading and mathematics teachers was 4.2. At the regional level the difference was very small, with the exception of the teachers in the urban areas where the average number of possessions was 5.2 for reading teachers and 5.4 for mathematics teachers, which was much higher than the national average. Overall, the teachers did not have many possessions. The items that most of the teachers had were a bicycle, a radio, a table for writing, newspapers and magazines. In the urban areas teachers also had a TV, VCR and a refrigerator.

**(b) The General Condition of Teacher Housing**

It is important to ensure that teachers are provided with decent accommodation as this is a basic need that motivates them. In cases where teachers prefer commuting or have to commute, there are increased chances of them arriving to school late and leaving early so as to arrive at their homes in good time.

The researchers, therefore, sought to establish the general condition of teachers' accommodation in terms of whether the houses were generally in a poor state, required minor or major repairs, the nature of the surrounding environment, and source of lighting. The percentages of pupils having teachers with acceptable housing conditions have been presented in Table 4.2. Acceptable housing was defined as homes requiring only minor repairs or that were deemed to be in good condition.

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

| Region | Teacher housing in acceptable conditions | | | | | |
| | SACMEQ I | | SACMEQ II | | | |
| | Reading teacher | | Reading teacher | | Mathematics teacher | |
| | % | SE | % | SE | % | SE |
|---|---|---|---|---|---|---|
| North Pemba | 8.2 | 1.23 | 8.6 | 0.73 | 19.9 | 0.72 |
| South Pemba | 12.3 | 0.00 | 20.5 | 0.94 | 9.3 | 0.60 |
| North Unguja | 12.4 | 1.73 | 34.1 | 1.42 | 46.2 | 1.93 |
| Urban/West | 18.2 | 0.63 | 56.6 | 1.24 | 35.1 | 1.47 |
| South Unguja | 26.1 | 0.00 | 46.3 | 0.92 | 40.1 | 1.42 |
| **Zanzibar** | 15.8 | 0.39 | 36.1 | 0.54 | 30.0 | 0.64 |

In year 2000, 36.1 percent of the Standard 6 reading teachers and 30.0 percent of the mathematics teachers indicated that their houses were in an acceptable condition, compared with 15.8 percent in 1995. Less than one-half of Standard 6 pupils had teachers who indicated that their houses did not need major repairs. In Zanzibar most teachers have their own houses therefore there is need for the Ministry to find ways to help teachers to improve the condition of their own houses or to construct houses near schools that the teachers could rent.

**Policy suggestion 4.2:** The Principal Secretary in the Ministry of Education should, with the support of other Ministries, explore possibilities of putting in place a scheme through which teachers could be provided with loans or building materials on credit so that they can improve the condition of their houses. Where possible, efforts should also be made to provide good housing facilities to those teachers who do not have their own houses.

**Policy suggestion 4.3:** The Department of Planning should mobilise communities to build teacher houses in the vicinity of their schools.

**General Policy Concern 7**

**What were the professional characteristics of Standard 6 teachers and did they consider in-service training to be effective in improving their teaching?**

**(a) Academic Level of Standard 6 Teachers**

The academic qualifications of the teachers in Zanzibar have been changing over time. In the 1970s one could qualify to be a teacher after obtaining a junior secondary certificate. In the 1980s, an Ordinary Level Certificate ('O' level) with some ordinary passes was a requirement. This requirement has recently been raised to 'O' level with good passes. In the questionnaire teachers were asked about the highest level of academic education they had attained. The options given were:

- Primary education or equivalent
- Junior secondary education or equivalent
- Advanced Level ('A' Level) or some further study but not a first degree
- Tertiary education (at least a first degree)

The results have been presented in Table 4.3 and Table 4.4 for reading and mathematics teachers respectively for SACMEQ II.

**Table 4.3: Academic education of reading teachers (SACMEQ II)**

| Region | Primary | | Junior secondary | | Senior secondary | | A-level | | Tertiary | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | SE | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 0.0 | 0.00 | 15.1 | 1.01 | 70.8 | 1.33 | 14.1 | 1.20 | 0.0 | 0.00 |
| South Pemba | 0.0 | 0.00 | 8.5 | 0.43 | 91.5 | 0.43 | 0.0 | 0.00 | 0.0 | 0.00 |
| North Unguja | 0.6 | 0.32 | 6.6 | 1.08 | 85.8 | 1.46 | 7.0 | 0.92 | 0.0 | 0.00 |
| Urban/West | 2.4 | 0.53 | 0.9 | 0.41 | 89.7 | 1.10 | 7.1 | 0.87 | 0.0 | 0.00 |
| South Unguja | 0.0 | 0.00 | 10.8 | 0.45 | 74.1 | 0.45 | 15.0 | 0.00 | 0.0 | 0.00 |
| **Zanzibar** | 0.9 | 0.19 | 7.1 | 0.30 | 83.9 | 0.51 | 8.0 | 0.40 | 0.0 | 0.00 |

**Table 4.4:   Academic education of mathematics teachers (SACMEQII)**

| Region | Primary | | Junior secondary | | Senior secondary | | A-level | | Tertiary | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % | SE | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 0.0 | 0.00 | 12.1 | 0.72 | 84.6 | 0.72 | 3.3 | 0.82 | 0.0 | 0.00 |
| South Pemba | 2.4 | 0.00 | 4.8 | 0.00 | 83.4 | 0.60 | 9.4 | 0.60 | 0.0 | 0.00 |
| North Unguja | 0.0 | 0.00 | 5.5 | 0.00 | 94.5 | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 |
| Urban/West | 0.0 | 0.00 | 14.5 | 0.91 | 77.5 | 0.99 | 8.0 | 0.38 | 0.0 | 0.00 |
| South Unguja | 2.3 | 0.00 | 6.5 | 0.69 | 82.0 | 0.93 | 9.2 | 0.62 | 0.0 | 0.00 |
| **Zanzibar** | 0.7 | 0.00 | 9.8 | 0.35 | 83.2 | 0.40 | 6.2 | 0.24 | 0.0 | 0.00 |

The results for the 2000 study were not presented in the number of years but were presented in percentages of teachers reaching different levels of education. It can be seen from the tables that the modal level of education for both reading and mathematics teachers was senior secondary or 'O' level (83.9% and 83.2% respectively). But, only 15.1 percent of the reading teachers in North Pemba and 10.8 percent of the reading teachers in South Unguja had junior secondary education. Similar regions had a high percentage of teachers with A-level qualification (14.1% and 15.0% for reading and mathematics respectively).

Only 77.5 percent of the mathematics teachers in Urban/West region had completed senior secondary, which was below the national average of 83.2 percent.

**(b) Professional training and experience of Standard 6 teachers**

In Tables 4.5 and 4.6 the findings concerning years of teacher training and teaching experience of reading teachers and mathematics teachers for SACMEQ I and SACMEQ II have been presented.

**Table 4.5: Means and sampling errors for experience and training of reading teachers (SACMEQ I)**

| Region | Reading teacher | | | |
|---|---|---|---|---|
| | Experience (years) | | Training (years) | |
| | Mean | SE | Mean | SE |
| North Pemba | 12.9 | 0.16 | 1.7 | 0.02 |
| South Pemba | 11.2 | 0.15 | 1.5 | 0.02 |
| North Unguja | 9.6 | 0.22 | 1.4 | 0.02 |
| Urban/West | 9.2 | 0.15 | 1.2 | 0.03 |
| South Unguja | 11.3 | 0.02 | 1.5 | 0.01 |
| **Zanzibar** | 10.4 | 0.08 | 1.4 | 0.01 |

**Table 4.6: Means and sampling errors for experience and training of reading and mathematics teachers (SACMEQ II)**

| Region | Reading teacher | | | | Mathematics teacher | | | |
|---|---|---|---|---|---|---|---|---|
| | Experience (years) | | Training (years) | | Experience (years) | | Training (years) | |
| | Mean | SE | Mean | SE | Mean | SE | Mean | SE |
| North Pemba | 18.6 | 0.22 | 1.8 | 0.01 | 13.0 | 0.17 | 2.0 | 0.01 |
| South Pemba | 15.8 | 0.13 | 1.9 | 0.02 | 9.8 | 0.10 | 1.9 | 0.01 |
| North Unguja | 7.0 | 0.15 | 1.5 | 0.02 | 12.7 | 0.18 | 1.4 | 0.03 |
| Urban/West | 11.7 | 0.22 | 1.6 | 0.02 | 11.2 | 0.21 | 1.7 | 0.02 |
| South Unguja | 12.5 | 0.06 | 1.4 | 0.01 | 10.9 | 0.22 | 1.7 | 0.01 |
| **Zanzibar** | 13.1 | 0.09 | 1.7 | 0.01 | 11.5 | 0.09 | 1.8 | 0.01 |

From SACMEQ I findings, in spite of the fact that teachers should normally undergo a 2-year training course or its equivalent, it can be seen that the mean number of years of teacher training for Standard 6 reading teachers was 1.3 years.

According to SACMEQ II data presented in Table 4.7, the length of teacher training for reading teachers had risen to 1.7 years - an improvement from SACMEQ I. The increase in the length of the training period could be attributed to three reasons. Firstly, a number of unqualified (untrained) teachers had been trained, some through distance courses and others through normal training. Secondly, most of the old

teachers with low qualifications had retired. Thirdly, a large percentage of young teachers had been recruited after teacher training.

The average period of training for a mathematics teacher was 1.8 years. Both Standard 6 reading and mathematics teachers in North and South Pemba had longer periods of training than those in other regions (between 1.8 years and 2.0 years). On the contrary, reading teachers in South Unguja and mathematics teachers in North Unguja had the shortest period of training (1.4 years). This is largely due to the fact that teachers in South Unguja region were generally much older, and had received training of shorter duration, and that in North Unguja there are many untrained teachers.
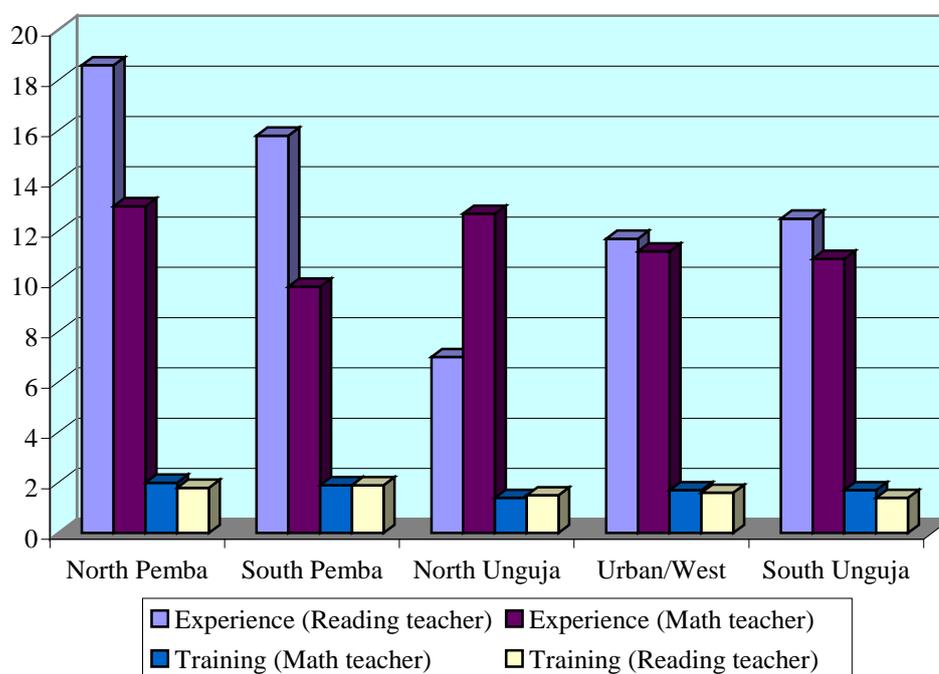


**Figure 4.1: Training and teaching experience of reading and mathematics teachers (SACMEQ II)**

From Tables 4.5, Table 4.6 and Figure 4.1, it can be seen that the mean number of years of teaching experience was 13.1 years for reading teachers and 11.5 years for mathematics teachers. Further examination show that North Unguja had younger reading teachers (7 years).

**(c) In-service courses attended by the teachers**

In-service training for serving teachers is important for skills improvement and for the acquisition of new knowledge. There is no benchmark for the number of in-service courses that the teacher should undergo within a given period. The teachers were asked to report the number of in-service courses they had attended in the past 3 years. From Table 4.7 it can be seen that, when reading and mathematics teachers are compared, there was a difference in the number of in-service courses and the number of days over which teachers attended these courses. Reading teachers attended seven days more than mathematics teachers.

**Table 4.7:  Means and sampling errors for teacher in-service courses and days attended in the last three years (SACMEQ II)**

| Region | Reading teacher | | | | Mathematics teacher | | | |
|---|---|---|---|---|---|---|---|---|
| | In-service courses | | Days | | In-service courses | | Days | |
| | Mean | SE | Mean | SE | Mean | SE | Mean | SE |
| North Pemba | 4.6 | 0.80 | 32.8 | 8.95 | 2.5 | 0.03 | 6.6 | 0.22 |
| South Pemba | 2.0 | 0.12 | 6.8 | 0.18 | 1.3 | 0.01 | 5.8 | 0.01 |
| North Unguja | 1.9 | 0.04 | 5.4 | 0.18 | 2.2 | 0.08 | 6.2 | 0.07 |
| Urban/West | 1.8 | 0.06 | 7.8 | 0.25 | 1.2 | 0.04 | 4.3 | 0.12 |
| South Unguja | 2.9 | 0.03 | 10.1 | 0.09 | 2.4 | 0.03 | 8.4 | 0.10 |
| **Zanzibar** | 2.5 | 0.15 | 12.1 | 1.64 | 1.8 | 0.02 | 5.8 | 0.06 |

There were regional variations in the number of in-service courses and the number of days for both reading and mathematics teachers.  Only in North Pemba and South Unguja were figures above the national mean. The average number of courses attended by reading teachers in North Pemba was 4.6 and in South Unguja it was 2.9. Reading teachers in North Pemba also had 32.8 days attending the courses, which was far above the national mean of 12.1 days.  All of the other regions were below the mean.  For mathematics teachers there was only a small variation in the number of in-service courses attended. However in South Unguja teachers attended the courses for 8.4 days, a figure far higher than the national average of 5.8 days.

When comparing Table 4.7 and Figure 4.2, it can be seen that there was no correspondence between the number of years of teaching experience and number of in-service courses attended.  Teachers had long teaching experience yet they had attended very few or no in-service courses.  This might indicate that while teachers gained experience in teaching, they were not exposed to new approaches to teaching, and that accounts for the more traditional teaching style such teachers adopted.
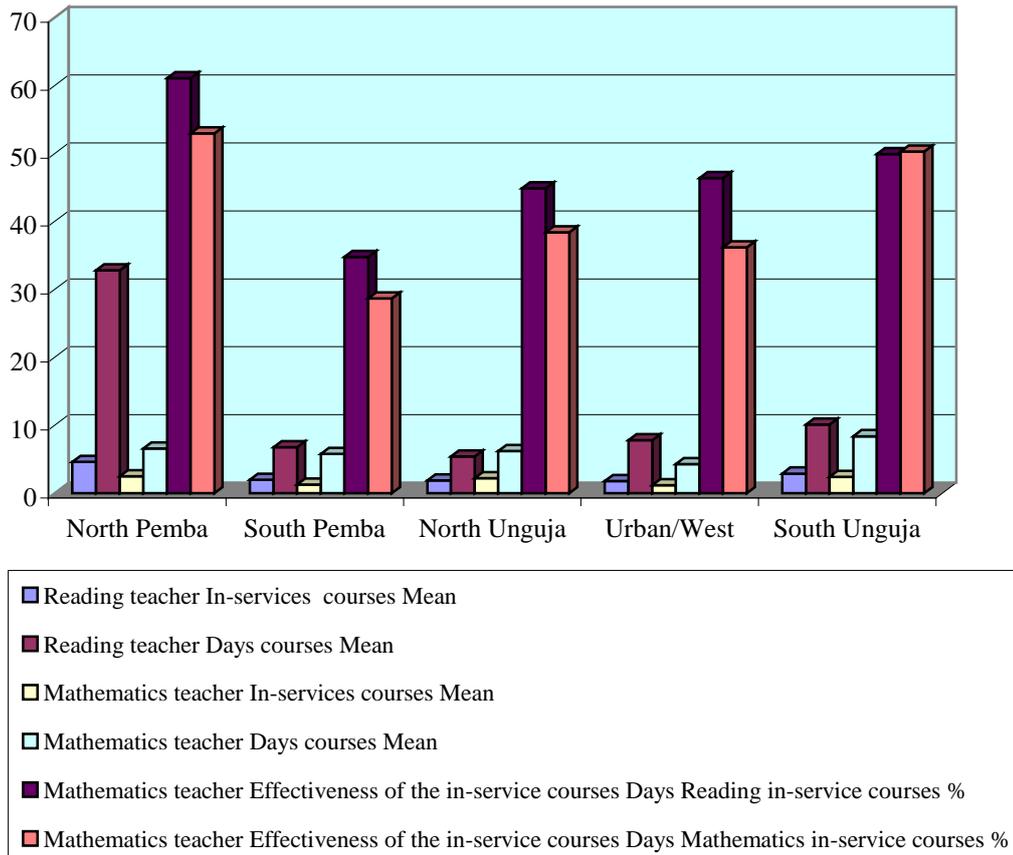


**Figure 4.2: Means for teacher in-service courses and days attended in the last three years**

Teachers were also asked to indicate the extent to which they found these in-service courses effective.  The results have been presented in Table 4.8.

**Table 4.8:  Percentages and sampling errors for the teachers' perception of effectiveness of reading and mathematics in-service courses (SACMEQ II)**

| Region | Effectiveness of the in-service courses | | | |
| | Reading in-service courses | | Mathematics in-service courses | |
| | % | SE | % | SE |
| --- | --- | --- | --- | --- |
| North Pemba | 83.2 | 1.64 | 82.1 | 1.10 |
| South Pemba | 63.5 | 1.71 | 64.7 | 0.90 |
| North Unguja | 77.1 | 2.17 | 64.5 | 0.44 |
| Urban/West | 74.2 | 1.15 | 75.8 | 2.16 |
| South Unguja | 80.1 | 0.29 | 88.5 | 0.98 |
| **Zanzibar** | 75.5 | 0.69 | 75.3 | 0.73 |

The data presented in Table 4.8 indicate that 75.5 percent of reading teachers and 75.3 percent of mathematics teachers thought that in-service training was effective.  This implies that, on the whole, about a quarter of the reading teachers and mathematics teachers were not impressed with the in-service training provided. The highest percentages of teachers who perceived that the in-service courses were effective were found in North Pemba and South Unguja.  The lowest percentages were recorded in South Pemba.  The fact a quarter of the teachers perceived the in-service training courses as ineffective should be a cause for concern and reflects the need for a review of all aspects of the in-service training programme as a whole.

**Policy suggestion 4.4:** The Commissioner for Education should review the In-service Training Policy in order to ensure that more systematic in-service training for new and experienced teachers is organised by Teacher Centre Co-ordinators. Furthermore, all aspects of these in-service training programmes, to include content and presentation style, should be designed in such a way that they meet the professional growth needs of teachers.

**General Policy Concern 8**

**How did Standard 6 teachers allocate their time among responsibilities
concerned with teaching, preparing lessons and marking?**

In the teaching profession it is important that teachers allocate their time properly among key activities including lesson preparation, instruction, marking, or extra curricular activities and professional development initiatives. The study also focused on time management with regard to teaching, preparing lessons and marking.

**(a) Number of teaching periods**

Teachers were asked to state the number of periods they taught per week. They were also asked to state the number of hours they spent on teaching. The responses have been presented in Table 4.9.

**Table 4.9: Means and sampling errors for the periods and time spent on teaching per week (SACMEQ I and SACMEQ II)**

| | SACMEQ I | | | | SACMEQ II | | | | | | | |
| | Reading teacher | | | | Reading teacher | | | | Mathematics teacher | | | |
| Region | Periods per week | | Hours per week | | Periods per week | | Hours per week | | Periods per week | | Hours per week | |
| | Mean | SE | Mean | SE | Mean | SE | Mean | SE | Mean | SE | Mean | SE |
| North Pemba | 27.9 | 0.21 | 17.5 | 0.12 | 29.4 | 0.22 | 19.5 | 0.15 | 31.7 | 0.10 | 20.6 | 0.07 |
| South Pemba | 24.1 | 0.23 | 15.0 | 0.13 | 29.9 | 0.09 | 19.9 | 0.06 | 28.0 | 0.02 | 19.2 | 0.01 |
| North Unguja | 31.4 | 0.16 | 19.3 | 0.11 | 29.4 | 0.15 | 18.8 | 0.14 | 29.0 | 0.26 | 18.4 | 0.16 |
| Urban/West | 23.1 | 0.15 | 13.9 | 0.07 | 25.3 | 0.10 | 16.6 | 0.08 | 26.9 | 0.19 | 17.7 | 0.12 |
| South Unguja | 28.4 | 0.01 | 16.9 | 0.01 | 28.6 | 0.10 | 18.6 | 0.07 | 27.8 | 0.07 | 18.8 | 0.06 |
| **Zanzibar** | 25.6 | 0.09 | 15.7 | 0.05 | 28.0 | 0.06 | 18.4 | 0.05 | 28.4 | 0.08 | 18.8 | 0.05 |

The mean number of periods that reading teachers were teaching in 2000 was 28.0 compared to 25.6 in 1995. The number of hours the reading teachers spent teaching in 1995 was 15.7 while in 2000 they spent 18.4 hours. Reading and mathematics teachers had about the same number of periods and hours in 2000.

An analysis of the variation among regions showed that the Urban/West region had teachers with fewer periods per week than teachers in the other regions in Zanzibar. This could be explained by the fact that there are more teachers in this region than the standard requirement.

**Policy suggestion 4.5:** The Director of Education should review the distribution of teachers in the Urban/West Region with a view to ensuring that the staffing levels do not exceed the region's official entitlement.

**(b) Teacher time spent on lesson preparation**

There are certain tasks in the teaching profession which are very crucial for effective lesson delivery. Among these are preparation of the lesson plans and marking of the pupils' work. A question was, therefore, asked about how many hours the average teacher spent on lesson preparation and marking in a typical school week. The data have been presented in Table 4.10.

**Table 4.10: Means and sampling errors for the teacher time spent on lesson preparation and marking homework (SACMEQ I and SACMEQ II)**

| Region | Time spent on lesson preparation and marking homework | | | | | |
| | SACMEQ I | | SACMEQ II | | | |
| | Reading lesson (hours) | | Reading lesson (hours) | | Mathematics lesson (hours) | |
| | Mean | SE | Mean | SE | Mean | SE |
|---|---|---|---|---|---|---|
| North Pemba | 10.0 | 0.12 | 16.3 | 0.23 | 15.4 | 0.05 |
| South Pemba | 10.5 | 0.26 | 19.2 | 0.14 | 13.7 | 0.05 |
| North Unguja | 9.2 | 0.22 | 10.4 | 0.38 | 10.4 | 0.07 |
| Urban/West | 9.4 | 0.09 | 18.7 | 0.13 | 17.1 | 0.32 |
| South Unguja | 11.0 | 0.01 | 14.2 | 0.05 | 14.4 | 0.14 |
| **Zanzibar** | 9.8 | 0.07 | 16.5 | 0.09 | 14.7 | 0.11 |

In SACMEQ I the reading teacher spent 9.8 hours on lesson preparation and marking homework. In SACMEQ II the reading teacher spent 16.5 hours and the mathematics teacher spent 14.7 hours. The reading teachers in South Pemba and Urban/West Region spent more time on lesson preparation (19.2 hours and 18.7 hours respectively) than those in other regions while mathematics teachers in North Pemba and Urban/West spent more hours than those in the other regions (15.4 hours and 17.1 hours respectively).

It is reasonable to assume that most of the time was for marking homework. Those teachers with more than about three or four years of experience spend less time on lesson preparation.

**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?**

Teachers vary their teaching behaviours according to the particular educational objectives and according to which particular learners they are teaching. Questions

were included in the teacher questionnaire to elicit teachers' views on various aspects of teaching.

**(a) Teachers' Views about Important Pupil Activities**

**Table 4.11(a):  Percentages and sampling errors for the activities of teaching reading (SACMEQ I and SACMEQ II)**

| Activity | Activity rated as 'most important' | | | |
| --- | --- | --- | --- | --- |
| | SACMEQ I | | SACMEQ II | |
| | % | SE | % | SE |
| Listening to reading | 15.7 | 0.19 | 10.7 | 0.28 |
| Silent reading | 3.7 | 0.47 | 0.4 | 0.10 |
| Learning new vocabulary | 18.4 | 0.53 | 17.6 | 0.37 |
| Sounding words | 11.6 | 0.35 | 3.4 | 0.23 |
| Reading for comprehension | 31.5 | 0.59 | 42.1 | 0.55 |
| Taking books home to read | 10.8 | 0.39 | 15.6 | 0.54 |
| Reading materials in home | 8.2 | 0.29 | 3.9 | 0.30 |
| Reading aloud in class[*] | | | 6.3 | 0.30 |

\*        SACMEQ II only.

It can be seen from Table 4.11(a) that the most popular activity planned for learners in teaching reading for both SACMEQ I and SACMEQ II was 'reading for comprehension'.  This was followed by 'learning new vocabulary'. 'Silent reading' and 'reading materials at home' were rated the least important. While these two received low rating, it has to borne in mind that cultivating a reading culture requires training in silent reading at an early age, and that the practice of homework can be promoted through encouragement of reading at home.

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[*] A question relating to this aspect was not included in SACMEQ I.

**Table 4.11(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 | 31.1 | 0.48 |
| Working alone | 8.7 | 0.36 |
| Preparing projects to be shown to the class | 4.1 | 0.16 |
| Using practical equipment | 38.6 | 0.58 |
| Homework assignments | 4.8 | 0.10 |
| Studying and interpreting graphs | 0.0 | 0.00 |
| Reciting tables, formulae, etc. | 0.0 | 0.00 |
| Quizzes, tests, examinations, etc. | 12.7 | 0.41 |

The activities that mathematics teachers viewed as 'most important' have been presented in Table 4.11(b). The activity with the highest rating was 'Using practical equipment' (38.6%). This was followed by 'working in pairs or groups' (31.1%). There was no teacher who rated 'studying and interpreting graphs' and reciting tables, formulae, etc.' as important activities.

The ratings from both reading and mathematics teachers should be examined thoroughly by the authorities concerned with the aim of reviewing the training programmes of the two subjects.

**Policy suggestion 4.6:** The training officers for both pre-service and in-service training programmes and the curriculum developers should review the programmes to include respective content and methodologies of teaching Kiswahili and Mathematics subjects so that teachers include in their teaching all the teaching activities that contribute to effective learning.

**Policy suggestion 4.7:** The Head of the National Teachers Resource Centre should conduct a survey to identify essential areas of the curriculum that posed problems for mathematics teachers and put in place in-service training programmes that improved both their knowledge base and their teaching methodologies.

**(b) Teacher's views about the most important teaching goals**

Seven goals in teaching reading and in teaching mathematics were developed and the teachers were asked to rate them. The percentages of the teachers who rated each goal as 'most important' have been presented in Table 4.12(a) for reading and in Table 4.13(b) for mathematics.

**Table 4.12(a) Percentages and sampling errors for the goals of teaching reading (SACMEQ I and SACMEQ II)**

| Goal | Goal rated as 'most important' | | | |
| --- | --- | --- | --- | --- |
| | SACMEQ I | | SACMEQ II | |
| | % | SE | % | SE |
| Making reading enjoyable | 15.7 | 0.43 | 4.9 | 0.36 |
| Extending vocabulary | 15.7 | 0.59 | 0.0 | 0.00 |
| Improving word attack skills | 14.6 | 0.57 | 16.7 | 0.45 |
| Improving reading comprehension | 40.7 | 0.48 | 49.0 | 0.55 |
| Developing a lasting interest | 13.2 | 0.36 | 12.0 | 0.44 |
| Opening up career opportunities * | | | 3.6 | 0.37 |
| Developing of life skills * | | | 13.9 | 0.23 |

* SACMEQ II only.

The results for reading suggested the average Standard 6 pupil had teachers who considered that the most important goal for reading was 'improving reading comprehension' (40.7% in SACMEQ I and 49.0% in SACMEQ II). The results further indicated that in SACMEQ II the reading teachers did not consider the other six goals as very important, and none of them considered 'extending vocabulary' as important.

**Table 4.12(b): Percentages and sampling errors for the goals of teaching mathematics (SACMEQ II)**

| Goal | Goal rated as 'most important' | |
|---|---|---|
| | **%** | **SE** |
| Basic numeracy skills | 14.5 | 0.50 |
| Problem solving | 47.2 | 0.63 |
| Different ways of thinking | 10.5 | 0.48 |
| Confidence in solving problems | 6.3 | 0.34 |
| Satisfaction from doing Mathematics | 4.3 | 0.18 |
| Opening up career opportunities | 4.0 | 0.15 |
| Developing of life skills | 13.1 | 0.35 |

In mathematics 47.2 percent of pupils had teachers who rated 'problem solving' as the most important goal for teaching mathematics. It was surprising that only 14.5 percent of the pupils had teachers who viewed basic numeracy skills 'as the goal that was most important'.

**(c) Teachers' views about teaching strategies**

The reading and mathematics teachers were asked to prioritise teaching approaches they 'often used' in the classroom. The main responses have been summarised in Table 4.13(a) and Table 4.13(b).

**Table 4.13(a): Percentages and sampling errors for the strategies of teaching reading (SACMEQ I and SACMEQ II)**

| Approach | Percentage indicating 'often used' | | | |
|---|---|---|---|---|
| | **SACMEQ I** | | **SACMEQ II** | |
| | % | SE | % | SE |
| Introducing passage before reading | 47.8 | 0.47 | 83.4 | 0.37 |
| Asking questions to test comprehension | 63.3 | 0.44 | 90.9 | 0.29 |
| Asking questions to deepen understanding | 58.0 | 0.47 | 68.5 | 0.47 |
| Using materials made by teacher | 38.1 | 0.47 | 14.1 | 0.44 |
| Reading aloud to the class | 54.0 | 0.48 | 72.5 | 0.50 |
| Giving positive feedback* | | | 49.5 | 0.57 |

\* SACMEQ II only.

**Table 4.13(b): Percentages and sampling errors for the strategies of teaching mathematics (SACMEQ II)**

| Approach | Percentage indicating 'often used' | |
|---|---|---|
| | % | SE |
| Using everyday problems | 45.0 | 0.59 |
| Teaching the whole class as a group | 66.2 | 0.57 |
| Teaching in a small group | 41.2 | 0.48 |
| Teaching individually | 12.2 | 0.11 |
| Teaching through question and answer technique | 71.2 | 0.59 |
| Giving positive feedback | 69.4 | 0.47 |
| Relating to everyday life situations | 43.7 | 0.62 |
| Basic skills training | 70.0 | 0.45 |
| Explaining mathematical processes | 81.5 | 0.36 |
| Using available local materials | 34.0 | 0.54 |

In SACMEQ I, an average of 62.8 percent of Standard 6 pupil were taught by a reading teacher who gave a high priority to 'asking questions to test comprehension'. In SACMEQ II this approach was rated highly by an even larger percentage of teachers, with 90.9 percent of pupils having teachers who gave high priority to this approach followed by 'introducing passage before reading' whereas 83.4 percent of pupils had teachers who give a high priority to this strategy. To a certain extent they also highly rated 'reading aloud to the class' and 'asking questions to deepen understanding' (72.5% and 68.5%) respectively). It appeared that reading teachers rarely used their own teacher-made materials (14.1%).

There was a very interesting contradiction in the reading teachers' responses to 'important strategies'. In Table 4.11(a) the teachers indicated that 'reading aloud by pupils' was **not** important (only 6.3% rated it as 'most important') whereas in Table 4.13(a) they indicated that they used this teaching strategy **very often** (72.5%).

The results on teaching strategies that mathematics teachers used most often have been presented in Table 4.13 (b). It can be seen that 81.5 percent of the pupils had teachers who had rated 'Explaining mathematical processes' as the most used approach. 'Teaching individually' was rated least (12.2%). From the results presented in Table 4.13(b) it can also be observed that a considerable percentage of the pupils were taught by teachers who did not often use locally available materials. What this indicates is that teachers still use the talk and chalk approach even in teaching

mathematics. The question and answer approach is also often used because of its simplicity. 'Basic skills training', which involve addition, subtraction, multiplication and division of numerals, is also preferred because it does not require teachers to display a deep and broad knowledge base in mathematics.

The results have shown that both reading and mathematics teachers did not often use locally available materials, which implies that teachers did not like the idea of making their own materials.

> **Policy suggestion 4.8:** The Head of the National Teachers Resource Centre and the Teacher Centre Co-ordinators should organise in-service training which would focus on the production of learning materials using locally available resources and how to use them in the classroom.

## (d) Frequency of giving written tests

The role of tests in the teaching/learning process is very important for both teachers and learners. A test to the teacher provides feedback and is the basis for any plan for remedial teaching. To the pupils the tests motivate them and assess their learning capacity. In Zanzibar school teachers are required to give a test at the end of each month for purposes of continuous assessment. In this study, the teachers were asked how often they gave tests in reading and in mathematics, and the results have been presented in Table 4.14(a) and Table 4.14(b) respectively.

**Table 4.14(a): Percentages and sampling errors for the frequency of reading tests (SACMEQ I and SACMEQ II)**

| Region | Frequency of reading tests | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SACMEQ I | | | | | | SACMEQ II | | | | | |
| | Less often | | 2/3 per month | | 1 + per week | | Less often | | 2/3 per month | | 1 + per week | |
| | % | SE | % | SE | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 31.5 | 0.96 | 11.8 | 0.75 | 56.7 | 0.82 | 19.6 | 0.00 | 54.0 | 1.69 | 26.4 | 1.69 |
| South Pemba | 24.8 | 0.64 | 29.1 | 1.45 | 46.0 | 1.59 | 28.0 | 0.43 | 11.7 | 0.00 | 60.3 | 0.43 |
| North Unguja | 15.5 | 0.00 | 35.5 | 0.85 | 49.0 | 0.85 | 66.3 | 1.04 | 18.6 | 0.49 | 15.1 | 0.92 |
| Urban/West | 23.4 | 0.38 | 35.0 | 0.61 | 41.6 | 0.47 | 37.5 | 1.47 | 9.0 | 0.47 | 53.6 | 1.39 |
| South Unguja | 52.2 | 0.00 | 26.3 | 0.00 | 21.6 | 0.00 | 37.0 | 0.45 | 12.4 | 0.82 | 50.6 | 0.69 |
| **Zanzibar** | 27.5 | 0.25 | 29.3 | 0.40 | 43.2 | 0.38 | 36.8 | 0.54 | 19.6 | 0.37 | 43.6 | 0.60 |

**Table 4.14 (b): Percentages and sampling errors for frequency of mathematics tests (SACMEQ II)**

| Region | Frequency of mathematics tests | | | | | |
|---|---|---|---|---|---|---|
| | Less often | | 2/3 per month | | 1+ per week | |
| | % | SE | % | SE | % | SE |
| North Pemba | 49.1 | 0.82 | 39.0 | 0.82 | 11.9 | 0.00 |
| South Pemba | 57.2 | 0.42 | 35.3 | 0.42 | 7.6 | 0.00 |
| North Unguja | 31.4 | 0.00 | 51.0 | 2.03 | 17.6 | 2.03 |
| Urban/West | 51.5 | 1.63 | 38.2 | 1.63 | 10.3 | 0.00 |
| South Unguja | 36.2 | 0.83 | 49.3 | 0.70 | 14.5 | 0.45 |
| **Zanzibar** | 46.8 | 0.59 | 41.4 | 0.67 | 11.8 | 0.33 |

From Tables 4.14(a) it can be seen that 42.8 percent of the Standard 6 pupils had teachers who gave written tests in reading once or more per week in 1995 (SACMEQ I) and 43.6 percent was the corresponding figure for 2000 (SACMEQ II). The SACMEQ II data also indicated that 36.8 percent of pupils had teachers who gave written tests in reading less frequently, whereas 19.6 percent of pupils had teachers who gave a written test every two to three months.

The responses for the frequency of testing in mathematics have been summarised in Table 4.14(b). Nearly ninety percent of the Standard 6 pupils had teachers who did not give a written test very often. Just under 50 percent of the pupils had teachers who gave a test 'less often' and 41.4 percent of pupils had teachers who gave a written test every two or three months.

The pattern of the responses for both reading and mathematics teachers did not conform to the Ministry directive of giving at least one written test per month. There is need, therefore, to examine this issue further and ensure that the requirement regarding the frequency of tests at the different levels is fully complied with.

**Policy suggestion 4.9:** The Inspectorate Department should ensure that internal supervisors (i.e. school heads and their deputies) as well as external supervisors (i.e. school inspectors, Regional and District Education Officers) should emphasise to teachers the importance of giving written exercises with the desired frequency. Supervision visits should therefore also focus on ensuring that teachers adhere to this requirement.

**(e) Specific section in learner school reports**

Parents obtain feedback on how their children are learning and performing at school through pupils' school reports. Teachers were asked whether the school report for each pupil included a specific section for comments by the parents and the results have been presented in Table 4.15 for teachers in reading and mathematics. A comparison between SACMEQ I (1995) and SACMEQ II (2000) has been made.

**Table 4.15: Percentages and sampling errors for the frequency of a specific section in pupil school report for reading and mathematics (SACMEQ I and SACMEQ II)**

| | SACMEQ I | | SACMEQ II | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Region** | **Reading section** | | **Reading section** | | **Mathematics section** | |
| | % | SE | % | SE | % | SE |
| North Pemba | 55.6 | 1.26 | 62.1 | 1.53 | 32.1 | 1.02 |
| South Pemba | 28.6 | 0.00 | 59.5 | 0.47 | 38.0 | 0.00 |
| North Unguja | 28.2 | 0.85 | 55.1 | 1.92 | 43.9 | 1.85 |
| Urban/West | 54.5 | 0.57 | 59.7 | 1.07 | 53.0 | 1.12 |
| South Unguja | 43.5 | 0.00 | 79.9 | 0.45 | 53.4 | 0.77 |
| **Zanzibar** | 45.8 | 0.33 | 62.0 | 0.56 | 45.0 | 0.53 |

For SACMEQ I, 45.8 percent of the pupils' reports had a special section on reading whereas in SACMEQ II 62.0 percent were reported as having a section on reading (Kiswahili). This dramatic increase in the use of a special section on reading between 1995 and 2000 has also been noted in all regions of Zanzibar. For mathematics the percentage of the teachers who responded positively was 45.0 percent. This means 55 percent of the pupils were in schools where their reports did not have a specific section on mathematics. It is also possible that no reports were issued by some schools to pupils attending such schools.

### (f)  Frequency of teachers meeting parents

Postlethwaite and Ross (1992) found out that in many countries the more the school head and teachers had contact with parents, the more effective the school was in promoting the reading achievement of pupils. A question was therefore asked about the frequency with which teachers met parents in a year. The results have been presented in Table 4.16.

**Table 4.16: Percentages and sampling errors for the frequency of teacher meetings with parents frequently (SACMEQ I and SACMEQ II)**

| Region | Percentages of teacher meetings with parents frequently | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| | SACMEQ I | | SACMEQ II | | | |
| | Reading teacher | | Reading teacher | | Mathematics teacher | |
| | % | SE | % | SE | % | SE |
| North Pemba | 53.8 | 1.20 | 67.6 | 1.83 | 64.5 | 1.21 |
| South Pemba | 68.1 | 1.45 | 53.2 | 0.00 | 36.1 | 0.00 |
| North Unguja | 50.3 | 0.85 | 79.5 | 1.41 | 91.5 | 0.00 |
| Urban/West | 63.4 | 0.85 | 85.6 | 0.82 | 78.2 | 1.04 |
| South Unguja | 35.8 | 0.00 | 66.8 | 0.32 | 59.3 | 0.45 |
| **Zanzibar** | 57.9 | 0.50 | 72.8 | 0.49 | 67.7 | 0.42 |

In Zanzibar overall, 72.8 percent of the Standard 6 pupils had reading teachers who met frequently with the pupils' parents, whereas 67.2 percent of the Standard 6 pupils had mathematics teachers who did so. This practice needs to be encouraged and improved. But, there was a substantial percentage of teachers who either did not meet with parents at all or met them infrequently.

**Policy suggestion 4.10:** The Department of Education should conduct a massive campaign and encourage teachers to institutionalise regular meetings with parents in order to support and obtain feedback on their children's school work.

**Table 4.17: Percentages and sampling errors of parents meeting teachers each year (SACMEQ II)**

| Region | Parents meet reading teacher | | Parents meet mathematics teacher | |
|---|---|---|---|---|
| | % | SE | % | SE |
| North Pemba | 23.3 | 0.85 | 19.9 | 0.17 |
| South Pemba | 14.8 | 0.26 | 9.9 | 0.03 |
| North Unguja | 35.1 | 0.76 | 21.9 | 0.73 |
| Urban/West | 37.3 | 0.65 | 32.3 | 0.88 |
| South Unguja | 33.9 | 0.07 | 20.8 | 0.22 |
| **Zanzibar** | 29.5 | 0.30 | 22.3 | 0.30 |

Data on the percentage of parents meeting teachers each year have been presented in Table 4.17. The percentage of parents meeting the Standard 6 pupils' teachers annually was very small (29.5% and 22.3% for reading and mathematics teachers respectively. The Ministry, the Regional Education Officers and the schools should be worried with the more than 70 percent of parents and who rarely visit schools. This problem should further be followed up and strategies for change should be sought.

**Policy suggestion 4.11:** School committees should be encouraged by the Department of education to work closely with school heads and teachers to develop mechanisms for encouraging parents to meet with teachers more frequently.

**(g) Parents signing homework assignments**

In Zanzibar's schools there is no central policy guiding the teachers on assigning homework to pupils and, as expected, there is no policy that requires parents to sign for the homework given to pupils, however; the practice differs from school to school. The percentages of teachers who asked parents to sign homework have been presented in Table 4.18.

**Table 4.18: Percentages and sampling errors of teachers asking parents to sign homework (SACMEQ I and SACMEQ II)**

| Region | SACMEQ I | | SACMEQ II | | | |
| --- | --- | --- | --- | --- | --- | --- |
| | Sign reading homework | | Sign reading homework | | Sign mathematics homework | |
| | % | SE | % | SE | % | SE |
| North Pemba | 57.1 | 0.94 | 22.8 | 1.52 | 5.1 | 0.72 |
| South Pemba | 26.2 | 0.48 | 41.5 | 0.00 | 4.8 | 0.00 |
| North Unguja | 42.5 | 0.85 | 17.8 | 1.94 | 3.6 | 0.00 |
| Urban/West | 55.5 | 0.74 | 29.5 | 1.18 | 10.7 | 0.75 |
| South Unguja | 17.2 | 0.00 | 32.8 | 0.80 | 10.6 | 0.93 |
| **Zanzibar** | 44.6 | 0.38 | 29.2 | 0.58 | 7.4 | 0.31 |

In SACMEQ II, only 29.2 percent of Standard 6 pupils had reading teachers who asked parents to sign for the homework. As for mathematics, less than 10 percent of the teachers did so. These results indicate that many teachers have stopped asking parents to sign homework in the period between SACMEQ I and SACMEQ II and most mathematics teachers do not give parents the opportunity to get involved in their children's work because homework was not given. It should therefore not be surprising that poor performance in mathematics in general might partly be a result of little parent involvement.

**Policy suggestion 4.12:** The Inspectorate Department should encourage all schools to implement a clear, comprehensive policy on homework.

## General Policy Concern 10
**What was the availability of Classroom Furniture and Classroom Equipment in Standard 6 Classrooms?**

For pupils and teachers to be able to undertake classroom activities well, there is need for conducive learning environment that has, among other things, an adequate supply of classroom furniture and equipment.

**(a) Availability of classroom furniture**

Of the furniture that any classroom should have, chairs or benches for pupils to sit on, and desks or tables for them to write on, are perhaps the most important. The researchers therefore collected data on the proportion of Standard 6 pupils who had sitting and writing spaces and the results have been presented in Table 4.19.

**Table 4.19: Percentages and sampling errors for pupils having sitting and writing places (SACMEQ I and SACMEQ II)**

| Region | SACMEQ I | | | | SACMEQ II | | | |
|---|---|---|---|---|---|---|---|---|
| | % having sitting place | | % having writing place | | % having sitting place | | % having writing place | |
| | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 48.2 | 0.95 | 28.8 | 1.29 | 33.2 | 1.78 | 30.9 | 1.73 |
| South Pemba | 37.4 | 1.52 | 25.0 | 1.46 | 38.1 | 1.15 | 33.9 | 1.35 |
| North Unguja | 80.3 | 1.71 | 47.4 | 2.92 | 57.1 | 1.65 | 54.9 | 1.83 |
| Urban/West | 45.5 | 1.34 | 28.6 | 1.41 | 63.8 | 1.43 | 62.5 | 1.60 |
| South Unguja | 98.6 | 0.61 | 76.6 | 2.37 | 83.4 | 0.78 | 79.6 | 1.27 |
| **Zanzibar** | 54.7 | 0.69 | 35.8 | 0.82 | 54.6 | 0.69 | 52.1 | 0.76 |

In both SACMEQ I and SACMEQ II, close to 55 percent of the Standard 6 pupils in Zanzibar had sitting places, and the situation had remained more or less the same. The percentage of writing places increased from 35.8 percent to 52.1 percent between 1995 and 2000. This, by any standard, is a major achievement. This notwithstanding, the overall situation with regard to the supply of classroom furniture is unsatisfactory, and is still being far from the ideal of having a sitting place for each pupil. The Ministry has to make more effort to provide furniture for pupils in schools.

**(b) Availability of classroom furniture and equipment**

In Table 4.20 information on the availability of classroom equipment has been presented. In 2000 almost 90 percent of Standard 6 pupils were in reading and mathematics classrooms with a writing board and chalk. This was about 15 percent higher than the levels of provision in 1995. About 65 percent and 58 percent of the reading and mathematics teachers had teachers' tables respectively, whereas over 60

percent of them had teachers' chairs in their classroom. These figures represented a significant improvement in the provision of these items between 1995 and 2000. The provision of classroom libraries or book corners also jumped from 14.5 percent in 1995 to 35.9 percent in 2000. The figures for storage areas in the form of cupboards and bookshelves were disappointing because less than 10 percent of the teachers were in classrooms, and a significant decline in the provision of both items was registered between SACMEQ I and SACMEQ II. A similar decline was registered in the provision of wall charts,

**Table 4.20: Percentages and sampling errors for availability of classroom resources for the teachers (SACMEQ I and SACMEQ II)**

| Resource | Availability of classroom resources | | | | | |
|---|---|---|---|---|---|---|
| | SACMEQ I | | SACMEQ II | | | |
| | Reading teacher | | Reading teacher | | Mathematics teacher | |
| | % | SE | % | SE | % | SE |
| A usable writing board | 76.4 | 0.58 | 95.1 | 0.26 | 92.9 | 0.28 |
| Chalk | 79.5 | 0.60 | 91.1 | 0.38 | 90.4 | 0.35 |
| A wall chart of any kind | 31.2 | 0.55 | 22.2 | 0.35 | 27.3 | 0.41 |
| A cupboard | 29.3 | 0.56 | 8.3 | 0.48 | 7.1 | 0.31 |
| One or more bookshelves | 16.0 | 0.34 | 5.7 | 0.20 | 6.4 | 0.35 |
| A classroom library or book corner | 14.5 | 0.12 | 35.9 | 0.43 | 29.7 | 0.36 |
| A teacher table | 54.5 | 0.46 | 65.3 | 0.54 | 57.8 | 0.48 |
| A teacher chair | 59.0 | 0.55 | 69.5 | 0.43 | 64.4 | 0.56 |

In order to obtain a clear idea of the overall level of resource provision to classrooms, an index of classroom resource provision was constructed using the by adding up the number of classroom items that each teacher reported out of a total of 8 items. The results have been presented in Table 4.21.

**Table 4.21: Means and sampling errors for the classroom resources index (SACMEQ I and SACMEQ II)**

| Region | Classroom resources index | | | | | |
| | SACMEQ I | | SACMEQ II | | | |
| | Reading teacher | | Reading teacher | | Mathematics teacher | |
| | Mean | SE | Mean | SE | Mean | SE |
|---|---|---|---|---|---|---|
| North Pemba | 2.9 | 0.04 | 3.9 | 0.08 | 3.4 | 0.02 |
| South Pemba | 3.1 | 0.03 | 3.4 | 0.02 | 3.2 | 0.00 |
| North Unguja | 3.1 | 0.05 | 4.2 | 0.03 | 4.4 | 0.05 |
| Urban/West | 4.0 | 0.05 | 3.9 | 0.03 | 3.9 | 0.04 |
| South Unguja | 4.2 | 0.01 | 4.6 | 0.00 | 4.0 | 0.01 |
| **Zanzibar** | 3.6 | 0.02 | 3.9 | 0.02 | 3.8 | 0.02 |

In 2000, South Pemba was the most poorly resourced region, with average classroom resource indices of 3.4 percent and 3.2 percent for reading and mathematics respectively. In general the variation across the regions in terms of availability of classroom resources was small. It can be seen that, for Zanzibar overall, the level of resource provision increased marginally from 3.6 in 1995 to 3.9 in 2000. Although more effort is required, this is an encouraging, positive trend.

The reason for the generally low mean resource index could be attributed to the rapid expansion of the school population that forced the Ministry to employ more teachers. Hence a large portion of the recurrent budget has, instead, been spent on staff salaries. The Ministry and the communities through school committees should find alternative strategies for increasing the classroom resources.

**Policy suggestion 4.13:** The Principal Secretary should develop a list of essential classroom resources which every school should have. Such a list should be useful to both the Ministry and school communities in setting priorities and minimum standards when providing resources to the schools. This should also help schools and their respective communities in monitoring levels in the provision of these resources, and in decisions regarding appropriate, corrective actions.

Policy suggestion 4.14: The Ministry of Education, Culture and Sports should hold negotiations with the Ministry of Finance and Economic Affairs so that more funds could be allocated to the Ministry in order to increase classroom resources.

## (c) Availability of classroom library or book corner

Studies have shown that it was extremely important for learners to have access to classroom libraries or book corners. Having books in the classroom will encourage pupils to read more often. A question on the availability of books in the classroom was asked in the study and the results have been presented in Table 4.22.

**Table 4.22: Means and sampling errors of class library books per pupil (SACMEQ I and SACMEQ II)**

| Region | Class library books per pupil | | | |
| | SACMEQ I | | SACMEQ II | |
| | Mean | SE | Mean | SE |
| --- | --- | --- | --- | --- |
| North Pemba | 0.0 | 0.01 | 0.1 | 0.00 |
| South Pemba | 0.0 | 0.00 | 0.1 | 0.00 |
| North Unguja | 0.4 | 0.04 | 0.2 | 0.01 |
| Urban/West | 0.4 | 0.01 | 0.1 | 0.00 |
| South Unguja | 0.0 | 0.00 | 0.1 | 0.00 |
| **Zanzibar** | 0.2 | 0.00 | 0.1 | 0.00 |

The data show that there were practically no books in the classrooms. This is a matter of concern and the Ministry should give this issue its urgent attention as a matter of priority.

## (d) Availability of teaching aids

Teachers were asked whether they had access to teaching aids such as maps, a dictionary, geometrical instruments and teachers' guides in their school. The data on the availability of these teaching aids have been presented in Table 4.23.

**Table 4.23: Percentages and sampling errors of reading teachers with teaching aids in the school (SACMEQ II)**

| Region | Teaching aids | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | For teaching reading | | | | | | For teaching mathematics | | | |
| | Map | | Kiswahili dictionary | | Teacher's guide | | Geometrical instruments | | Teacher's guide | |
| | % | SE | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 43.4 | 0.00 | 13.3 | 0.83 | 49.2 | 1.54 | 62.3 | 1.21 | 66.3 | 0.96 |
| South Pemba | 34.0 | 0.81 | 25.8 | 0.47 | 60.7 | 0.47 | 45.6 | 0.60 | 61.8 | 0.60 |
| North Unguja | 60.2 | 1.67 | 26.2 | 1.00 | 53.8 | 1.92 | 61.6 | 2.00 | 70.2 | 1.51 |
| Urban/West | 49.3 | 1.13 | 12.2 | 0.00 | 56.0 | 1.28 | 38.7 | 1.01 | 50.0 | 0.83 |
| South Unguja | 47.3 | 0.32 | 52.4 | 0.97 | 59.2 | 0.00 | 57.3 | 0.83 | 67.4 | 0.62 |
| **Zanzibar** | 46.7 | 0.49 | 22.4 | 0.27 | 55.7 | 0.61 | 50.5 | 0.54 | 60.7 | 0.44 |

It can be seen that about 50 percent or more of the pupils were taught by teachers who had access to each of the specified teaching aids except the Kiswahili dictionary. Most teachers in primary schools do not use a Kiswahili Dictionary. The reason could be that the teachers do not need to check spellings because Kiswahili is a phonetic language. Besides, most of the words used at the primary level are not so difficult as to require the teacher to consult the dictionary.

## General Policy Concern 11

**What Professional support (in terms of education resource centres, inspections, advisory visits, and school head inputs) was given to Standard 6 Teachers?**

Teachers need professional support in order to improve and maintain the quality of their teaching. In Zanzibar, such support is provided by the advisors in the teachers' centres, by school heads in the schools and by inspectors and other education officers during school visits.

### (a) Teacher use of educational resource centre

In Zanzibar there are nine zonal education resource centres (teacher centres). Depending on the location of the school, each school is affiliated to a particular education resource centre. There was also one national teachers' resource centre.

These centres provided in-service training and other professional support to teachers. In the SACMEQ study the teachers were asked if they had access to these centres, and whether they were used effectively. The results have been presented in Table 4.24.

**Table 4.24: Percentages and sampling errors for the availability of education resource centres for teachers (SACMEQ II)**

| Region | Reading teacher | | | | | | Mathematics teacher | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | None available | | Have not visited | | Have used | | None available | | Have not visited | | Have used | |
| | % | SE | % | SE | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 4.7 | 0.93 | 11.2 | 0.98 | 84.1 | 1.35 | 0.0 | 0.00 | 10.8 | 0.96 | 89.2 | 0.96 |
| South Pemba | 4.0 | 0.00 | 23.1 | 0.81 | 72.9 | 0.81 | 11.1 | 0.00 | 33.4 | 0.60 | 55.4 | 0.60 |
| North Unguja | 13.0 | 0.00 | 5.4 | 1.13 | 81.6 | 1.13 | 4.5 | 0.61 | 15.8 | 0.61 | 79.6 | 0.00 |
| Urban/West | 5.1 | 0.58 | 29.8 | 1.41 | 65.0 | 1.51 | 6.8 | 0.83 | 18.8 | 1.30 | 74.4 | 1.50 |
| South Unguja | 1.9 | 0.00 | 10.6 | 0.45 | 87.5 | 0.45 | 1.5 | 0.00 | 8.4 | 0.69 | 90.0 | 0.69 |
| **Zanzibar** | 5.6 | 0.26 | 18.9 | 0.57 | 75.5 | 0.62 | 5.3 | 0.30 | 18.1 | 0.51 | 76.6 | 0.56 |

The results presented in Table 4.24 indicate that, 75.5 percent and 76.6 percent of pupils, had reading and mathematics teachers respectively who used the centres. However, about one-fifth of pupils had reading and mathematics teachers who had never visited the centres. There were about 5 percent of pupils who had reading and mathematics teachers who claimed to have no resource centre near their schools. These results provide interesting information which should be noted for action. Reasons for not visiting the centres, especially for the Urban/West Region teachers, should be examined.

**(b) Purpose and use of education resource centres**

The study also investigated the purpose for which teachers used the teacher centres. The results have been presented in Table 4.26 for reading teachers and in Table 4.27 for mathematics teachers.

**Table 4.25: Percentages and sampling errors of reading teacher's purposes for using the resource centre (SACMEQ II)**

| Region | Reading teacher | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Don't use | | Borrow material | | Make material | | Training | | Speak with teachers/staff | |
| | % | SE | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 11.8 | 1.03 | 51.6 | 1.38 | 32.7 | 1.19 | 73.3 | 1.35 | 66.0 | 1.38 |
| South Pemba | 24.0 | 0.85 | 38.5 | 1.13 | 26.0 | 0.92 | 65.9 | 0.94 | 57.5 | 1.03 |
| North Unguja | 6.2 | 1.30 | 63.1 | 1.25 | 41.4 | 2.09 | 78.6 | 1.13 | 78.2 | 1.41 |
| Urban/West | 31.5 | 1.50 | 20.6 | 0.72 | 26.4 | 0.69 | 48.7 | 1.68 | 49.7 | 1.62 |
| South Unguja | 10.8 | 0.46 | 51.6 | 0.80 | 17.4 | 0.76 | 80.8 | 0.45 | 66.9 | 0.80 |
| **Zanzibar** | 20.0 | 0.60 | 40.3 | 0.47 | 28.6 | 0.50 | 65.3 | 0.68 | 60.8 | 0.68 |

**Table 4.26: Percentages and sampling errors of mathematics purposes for using the resource centre (SACMEQ II)**

| Region | Mathematics teacher | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Don't use | | Borrow material | | Make material | | Training | | Speak with teachers/staff | |
| | % | SE | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 10.8 | 0.96 | 63.7 | 1.21 | 40.5 | 1.21 | 69.3 | 0.00 | 73.8 | 0.72 |
| South Pemba | 37.6 | 0.67 | 39.9 | 0.60 | 29.6 | 0.00 | 47.5 | 0.00 | 47.5 | 0.00 |
| North Unguja | 16.6 | 0.53 | 64.2 | 1.21 | 38.3 | 1.75 | 68.6 | 1.75 | 70.9 | 0.97 |
| Urban/West | 20.2 | 1.40 | 28.2 | 1.42 | 17.8 | 0.89 | 57.8 | 1.55 | 55.4 | 1.40 |
| South Unguja | 8.5 | 0.70 | 46.6 | 0.45 | 10.1 | 0.62 | 80.8 | 0.00 | 73.6 | 1.08 |
| **Zanzibar** | 19.1 | 0.53 | 45.2 | 0.58 | 26.5 | 0.48 | 62.8 | 0.60 | 62.3 | 0.54 |

Around one fifth of pupils had reading and mathematics teachers who did not use the teacher centres on a regular basis. Overall, 40.3 percent of pupils had reading teachers who went to the centres to borrow books, 28.6 percent to make teaching materials, whereas 65.3 percent and 60.8 percent went for training or to speak with other teachers or teacher centre staff respectively.

In all five categories of responses the result indicated that reading and mathematics teachers in the Urban/West Region used the centres less than those in other regions. From the results the following conclusions could be made:

(a)    The major role of Education Resource Centres was to provide training.

(b)    Teachers have found the centres useful for exchange of ideas and for seeking clarifications.

(c)    Teacher centres had not yet been able to provide services for the production of learning materials.

> **Policy suggestion 4.15:** Teacher Centre co-ordinators should encourage teachers to visit Education Resource Centres more frequently, and that they make fuller use of the broad range of services that they offer. In particular, centre co-ordinators should provide teachers with training on making learning materials using locally available materials.

## (c) Teachers Views on the Roles of Inspectors and Advisors

Education systems and ministries of education devise ways of monitoring classroom practices.  Generally the inspectors and advisors play that role.  The study examined what the Standard 6 teachers considered to be the roles of the inspectors and advisors. The data have been presented in Table 4.27 under three headings namely, pedagogical role, critical versus advisory roles, and professional development role.

With regard to the pedagogical role, reading teachers rated the inspectors slightly more positively than the mathematics teachers, and the reverse was true for the advisors.  Some of the pedagogical roles were rated more positively than others.  For example, both reading and mathematics teachers rated more positively the inspectors' and advisors' role of improving teaching methods.  In addition, there were differences of opinion between reading and mathematics teachers. Mathematics teachers supported more positively the role of 'bringing new ideas' (76.3%) and 'recommending new teaching materials' (70.4%) than reading teachers.

A question was asked on whether inspectors and advisors came to 'advise or criticise'. There was agreement between the reading and mathematics teachers that both the inspectors' and advisors' role was to 'advise' rather than to 'criticise'. On the way in which inspectors and advisors contributed to the 'professional development' of teachers, both reading and mathematics teachers had a slightly more favourable view

of the role of advisors than inspectors. On the whole the pattern of the results in Table 4.27 showed that the teachers understood clearly the differences between the roles of the inspectors and that of advisors.

**Table 4.27: Teachers' descriptions of the actions of the inspectors and advisors (SACMEQ II)**

| Description of the actions | Reading teacher | | | | Mathematics teacher | | | |
| | Inspector | | Advisor | | Inspector | | Advisor | |
| | % | SE | % | SE | % | SE | % | SE |
|---|---|---|---|---|---|---|---|---|
| **Pedagogical role** | | | | | | | | |
| Bring new ideas | 68.2 | 0.60 | 82.6 | 0.39 | 66.8 | 0.48 | 76.3 | 0.38 |
| Clarify educational objectives | 66.3 | 0.51 | 69.4 | 0.62 | 57.2 | 0.41 | 64.8 | 0.49 |
| Recommend new teaching materials | 56.0 | 0.55 | 72.1 | 0.46 | 55.1 | 0.26 | 70.4 | 0.33 |
| Contribution to my classroom teaching | 51.4 | 0.51 | 56.5 | 0.64 | 41.9 | 0.52 | 52.6 | 0.55 |
| Explain curriculum content | 54.2 | 0.57 | 65.8 | 0.53 | 42.8 | 0.47 | 62.9 | 0.38 |
| Suggest improving teaching methods | 71.8 | 0.50 | 79.6 | 0.40 | 70.6 | 0.48 | 79.0 | 0.38 |
| **Critical versus advisory role** | | | | | | | | |
| Comes to advise | 76.5 | 0.41 | 85.8 | 0.38 | 69.5 | 0.42 | 84.0 | 0.42 |
| Comes to criticise | 42.1 | 0.52 | 36.2 | 0.53 | 35.9 | 0.50 | 35.4 | 0.49 |
| Finds faults and report them to the employer | 36.2 | 0.52 | 19.9 | 0.49 | 30.1 | 0.48 | 16.3 | 0.47 |
| **Professional development role** | | | | | | | | |
| Provides information for teacher self-development | 62.4 | 0.45 | 73.0 | 0.47 | 60.5 | 0.52 | 65.0 | 0.48 |
| Encourage professional contacts with other teachers | 69.7 | 0.59 | 76.1 | 0.45 | 64.0 | 0.48 | 73.0 | 0.37 |
| Provides in-service training to teachers | 54.5 | 0.60 | 69.3 | 0.58 | 50.9 | 0.44 | 63.7 | 0.47 |

**(c) Teacher's perception of the advisory roles of school heads**

Information on the frequency of advice from the school heads to teachers has been presented in Table 4.28 for SACMEQ I and SACMEQ II.

**Table 4.28: Percentages and sampling errors for the frequency of advice to teacher from school head (SACMEQ I and SACMEQ II)**

| Region | Percentage of teachers receiving advice 'sometimes' or 'often' | | | | | |
|---|---|---|---|---|---|---|
| | SACMEQ I * | | SACMEQ II * | | | |
| | Reading teacher * | | Reading teacher * | | Mathematics teacher * | |
| | % | SE | % | SE | % | SE |
| North Pemba | 94.5 | 0.50 | 100.0 | 0.00 | 90.7 | 0.96 |
| South Pemba | 100.0 | 0.00 | 92.1 | 0.00 | 87.9 | 0.60 |
| North Unguja | 100.0 | 0.00 | 100.0 | 0.00 | 100.0 | 0.00 |
| Urban/West | 95.0 | 0.25 | 95.3 | 0.87 | 92.1 | 0.00 |
| South Unguja | 92.6 | 0.00 | 89.5 | 0.45 | 93.7 | 1.08 |
| **Zanzibar** | 96.1 | 0.13 | 95.5 | 0.30 | 92.6 | 0.25 |

Overall, more than 90 percent of the Standard 6 pupils had teachers who reported getting advice from their school heads in both SACMEQ I and SACMEQ II. The variation among regions was small. Reading teachers in South Unguja reported receiving less advice (89.5%) while 87.9 percent of the mathematics teachers in South Pemba similarly reported receiving less advice.

**Policy suggestion 4.16:** Regional education officers should monitor the management of the schools, especially in South Pemba and South Unguja, and ensure that school heads fulfill their advisory roles as expected. Where training of heads in specific areas of school management is required, it should be provided.

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

Motivation and job satisfaction of teachers are critical issues for improving their performance. In this study teachers were asked to indicate the reasons for satisfaction with their jobs.

**(a) Teachers' job satisfaction**

The Standard 6 teachers were asked whether the various aspects of their job served as sources of job satisfaction. There were twelve aspects that were grouped under five main categories, namely, living conditions, school facilities, relationships with others, advancement and educational outcomes of pupils. The teachers' responses have been summarised in Table 4.29.

**Table 4.29: Percentages and sampling errors for sources of teacher job satisfaction (SACMEQ I and SACMEQ II)**

| Source of satisfaction | Percentage of teachers indicating reason as 'very important' | | | | | |
|---|---|---|---|---|---|---|
| | SACMEQ I | | SACMEQ II | | | |
| | Reading teacher | | Reading teacher | | Mathematics teacher | |
| | % | SE | % | SE | % | SE |
| **Living conditions** | | | | | | |
| Travel distance to school | 71.1 | 0.53 | 80.0 | 0.63 | 80.0 | 0.45 |
| Availability of teacher Housing | 89.3 | 0.48 | 81.2 | 0.48 | 76.0 | 0.34 |
| Quality of teacher housing | 73.9 | 0.61 | 78.6 | 0.59 | 70.9 | 0.32 |
| **School facilities/equipment** | | | | | | |
| Quality of school buildings | 78.6 | 0.55 | 84.6 | 0.53 | 83.4 | 0.33 |
| Quality of classroom furniture | 82.0 | 0.44 | 77.9 | 0.54 | 80.2 | 0.31 |
| **Relationships with others** | | | | | | |
| Quality of school manpower and administration | 89.5 | 0.43 | 92.2 | 0.38 | 92.7 | 0.25 |
| Amicable relations with staff | 90.5 | 0.28 | 93.4 | 0.44 | 93.2 | 0.15 |
| Good relation with community | 83.2 | 0.56 | 96.2 | 0.36 | 95.9 | 0.19 |
| **Career advancement** | | | | | | |
| Expanded opportunities for promotion | 82.4 | 0.49 | 93.2 | 0.41 | 94.9 | 0.22 |
| Opportunities for professional development | 89.5 | 0.38 | 91.6 | 0.42 | 92.6 | 0.26 |
| Level of teacher salary | 93.5 | 0.30 | 94.0 | 0.28 | 95.9 | 0.24 |
| **Educational outcomes of pupils** | | | | | | |
| Seeing pupils learn | 86.8 | 0.49 | 94.0 | 0.45 | 93.1 | 0.18 |

From the figures in Table 4.29 it is clear that both reading and mathematics teachers considered career advancement to be very important. Among the three items in this category the 'level of teacher salary' was rated the highest (94.0 percent for reading teachers and 95.9 percent for mathematics teachers). Teachers also considered that seeing their pupils learn had the greatest impact on their job satisfaction (94.0 percent and 93.1 percent for reading and mathematics teachers respectively).

The other factors that the two groups of teachers rated as very important for job satisfaction were 'good relation with community' (96.2 percent for reading teachers and 95.9 percent for mathematics teachers), amicable relations with staff (93.4 percent for reading and 93.2 percent for mathematics teachers) and quality of school manpower and administration (92.2 percent and 92.7 percent). Of somewhat less importance to job satisfaction was the quality of buildings (84.6 percent and 83.4percent), availability of teacher housing (81.2 percent and 76.0 percent), and travel distance to school (80 percent). The factors that received comparatively low ratings were quality of housing (78.6 percent and 70.9 percent) and quality of classroom furniture (77.9 percent and 80.2 percent).

> **Policy suggestion 4.17:** Since seeing pupils learn is one of the motivating factors, the Planning Department of the Ministry of Education, Culture and Sports should provide more material and professional support to teachers as this has a multiplier effect on improving the quality of education.

## Conclusion

The Standard 6 teachers in this study were relatively young, with an average age of between 33 and 34 years and with teaching experience of between 11 and 13 years. The average Standard 6 teacher would, therefore, be in the system for another 20 to 25 years. The study also shows that the teachers were relatively poor in terms of possessions and the quality of their housing. There were more female teachers than they were males, but there was need to allocate female teachers more equitably as they tended to be concentrated in urban schools.

There are certain issues of concern to teachers which have to be addressed by the Ministry. Some teachers indicated that they had inadequate in-service training or had no training at all. This should be investigated thoroughly and appropriate actions taken. While the Ministry has invested in Teacher Resource Centres, it seems as though a large proportion of the teachers do not use these centres at all, or use them in a limited way, that is, for training. Ways of making teacher centres popular should be found so that the opportunities they offer for teachers' professional growth and development can be more fully exploited. Several issues of pedagogy were also highlighted, among them that a large proportion of teachers did not give their pupils homework and did not give them tests as frequently as expected. The Ministry should therefore review the existing guidelines on these issues and make the necessary amendments.

Another concern was on parents' low level of involvement in the education of their children. The Ministry and the school committees have to conduct awareness programmes targeted at both teachers and parents so that the two can interact more frequently on all matters that promote pupil learning. In particular, it was observed that teachers generally do not give written work, including work that pupils should do at under the supervision by parents, as frequently as is required. Greater collaboration between teachers and parents should therefore be promoted.

The under-provision of essential items such as sitting and writing places should be a major concern to the Ministry, just as it should make efforts to increase the provision of cupboards, book shelves and book corners as well as books in the classrooms. Overall, however, it was noted that there was a general improvement in the provision of classroom resources between 1995 and 2000, and this commendable trend should be maintained.

Lastly, there is no consensus regarding the pupil activities in reading and mathematics that are considered as contributing the most to pupil learning. This is a curriculum issue, and there is need for curriculum developers to put together guidelines for teachers so that they can give the correct priority to the different learning activities.

## Chapter 5

## School Heads' Characteristics and their Views about the Educational Infrastructure, the Organization and Operation of Schools and Problems with Pupils and Staff

### Introduction

As the saying goes, "a school is as good as its head". What this statement implies is that if a good head takes over the management of a school, he or she will transform it into an institution that promotes learning for pupils and that provides a stimulating working environment for the teachers. The reverse is also true; a poor head will destroy an otherwise good school in as short a period as four years. In this chapter, data describing the school heads and the schools that the Standard 6 pupils attended have been presented. Such data are valuable for monitoring any changes that might have taken place in the major attributes in future.

### General Policy Concern 13

### What were the personal characteristics of school heads?

In Zanzibar, the appointment of school heads is based on the candidate's professional and academic qualifications. In addition to these two main criteria, the individual should have enough teaching experience. In view of their role as instruction leaders and school managers, the general performance of the school head is expected to be above that of the average teacher, and they are also expected to display an excellent record of the performance of their duties.

### (a) Age distribution and gender of school heads

In Table 5.1 information has been presented on the age and gender of the school heads. The data in the table have been reported in terms of pupils.

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

| Region | SACMEQ I | | | | SACMEQ II | | | |
|---|---|---|---|---|---|---|---|---|
| | Age (years) | | Gender (female) | | Age (years) | | Gender (female) | |
| | Mean | SE | % | SE | Mean | SE | % | SE |
| North Pemba | 41.7 | 0.00 | 12.5 | 0.00 | 47.5 | 0.00 | 17.0 | 0.00 |
| South Pemba | 37.9 | 0.00 | 20.8 | 0.00 | 45.0 | 0.00 | 7.1 | 0.00 |
| North Unguja | 41.7 | 0.00 | 0.0 | 0.00 | 46.0 | 0.00 | 0.0 | 0.00 |
| Urban/West | 42.2 | 0.00 | 24.4 | 0.00 | 51.2 | 0.00 | 40.2 | 0.00 |
| South Unguja | 43.6 | 0.00 | 0.0 | 0.00 | 47.9 | 0.00 | 10.1 | 0.00 |
| **Zanzibar** | 41.5 | 0.00 | 16.3 | 0.00 | 48.1 | 0.00 | 19.5 | 0.00 |

The average age of school heads in SACMEQ I was 41.5 years whereas in SACMEQ II the school heads were six and a half years older (48.1 years) with the exception of the school heads in Urban/West regions who were over 50 years old. This could imply that during the period between SACMEQ I and II, many senior or older teachers were promoted to the position of head of schools. While the biggest asset old teachers have is their experience and maturity, schools also need young teachers who are physically active and in many cases more academically more competent in order to implement school programmes and tasks. Therefore, the ideal situation is to have a mixture of old and young teachers.

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**Policy suggestion 5.1:** The Principal Secretary should consider promoting younger teachers to positions of leadership in schools.

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**(b) Gender distribution of school heads**

The percentage of pupils with schools heads who were female was 19.5 percent. There was wide variation across the regions. At the time of data collection North Unguja had no female school head, while in South Pemba only 7.1 percent of the pupils were in schools headed by females.

In Zanzibar Urban/West region the scenario was different because 40.2 percent of the pupils were in schools where the school heads were females. This result was not

surprising because the majority of the primary school teachers in this region were females.

Between SACMEQ I and SACMEQ II, there were a slight increases in the percentages of school heads who were female, except for South Pemba which showed a decrease from 20.8 percent in SACMEQ I to 7.1 percent in SACMEQ II. North Unguja region remained the same with no female school head during the 2000 survey.

It is important to have female head teachers not only for the sake of gender balance but also to meet the needs of the co-education system of schooling where more or less equal numbers of girls and boys learn together within the same institution. Female school heads can also serve as effective role models for female pupils.

> **Policy suggestion 5.2:** The Principal Secretary should develop and implement carefully considered promotion and advancement policies that will, over time, see gradual but steady progress towards greater gender equity among school heads in Zanzibar's primary schools.

## General Policy Concern 14

### What were the professional characteristics of school heads?

**a) Academic Education of the school heads**

As has already been alluded to, the minimum teacher academic qualifications required by the Ministry have changed over time from six years of basic education in the 1940s to 12 years in the 1960s. The length of the period of academic preparation has remained 12 years since then. The school heads were asked to indicate their level of academic education, and the results have been presented in Tables 5.2(a) and 5.2(b) respectively.

**Table 5 2(a): Years of academic education of school heads (SACMEQ I)**

| Region | School head academic education | |
| --- | --- | --- |
| | Mean | SE |
| North Pemba | 11.4 | 0.00 |
| South Pemba | 12.4 | 0.00 |
| North Unguja | 11.8 | 0.00 |
| Urban/West | 11.5 | 0.00 |
| South Unguja | 12.2 | 0.00 |
| **Zanzibar** | 11.8 | 0.00 |

**Table 5.2(b): Level of academic education of school heads (SACMEQ II)**

| Region | Level of academic education | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Primary | | Junior Secondary | | Senior secondary | | A-level | | Tertiary | |
| | % | SE | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 0.0 | 0.00 | 6.8 | 0.00 | 55.3 | 0.00 | 38.0 | 0.00 | 0.0 | 0.00 |
| South Pemba | 1.8 | 0.00 | 8.6 | 0.00 | 21.1 | 0.00 | 68.5 | 0.00 | 0.0 | 0.00 |
| North Unguja | 0.0 | 0.00 | 0.0 | 0.00 | 20.1 | 0.00 | 79.9 | 0.00 | 0.0 | 0.00 |
| Urban/West | 3.6 | 0.00 | 7.3 | 0.00 | 46.6 | 0.00 | 40.4 | 0.00 | 2.1 | 0.00 |
| South Unguja | 0.0 | 0.00 | 2.6 | 0.00 | 42.6 | 0.00 | 54.9 | 0.00 | 0.0 | 0.00 |
| **Zanzibar** | 1.6 | 0.00 | 5.7 | 0.00 | 38.8 | 0.00 | 53.2 | 0.00 | 0.7 | 0.00 |

Unfortunately the figures in the tables above are not directly comparable. In SACMEQ I the results have been presented in terms of years of school education and in SACMEQ II in percentages of school heads who have completed various levels of schooling. In 1995 the average number of years of education of the average school head that Standard 6 pupils had was 11.8 years. In 2000 over 50 percent of the pupils had school heads who had completed 'A' levels, followed by those who had completed senior secondary or 'O' level (38.8%). There were few pupils who had school heads that completed primary (1.6%) and junior secondary (5.7%).

**(a) Years of experience and teacher training**

The study also asked school heads about the length of their experience firstly as teachers and secondly as administrators. Heads were also asked to indicate the kind of teacher training and specialised training they might have received. The results have been presented in Table 5.3(a) and Table 5.3(b).

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

| | SACMEQ I | | | | SACMEQ II | | | |
|---|---|---|---|---|---|---|---|---|
| | This school | | Altogether | | This school | | Altogether | |
| Region | Mean | SE | Mean | SE | Mean | SE | Mean | SE |
| North Pemba | 3.3 | 0.00 | 4.4 | 0.00 | 4.6 | 0.00 | 6.4 | 0.00 |
| South Pemba | 3.3 | 0.00 | 4.8 | 0.00 | 4.1 | 0.00 | 8.7 | 0.00 |
| North Unguja | 5.3 | 0.00 | 6.7 | 0.00 | 5.8 | 0.00 | 8.2 | 0.00 |
| Urban/West | 3.6 | 0.00 | 6.0 | 0.00 | 4.3 | 0.00 | 7.6 | 0.00 |
| South Unguja | 6.7 | 0.00 | 8.4 | 0.00 | 5.9 | 0.00 | 7.3 | 0.00 |
| **Zanzibar** | 4.1 | 0.00 | 5.9 | 0.00 | 4.8 | 0.00 | 7.6 | 0.00 |

**Table 5.3(b): Means and sampling errors for the teaching experience and training of the school heads (SACMEQ I and SACMEQ II)**

| | SACMEQ I | | | | SACMEQ II | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Region | Experience (years) | | Teacher training (years) | | Experience (years) | | Teacher training (years) | | Specialised training (weeks) | |
| | Mean | SE | Mean | SE | Mean | SE | Mean | SE | Mean | SE |
| North Pemba | 21.6 | 0.00 | 2.0 | 0.00 | 24.2 | 0.00 | 2.0 | 0.00 | 41.3 | 0.00 |
| South Pemba | 18.9 | 0.00 | 2.1 | 0.00 | 24.3 | 0.00 | 2.6 | 0.00 | 48.7 | 0.00 |
| North Unguja | 21.4 | 0.00 | 1.7 | 0.00 | 24.5 | 0.00 | 2.6 | 0.00 | 40.2 | 0.00 |
| Urban/West | 21.8 | 0.00 | 1.8 | 0.00 | 27.2 | 0.00 | 2.2 | 0.00 | 40.2 | 0.00 |
| South Unguja | 22.0 | 0.00 | 1.8 | 0.00 | 25.3 | 0.00 | 2.7 | 0.00 | 44.0 | 0.00 |
| **Zanzibar** | 21.3 | 0.00 | 1.9 | 0.00 | 25.4 | 0.00 | 2.4 | 0.00 | 42.1 | 0.00 |

On average, the Standard 6 pupils had school heads with teaching experience of 21.3 years in 1995 and 25.4 years in 2000. It can be seen that school heads in the Urban/West Region had the longest experience in SACMEQ II (27.2 years). There were slight variations across regions.

The school heads were also asked to indicate the length of the period of their stay in the school they were in during the survey, and also the total number of years they have been a school head. On average, the school heads had a total school head experience of 7.6 years while 4.8 years was their experience in the current school. The fact that the school heads remained in one school for over four years is a good indication of the stability of the school. The ideal situation would be to keep school heads in the same school for at least seven years. This would allow the school head and the education authorities to see the achievement of one primary school cohort.

The information on the training school heads had received has been presented in column 2 and column 4 of Table 5.3(b). It can be seen that in 1995 the average school head had 1.9 years of teacher training. The corresponding figure for the year 2000 was 2.4 years, implying that the period of training for those who were being appointed to lead schools in Zanzibar was increased over time.

Information on the length of the period heads spent on specialized training has been presented in the last column of Table 5.3(b). The national average for Zanzibar was 42.1 weeks, followed by South Unguja. On the average school heads had attended two years' training in management. From the table, the following observations can be made:

i) School heads in North Pemba had shorter administrative experience as well as fewer years of training.

ii) Across regions, the relationship between experience and training was not positive. Where the period of training was long, experience was short, and the reverse was true.

iii) South Pemba had, on the average, more school heads exposed to school management.

**General Policy Concern 15**

**What were the school heads' views about the general school infrastructure and the conditions of school buildings?**

In Zanzibar the government supplies the basic infrastructure for schools such as buildings, water connection, furniture and electricity.  But some schools finance these projects from their own resources due to limited funding from the government. This fact may explain to the wide variations among schools with respect to resources.

**a)  General facilities**

School heads were asked to comment on the general infrastructure of their schools and their responses about what was present in the school  have been presented in Table 5.4.

**Table 5.4: Percentages and sampling errors for schools with general facilities (SACMEQ I and SACMEQ** II)

| Facility | Percentage with facility | | | |
| --- | --- | --- | --- | --- |
| | SACMEQ I | | SACMEQ II | |
| | % | SE | % | SE |
| **School buildings** | | | | |
| School library | 40.9 | 0.00 | 35.7 | 0.00 |
| School hall | 6.4 | 0.00 | 9.4 | 0.00 |
| Staff room | 42.5 | 0.00 | 61.9 | 0.00 |
| School head's office | 81.4 | 0.00 | 88.4 | 0.00 |
| Store room | 83.4 | 0.00 | 69.8 | 0.00 |
| Cafeteria | 3.1 | 0.00 | 3.8 | 0.00 |
| **School grounds** | | | | |
| Sports area/ playground | 64.4 | 0.00 | 65.2 | 0.00 |
| School garden | 80.1 | 0.00 | 66.7 | 0.00 |
| **General services** | | | | |
| Piped water/ well or bore-hole | 82.0 | 0.00 | 68.6 | 0.00 |
| Electricity | 19.4 | 0.00 | 37.9 | 0.00 |
| Telephone | 23.7 | 0.00 | 13.1 | 0.00 |
| **Equipment** | | | | |
| First-aid kit | 14.7 | 0.00 | 49.7 | 0.00 |
| Fax machine | 0.0 | 0.00 | 7.7 | 0.00 |
| Typewriter | 13.0 | 0.00 | 22.5 | 0.00 |
| Duplicator | 1.7 | 0.00 | 3.5 | 0.00 |
| Radio | 0.4 | 0.00 | 8.2 | 0.00 |
| Tape recorder | 0.7 | 0.00 | 5.6 | 0.00 |
| Overhead projector | 0.7 | 0.00 | 2.8 | 0.00 |
| Television set | 0.9 | 0.00 | 1.0 | 0.00 |
| Video-cassette recorder | 0.0 | 0.00 | 1.4 | 0.00 |
| Photocopier | 0.4 | 0.00 | 1.2 | 0.00 |
| Computer | 0.0 | 0.00 | 1.4 | 0.00 |

From Table 5.4, it can be seen that in SACMEQ II only 37.9 percent of Standard 6 pupils were in schools that had electricity. This figure was 13.5 percent higher than it was in SACMEQ I. It is not surprising to find that almost all schools did not have items such as photocopiers, fax machines, television sets, radios and computers.

There were resource problems in Zanzibar schools. Certain essential items such as libraries (35.7) and school halls (9.4%) were in short supply. But, there was a big

increase in the level of provisions between 1995 and 2000. In 2000, 61.9 percent of Standard 6 pupils were in schools with staff rooms compared to 42.5 percent in 1995. Staff rooms are an important component of a conducive working environment for teachers. On the other hand, in 1995 some 83.4 percent of the pupils were in schools with storerooms, whereas in 2000 the percentage decreased to 69.8 percent. Storerooms are needed in schools in order to protect and store learning and teaching materials and other items of value. Schools were also found to have a shortage of first aid kits. Only 49.7 percent of the pupils were in schools in which pupils could be attended to in case of injuries.

There were certain gaps in certain items where 100 percent coverage was expected. Some examples of these were school head office (88.4%) sports area/playground (65.2%) and school garden (66.7%). The issue of the lack of general facilities is a matter of concern and the Ministry, regional authorities and schools should give it a priority.

**Policy suggestion 5.3:** The Director of Planning and Finance should set benchmarks for different items in the school and take stock of the level of these provisions in order to establish the schools that need to be targeted when resources for improvement of materials and facilities become available.

### (b) Provision of water supply

School heads were asked to report on the availability of piped water or availability of wells or boreholes, and their responses have been presented in Table 5.4. Some 82.0 percent of Standard 6 pupils were in schools with one or the other type of water source. In SACMEQ II only 68.6 percent of the pupils were in the schools with water. In many schools where there was no piped water or boreholes, water was being kept in containers. The problem of water might be critical in urban schools as there is a general shortage of water in the Urban/West region. This is a matter of concern and it should be addressed urgently.

> **Policy suggestion 5.4:** The Director of Planning and Finance, the Regional Education Officers and school communities should ensure adequate provision of water in those schools that lack this critical resource.

### (c) Nature and provision of toilet facilities

The school head's assessments on the toilet provision have been summarised in Table 5.5 column 2 for SACMEQ I and column 4 for SACMEQ II.

**Table 5.5: General condition of buildings and toilet facilities (SACMEQ I and SACMEQ II)**

| Region | SACMEQ I | | | | SACMEQ II | | | |
|---|---|---|---|---|---|---|---|---|
| | Need repair | | Toilet provision | | Need repair | | Toilet provision | |
| | % | SE | Mean | SE | % | SE | Mean | SE |
| North Pemba | 49.9 | 0.00 | 187.3 | 0.00 | 58.1 | 0.00 | 184.4 | 0.00 |
| South Pemba | 79.4 | 0.00 | 265.8 | 0.00 | 75.8 | 0.00 | 186.5 | 0.00 |
| North Unguja | 61.3 | 0.00 | 97.4 | 0.00 | 31.0 | 0.00 | 125.4 | 0.00 |
| Urban/West | 40.0 | 0.00 | 157.4 | 0.00 | 37.1 | 0.00 | 186.8 | 0.00 |
| South Unguja | 29.6 | 0.00 | 70.4 | 0.00 | 34.7 | 0.00 | 83.4 | 0.00 |
| **Zanzibar** | 49.6 | 0.00 | 158.1 | 0.00 | 47.0 | 0.00 | 163.4 | 0.00 |

The number of pupils per toilet slightly deteriorated between 1995 and 2000 (from 158.1 pupils per toilet to 163.4 pupils per toilet). South Unguja had more toilets than other regions, and South Pemba (83.4 toilets per pupil) and Urban/West had the relatively fewer toilets per pupil (186.5 and 186.8 toilets per pupil respectively. The situation with regards the provision of toilets remains a major cause for concern. The Ministry should still continue to insist on not opening schools that do not meet the minimum sanitation requirements in terms of toilet provision.

**(d) General condition of school buildings**

School heads were asked to assess the condition of their school buildings in terms of the need for repairs. There was not much change in the condition of buildings between SACMEQ I and SACMEQ II. Figures in column 3 of Table 5.5 showed that, in 2000, 47 percent of Standard 6 pupils were in schools which needed major repairs or re-building (31.0% for North Unguja; 37.1% for Urban/West; and 34.7% for South Unguja). The results show 58.1 percent of schools in North and 75.8 percent of those in South Pemba needed major repairs or re-building. This result is alarming, considering the fact that the Ministry has already been implementing a major plan on school repairs. On a positive note, it can be noticed that the number of schools that needed major repairs or re-building decreased slightly between 1995 and 2000.

**Policy suggestion 5.5:** The Director of Planning and Finance should review the school maintenance programme and develop a more systematic school rehabilitation plan that gives priority to those schools which have been identified as being in generally the worst state of disrepair.

**Policy suggestion 5.6:** The Director of Planning and Finance should develop and implement a preventive maintenance training programme for all school heads in all schools.

**(e) Classroom space**

One of the most common problems schools in Africa face is the one of overcrowding, especially in classrooms. It is therefore important to ensure that every pupil has adequate classroom space in terms of the number of square meters available to each pupil. The number of square meters per pupil was calculated by dividing the total classroom space available in square meters by the total school enrolment and the results have been summarised in Table 5.6 for SACMEQ II.

**Table 5.6: Means and sampling errors of the classroom space available for pupils (SACMEQ II)**

| Region | Classroom space | |
|---|---|---|
| | Mean | SE |
| North Pemba | 0.8 | 0.00 |
| South Pemba | 0.9 | 0.00 |
| North Unguja | 1.4 | 0.00 |
| Urban/West | 1.1 | 0.00 |
| South Unguja | 1.7 | 0.00 |
| **Zanzibar** | 1.1 | 0.00 |

From Table 5.6 it can be seen that the average for Zanzibar was 1.1 square meters per pupil. It should be noted that this measure could be an over- or under-estimate of the pupil space because although the area of the classrooms was measured by the school heads, these measurements were an estimation. It should also be remembered that part of this per pupil space was taken up by furniture such as desks and chairs. The benchmark for per pupil classroom space is 1.1 square metres. The average size of the classroom has been changing from over time, but the current size of 49 square meters for a class of 40 to 50 pupils is the norm. Due to existing inequalities between schools and between the regions the current class sizes in most regions are actually between 60 and 80 pupils.

**General Policy Concern 16**

**What were the school head's views about a) Daily activities (b) Organizational policies (c) Inspections (d) Community input (e) Problems with pupils and staff (g) Amount of teaching by school heads?**

If the school head is to continue to appreciate the work the teachers he or she is supervising is doing as well as the challenges teachers face, then it is important for him or her to do some teaching. Furthermore, when the school head teaches, he or she can also demonstrate good teaching, especially to the less experienced teachers.

The Ministry guidelines state that a school head should teach not less than 12 periods of 35 minutes per week. This translates to about 420 minutes per week. It is widely

known that some school heads do not teach at all. In Table 5.7 information has been presented on the number of minutes per week that school heads spent on classroom teaching.

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

| Region | School head teaching minutes per week | | | |
| | SACMEQ I | | SACMEQ II | |
| | Mean | SE | Mean | SE |
|---|---|---|---|---|
| North Pemba | 709.7 | 0.00 | 721.9 | 0.00 |
| South Pemba | 779.4 | 0.00 | 600.2 | 0.00 |
| North Unguja | 899.3 | 0.00 | 741.4 | 0.00 |
| Urban/West | 506.6 | 0.00 | 478.8 | 0.00 |
| South Unguja | 785.8 | 0.00 | 596.8 | 0.00 |
| **Zanzibar** | 663.7 | 0.00 | 603.7 | 0.00 |

For Zanzibar overall the average Standard 6 pupil was in a school where the school head taught for 603.7 minutes per week. This figure was about one hour less than the time spent by school heads in classroom teaching in SACMEQ I. All the same, the school heads were complying with the Ministry's guidelines. However, there was considerable variation between regions and the same could be the case between the schools. It is not surprising that school heads in North Unguja Region spent more time on teaching (721.9 minutes) while school heads in Urban/West Region spent less time on classroom teaching (478.8 minutes). This is due to the fact that there is a shortage of teachers in North Unguja and overstaffing in the Urban/West. These results also suggest that there might be school heads who are not teaching at all. When heads do not teach at all, they may easily lag behind the latest developments and challenges in pedagogical practice, and therefore fail to provide good instructional leadership to the teachers they supervise.

**Policy suggestion 5.7:** The Director of Education should carry out an in-depth investigation to confirm whether school heads are teaching regularly and ensure that there is an equitable distribution of teachers among all regions.

**(b)  Activities undertaken by school heads**

The headship role involves carrying out a variety of tasks as part of overall school management.  Many of these tasks contribute in a direct or indirect way to more effective teaching and learning. Different school heads may, however, attach importance to different activities. School heads were therefore asked to indicate the importance they attached to these tasks.  The perception of school heads on the importance of the various tasks has been presented in Table 5.9 for SACMEQ I and SACMEQ II.

The perception of school heads on the importance of various other tasks has been presented in Table 5.8 for SACMEQ I and SACMEQ II.

**Table 5.8:  The importance of various school head tasks (SACMEQ I and SACMEQ I**I)

| Task | Percentage rating as 'very important' | | | |
| --- | --- | --- | --- | --- |
| | SACMEQ I | | SACMEQ II | |
| | % | SE | % | SE |
| Contact with community | 76.6 | 0.00 | 84.8 | 0.00 |
| Using progress records * | 92.3 | 0.00 | | |
| Monitoring pupils progress ** | | | 88.9 | 0.00 |
| Administrative tasks | 92.5 | 0.00 | 90.3 | 0.00 |
| Discuss educational objectives with the teaching staff | 88.1 | 0.00 | 86.5 | 0.00 |
| Professional development (Teachers) | 88.7 | 0.00 | 83.1 | 0.00 |
| Professional development (School Heads)** | | | 93.9 | 0.00 |

NB:    The task marked '*' was listed in the SACMEQ I survey but not in SACMEQ II because it was considered to be unclear.

The tasks marked '**' were included in the SACMEQ II survey only, but not in SACMEQ I.

In 1995, 92.3 percent of Standard 6 pupils were in schools whose school heads rated as most important the use of progress records. This task was not listed in the 2000 survey because it was not very clear. In SACMEQ II (2000) a new task 'monitoring

pupils' progress' which was clearer was included. Most of the heads rated administrative tasks as most important (90.3%) followed by 'monitoring pupils' progress' (88.9%). Furthermore, 86.5 percent of the Standard 6 pupils were in schools whose school heads rated 'discuss educational objectives with the teaching staff' to be somehow important. On the task 'professional development' the school heads rated their own professional development higher (93.9%) than that for their teachers (83.1%). A good relationship with the community is very crucial in the development of any school. However 15.2 percent of the Standard 6 pupils were in schools whose school heads did not find 'contact with community' to be very important.

> **Policy suggestion 5.8:** The Director of Education should engage school heads into a discussion on the importance of different tasks that enhance the development of their schools and ensure that they put more emphasis on these tasks. In particular, the Director should sensitise school heads to the need for emphasising the importance of establishing and maintaining regular, fruitful contacts with the community.

### (c) Extent of special activities associated with reading

In each school there are some special activities other than teaching that promote pupils learning. In a study by Elley (1992) it was found that in schools where the pupils produced a school magazine or journal or had a debating society, pupils in such schools had a higher performance than those in schools without such activities. The percentages of pupils in schools where these different activities occurred have been presented in Table 5.9.

**Table 5.9: Percentages and sampling errors for selected school activities (SACMEQ I and SACMEQ II)**

| Activity | Percentage of school activities | | | |
| --- | --- | --- | --- | --- |
| | SACMEQ I | | SACMEQ II | |
| | % | SE | % | SE |
| School Magazine | 13.1 | 0.00 | 14.6 | 0.00 |
| Public Speaking Day | 37.0 | 0.00 | 20.5 | 0.00 |
| Open-Door Policy | 81.3 | 0.00 | 88.6 | 0.00 |
| Formal Debates or Debating Contests | 23.8 | 0.00 | 31.7 | 0.00 |

It can be seen that only 'open door policy' was the one that was popular in Zanzibar. 'School magazine' was not a very popular activity, but there was a slight increase between 1995 and 2000 (13.1% compared to 14.6%). 'Public speaking day' which generally promotes pupils' language fluency had significantly decreased from 37.0 percent in 1995 to 20.5 percent in 2000.

From the data in Table 5.9 it can be said that most of the schools have few initiatives deliberately implemented in order to develop their pupils' and teachers' creativity through writing and speaking. Creative writing does not only develop pupils' thinking capacity, but also exposes the school to the general public.

**Policy suggestion 5.9:** The Director of Curriculum Development Examination and Teacher Support and the language advisors should engage teachers in a dialogue on the different activities that could promote reading and language of the pupils, and thereafter encourage schools to implement a broad range of these activities in their schools.

**(d) Number of days lost in the previous year**

It is common practice for pupils to lose some school days to non-school events such as receiving official visitors, traditional festivals like 'Mwaka Kogwa', and the closing of schools during the clove picking season. The numbers of such days lost in 1995 and 2000 have been presented in Table 5.10.

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

| Region | Average of official school days lost | | | |
|---|---|---|---|---|
| | SACMEQ I | | SACMEQ II | |
| | Mean | SE | Mean | SE |
| North Pemba | 12.1 | 0.00 | 6.7 | 0.00 |
| South Pemba | 13.7 | 0.00 | 9.5 | 0.00 |
| North Unguja | 13.4 | 0.00 | 7.5 | 0.00 |
| Urban/West | 12.0 | 0.00 | 3.9 | 0.00 |
| South Unguja | 9.0 | 0.00 | 7.5 | 0.00 |
| **Zanzibar** | 12.1 | 0.00 | 6.5 | 0.00 |

In 1995 the average Standard 6 pupil in Zanzibar lost 12.1 days compared with 6.5 in 2000. This reflects a remarkable improvement, and this trend should be maintained. There was considerable variation among regions in 2000, but not in 1995. In 2000, the average pupil in the Urban/West region lost 3.9 days while a pupil in South Pemba lost 9.5 days. North Unguja and South Unguja lost 7.5 days.

**(e) Purpose and frequency of school inspection**

Every school head requires the presence in the school of external supervisors who come to the school to provide various forms of support. A question was asked on how many times an inspector had visited the school and for what purposes in the last 3 years. In Table 5.11 and 5.12 the percentages of pupils in schools that had received at least one visit for different purposes in the last three years have been presented.

**Table 5.11: Means and sampling errors of the frequency of school inspection over 3 years (SACMEQ II)**

| Region | Numbers of inspections over 3 years | |
|---|---|---|
| | Mean | SE |
| North Pemba | 11.4 | 0.13 |
| South Pemba | 6.5 | 0.07 |
| North Unguja | 9.5 | 0.05 |
| Urban/West | 8.4 | 0.03 |
| South Unguja | 8.4 | 0.04 |
| **Zanzibar** | 8.8 | 0.03 |

**Table 5.12:  Percentages and sampling errors for school inspections (SACMEQ II)**

| Purpose of inspection | Inspection took place  in past 3 years | |
|---|---|---|
| | % | SE |
| Full inspection | 72.5 | 0.00 |
| Routine inspection | 65.4 | 0.00 |
| Inspect teachers – <u>not</u> for promotion | 41.8 | 0.00 |
| Inspect teachers – <u>for</u> promotion | 10.6 | 0.00 |
| Assist teachers | 59.5 | 0.00 |
| Advise the school head | 61.8 | 0.00 |
| Address crisis/problem | 32.9 | 0.00 |
| Courtesy call | 31.5 | 0.00 |

From the data presented in Table 5.11, it can be seen that the average number of inspection visits schools in Zanzibar received in the three years prior to 2000 was 8.8. This implies that each school was inspected approximately 3 times each year, which is satisfactory since the benchmark for full school inspection is once per year.

The data presented in Table 5.12 show that 72.5 percent of the pupils were in schools that had a full inspection and 65.4 percent were in schools that were visited for the purpose of routine inspection.  The figures show that only 10.6 percent of the schools were visited to inspect teachers for promotion.  This sort of visit is rare in Zanzibar

schools. Promotion is given on the basis of a number of criteria and not on the basis of only one inspection visit. However inspectors are expected to make visits to advise school heads, and just over 61 percent of schools had received such visits.

**Policy suggestion 5.10:** While, on the whole, schools received adequate support in the form of supervision visits, there might be need for the Department of the Inspectorate to ensure that its officers attach the correct purpose in the prioritisation of such visits.

## (f) Community contribution

Every school is a social institution that serves members of its community while, ideally, it should also enjoy the various forms of support that this community can provide. This interactive relationship between the school and its community is vital for overall school performance, and should therefore be promoted. As pointed out by Postlethwaite and Ross (1992)[1], community cooperation with the school is very important not only in the life of the community in general, but also for learners' development. Where the school receives a lot of community support, the benefits in terms of resources, the physical or material, social and cultural well-being of teachers and pupils can be immense. The reverse is true. School heads were, therefore asked to indicate the forms of support that their schools received from their respective communities, and the results have been presented in Table 5.13.

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[1] Postlethwaite T. Neville & Ross Kenneth N. (1992) *Effective Schools in Reading: implications for planners*. Hamburg: IEA

**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 | 82.5 | 0.00 |
| Maintenance of school facilities | 68.9 | 0.00 |
| Construction/maintenance and repair of furniture/equipment | 43.2 | 0.00 |
| The purchase of textbooks | 32.2 | 0.00 |
| The purchase of stationery | 42.7 | 0.00 |
| The purchase of other school supplies | 45.9 | 0.00 |
| Payment of examination fees | 29.3 | 0.00 |
| Payment of the salaries of additional teachers | 5.0 | 0.00 |
| Payment of an additional amount of the salary of teachers | 3.5 | 0.00 |
| Payment of the salaries of non-teaching staff | 5.6 | 0.00 |
| Payment of an additional amount of the salary of non-teaching staff | 5.7 | 0.00 |
| Extra-curricular activities | 36.5 | 0.00 |
| Assisting teachers in teaching without pay | 37.6 | 0.00 |
| Provision of school meals | 10.0 | 0.00 |

The data presented in Table 5.13 provide a measure of the interest parents and the community have in the various aspects of the school in their locality. An analysis of the data in the table shows that parents have had a high level of commitment to their children's education. Their contribution to building of school facilities was rated highest (82.5%) followed by maintenance of school facilities (68.9%). The contributions that got the lowest ratings were payment of additional amount of the salary of teachers (3.5%) and payment of salary of additional teachers (5.0%). This is due to the fact that very few government schools hire teachers when they have serious shortage. In turn, this is because few schools can afford to do so.

The Ministry has been sensitizing parents to the need and importance of their contribution to schools. From the data above it can be seen that they have indeed responded positively to this call. However, parents should also be encouraged to channel their contributions into those areas that contribute more directly to the improvement of quality like buying textbooks, procuring other learning materials and building libraries in the schools.

> **Policy suggestion 5.11:** The Principal Secretary should strengthen local management of the schools and give parents school committees more ownership of their school in order to meet the immediate demand of the school.

### (g) Pupils' behavioural problems

Schools are responsible not only for ensuring that learners learn but that they are also appropriately socialized. Results of SACMEQ I study indicated that the main problem in school was pupil absenteeism, and some schools experienced the problem of sexual harassment. Several studies have confirmed that pupil absenteeism was strongly related to reading performance. In SACMEQ II survey, 18 possible problems associated with learner behaviour were identified. The results of the analysis have been presented in Table 5.14. It should be noted that the data have been presented in terms of the percentage of learners who were in schools where the heads said the problem was **not** a problem and **never** occurred. It should be noted that the higher the percentage, the less the incidence of this problem, and vice versa.

**Table 5.14: Pupil behavioural problems (SACMEQ II)**

| Frequency of pupil behavioural problem | Indicating 'Never' occurs | |
|---|---|---|
| | % | SE |
| Arriving late at school | 4.2 | 0.00 |
| Skipping classes | 15.8 | 0.00 |
| Dropping out of school | 4.0 | 0.00 |
| Classroom disturbance | 15.0 | 0.00 |
| Cheating | 15.9 | 0.00 |
| Use of abusive language | 26.9 | 0.00 |
| Vandalism | 48.2 | 0.00 |
| Theft | 34.2 | 0.00 |
| Intimidation of pupils | 28.0 | 0.00 |
| Intimidation of teachers/staff | 53.1 | 0.00 |
| Physical injury to staff | 71.7 | 0.00 |
| Sexual harassment of pupils | 52.7 | 0.00 |
| Sexual harassment of teachers | 86.2 | 0.00 |
| Drug abuse | 76.2 | 0.00 |
| Alcohol abuse | 77.5 | 0.00 |
| Fights | 14.5 | 0.00 |
| Health problems | 4.1 | 0.00 |

The major challenges facing schools were: dropping out of school (4.0%), health problems (4.1%), and arriving late (4.2%). The four percent saying that this never occurred meant that there were 96 percent of pupils who were in schools where the school head said that the problem occurred. The problems which were relatively less prevalent were fights, classroom disturbance, skipping classes and cheating.

Pupil behaviours which were less problematic in Zanzibar schools were those rated high under "never occur". These included sexual harassment of teachers (86.2%) alcohol abuse (77.5%), drug abuse (96.2%) and physical injury to staff (71.7%).

> **Policy suggestion 5.12:** The Commissioner for Education should commission a study that will examine causes of dropouts to be able to deal with before it become serious.

> **Policy suggestion 5.13:** The Ministry of Education should consult the Ministry of Health to design a programme for screening pupils' health in schools.

**c) Teacher Behaviour Problems**

School heads were also asked to identify the main teacher behaviour problems. The results of what the school head viewed as teacher problems have been presented in Table 5.15.

**Table 5.15: Teacher behavioural problems (SACMEQ II)**

| Frequency of teacher behavioural problem | Indicating 'never' occurs | |
|---|---|---|
| | % | SE |
| Arriving late at school | 4.2 | 0.00 |
| Absenteeism | 40.9 | 0.00 |
| Skipping classes | 64.1 | 0.00 |
| Intimidation or bullying of pupils | 68.3 | 0.00 |
| Sexual harassment of teachers | 92.4 | 0.00 |
| Sexual harassment of pupils | 91.7 | 0.00 |
| Use of abusive language | 72.4 | 0.00 |
| Drug abuse | 93.4 | 0.00 |
| Alcohol abuse | 88.8 | 0.00 |
| Health problems | 13.6 | 0.00 |

The analysis of the results indicated that teacher problems that seemed to affect Zanzibar schools most were arriving late at school (4.2%), health problems (13.6%) and teacher absenteeism (40.9%). Teacher behaviours with high scores under the "never occur" column and were therefore not seen as problems were drug abuse, sexual harassment of teachers, sexual harassment of pupils and alcohol abuse.

Since they are not very serious, they can be handled by the Ministry alone before they grow and reach the point requiring the involvement of other players.

**Policy suggestion 5.14:** The Director of Education should strengthen regulations for both pupils and teachers on arriving late at school and skipping of classes.

**Conclusion**

In Chapter 5 a number of important schools-and school head-related factors which enhanced or hindered the development of schools and that had an impact on the achievement of the pupils were examined. From the results presented it could be seen that there was little variation among regions with respect to the age and training of school heads. However, variation among regions for other variables was found. Among the alarming results were the extremely wide gender disparities in the distribution of school heads. Over 90 percent of the school heads in the rural areas

were males. This calls for a major review of school head appointments. Most school heads remained in one school for at least four years. This period is not long enough to create stability in schools, and there is need to consider ways of retaining school heads in the same schools for longer periods.

It was also observed that most school heads monitored pupils' progress in their schools and were involved with classroom activities like teaching. This is important and can have a direct impact on the achievement of the pupils.

School heads were, on the whole, not happy with the general conditions of their school buildings and other resources. This means that the Ministry should prioritize the maintenance and repair of schools as well as the provision of more resources, with care taken to make sure that the resources are distributed more equitably across all regions.

Regarding inspectorate and advisory services for the schools, it has been observed that about a quarter of the schools had not had a full inspection and one third of the schools had not even had a routine inspection over a period of three years. This implies that a significant number of schools could not get any advice expected from the inspectors' visits.

Community contributions were high on classroom construction and maintenance, but rather low on those aspects that directly affected learning or the academic development of schools, like procurement of teaching and learning materials.

The analyses of the results of pupils' behaviour indicated that frequent problems among the pupils were arriving late for classes, dropping out and health problems. These results concurred with the results of pupils' and teachers' responses in Chapters 3 and 4. The results also showed that among the teachers, problems that disrupted the management of the schools were arriving late to schools and to a certain extent health problems and absenteeism.

# Chapter 6

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

### Introduction

This chapter investigated whether there was an "equitable" distribution of inputs among Zanzibar's education regions and among schools within regions. One of the aims of education is to ensure that all children get a quality education, which includes ensuring that all children have an equal opportunity to learn. For this reason, it is important to examine whether resources have been allocated equitably to all schools in different regions. When describing differences in resource allocation it is important to know whether variations in resource inputs are more pronounced among regions or whether they are larger among schools within regions. This will help locate the level at which decisions must be taken in order to address any uneven distribution of resources.

In this chapter, two specific questions have been posed. These are:

(i) 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?

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

### The Measurement of equity

**(a) Variation among regions**

A statistic called the "coefficient of interclass correlation" (rho) may be used to divide the variation in resource inputs into two components: (a) among regions and (b) among schools within regions. The value of rho is expressed as a ratio that measures the percentage of total variation among schools that can be attributed to

variation among regions. This ratio varies from 0 (complete equity among regions) to 1 (complete inequity among regions).

To illustrate the meaning of rho in this case, consider the following example. Assuming a system allocates resources to schools equally or more or less equally such that when one calculates the average resource levels for regions one finds that they are more or less the same, except for minor chance differences. In such a system the value of rho would be close to zero, because of small variations among regions. In such a case most of the variation would be among schools within regions.

A school system where there is a large variation in resource allocation at regional level due to administrative decisions, geographical differentiation, or other reasons would reflect large variations among regions. In this case the value of rho would approach unity. A large proportion of the variation would be due to variation among regions and there would be little variation among schools within regions.

As a further illustration, consider a case where rho is 0.30. This would mean 30 percent of the variation could be attributed to differences among regions and 70 percent to differences among schools within regions.

## (b) Variation among schools within regions

It is possible to quantify the differences among schools within the particular regions by making a comparison of the variation among schools within the region and the variation among schools at national level. This can be done by using the formula below:

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

The standard deviation of an indicator for a particular region measures the amount of variation among schools within the region, whereas the standard deviation for the whole country measures the amount of variation among schools of the nation. The ratio of the standard deviation for schools in a region to the standard deviation for the

nation expressed as a percentage provides a measure of the degree of equity within a region compared with the national picture.

To illustrate the interpretation of this ratio, it might be helpful to consider two hypothetical regions, Region A and Region B. Assume that the levels of a resource are measured by an indicator that has a ratio value of 50 percent for region A and 160 percent for region B. This would mean that the variations in resource levels among schools in region A is 50 percent less than the variation in resource levels among schools for the whole nation. In contrast, the variation among schools in Region B was 60 percent higher than that for the nation. This would mean there is a more equitable distribution of all resources among schools within regions.

## General Policy Concern 17
**Have human resources been allocated in an equitable fashion among the regions and among the schools with regions?**

### (a) Distribution of qualified and trained teachers and school heads

The results for the assessment of equity in human resource allocation (a) among schools within the five regions of Zanzibar and (b) among regions have been presented in Table 6.1 and 6.2 for SACMEQ I (1995) and SACMEQ II (2000) respectively. The final column contained values of rho (multiplied by 100) and these figures represent the measures of variation among regions.

In the first five columns in Tables 6.1 and 6.2 the variations among schools in the regions have been presented as the standard deviations in the provision of human resources among schools within each region expressed as a percentage of the standard deviation among schools at the national level. For example, the value of 146.1 percent for North Pemba concerning "Reading Teacher Experience" (Table 6.2) indicated that the variation in this resource among schools within North Pemba was 46.1 percent more than the variation among schools for the whole country. In contrast, for the same resource in Urban/West region the variation was 37.7 percent lower than that for the nation. This meant that the allocation of reading teachers among schools was more equitable within Urban/West than it was within North

Pemba. Expressed differently, if the percentage is below 100 the variations of the resource level in schools in the region is less than the variations of the resource level in schools for the whole nation, and the reverse is true.

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

| Human resources | Variation among schools within regions | | | | | Variation among regions (rho x 100) |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Reading teacher prof. qualification | 86.9 | 84.0 | 114.5 | 103.1 | 117.5 | 0.0 |
| Reading teacher experience | 91.9 | 101.4 | 94.7 | 105.3 | 105.4 | 0.0 |
| School head prof. Qualification | 110.4 | 97.8 | 72.0 | 94.1 | 116.9 | 0.0 |
| School head experience | 93.4 | 112.5 | 95.6 | 87.9 | 84.5 | 11.0 |
| Inspectors/advisors visits | 119.9 | 106.1 | 85.9 | 93.1 | 62.1 | 8.4 |
| Pupil/teacher ratio | 92.3 | 73.4 | 114.0 | 99.4 | 110.5 | 6.5 |

Note: 1=North Pemba; 2=South Pemba; 3=North Unguja; 4=Urban/West; 5=South Unguja

**Table 6.2: 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 | | | | | *Variation among regions* (rho x 100) |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Reading teacher prof. qualification | 84.7 | 98.4 | 99.2 | 90.9 | 117.2 | 3.7 |
| Reading teacher experience | 146.1 | 85.7 | 63.5 | 62.3 | 109.1 | 2.5 |
| Math. teacher prof. qualification | 102.3 | 86.2 | 101.8 | 84.8 | 118.7 | 2.3 |
| Math. Teacher experience | 107.2 | 103.9 | 97.6 | 87.9 | 102.0 | 0.1 |
| School head prof. qualification | 95.1 | 100.7 | 113.7 | 94.6 | 94.5 | 2.1 |
| School head experience | 108.6 | 89.9 | 116.4 | 75.9 | 103.2 | 4.3 |
| Inspectors/advisors visits | 87.3 | 86.9 | 119.2 | 99.1 | 109.0 | 1.0 |
| Pupil/teacher ratio | 91.1 | 91.5 | 106.6 | 105.4 | 101.9 | 2.0 |

Note: 1=North Pemba; 2=South Pemba; 3=North Unguja; 4=Urban/West; 5=South Unguja

The indicators that were used as a measure of human resource allocations were the qualification and experience of Standard 6 reading and mathematics teachers, qualification and experience of school heads, information on the inspectors/advisor visits to schools and pupil/teacher ratio.

The figures 1 to 5 in the upper row of the Table 6.1 and 6.2 stand for the five Zanzibar regions as indicated at the bottom of the table. The final column contained values of rho (multiplied by 100) and these figures represented the measure of variation among regions.

In SACMEQ I, the figures in columns 1 to 5 did not show extremes, with all of them ranging from 62.1 percent to 119.9 percent. What this implies is that, on the whole, the variations in the allocation of most resources among schools within regions were more or less the same as the variations for the nation as a whole. The only ones that required attention (using 115 percent as the threshold value) were inspector visits (North Pemba), reading teacher professional qualifications and school head professional qualifications (both in South Unguja). In 1995, it is only in these regions that attention was required to ensure a more equitable allocation of the resources in question. In SACMEQ II, the picture had somewhat deteriorated, with the variation in the allocation of reading teacher experience for North Pemba being 46.1 percent more than the variation at national level. Other human resource allocations that needed some attention were inspectors/advisors visits (North Unguja); mathematics teacher professional qualifications and reading teacher professional qualifications (both South Unguja); and school head experience (North Unguja).

In the last column of Table 6.1 it can also be seen that variations among zones were generally low in 1995, with three of the six rho values falling being zero and with only one of them (school head experience) exceeding 10. This means that some attention might be required at the national level to bring about a more equitable distribution of experienced school heads across the regions. In 2000, the rho values were all low, with none of them exceeding 5. The implication is that the situation regarding the equitable allocation of human resources among regions is good.

> **Policy suggestion 6.1:** The Regional Education Officer for North Pemba must address the inequities in the allocation of experienced reading teachers among schools within the region through a mix of strategies that include the re-distribution of existing stock of teachers, the retention of experienced teachers in targeted schools, as well as careful posting of newly appointed teachers.

**General Policy Concern 18**

**Have material resources been allocated in an equitable fashion among regions and schools within Regions?**

**(a) Distribution of general school infrastructure**

The study also looked at the distribution of material resources among regions and among schools within regions. Tables 6.3 and 6.4 have presented the results for SACMEQ I and SACMEQ II respectively.

**Table 6.3: Equity of material resource distribution to schools as assessed by (a) variation among schools within regions, and (b) variation among regions (SACMEQ I )**

| Material resources | Variation among schools within regions | | | | | Variation among regions (Rho x 100) |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Classroom furniture index | 73.7 | 102.2 | 99.0 | 107.9 | 94.6 | 7.2 |
| Toilets per pupil | 68.3 | 91.3 | 105.3 | 134.1 | 40.4 | 7.4 |
| Classroom library | 4.5 | 0.0 | 155.9 | 114.6 | 90.7 | 20.1 |
| Classroom space per pupil | 94.6 | 92.9 | 97.4 | 109.7 | 81.4 | 7.7 |
| Teacher housing quality | 62.9 | 73.4 | 77.1 | 117.7 | 131.7 | 5.4 |
| School resources index | 68.8 | 82.9 | 72.0 | 115.3 | 71.7 | 27.7 |

Note: 1=North Pemba; 2=South Pemba; 3=North Unguja; 4=Urban/West; 5=South Unguja

**Table 6.4:  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 | | | | | Variation among regions (rho x 100) |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Classroom furniture index by reading teacher | 95.7 | 90.2 | 125.1 | 91.7 | 97.5 | 2.6 |
| Classroom furniture index by mathematics teacher | 110.6 | 98.1 | 75.7 | 93.5 | 99.2 | 7.4 |
| Toilets per pupil | 122.5 | 107.3 | 54.1 | 114.3 | 30.6 | 9.5 |
| Classroom library by reading teacher | 102.6 | 90.6 | 98.0 | 91.7 | 107.2 | 5.2 |
| Classroom library by mathematics teacher | 93.7 | 104.5 | 112.1 | 80.3 | 102.8 | 3.8 |
| Classroom space per pupil | 132.2 | 72.2 | 78.3 | 76.8 | 118.0 | 2.3 |
| Reading teacher housing quality | 61.5 | 85.9 | 101.3 | 106.4 | 113.1 | 11.6 |
| Mathematics teacher housing quality | 92.1 | 75.5 | 108.8 | 100.2 | 112.2 | 5.1 |
| School resources index | 75.9 | 71.9 | 54.4 | 130.5 | 73.1 | 27.9 |

Note: 1=North Pemba; 2=South Pemba; 3=North Unguja; 4=Urban/West; 5=South Unguja

The material resources included in the analysis were classroom furniture (index) by reading and mathematics teachers, toilets per pupil, classroom library by reading and mathematics teachers, classroom space per pupil, teacher housing quality and school resources index.

In SACMEQ I, the intra-regional variations among schools that were considerably higher than the variation for the whole of Zanzibar (using 115 percent as the cut-off point) were the provision of classroom libraries in North Unguja (155.9%), toilets in Urban/West (134.1%), teacher housing quality in South Unguja and Urban/West (131.7% and 117.75 respectively) and school resources index in Urban/West (115.3%). In SACMEQ II, considerable improvement had been made in the allocation of some material resources, but the situation had got worse in others. The areas where more attention was required were the allocation of classroom space in that had deteriorated in North Pemba and South Unguja (132.2% and 118.0% respectively),

school resources index in Urban/West (130.5%), classroom furniture in North Unguja (125.1%), and toilets in North Pemba (122.5%).

The rho values for SACMEQ I and SACMEQ II show that the large variation among regions in the resources index that was observed in SACMEQ I (where the rho value was 27.7%) had persisted in SACMEQ II (27.9%). In actual fact, the level of inequity had marginally increased. There was also considerable variation in the provision of classroom library in SACMEQ I (20.1%), but the variation had been drastically reduced in SACMEQ II. On the other hand, variation in teacher housing quality had deteriorated from a rho value of 5.4 percent in 1995 to 11.6 percent in 2000. With regards the other resources, there was little variation among regions.

> **Policy suggestion 6.2:** The Director of Planning and Finance should address the inequities in the allocation of the school resources and teacher housing among regions through programmes targeted at the regions that reflect under-provision of these two types of resources.

> **Policy suggestion 6.3:** The Principal Secretary should set benchmarks on the provision of the various elements of general school infrastructure as part of a more comprehensive strategy for reducing inequities in resource distribution both among regions and among schools within regions. Thereafter, he or she must ensure that the situation with regard to the allocation of human and material resources is carefully monitored, with timely corrective action taken.

## Conclusion

This chapter has explored issues of equity in the allocation of resources (human and materials) to primary schools in Zanzibar. The picture which emerged was that, generally, the allocation of human resources among regions was equitable, with none of the rho values reaching five percent. However, there were certain key material resources whose distribution among regions in Zanzibar as a whole was not equitable, and these were school resources and teacher housing. Measures need to be taken to address these.

On the other hand, analyses of the patterns in the allocation of resources among schools within regions showed that there were some large variations in both human and material resource inputs. Among those that require the most attention are the allocation of experienced teachers, classroom space and toilets per pupil in North Pemba, classroom furniture in North Unguja, and school resources in Urban West. In these regions, the variation among schools within the regions exceeded the variation for the nation as a whole by more than 20 percent. There was a need for the Ministry and the regions concerned to re-examine the pattern of distribution of these resources, establish the causes behind the imbalance, and take corrective action.

# Chapter 7
# Pupil and Teacher Competencies in Literacy and Numeracy

## Introduction

It is important for any system to measure the level of achievement of learners from the different backgrounds. In the earlier chapters an examination of home backgrounds of pupils, the classrooms in which they were, the teachers they had and finally the conditions of the schools they attended was made. 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 Zanzibar curriculum experts. Likewise, all other SACMEQ countries consulted a broad range of their national experts, among them curriculum officers, tests specialists, teachers and supervisors. The teachers' tests were constructed in a similar fashion and included some items from the pupils' tests. This made it possible to place pupils and teachers on the same literacy and numeracy scales. The details of the construction of the tests and the qualities of the tests have been presented in Chapter 2.

## Three ways of reporting the 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 Zanzibar overall, and the five administrative regions separately. This approach provided an aggregated average measure of performance in the form of a number. While this 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) Comparisons with expert judgements**

The second approach to evaluating performance was to compare pupil and teacher scores to agreed "standards" that had been defined by expert national committees (consisting of curriculum specialists, researchers and experienced teachers) *prior* to the collection of data. These committees identified two reading and numeracy performances that they would expect from a student who (a) could reach only the "minimum" level of competency and (b) could reach "desirable level".

**(c) Competence levels**

The third approach was based on a scaling technique known as the *Rasch Model*. This technique enabled the ability levels of pupils and teachers to be aligned with different levels of test items according 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 cluster 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 with one of eight levels of "competence" in reading and mathematics. The names and descriptions of these levels of competence have been presented in Chapter 2.

**General Policy Concern 19**

**What were the levels and variations in the achievement levels of Standard 6 pupils and their teachers?**

**(a) Reading and Mathematics mean scorers for Standard 6 pupils**

The overall reading scores for pupils for SACMEQ I and the reading and mathematics scores for pupils for SACMEQ II have been presented in Table 7.1. The scores were scaled such that the average Standard 6 pupil score for all SACMEQ countries combined was 500 and the standard deviation was 100.

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

| Region | Pupil performance on all items | | | | | |
| | SACMEQ I | | SACMEQ II | | | |
| | Reading | | Reading | | Mathematics | |
| | Mean | SE | Mean | SE | Mean | SE |
|---|---|---|---|---|---|---|
| North Pemba | 496.9 | 4.80 | 498.4 | 2.96 | 509.2 | 2.83 |
| South Pemba | 480.5 | 3.24 | 463.0 | 2.98 | 479.4 | 2.39 |
| North Unguja | 455.3 | 5.95 | 449.4 | 3.72 | 455.6 | 3.06 |
| Urban/West | 504.6 | 4.58 | 495.7 | 3.09 | 477.4 | 2.55 |
| South Unguja | 467.4 | 4.56 | 459.9 | 2.95 | 460.4 | 2.66 |
| **Zanzibar** | 489.2 | 2.38 | 478.3 | 1.49 | 478.2 | 1.26 |

In Zanzibar, both the reading and mathematics scores were below the SACMEQ reading and mathematics average of 500. It can be seen that the mean score in reading for 1995 was higher than that for 2000 (489.2 and 478.3 respectively). The national mean for mathematics in 2000 was 478.2, which was very close to that for reading).

There were considerable variations among regions. In the reading test North Pemba scored the highest and was just 1.6 scores below the SACMEQ countries' average score of 500. The lowest average score was in North Unguja, where the mean was 449.4. Although the mean national scores for reading and mathematics were similar, the results revealed that pupils scored slightly better in mathematics than in reading, except for the Urban West Region where pupils scored better in reading than in mathematics (495.7 and 477.4 respectively).

**(b) Reading and Mathematics mean scores of Standard 6 teachers**

The application of the Rasch model in this study allowed Standard 6 teachers to be scored on exactly the same scale as Standard 6 pupils. The technique used to undertake this scoring has been described in Chapter 2. The mean scores for Standard 6 teachers have been presented in Table 7.2

**Table 7.2:   Means and sampling errors for the reading and mathematics test scores of teachers (SACMEQ II)[i]**

| Region | Teacher performance on all items | | | |
| | Reading | | Mathematics | |
| | Mean | SE | Mean | SE |
|---|---|---|---|---|
| North Pemba | 650.0 | 0.48 | 701.5 | 0.89 |
| South Pemba | 659.6 | 0.67 | 679.8 | 0.29 |
| North Unguja | 632.1 | 2.37 | 693.2 | 2.04 |
| Urban/West | 667.8 | 1.99 | 682.5 | 1.30 |
| South Unguja | 637.8 | 0.52 | 694.1 | 1.82 |
| **Zanzibar** | 653.4 | 0.80 | 689.0 | 0.63 |

At the national level the average reading score for Standard 6 teachers was 153.4 points (or around 1.53 pupil standard deviation units) above the average reading score for standard 6 pupils across the SACMEQ countries.  The average mathematics score for Standard 6 teachers was 689.6, which was 189.0 points (around 1.9 pupil standard deviation units) above the average mathematics score for Standard 6 pupils. The average scores for reading teachers did not vary a great deal across the regions. However, for mathematics scores the performance of the teachers in North Pemba was the highest among the five regions (701.5).  These results corresponded well with the pupils' results where the mean scores were also the highest among the five regions.  It would be interesting to analyze the pupils' and their teachers' performance in reading and mathematics in relation to some of the teacher characteristics and also in relation to resource allocations.

**Policy suggestion 7.1:** The Director of Curriculum Development Examination and Teacher Support should undertake a detailed analysis of teacher achievement on each of the test items in order to identify specific areas where teachers could be given accurately targeted in-service training.

## (c) Minimum and desirable levels of pupil reading achievement

Before the data collection each of the SACMEQ Ministries of Education established an expert committee that included teachers and curriculum developers. The committees were asked to identify the reading performances that they would expect from a student who (a) would pass and continue the next grade during the next year of schooling (the "minimum" level), and (b) would be guaranteed to succeed during the next year of schooling (the "desirable" level). It should be noted that the cut-off levels were established only for reading because this was the only subject matter tested in the SACMEQ I Project.

The cut off points were combined across the SACMEQ countries and then used to estimate the percentages of pupils that had reached the two performance levels. The results of these analyses have been presented in Table 7.3.

**Table 7.3: Percentages and sampling errors of pupils reaching minimum and desirable reading levels of mastery (SACMEQ I and SACMEQ II)**

| Region | SACMEQ I | | | | SACMEQ II | | | |
|---|---|---|---|---|---|---|---|---|
| | Pupils reaching minimum level of mastery | | Pupils reaching desirable level of mastery | | Pupils reaching minimum level of mastery | | Pupils reaching desirable level of mastery | |
| | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 52.4 | 2.66 | 7.6 | 1.44 | 45.7 | 2.20 | 5.8 | 1.25 |
| South Pemba | 37.5 | 2.67 | 3.8 | 0.91 | 25.5 | 1.84 | 0.4 | 0.28 |
| North Unguja | 30.9 | 2.70 | 1.9 | 1.02 | 16.9 | 2.34 | 0.2 | 0.19 |
| Urban/West | 52.5 | 2.34 | 12.3 | 1.48 | 44.1 | 2.30 | 3.6 | 0.86 |
| South Unguja | 34.5 | 2.51 | 2.6 | 0.73 | 25.0 | 2.13 | 1.3 | 0.47 |
| **Zanzibar** | 45.3 | 1.27 | 7.8 | 0.72 | 34.2 | 1.05 | 2.6 | 0.39 |

The data presented in Table 7.3 indicate that in SACMEQ I the percentage of pupils reaching the minimum level of mastery was 45.3 percent and the one for SACMEQ II was 34.2 percent. The percentage of pupils reaching the "desirable" level of mastery in reading was 7.8 percent and 2.6 percent for SACMEQ I and SACMEQ II respectively. Using these figures the level of mastery for Standard 6 pupils in SACMEQ II could be analyzed as follows:

(a) The percentage of the total population of Standard 6 pupils in Zanzibar that reached the "minimum" level of mastery in the reading test was (with 95 percent confidence) located between $34.2 \pm 2 (1.05)$ percent. That is, between 32.10 percent and 37.3 percent.

(b) The percentage of the total population of Standard 6 pupils in Zanzibar that reached the "desirable" level of mastery in the reading test was (with 95 percent confidence) located between $2.6 \pm 2(0.39)$ percent. That is, between 1.82 percent and 3.38 percent.

Thus, we may be very confident that in 2000, between 62.7 percent and 67.9 percent of Standard 6 pupils did not reach "minimum" level of mastery, and we may be very confident that between 98.18 percent and 96.62 percent did not reach the "desirable" level.

These results should be a cause for concern regarding pupil performance. The Ministry of Education should find the causes for the deterioration in the performance between 1995 and 2000.

**Policy suggestion 7.2:** The Commissioner for Education and the Director of Curriculum Development, Examination and Teacher Support should review the curriculum and set achievement targets for different levels to serve as benchmarks for future assessments on levels of achievement.

**(d) Minimum and desirable levels of teacher achievement**

The study examined the reading achievement level of teachers against the same cut off points that had been prepared to specify minimal and desirable levels for pupils' reading achievement. The results have been presented in Table 7.4

**Table 7.4: Percentages and sampling errors of teachers reaching minimum and desirable reading levels of mastery (SACMEQ II)**

| Region | Teachers reaching minimum level of mastery | | Teachers reaching desirable level of mastery | |
|---|---|---|---|---|
| | % | SE | % | SE |
| North Pemba | 100.0 | 0.00 | 87.6 | 0.95 |
| South Pemba | 95.0 | 0.00 | 79.6 | 0.69 |
| North Unguja | 92.0 | 0.00 | 70.2 | 1.50 |
| Urban/West | 100.0 | 0.00 | 82.6 | 1.03 |
| South Unguja | 96.2 | 0.00 | 72.3 | 0.00 |
| **Zanzibar** | 97.3 | 0.00 | 79.7 | 0.48 |

From the table it can be seen that 97.3 percent of the teachers reached the minimum level while 79.7 percent reached the desirable level. Thus, 2.7 percent of the reading teachers did not reach the minimum level. Five percent of the teachers in South Pemba, eight percent of the teachers in North Unguja and almost four percent of the teachers in South Unguja did not reach the minimum level. Even higher percentages of pupils had teachers who did not reach the desirable level, a level that all teachers should be able to reach. These results are very worrying and the Ministry of Education, Culture and Sports needs to take action in order to arrest the situation.

**(e) Competence levels in reading for Standard 6 pupils and their teachers**

The Rasch technique was used to define a total of eight competence levels for reading and mathematics. These competence levels have been described in Chapter 2. The percentages of Standard 6 pupils who reached different levels of achievement for SACMEQ I and SACMEQ II have been presented in Tables 7.5 and 7.6.

**Table 7.5: Percentages and sampling errors for literacy levels of pupils (SACMEQ I)**

| Region | Percentage of pupils reaching the reading competence level |||||||||||||||| 
|--------|-----|------|-----|------|------|------|------|------|------|------|------|------|-----|------|-----|------|

| | **Percentage of pupils reaching the reading competence level** | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Region** | **1** | | **2** | | **3** | | **4** | | **5** | | **6** | | **7** | | **8** | |
| | % | SE | % | SE | % | SE | % | SE | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 7.6 | 1.43 | 5.4 | 1.20 | 11.5 | 1.65 | 27.7 | 2.47 | 31.5 | 2.61 | 9.2 | 1.54 | 6.5 | 1.35 | 0.6 | 0.44 |
| South Pemba | 6.4 | 1.17 | 5.5 | 1.06 | 22.3 | 2.33 | 34.1 | 2.45 | 21.7 | 2.14 | 7.4 | 1.13 | 2.5 | 0.74 | 0.2 | 0.16 |
| North Unguja | 12.0 | 2.32 | 12.2 | 2.27 | 19.9 | 2.59 | 28.5 | 2.97 | 21.2 | 2.47 | 4.6 | 0.92 | 1.7 | 0.99 | 0.0 | 0.00 |
| Urban/West | 7.1 | 1.45 | 4.4 | 1.01 | 14.3 | 1.85 | 24.6 | 2.27 | 22.6 | 1.97 | 17.7 | 1.79 | 8.5 | 1.30 | 0.7 | 0.35 |
| South Unguja | 8.3 | 1.65 | 7.1 | 1.45 | 22.8 | 2.40 | 31.2 | 2.69 | 22.9 | 2.23 | 5.9 | 1.20 | 1.9 | 0.61 | 0.0 | 0.00 |
| **Zanzibar** | 7.7 | 0.78 | 6.0 | 0.60 | 16.9 | 1.03 | 28.0 | 1.24 | 23.7 | 1.09 | 11.7 | 0.86 | 5.6 | 0.63 | 0.5 | 0.17 |

**Table 7.6: Percentages and sampling errors for literacy levels of teachers (SACMEQ II)**

| Region | Percentage of teachers reaching the reading competence level | | | | | | | | | | | | | | | |
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | |
| | % | SE | % | SE | % | SE | % | SE | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 0.0 | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 | 1.0 | 0.00 | 27.6 | 1.03 | 69.4 | 1.03 | 2.0 | 0.00 |
| South Pemba | 0.0 | 0.00 | 0.0 | 0.00 | 2.0 | 0.00 | 3.0 | 0.00 | 0.0 | 0.00 | 26.8 | 0.69 | 43.2 | 1.12 | 25.0 | 0.89 |
| North Unguja | 0.0 | 0.00 | 0.0 | 0.00 | 8.0 | 0.00 | 0.0 | 0.00 | 2.9 | 0.00 | 21.3 | 1.30 | 55.7 | 2.28 | 12.0 | 1.87 |
| Urban/West | 0.0 | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 | 6.8 | 0.83 | 12.2 | 0.67 | 53.4 | 1.28 | 27.6 | 1.37 |
| South Unguja | 3.8 | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 | 11.3 | 0.00 | 14.3 | 0.00 | 49.6 | 0.45 | 21.0 | 0.45 |
| **Zanzibar** | 0.5 | 0.00 | 0.0 | 0.00 | 1.6 | 0.00 | 0.5 | 0.00 | 4.5 | 0.28 | 19.4 | 0.38 | 54.4 | 0.63 | 19.1 | 0.58 |

In 1995 around 50 percent of the pupils were located at levels 4 and 5. A very small number of pupils managed to reach level 7. Those were North Pemba (6.5%) and Urban/West Region (8.5%).

The results for 2000 have been presented in Table 7.6. Around two-thirds of the pupils were located in level 3, 4 and 5. However, 20 percent of the pupils were at the two lower levels of reading competence. These levels were regarded at "pre-reading" and "emergent reading" levels. The pupils at these two levels could match words with the pictures and could read very simple sentences to extract meaning. This result is very worrying as these pupils had only one more year to complete primary and enter the secondary level, and yet they had not reached basic literacy.

The figures presented in Table 7.6 indicate that half of the teachers were located in the reading competency level 7 while 19 percent managed to perform at the top level of reading competency (level 8). The disappointing result was that although the number was negligible (0.5%) there were some teachers in the South Region of Unguja (3.8%) who were at the lowest level of competency. This meant they could only match pictures with words. Likewise two percent of the teachers in South Pemba, and eight percent of the teachers in North Unguja could barely perform tasks that required the "basic reading" level set of skills. The results were very interesting because one could expect the teachers in the Urban/West Region to perform better at the top level of competency because they are exposed to more reading materials. However when comparing regions at this level (level 7) Urban/West came third (53.4%) after North Pemba (69.4%) and North Unguja (55.7%).

**(f) Competency levels in mathematics for Standard 6 pupils and their teachers**

The different levels of achievement for Standard 6 pupils and their teachers in mathematics have been presented in Tables 7.7 and 7.8 respectively.

**Table 7.7: Percentages and sampling errors for numeracy levels of pupils (SACMEQ II)**

| Region | Percentage of pupils reaching the mathematics competence level | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | |
| | % | SE | % | SE | % | SE | % | SE | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 1.9 | 0.66 | 28.2 | 2.12 | 38.6 | 2.38 | 14.1 | 1.84 | 12.0 | 1.08 | 4.8 | 0.74 | 0.3 | 0.31 | 0.0 | 0.00 |
| South Pemba | 2.4 | 0.81 | 40.1 | 2.24 | 42.2 | 2.34 | 11.7 | 1.40 | 3.6 | 0.79 | 0.0 | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 |
| North Unguja | 5.1 | 1.40 | 54.9 | 3.06 | 34.9 | 2.92 | 5.1 | 1.30 | 0.0 | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 |
| Urban/West | 2.4 | 0.67 | 39.7 | 2.45 | 44.7 | 2.52 | 10.5 | 1.52 | 2.1 | 0.68 | 0.3 | 0.11 | 0.2 | 0.09 | 0.1 | 0.06 |
| South Unguja | 4.4 | 1.01 | 48.3 | 2.53 | 41.5 | 2.49 | 5.8 | 1.26 | 0.0 | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 |
| **Zanzibar** | 3.0 | 0.39 | 41.1 | 1.17 | 41.1 | 1.20 | 10.0 | 0.72 | 3.7 | 0.34 | 1.0 | 0.15 | 0.1 | 0.07 | 0.0 | 0.02 |

**Table 7.8:  Percentages and sampling errors for numeracy levels of teachers (SACMEQ II)**

| Region | Percentage of teachers reaching the mathematics competence level | | | | | | | | | | | | | | | |
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | |
| | % | SE | % | SE | % | SE | % | SE | % | SE | % | SE | % | SE | % | SE |
| North Pemba | 0.0 | 0.00 | 0.0 | 0.00 | 4.0 | 0.00 | 7.3 | 0.00 | 14.7 | 0.78 | 26.4 | 0.88 | 36.6 | 0.78 | 11.0 | 0.00 |
| South Pemba | 0.0 | 0.00 | 0.0 | 0.00 | 8.2 | 0.00 | 5.5 | 0.00 | 22.2 | 0.00 | 36.7 | 0.00 | 19.4 | 0.00 | 8.0 | 0.00 |
| North Unguja | 0.0 | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 | 3.5 | 0.98 | 17.1 | 1.17 | 50.2 | 1.91 | 26.4 | 1.85 | 2.8 | 0.02 |
| Urban/West | 0.0 | 0.00 | 0.0 | 0.00 | 9.5 | 0.59 | 7.9 | 0.03 | 19.6 | 0.27 | 26.4 | 0.88 | 23.7 | 0.61 | 12.9 | 0.27 |
| South Unguja | 0.0 | 0.00 | 0.0 | 0.00 | 7.2 | 0.89 | 5.2 | 0.63 | 23.9 | 0.94 | 10.0 | 1.10 | 45.5 | 1.20 | 8.3 | 0.03 |
| **Zanzibar** | 0.0 | 0.00 | 0.0 | 0.00 | 6.3 | 0.23 | 6.2 | 0.19 | 19.3 | 0.29 | 30.0 | 0.49 | 28.9 | 0.44 | 9.3 | 0.09 |

Pupils' mathematics scores were more disappointing than their reading scores. The data showed that 82.2 percent of the pupils were at the lowest levels of numerical competency (41.1% at "emergent numeracy" and 41.1% at "basic numeracy"). Pupils at these levels could recognize shapes, carry out (simple) multi-step arithmetic operations and undertake calculations using division. At level three of "basic numeracy" the pupils could recognize common shapes or figures in two dimensions, estimate accurately lengths of simple shapes and link simple verbal, graphic, and number forms with single arithmetic operations on whole numbers up to two digits. The results showed no variation across regions.

Figures presented in Table 7.8 show that about 60 percent of the teachers were performing at levels 6 and 7 of competency in mathematics. Around 20 percent of the teachers were at level 5. A comparison of the data across regions provided an interesting picture. Half of the teachers in North Unguja managed to perform at level 6 while only 26.4 percent of teachers in both North Pemba and Urban/West region were located at that level. The results also indicate that 45.5 percent of the teachers in South Unguja were at level 7. This was the highest figure among teachers for all the regions.

The results for both Standard 6 pupils and their teachers were quite disappointing. The level of competence in both reading and mathematics were below the expected standard. Corrective action has to be taken by the Ministry of Education, schools and parents. Among the reasons that might have attributed to this low pupil performance could have been the lack of textbooks for both subjects. In the earlier chapters it was also pointed out that pupils did not receive sufficient exercises both in class and at home. There is need for Ministry to find out the reasons for the teachers' low performance.

**Policy Suggestion 7.3:** The Director of Planning and Finance should assist communities in their efforts of constructing new classrooms so as to reduce overcrowding in the existing classroom. This will improve teacher-pupil contact and hence alleviate the problems they face in teaching and learning.

**General Policy Concern 20**

**What were the reading and mathematics achievement levels of important subgroups of Standard 6 pupils and their teachers?**

**(a) Differences in Pupil Achievement by Gender, Socio-economic Background, and School Location**

The study categorized Standard 6 pupils into socio-economic status (SES) groups defined by having an average number of possessions ("high SES") and below average number of possessions ("low SES") and gender. Pupils were also categorized according to their school location as specified by their school heads. The intention was to explore whether these factors were associated with the performance of pupils on both reading and mathematics tests. The underlying concern was that all Standard 6 pupils should receive the same quality of education irrespective of their gender, socio-economic status and the location of their schools. In Table 7.9 the average reading and mathematics scores of Standard 6 pupils have been presented for each of the groups.

**Table 7.9: Means and sampling errors for the reading and mathematics test scores of pupils by sub-groups (SACMEQ I and SACMEQ II)**

| Sub-groups | Pupil performance on all items | | | | | |
| | SACMEQ I | | SACMEQ II | | | |
| | Reading | | Reading | | Mathematics | |
| | Mean | SE | Mean | SE | Mean | SE |
| *Gender* | | | | | | |
| Boys | 488.4 | 4.14 | 479.2 | 2.33 | 485.4 | 2.04 |
| Girls | 489.9 | 3.02 | 477.5 | 2.19 | 471.5 | 1.86 |
| | | | | | | |
| *Socio-economic level* | | | | | | |
| Low SES | 474.3 | 3.47 | 468.3 | 1.87 | 474.1 | 1.57 |
| High SES | 505.0 | 3.35 | 492.3 | 2.66 | 484.0 | 2.31 |
| | | | | | | |
| *School location* | | | | | | |
| Isolated/Rural | 474.8 | 3.23 | 468.5 | 1.60 | 477.5 | 1.39 |
| Small town | 494.4 | 4.36 | 478.6 | 3.97 | 482.6 | 3.87 |
| Large city | 522.4 | 5.84 | 501.9 | 3.84 | 477.1 | 2.89 |
| **Zanzibar** | 489.2 | 2.38 | 478.3 | 1.49 | 478.2 | 1.26 |

The data were also presented in Table 7.10 by classifying the three subgroups (gender, socio-economic groups and school location) of pupils reaching minimum and desirable levels of mastery in reading.

**Table 7.10: Percentages and sampling errors of pupils reaching minimum and desirable reading levels of mastery by sub-groups (SACMEQ I and SACMEQ II)**

| Sub-groups | SACMEQ I | | | | SACMEQ II | | | |
|---|---|---|---|---|---|---|---|---|
| | Pupils reaching minimum level of mastery | | Pupils reaching desirable level of mastery | | Pupils reaching minimum level of mastery | | Pupils reaching desirable level of mastery | |
| | % | SE | % | SE | % | SE | % | SE |
| *Gender* | | | | | | | | |
| Boys | 47.3 | 1.93 | 8.1 | 1.10 | 35.7 | 1.61 | 2.9 | 0.61 |
| Girls | 43.5 | 1.78 | 7.4 | 1.02 | 32.9 | 1.55 | 2.3 | 0.51 |
| | | | | | | | | |
| *Socio-economic level* | | | | | | | | |
| Low SES | 39.5 | 1.69 | 3.8 | 0.61 | 28.6 | 1.26 | 1.8 | 0.39 |
| High SES | 51.4 | 1.98 | 11.9 | 1.35 | 42.0 | 1.95 | 3.7 | 0.77 |
| | | | | | | | | |
| *School location* | | | | | | | | |
| Isolated/Rural | 38.7 | 1.44 | 4.5 | 0.61 | 28.6 | 1.07 | 1.8 | 0.30 |
| Small town | 47.3 | 2.81 | 6.7 | 1.34 | 33.4 | 3.03 | 2.9 | 1.15 |
| Large city | 61.1 | 3.30 | 19.0 | 2.78 | 48.6 | 2.77 | 4.3 | 1.16 |
| **Zanzibar** | 45.3 | 1.27 | 7.8 | 0.72 | 34.2 | 1.05 | 2.6 | 0.39 |

The difference in the mean scores for Standard 6 reading by gender was quite small and insignificant, and a similar pattern was observed in Table 7.10 for boys and girls reaching the "minimum" and "desirable" levels of mastery. The gaps were very small both in SACMEQ I and SACMEQ II. The difference between girls and boys was about three percent for the "minimum" level and less than one percent for the "desirable" level. In mathematics, boys performed girls (485.4 and 471.5 score points for boys and girls respectively), and the difference was statistically significant.

In comparison with Standard 6 pupils in the low SES group, the high SES pupils were around 20 score points higher in reading and 11 score points higher in mathematics. In similar subgroups around 13 percent more of the high SES pupils scored better compared

with low SES pupils who reached the "minimum" level of mastery in reading while two percent more of the high SES pupils reached the "desirable level of mastery. In both cases, the differences were statistically significant. The gaps between Standard 6 pupils in isolated/rural areas compared with large cities were around 33 score points for reading. However, the pattern for mathematics changed. The points for pupils in small towns were larger and the average for large cities and isolated/rural areas was almost similar (477 score points).

The results show that in Zanzibar patterns in reading achievement were related to socioeconomic background and school location.

**Policy suggestion 7.4:** The inspectors and the advisers should ensure that teachers create a more girl-friendly classroom environment so that their mean score in mathematics can be as high as boys'.

## Conclusion

In this chapter the achievement of pupils and teachers in reading and mathematics have been examined. It was also the purpose of the study to investigate the correlation between the performance of the pupils to that of their teachers. The results revealed that both the pupils and the teachers did not perform well in both reading and mathematics. However the achievement of the teachers was more disappointing than that of pupils, considering that their role as well as the academic and professional preparation they should have received. There did not seem to be any strong correlation between teachers' achievement and pupils' achievement.

The results also showed that a larger percentage of the pupils could not reach the minimum level of mastery in reading and nearly all of them had not reached the desirable levels that were set by experienced teachers, curriculum developers and inspectors. These results suggest that a review of the reading/language (Kiswahili) curriculum should be undertaken as a matter of priority. The low achievement levels may be attributed to a

variety of factors in the learning environment (such as the scarcity of key teaching or learning resources, teachers' skills and teaching practices, and others) as well as the home environment (for example, learning opportunities at home in the form of books and support with homework). Furthermore, the Ministry should seriously concentrate on research studies of school and classroom practices in order to identify the gaps and shortcomings to be addressed and hence develop appropriate solutions.

# Chapter 8

# Policy Suggestions and Agenda for Action

## Introduction

This report is a second study of the quality of primary education in Zanzibar. Among the aims of the study was to assess the level of performance of the system in response to Education for All (EFA). Similarly, this study was aimed at measuring the performance over time between SACMEQ I (1995) and SACMEQ II (2000).

Throughout this report data analyses have been presented and discussed in order to generate policy suggestions. The policy suggestions attempted to describe the actions required to make the system more efficient and effective. In this chapter the major policy suggestions have been reviewed and categorised into four main groups and then linked with time frames and costs.

## Classification of Policy Suggestions

A total of 51 policy suggestions were made in Chapters 3 to Chapter 7. All these suggestions were classified into the four main groups described below. The policy suggestions were then listed in Table 8.1.

**(a) The four main groups**

**Group 1:** Consultation with staff, community and other institutions and experts. This group contained ten (10) suggestions, about various consultative arrangements which the Ministry of Education, Culture and Sports will need to make with different stakeholders in education. They would involve meetings and discussions that would promote an open and on-going dialogue aimed at generating strategies for action. The suggestions in this group tended to be low cost.

**Group 2:** Reviews of existing planning and policy procedures. Fourteen policy suggestions were grouped together. Policy suggestions in this group might require a re-statement of policy, review implementation strategies or change of approach and focus. This would require no major funding.

**Group 3:** Data collection, research and training.  All in all, ten (10) suggestions were contained within this group.  Policy suggestions under this group may require some funding outside "normal" budgetary allocations.  This group will include evaluation studies, curriculum research, training, observation studies and monitoring reviews.

**Group 4:** Investment in infrastructure and resources. In this group there were seventeen (17) policy suggestions made.  These policy suggestions required the Ministry to provide funds for training, development of facilities and procurement of resources.

**Table 8.1: Summary of Policy Suggestions**

| Policy Suggestion | Coordinating office/Institution | Level | Time | Cost |
|---|---|---|---|---|
| **Group1: Consultation with staff, community and other institutions/expert.** | | | | |
| **Policy Suggestion 3.2** The Principal Secretary should consult with Ministry of Finance and Economic Affairs and Regional Commissioners to ensure that Poverty Reduction Programmes in the regions are fully implemented with a view to putting intervention measures that will support home environments that are more conducive to pupil learning. | Principal Secretary | National Regional | Short | Low |
| **Policy Suggestion 3.10** The Director of Education with the School Committees should organize awareness meeting with parents to emphasize the importance of parental involvement in the education of their pupils. | Director of Education  School Committees | National  School | Medium | Moderate |

| Policy Suggestion | Coordinating office/Institution | Level | Time | Cost |
|---|---|---|---|---|
| **Policy Suggestion 4.3** Communities should be mobilized to build teacher houses in school vicinities | Principal Secretary, Regional and District Commissioners | National Regional | Long | Moderate |
| **Policy Suggestion 4.2** The Principal Secretary in the Ministry of Education should explore possibilities of providing teachers with loans or building materials on credit so that teachers can improve the conditions of their houses. Where possible efforts should be made to provide good housing facilities to those teachers who do not have their own homes | Principal Secretary<br><br>Private Investors | National | Long | High |
| **Policy Suggestion 4.11** The District Education Officers and School heads should examine the reasons for the teachers not meeting parents often and use the feedback to develop strategies to greater parental involvement in School activities. | District Education Officers<br><br>School heads, teachers, parents | District<br><br>School | Shot | Low |

| Policy Suggestion | Coordinating office/Institution | Level | Time | Cost |
|---|---|---|---|---|
| **Policy Suggestion 4.12**<br>School Committees should be encouraged to work closely with school heads to develop mechanisms for encouraging parents to meet with teachers more frequently. | School Committees Parents, Teachers. | School | Short | low |
| **Policy Suggestion 4.14**<br>The Principal Secretary of the Ministry of Education should hold negotiations with the Principal Secretary in the Ministry of Finance and Economic Affairs so that more funds could be allocated to the Ministry in order to increase classroom resources. | Principal Secretary Ministry of Education<br><br>Principal Secretary Ministry of Finance | National | High | High |
| **Policy suggestion 5.8**<br>The Director of Education should discuss with the school heads on the importance of different tasks that will enhance the development of the schools. | Director of Education School heads | National School level | Short | Low |
| **Policy suggestion 5.9**<br>The Director of Curriculum Development, Examination and Teacher Support and the Language Advisors should engage in a dialogue with teachers on the different activities that could promote reading and language of the pupils, and thereafter encourage schools to implement a broad range of these activities in their schools. | The Director of Curriculum Development, Examination and Teacher Support<br><br>Language Advisors | National School level | Short | Low |

| Policy Suggestion | Coordinating office/Institution | Level | Time | Cost |
|---|---|---|---|---|
| **Policy Suggestion 5.10** School heads and school committees should mobilize and sensitize community not only in order to ensure that they contribute more resources and facilities that promote good teaching and effective pupil learning, but so that they can also prioritize their inputs in a way that yields maximum benefits for their children. | School heads School Communities | Schools localities | Short | Low |
| **Group 2: Reviews of existing planning and policy procedures.** | | | | |
| **Policy suggestion 3.4** The Director of Education should conduct a survey on pupil absenteeism and the reasons so as to know the magnitude of the problem and advise ways of addressing the problem. | Principal Secretary | National | Short | Low |
| **Policy Suggestion 3.5** The Principal Secretary should review and strengthen regulations regarding student absenteeism. | Principal Secretary | National | Short | Low |

| Policy Suggestion | Coordinating office/Institution | Level | Time | Cost |
|---|---|---|---|---|
| **Policy Suggestion 3.7** <br> The Commissioner for Education should set clear performance benchmark that specify the competency levels in key subjects which pupils must fail to attain before they are allowed to repeat a grade if they have not reached the level. | Commissioner for Education | National | Short | Low |
| **Policy Suggestion 3.8** <br> The Principal Secretary should set benchmarks for the class size in order to minimise overcrowding. | Principal Secretary | National | Short | Low |
| **Policy suggestion 3.9** <br> The Commissioner for Education should keep standards and regulations as to the teachers giving homework to the pupils. | Commissioner for Education | National | Short | Low |
| **Policy Suggestion 3.12** <br> The Director of Planning should ensure the implementation of the policy allowing private publishers to sell textbooks in bookshops. | Director of Planning | National | Long | Low |
| **Policy Suggestion 3.16** <br> The Director of Education and Director of Inspectorate should undertake an investigation on the positive and negative impacts of extra tuition for primary schools children and ensure that the practice is carefully regulated. | Director of Education | National | Medium | Moderate |

| Policy Suggestion | Coordinating office/Institution | Level | Time | Cost |
|---|---|---|---|---|
| **Policy Suggestion 4.5**<br>The Commissioner for Education should review the In-service Training Policy in order to ensure that it meets the professional growth needs of teachers | Commissioner for Education | National | Short | Low |
| **Policy Suggestion 4.6**<br>The Director of Education should review the distribution of teachers in the Urban/West Region with a view of having equitable distribution of teachers. | Director of Education | Regional | Short | Low |
| **Policy Suggestion 4.7**<br>The training officers both pre-service and In-service and curriculum developers should review the programmes to include respective contact methodologies of teaching Kiswahili and Mathematics. | Teachers Centres, curriculum Developers. | National | Short | Low |
| **Policy Suggestion 5.1**<br>The Principal Secretary should consider promotion of young teachers for school leadership. | Principal Secretary | National | Long | Low |
| **Policy Suggestion 5.2**<br>The Principal Secretary should develop and implement promotion and advancement policies that deliberately favour female officers so that there is gradual but steady progress towards gender equity among school heads. | Principal Secretary | National Region | Short | Low |
| **Policy Suggestion 5.6**<br>The Director of Planning and Finance should develop and implement maintenance training programme in schools. | Director of Planning | National | Medium | Low |

| Policy Suggestion | Coordinating office/Institution | Level | Time | Cost |
|---|---|---|---|---|
| **Policy Suggestion 7.2**<br>The Commissioner for Education and the Director of Curriculum Development Examination and Teacher Support should review the curriculum and set achievement targets for different levels to serve as benchmarks for measurements on levels of achievement. | Commissioner for Education,<br><br>Director of Curriculum Development, Examination and Teacher Support. | National | Medium | Moderate |
| **Group 3: Data Collection, Research and Training** | | | | |
| **Policy Suggestion 3.1**<br>The Research Section of the Department of Planning and Finance should conduct in depth studies in order to have deeper understanding of the problem of dropout and its causes and thereafter recommend possible solutions to the problem. | Director of Planning and Finance, Education Research Section. | National | Short | Moderate |
| **Policy Suggestion 4.4**<br>Teachers Centre Coordinators should organize more systematic in-service training for new and experienced teachers in order to develop their professional competence | Teachers Centre Coordinators In-service Training Unit | National | Medium | low |
| **Policy Suggestion 4.8**<br>The Head of National Teachers Resource Centre should conduct a survey to identify essential areas of curriculum that posed problems for mathematics teachers and put in place in-service training programmes that improve both their knowledge base and teaching methodologies. | National Teachers Resource Centre Curriculum Development Unit | National | Medium | Low |

| Policy Suggestion | Coordinating office/Institution | Level | Time | Cost |
|---|---|---|---|---|
| **Policy Suggestion 4.1**<br>The Director of Education should make thorough investigation on the proportion of male and female teachers in the schools in all regions and devise a system of proportionate distribution. | Director of Education Regional Education Officers. | National Regional | Short | Low |
| **Policy Suggestion 4.10**<br>The Director of Curriculum Development, Examination and Teacher Support should undertaken a study on classroom assessment practices in order to gain more detailed information on nature and frequency of assessment procedures and thereafter put in place measure that will ensure the minimum requirement on testing and assessment are met by all teachers. | Director of Curriculum, Examination and Teacher support. | National | Medium | Moderate |
| **Policy Suggestion 5.7**<br>The Director of Education should carryout an in-depth investigation to confirm whether school heads are teaching regularly and ensure equitable distribution of teachers among all regions. | Director of Education, Regional Education officers | National Regional | Short | Low |

| Policy Suggestion | Coordinating office/Institution | Level | Time | Cost |
|---|---|---|---|---|
| **Policy Suggestion 4.15**<br>Teacher Centre Coordinators should encourage teachers to visit Teachers Centres more frequently and that they make fuller use of the broad range of services that they offer. | Teachers Centre Coordinators School heads | Zonal | Medium | Low |
| **Policy Suggestion 4.17**<br>The Principal Secretary should undertake an in-depth study of the factors that teachers considered to be very important to their job satisfaction and develop strategies to address them. | Principal Secretary | National | Medium | Moderate |
| **Policy Suggestion 5.11**<br>The Regional Education officers should undertake studies on teacher behaviour problems so as to be able to deal with them before they become serious. | Regional Education officers | Regional | Medium | Low |
| **Policy Suggestion 6.1**<br>The Director of Planning and Finance should undertake a detailed survey in order to accurately assess the level of inequities in allocation of different school resources. | Director of Planning and Finance | National | Medium | Moderate |
| **Group 4: Investment, infrastructure and resources.** | | | | |
| **Policy Suggestion 3.3**<br>The Ministry of Education should take note of the fact that, pupils in rural areas live in homes that are relatively deprived of books and ensure that this handicap is partly compensated for through the provision of sufficient numbers of books in schools. | Principal Secretary | National | Long | High |

| Policy Suggestion | Coordinating office/Institution | Level | Time | Cost |
|---|---|---|---|---|
| **Policy suggestion 3.6**<br>The Director in-charge of curriculum should conduct a study of the type of curriculum, which will be of interest to the pupils of upper primary classes and hence retain them. | Director of Curriculum, Development, Examination and Teacher Support | National | Long | High |
| **Policy Suggestion 3.13**<br>The existing decree should require school committees to consider the provision of some essential inputs to schools as one of their responsibilities. In this regard, they should allocate a budget for the purchase of some key classroom materials that they should sell to pupils at a subsidised price. | School heads | School | Long | Low |
| **Policy Suggestion: 3.14**<br>It is important that schools put in place safe storage facilities for library books or other materials. Head teachers should also consider a system of mobile or movable libraries, which could be carried to the classroom for use during teaching sessions. | School heads | School | Short | Low |
| **Policy Suggestion 3.15**<br>The Director of Curriculum Development, Examination and Teacher Support should set guidelines on establishing libraries in schools. | The Director of Curriculum Development, Examination and Teacher Support | National | Short | Low |

| Policy Suggestion | Coordinating office/Institution | Level | Time | Cost |
|---|---|---|---|---|
| **Policy Suggestion 3.11**<br>The Commissioner for Education, the Director of Adult Education and the Regional Education Officers should conduct an in-depth study on the type of adult programmes suitable for different groups of adults and plan for adult classes, which have impact to the education of pupils. | Commissioner for Education<br><br>Director of Adult Education<br><br>Regional Education Officers | National<br><br>National<br><br>Regional | Moderate | Medium |
| **Policy Suggestion 4.9**<br>The Head of the National Resource Centre and teacher centre coordinators should organize in service training which would focus on production of learning materials using locally available resources and the teachers have to use them in classrooms. | Teacher Centre coordinators | Zonal | Moderate | Medium |
| **Policy Suggestion 4.13**<br>The Principal Secretary should develop a list of essential classrooms resources, which every school should have. Such a list should be useful for both the Ministry and communities in setting priorities and minimum standards when providing resources to the schools. | Principal Secretary | National Regional School | Short | Low |
| **Policy Suggestion 4.16**<br>The Regional Education Officers and Inspectors should monitor the management of the schools and ensure that school heads fulfill their advisory roles as expected. | Regional Education officers Inspectors | Regional | Medium | Low |

| Policy Suggestion | Coordinating office/Institution | Level | Time | Cost |
|---|---|---|---|---|
| **Policy Suggestion 5.3**<br>The Director of Planning and Finance should set benchmarks for different items in schools and take stock of the level of these provision in order to establish the schools that need to be targeted for interventions to expand their resources and facilities. | Director of Planning and Finance | National | Medium | Low |
| **Policy Suggestions 5.4**<br>The Director of Planning and Finance, the Regional Education Officers and community should ensure adequate provision of water in schools. | Director of Planning and Finance Regional Education Officers. Communities | National Regional | Medium | Moderate |
| **Policy Suggestion 5.5**<br>The Director of Planning and Finance should review the school maintenance programme, develop a more systematic plan and give priority to the schools which are in general bad conditions. | Director of Planning | National | Long | High |
| **Policy Suggestion 6.2**<br>The Principal Secretary should set benchmarks on provision of various elements of general school infrastructure as part of a more comprehensive strategy for reducing inequities in resource distribution. | Principal Secretary | National | Short | High |

| Policy Suggestion | Coordinating office/Institution | Level | Time | Cost |
|---|---|---|---|---|
| **Policy Suggestion 7.1** <br> The Director of Curriculum Development Examination and Teacher Support should undertake a detailed analysis of teacher achievement on test items in order to identify specific areas for in-service training. | Director Curriculum Development Examination and teacher Support | National | Long | Moderate |
| **Policy Suggestion 7.3** <br> The Principal Secretary should find means of providing textbooks for schools or find other alternatives that will enable pupils to have access to reading and mathematics materials. | Principal Secretary | National | Medium | High |
| **Policy Suggestion 7.4** <br> The Director of Planning and Finance should assist communities in their efforts of constructing new classrooms so as to reduce overcrowding in the existing classroom.  This will improve teacher-pupil contact and hence alleviate the problems they face in teaching and learning. | Director of Planning | National | Medium | High |

| Policy Suggestion | Coordinating office/Institution | Level | Time | Cost |
|---|---|---|---|---|
| **Policy Suggestions 7.5**<br><br>The Inspectors and Advisors should ensure that Teachers create a more conducive climate and girl friendly classroom environment so that girls can score as high as boys in mathematics. | Teachers | School | Medium | Moderate |

**Agenda for Action**

This study is an initiative in addressing Education for All in its two important areas of access and quality.  The findings have given evidence that access has superceded quality for the reason that the economic conditions of Zanzibar have resulted constraints in terms of human and material resources.  Therefore it would be unrealistic for the Ministry of Education, Culture and Sports to address all of the above policy issues at one time.  Also, the Zanzibar Government cannot fund all the projects suggested.  However these policy suggestions are very important if the Ministry is to revamp itself into a system which functions efficiently and effectively.

The presentation of the agenda for action has taken into account time and cost.  These are only estimations.  If the Ministry is going to adapt them decision makers need to discuss and review the plan.

The time estimates were designated as "short". "medium" and "long".  Whereas the cost estimates were designated as "high", "medium" and "low".  The short-time frame was estimated as being six months and not exceeding one year, medium as being one to two years and long as

being around three to five years.  In a similar way, low cost was estimated to be activities that could be accommodated in the day to day activities and within the recurrent budget; medium for those initiatives that could build an existing budget with additional funds; and high cost are for major projects that have to be planned with capital budgets and probably with external assistance.

Taking into account the cost factor the Ministry of Education, Culture and Sports will have to sell the report to different stakeholders and partners with a view to initiating a dialogue at different levels to mobilize the resources.  Also the Ministry needs to adopt a multi-stage approach for the action.  Therefore the Ministry's response to the Agenda for Action will need coordination.  It is suggested that the Department of Planning and Finance should undertake the coordination and the monitoring of the implementation.

### The Future

As noted in some of the policy suggestions, this study will initiate a series of other studies both small and large with the aim of addressing specific problems.  In doing so, the objective of this research in terms of capacity building will be achieved.  Similarly, a systematic approach of decision makers to address policy issues, analyse them and plan for the action will be built.

It is quite evident that this report will raise interest among both decision makers, educators and stakeholders, and will bring about discussions.

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## Appendices

**Appendix 2.1: General Policy concerns for SACMEQ II study**

<u>**Theme A:**</u> *Pupils' Characteristics and Their Learning Environments*

<u>**General Policy Concern 1:**</u> 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 Standard 6 pupils that might have implications for monitoring equity, and/or that might impact upon teaching and learning?

<u>**General Policy Concern 2:**</u> What were the school context factors experienced by Standard 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?

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

<u>**General Policy Concern 4:**</u> 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?

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

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

**General Policy Concern 6:** What were the personal characteristics of Standard 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 Standard 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 Standard 6 teachers allocate their time among responsibilities concerned with teaching, preparing lessons, and marking?

**General Policy Concern 9:** What were Standard 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 Standard 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 Standard 6 teachers?

**General Policy Concern 12:** What factors had the 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 Standard 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 Standard 6 pupils and their teachers (for example, pupils and teachers of different genders, socio-economic levels, and locations)?

## Appendix 2.2 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 2.3 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 | 6 |
| **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 | 20 |
| **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 | 17 |
| **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 | 12 |
| **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 | 8 |
| **Total Items** | 27 | 18 | 18 | 63 |

Zanzibar Appendices

**Appendix 2.4: 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**

- **i**nterpret, 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: <u>Critical Reading</u> (A New Level Generated from the Skills Audit)**

**<u>(a) Skills:</u>** 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).

**<u>(b) Example Test Items</u>**

- 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

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# Mathematics

**Level 1: <u>Pre Numeracy</u> (Linked with Level 1 in the Test Blueprint)**

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

**<u>(b) Example Test Items</u>**

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

**Level 2: <u>Emergent Numeracy</u> (Linked with Level 1 in the Test Blueprint)**

**<u>(a) Skills:</u>** 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