

*The SACMEQ III project in*

# MAURITIUS

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



*Southern and Eastern Africa Consortium for Monitoring Educational Quality*



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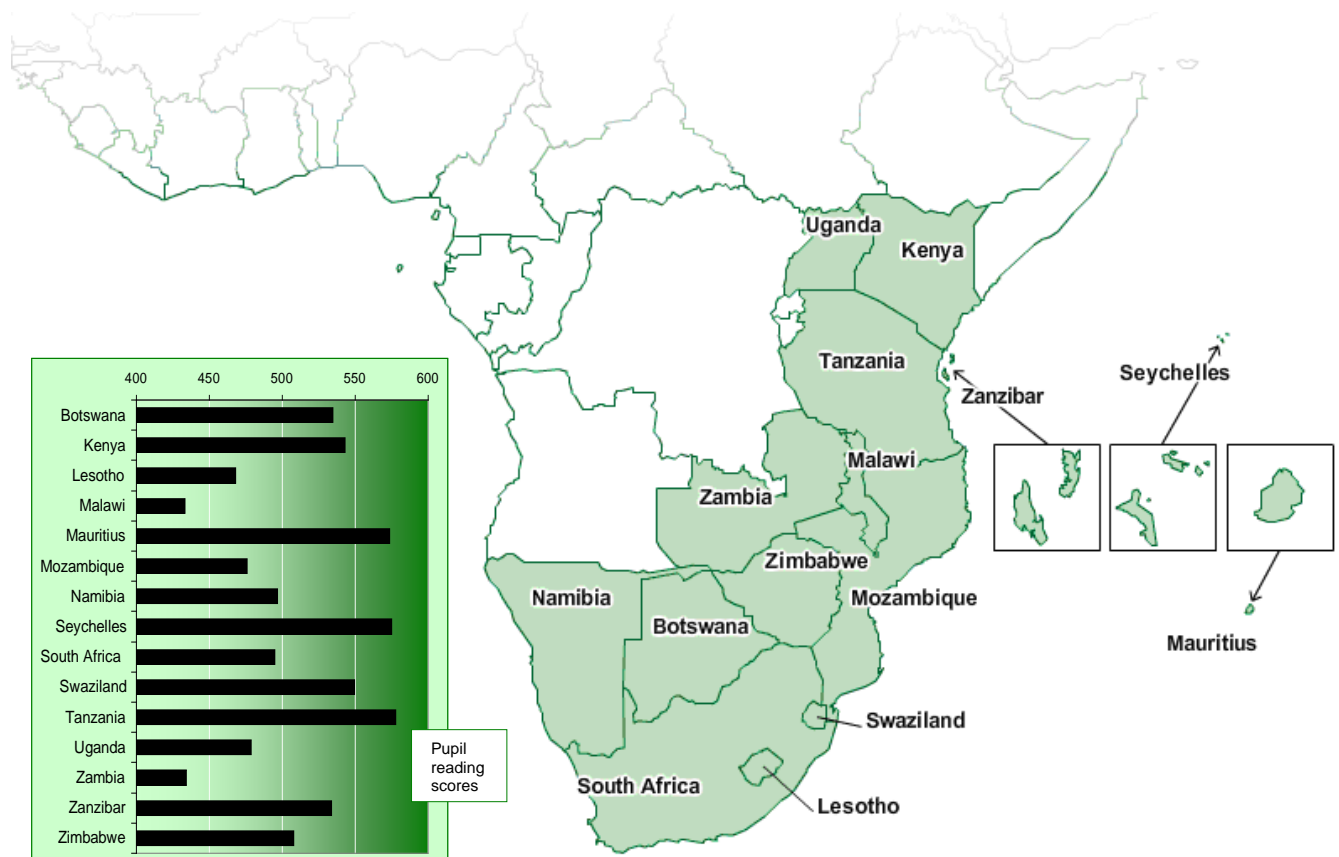


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## The Fifteen SACMEQ School Systems

# Chapter 1

## Setting of the Study

### 1.1 Introduction

The Republic of Mauritius consists of a main island, Mauritius and a group of small islands in the Indian Ocean namely, Rodrigues, the Cargados Carajos, Agalega, Tromelin and the Chagos Archipelago. Mauritius covers a land surface area of 2,040 square kilometres and has an ocean territory of over 2.3 million km<sup>2</sup>. Mauritius, the main island is located some 800 km off the east coast of Madagascar as shown in Figure 1.1 below.



**Figure 1.1: Geographical Location of Republic of Mauritius**

The Republic of Mauritius has a population of about 1.3 million. In 2010 it had a high population density of 629 persons per square kilometre. The island of Mauritius had the highest density of 668 persons/km<sup>2</sup> compared to Rodrigues (364/km<sup>2</sup>).

After centuries of colonization, first by the Dutch, then the French and ultimately by the British, Mauritius gained independence in 1968, and opted to remain a member of the Commonwealth. Mauritius was declared a Republic in 1992.

The Republic of Mauritius has a multi-racial, multi-religious, multi-lingual and multi-cultural population. The population is made up of descendants of indentured labourers from India,

slaves especially from Mozambique and immigrants from Asia, Africa and Europe. According to the latest census (2000), Indo-Mauritians comprised 68 percent, Creoles 27 percent, Sino-Mauritians 3 percent, and Franco-Mauritians 2 percent of the population.

Kreol is spoken by 80.5 percent of the population, Bhojpuri by 12.1 percent, French by 3.4 percent, and English, although it is the 'official' language of the state (and thus, the official language of instruction in schools) is spoken and used in daily interactions by less than 1 percent of the population.

Besides English and French languages which are studied as compulsory subjects from primary to secondary, pupils are given the opportunity to learn a wide range of languages, namely Hindi, Tamil, Telugu, Urdu, Arabic, Marathi, Mandarin, in primary and secondary schools. Kreol and Bhojpuri have been recently introduced at the primary level. Mauritians are free to practise any religion of their choice: Hinduism, Christianity, Islam, Buddhism etc.

Since the country's independence in 1968, the Mauritian population has elected members to the National Assembly freely and fairly. Since then each political party in power has strived towards the creation of a welfare state. The pillars of the welfare state in Mauritius are free healthcare, free education, social security benefits, housing, pensions, basic retirement schemes and free transport for old people and students at all levels. Political and social stability over the years has led to economic stability. From a mono crop economy based on the production of sugar, Mauritius has gradually moved towards a solid diversified economy which today rests on industrialisation, tourism, ICT, the Freeport, the offshore sectors and many others.

The Government now wants the economic base to be broadened further, placing an emphasis on a multiple pillar economic base so that the nation becomes more resilient to global changes. The newly emerging sectors will be the Land Based Oceanic industry, the Seafood hub, the real estate sector, the pharmaceutical industry, the financial sector, a diversified tourism sector, a broad based ICT sector, a buoyant logistics sector, the development of an alternative energy sector, and the transformation of the sugar industry into a cane industry as well as the emergence of a knowledge economy (EHRSP 2008-2020, 2009).



Table 1.1 below offers a snapshot of key social and economic indicators for the Republic of Mauritius from 2006 to 2010.

**Table 1.1: Selected Social and Economic Indicators, Republic of Mauritius 2006 - 2010**

	Unit	2006	2007	2008	2009	2010
<b>POPULATION</b>						
Total Population <sup>1</sup>	No.	1,252,698	1,260,403	1,268,565	1,275,032	1,280,924
- Female	%	50.6	50.6	50.6	50.7	50.7
Population growth rate	%	0.66	0.65	0.56	0.46	0.44
Life expectancy at birth - Male	years	69.1	69.2	69.4	69.5	69.6
- Female	years	75.9	76.1	76.6	76.7	76.8
Infant Mortality rate	Per 1000 live births	14.1	15.3	14.4	13.4	12.5
Public spending on educ. as a % of GDP		3.7	3.5	3.3	3.9	3.7
Gross Primary Enrolment Ratio – Total	%	102	101	101	101	101
- Male	%	102	101	101	100	100
- Female	%	101	101	101	101	101
Apparent Intake Rate	%	97.3	97.6	97.2	98.4	99.0
Progression to Secondary School	%	84	81	82	82	n.a
Secondary Enrolment Ratio <sup>2</sup> Total	%	75	74	74	73	73
- Male	%	73	72	71	71	70
- Female	%	77	77	76	76	76
Pupil -Teacher Ratio - Primary	No.	29	28	29	29	28
- Secondary	No.	16	16	16	15	15
Tertiary Enrolment <sup>3</sup>	No.	16,773	18,224	18,466	21,569	n.a
- Male	%	47.1	42.1	42.2	n.a	n.a
- Female	%	52.9	57.9	57.8	56.2	n.a
Unemployment Rate <sup>4</sup> – Total	%	9.1	8.5	7.2	7.3	7.8
- Male	%	5.5	5.3	4.1	4.4	4.6
- Female	%	15.5	14.4	12.7	12.3	13.0
Gross Domestic Product at Market Prices	Rs.bn	213.4	244.0	274.3	282.1	299.3
GDP Per Capita at Market Prices	Rs.000	170.3	193.5	216.2	220.7	233.6
GNI Per Capita at Market prices	Rs.000	171.7	198.0	217.8	219.7	236.5
Annual real GDP growth rate at Basic Prices	%	+5.6	+5.7	+5.5	+3.1	+4.3
US\$ (Average of buying & selling)	Rs.	31.15	31.37	28.36	31.94	30.89

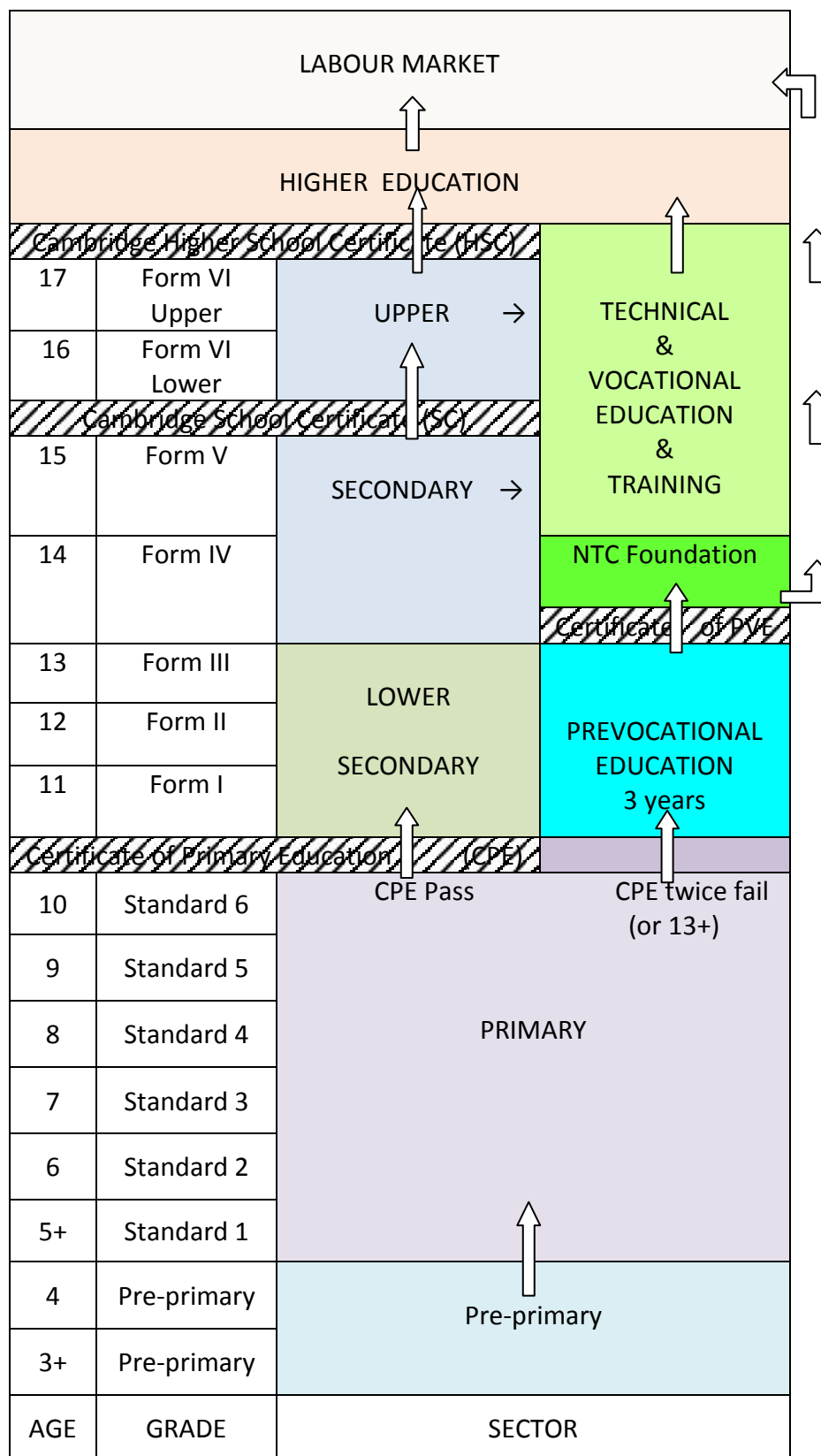
1 Mid-year population excluding Agalega & St. Brandon

2 Academic & Prevocational

3 Source: CSO - Annual Survey in Public Funded Tertiary Institutions

4 Ratio of unemployed to that of Mauritian Labour Force

## 1.2 The structure of the school system



**Figure 1.2: Structure of Mauritian Education System in 2010**

Education in Mauritius is compulsory from the ages 5 to 16 and it follows a 6+5+2 structure. The six years of primary education lead to an end-of-primary cycle examination called the Certificate of Primary Education (CPE). Only pupils who pass the CPE examination can secure access to a mainstream secondary school. Pupils who are under the age of twelve and who are unsuccessful at the CPE examination are allowed to repeat Standard 6. Those who have failed the CPE twice or who have reached the age of 12 (the maximum age at which a child may stay in primary) but have failed in the examination, are admitted to the Pre-Vocational stream in secondary schools. After three years of pre-vocational education, these students may follow the National Trade Certificate Foundation course at the Mauritius Institute of Training and Development (MITD) centres. In this stream, a specific, skills-based curriculum ensures the continuation of educational provision for these children and furthers their learning opportunities during a period of 3 years. (The Prevocational education sector is undergoing a major review whereby the 3 years prevocational education programme will be spread over 4 years to allow for a greater component of practical trade skills as from 2013)

The secondary education cycle of five years leads to the Cambridge School Certificate (SC), and an additional 2 years of secondary schooling lead to the Cambridge Higher School Certificate (HSC). On passing the HSC, students are eligible for university studies.

It is to be noted that new textbooks are provided free to all children attending primary schools every year. In secondary schools free textbooks are provided only to students who need financial assistance. Pupils in Standard 5 are provided with a free atlas and a free English dictionary. As from January 2006, transport to and from school has also been made free for all students (primary, secondary and tertiary). With the introduction of 11-year schooling since January 2005, education has become compulsory up to the age of 16. *Table 1.2* below gives some important indicators and data about the education sector in the Republic of Mauritius from 2006 to 2010.

**Table 1.2: Main Educational Indicators and Data (Republic of Mauritius)**

	2006	2007	2008	2009	2010
<b>Pre-primary</b>					
Number of schools	1,087	1,076	1,070	1, 057	1,042
Enrolment	37,129	36,467	36,242	35,974	35,139
Number of Teachers	2,257	2,513	2,541	2,518	2,538
Gross Enrolment Ratio (%)	95	94	94	96	96
Pupil/Teacher ratio	15	15	14	14	14
Average Class Size	15	14	14	14	14
<b>Primary</b>					
Number of schools	290	289	299	302	305
Enrolment	121,387	119,310	119,022	117,922	117,432
Number of teachers	5,598	5,548	5,495	5,454	5,472
Apparent Intake Rate	97	98	97	98	n.a
Gross Enrolment Ratio (%)	102	101	101	101	101
Pupil/Teacher ratio	29	28	29	29	28
Average class size	32	32	31	31	31
Transition Rate (primary to secondary)	84	82	82	82	82
Certificate of Primary Education pass rate	67.9	66.2	67.4	68.1	68.5
<b>Secondary (Academic &amp; pre-vocational)</b>					
Number of schools	196	193	187	185	187
Enrolment	125,081	126,279	124,998	124,259	122,445
Number of teachers	7761	8124	8053	8186	8323
Gross Enrolment Ratio (%)	75	74	74	73	73
Pupil/Teacher ratio	16	16	16	15	15
Average class size	31	31	31	31	29
Cambridge School Certificate Pass Rate	78.9	76.7	76.5	77.6	77.8
Cambridge H.S. C Pass Rate	79.3	77.8	78.7	78.8	78.5
<b>Tertiary</b>					
No. of institutions	-	53	60	61	65
Enrolment	33,230	35,023	38,623	41,484	44,334
Gross Enrolment Ratio (%)	34	37	41	43	45
<b>Annual Expenditure</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2010</b>
Total Govt. Expenditure (Rs million)	53,609.9	56,315.0	61,544.0	76,215.2	79894.1
Govt Expenditure on Education (% of total govt expenditure)	13.6	13.5	13.5	13.9	13.7
Govt Expenditure on Education (% GDP at market price))	3.7	3.5	3.3	3.9	3.7

### 1.3 The administration of school education

The government is responsible for the provision of education and the Ministry of Education defines policies and implementation procedures and meets requirements for the different levels of education from pre-primary to secondary. For administrative and management purposes, four education zones have been defined in the island of Mauritius. Rodrigues is

perceived as the fifth zone though it is under the responsibility of the Rodrigues Education Commission. The Ministry of Education through the education zones administers the government schools and is responsible for the school buildings as well as the supply of staff, equipment and materials to schools. Figure 1.3 below shows the distribution of educational institutions by zone and in Rodrigues, in year 2010.

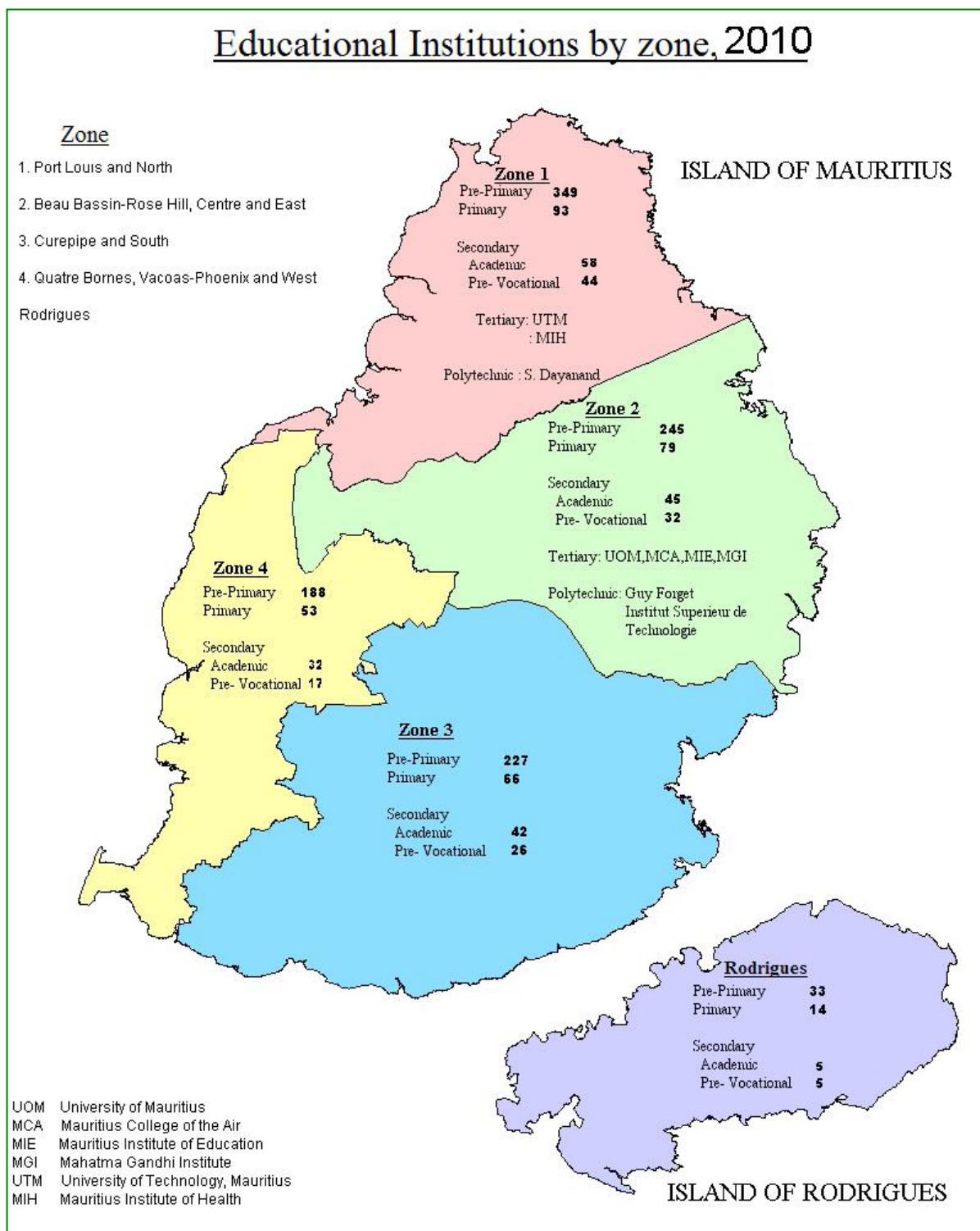


Figure 1.3: Distribution of educational institutions by zone and in Rodrigues



Each zone is under the responsibility of a director who is supported by administrative and technical staff. Each zone is equipped with a team of primary school inspectors for the coordination of educational activities and the supervision of primary schools in the zone. Inspectors are selected from practicing headmasters and have to follow a part time in-service course leading to an Advanced Certificate in Educational Management. Subject to their successful completion of this course, they are confirmed as primary school inspectors.

The Primary Inspectorate in each zone has a three-fold supervision service. The head of the inspectorate cadre is the Assistant Director (Primary) who is attached to the office of the Director (School Management). The supervisory cadre for the Asian languages comprises of assistant supervisors, supervisors and senior supervisors. The Assistant Director (Primary) supervises the functioning of the primary sector with a view to ensuring quality education. He is responsible for both administrative and pedagogical issues in primary schools.

At the school level, a headmaster administers and manages the school. They are generally assisted by one or more deputies. The teaching staff comprises general purpose teachers and Asian language teachers. A health and physical education instructor oversees the running of physical education classes in a cluster of primary schools. In the secondary sector, the private secondary schools authority is responsible for the administration of government grants to private secondary schools. At post secondary level, different councils and boards set by the government and the tertiary education commission coordinate the activities of the different tertiary institutions. As from 2010, a new ministry the Ministry of Tertiary Education, Science, Research and Technology has been created to be responsible for the whole tertiary education sector.

### **1.3.1 Pre-Primary**

Pre-primary education caters for children aged 3-5 years. Since 1996 the government has granted a monthly subsidy of two hundred rupees to children aged 4-5 years in order to increase access. This measure has been extended to children aged 3+ as from year 2012. The pre-primary sector is 82 percent private, with fees being charged. The Government, through the Early Childhood Care and Education Authority (ECCEA) (previously Pre-School Trust Fund), manages the remaining 18 percent, which consists of pre-primary units attached to primary schools. A new national curriculum framework for the pre-primary sector was

launched recently in 2010 to provide guidelines for a standard approach to learning, development and care in both the state and private sectors.

In 2010, there were 1,042 schools providing pre-primary education: 1,009 in the island of Mauritius and 33 in Rodrigues. Of these schools, 785 (75 percent) were privately run institutions; 183 (18 percent), operating on government primary school premises, were administered by the ECCEA and the remaining 74 (7 percent) were administered by either a Roman Catholic Authority or Hindu Education Authority, Municipal/Village Council or Non Government Organization. Total enrolment in 2010 in pre-primary schools numbered 35,139 of whom 17,991 were boys and 17,148 were girls. Some 5 percent of children aged 3-5 are not enrolled in pre-primary schools for various reasons, including health problems, extreme poverty or lack of parental interest. The average number of pupils per teacher was 14 in 2010.

### **1.3.2 Primary education**

Primary education has been free since the early 1940s and became compulsory in 1991. A pupil is admitted to a primary school if he/she is 5 years old on or before the 31<sup>st</sup> of December of the previous year. Admission takes place at the beginning of the school year in January. On average there is one primary school in every village in Mauritius although the principle of catchment area is often used to manage the high demand for admission to popular schools in urban areas. Primary schooling comprises six grades (Standards 1-6) and leads to the Certificate of Primary Education. Promotion is automatic up to Standard six and repetition is allowed if necessary and subject to parental agreement. Pupils are allowed to repeat Standard 6 once. A primary school pupil may sit for the CPE examinations twice and must leave school by the age of 13. Primary education is universal with a gender parity index of 1.0

In 2010, there were 305 schools providing primary education: 291 in the island of Mauritius and 14 in Rodrigues. The majority (222) of the schools were run by government, 53 schools were grant-aided (51 run by the Roman Catholic Education Authority (RCEA) and 2 run by the Hindu Education Authority) and the other 30 schools were private fee paying schools. In 2010, the primary school population in the Republic of Mauritius was 117,432 comprising 51 percent of boys and 49 percent of girls. 73 percent of the primary school population was enrolled in government schools and the remaining in private aided and non-aided schools. Distribution by grade shows that the highest number of pupils was in Standard 6 (23,200 pupils including 4,106 repeaters).

As of March 2010, there were 4,168 general purpose teachers and 1,304 Asian language teachers, 303 headmasters and 932 deputy headmasters.

The CPE is a national examination held at the end of six years of primary schooling and is conducted by the Mauritius Examinations Syndicate (MES). It is both a test of attainment of every child and a selective device for admission to the high demand secondary schools, and is therefore highly competitive. The subjects examined are: English, French, Mathematics, Science, History & Geography and/or an Asian language or Arabic. In 2010, the number of candidates who took part in the CPE examination was 25,624 (23,156 school candidates and 2,468 private candidates), with an overall pass rate of 65 percent. The pass rate among school candidates was 69 percent. The girls were more successful than the boys, with respective pass rates of 74 percent and 63 percent. The high failure rate of about 30 percent every year is unanimously decried.

The 'Zone d'Education Prioritaire' (ZEP) schools have been created to address educational failure. Primary schools with CPE pass rates of less than 40 percent over the last five years have been provided with special facilities and additional support with a view to improving performance. The strategy is based on the premise that positive reinforcement is required to create favourable learning conditions for children mostly in the less developed regions. In the broader perspective, this approach aims at combating social inequalities by providing equal opportunities to all primary school children of the country. Although progress has been slow in terms of pupil achievement as measured by the CPE pass rate, ZEP schools have managed to produce some good practices such as holistic educational approaches, school-community partnerships, active parent involvement in the educational process, fund-raising models for school improvement projects, etc. The new elements designed to encourage and support learning in ZEP schools are mainly:

- Experiment with greater use of non-classroom settings,
- Discount the time-bound curriculum and instead ensure that children complete their cycle of learning,
- Greater use of teaching language which is most child friendly,
- Use of an after normal school hours free tuition scheme and holiday revision centres,
- Collaboration of external resource persons: volunteers, NGOs, parents, peers could participate in the overall effort to facilitate learning,
- Provision of free meal at school.

### **1.3.3 Secondary and pre-vocational education**

In 2010, there were a total of 187 schools, out of which 63 schools were offering secondary academic education only, 5 pre-vocational education only and 119 both secondary academic and pre-vocational education. Out of the 182 schools providing secondary education, 177 were in the island of Mauritius and 5 in Rodrigues. State administered schools numbered 69, while the other 113 were private aided and non-aided schools. About 43 percent of the secondary school population, were in state schools and 57 percent in private (aided and unaided) schools. Gross Enrolment Ratio, (secondary education enrolment as a percentage of the population aged 12 to 19 years) for the academic stream was 69% in 2010, the same as in 2009. Of the 124 secondary schools offering prevocational education (of which 119 offered both secondary academic and pre-vocational education), 119 were in Mauritius and 5 in Rodrigues. Forty-nine of these schools were state secondary schools and state prevocational schools while the remaining 75 were private schools. In 2010, the number of teachers working in schools offering secondary and pre-vocational education was 8,323.

### **1.3.4 Private-Public Partnership**

The private sector plays an important role in the provision of education in Mauritius. In 2007 it accounted for 82 percent of pre-primary enrolment, 26 percent of primary, 62 percent of general secondary, and 64 percent of pre-vocational education. Trends in enrolment and share of private by level and type of education are shown in *Table 1.3* below. The number of students in the primary schools is declining and this is expected to continue over the coming years, as a result of projected reduction in family sizes. In recent years, an increasing proportion of the primary sector and pre-vocational subsector has been privately provided.

**Table 1.3: Trends in enrolment and share of private in total enrolment 2001 – 2010 at various levels**

	Pre-primary		Primary		General secondary		Pre-vocational	
Year	Total number	% private	Total number	% private	Total number	% private	Total number	% private
2001	38,340	83	134,085	24	97,647	73	4,919	47
2002	36,982	82	132,432	24	99,687	73	5,966	57
2003	38,620	82	129,616	24	103,847	70	7,326	63
2004	37,483	83	126,226	25	105,988	68	8,488	60
2005	37,356	83	123,562	25	110,287	66	9,845	58
2006	37,129	83	121,387	26	114,657	64	6,237	60
2007	36,467	82	119,310	26	116,706	62	9,573	64
2008	36,242	82	119,022	26	116,503	60	8495	66
2009	35,974	82	117,922	27	116,226	58	8033	70
2010	35,139	82	117,432	28	115,003	57	7442	71

A significant drop in enrolment occurs at the transition from primary to secondary school when nearly one fifth of the cohort in Standard 6 does not enter Form I. By the end of the general secondary cycle (Form V) about one tenth of a cohort either drops out or stays behind to repeat. The highest reduction in a cohort is seen at the transition into and participation in Form VI. *Table 1.4* below shows data for the 1995 cohort.

**Table 1.4: Cohort analysis for students entering Standard I in 1995**

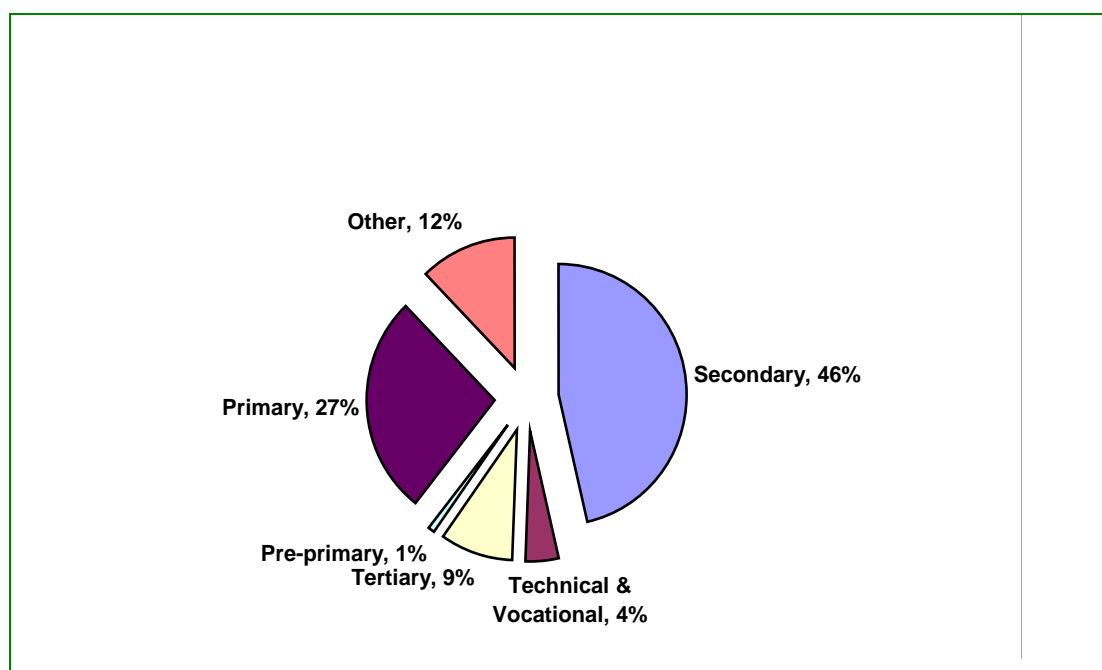
	Year	No. of students	% of original	Pass rate
Pupils admitted in Std I	1995	21,000	100	
Cohort reaching Std VI (CPE)	2000	20,971	100	66
Cohort reaching Form I	2001	16,853	80	
Cohort reaching Form V (SC)	2005	13,909	66	78
Cohort reaching Form VI (HSC)	2007	8,331	40	78

It can be argued that on average for every 100 pupils entering the primary school, there would only be 40 students in Form VI at the expected time. The number of students graduating at the end of Form VI would be around 30 students.

## 1.4 Financing of Education

Education in Mauritius is subsidised at pre-primary level and free at all levels from primary to secondary and tertiary. Private operators are also active at all levels and are either subsidised by the Government or are fee-paying institutions. The education sector receives funding mainly from government sources. From *Table 1.2* which shows public expenditure on education as a percentage of total government expenditure for the years 2006-2010, it is observed that for the financial year 2007-2008 the recurrent expenditure on education represented 13.5 percent of national expenditure and 3.3 percent of GDP. Out of the budget allocated to Education, 25.1 percent was allocated to primary, 53.6 percent to secondary education and about 12 percent went to higher education.

Figure 1.4 below shows that in 2010, 27 percent of the education budget went to primary education.



**Figure 1.4: Total Expenditure on Education in Mauritius in 2010**

While almost half the education budget goes to the secondary sector and one third of the education budget is devoted to the primary sector, only one percent goes to the pre-primary sector.

The private costs of education in Mauritius were estimated at more than 10 percent of the Government's recurrent budget on education (ADEA & CODESRIA, 2001). Private tuition is



the main way through which households participate in the financing of education in Mauritius. Private tuition is defined as the extra coaching that students opt for outside normal school hours and for which they have to pay. Mauritians place a high premium on education. This, coupled with the competitive educational environment, causes about 90 percent of parents to invest in private tuition for their children. In the SACMEQ II study in 2001, Mauritius had one of the highest percentages (86.5 percent) of Standard 6 pupils receiving private tuition among the SACMEQ countries.

## **1.5 Curriculum Development**

The curriculum development and evaluation unit in the Ministry of Education overviews all matters pertaining to curriculum development and implementation. The Mauritius Institute of Education which is also a teacher training institute under the aegis of the Ministry of Education is responsible for the development of curricula and curriculum materials such as textbooks for primary schools. Due to a rapidly changing and increasingly technological world it became imperative to re-examine educational practices in order to empower Mauritian children to face emerging issues.

The overhauling of the primary curriculum also became necessary considering the failure rate at the end of the primary cycle (33.8 percent in 2007) and the low transition rate to mainstream secondary (70.9 percent in 2007). There was need for more relevant curricula so that students would be able to relate their learning experiences to their immediate environment and would be ready for employment. Following a national debate on the curricula involving all stakeholders and partners in education in 2005, a policy document, ‘Towards a Quality Curriculum- Strategy for Reform’ was published by the Ministry of Education. This document advocated the following:

- Setting up an early childhood care and education authority to lay the foundation and establish guidelines for a standard national pre-primary education programme,
- The splitting of primary level education into three two-year stages, instead of only two three-year stages.(Stage I: Std 1-2; Stage II: Std 3-4; Stage III: Std 5-6),
- De-loading the primary curriculum and contextualising the curricula for both primary and lower secondary,
- Use of the language of the environment as a support language for improving the child’s learning and overall understanding in primary schools,

- Integration of issues such as peace education, sustainable development, civic values, healthy living, etc. across all core subjects,
- A reinforced inspectorate for both primary and secondary level,
- Institutionalising continuous assessment at all levels of education for more formative assessment,
- A national assessment at Form III after three years of lower secondary education, leading to a National Achievement Certificate.

Following the publication of the document 'Towards a Quality Curriculum- Strategy for Reform' three national curriculum frameworks were launched for all the three sectors from Pre-primary to Secondary.

The Primary Curriculum Framework addresses the main drawbacks of the current system by putting in place a new approach in the structuring of the six years of primary schooling (three stages instead of two) and attempts to:

- Ensure a smooth transition between pre-primary and primary and between the different stages and standards at the primary level,
- Place emphasis on proficient language acquisition by the end of Standard 3,
- Allow the acquisition of fundamental life skills through an integration of health and nutrition, moral and civic values, physical education, creative education, and environmental education,
- Shift the emphasis from a mainly content-based to a process-based and competency-based learning,
- And ensure closer monitoring of the desired learning outcomes at the end of each stage and timely remediation. The stages are indicated below.

It is firmly believed that a quick and holistic implementation of the new curriculum framework for primary will ensure that basic skills needed in each stage are indeed successfully acquired. In addition to a reduction in failure rates at the end of the primary cycle, it is hoped that these new measures will eventually help bring about a change in mindset so that the distortion presently ingrained in our educational landscape due to the intense competition at CPE is slowly reduced.

## **1.6 Teacher Training**

The Public Service Commission recruits teachers for government schools. The training of primary school teachers is the responsibility of the Mauritius Institute of Education. After recruitment, a trainee teacher follows a three year pre-service course which includes teaching practice in schools in the second year. After successful completion, the trainee can start teaching in a primary school and is given responsibility for a class. For professional upgrading of in-service primary teachers, an Advanced Certificate in Education programme (ACE), using the dual mode of distance education and face-to-face teaching sessions has been delivered by the Institute. More recently, a further upgrading course has been initiated leading to a teacher's diploma (Primary).

Other courses presently offered by the Institute in the domain of Educational Management in the primary sector are (i) Certificate in Educational Management, (ii) Advanced Certificate in Educational Management and (iii) Diploma in Educational Management.

## **1.7 Recent Educational Policy Reviews and Policy Reforms**

Successive governments have placed a great premium on education. Several commissions of enquiry and various reports accordingly made recommendations for an education system more responsive to the emerging needs of society. Two landmark developments in education in Mauritius are, free secondary education in 1977, and the amendment of the Education Act in 2005, to make education compulsory up to the age of 16.

Mauritius has made commendable strides in a relatively short space of time in adapting its education system to the needs of its own society, while at the same time being fully aware of the need to be aligned with both regional and international practices and directions. The Ministry of Education of Mauritius produced a 'Master Plan on Education' in 1991, which was not only used to guide reforms in Mauritius at that time, but was considered by the donor community as a 'model' plan upon which to base similar plans in the developing world.

However, although there was progressive implementation of the Master Plan of 1991, the development of a clear and precise action plan for education (as recommended by the Jomtien conference in 1990) did not materialize until 1998, and by this stage, Mauritius was being forced to respond to new demands set by a shift in the economy – from a mostly agricultural to a more industrial and diverse one.

There have been a number of significant national reports/policy documents on education:

1984: White Paper on Education

1991: Master Plan in Education

2001: Ending the Rat Race in Primary Education

2006: Towards a Quality Curriculum- Strategy for Reform

National Policy and Strategy paper on Special Education Needs

2007: National Curriculum Framework-Primary

2009: National Curriculum Framework-Secondary

Education and Human Resources Strategy Plan, 2008-2020

2010: National Curriculum Framework- Pre-primary

The most recent major reforms are the curriculum reforms in all three sectors from pre-primary to secondary.

Accordingly, a number of new measures have been introduced in the primary sector over the last five years:

- Baseline Profiling (Std 1) – 2007
- Bridging the Gap (Std 1) – 2007
- Diagnostic Assessment (Std 3) – 2006
- Remedial Education (Std 3) – 2009
- Continuous Assessment (Std 3 – 2010 & Std 4 – 2011)
- Enhancement Programme (Std 3 – 2009 & Std 4 – 2010)
- CPE Repeaters project (Std 6 repeaters) - 2010

The Education and Human Resources Strategy Plan 2008-2020 (EHRSP,2008-2020), launched in 2009, announces major structural reforms in the educational sector from pre-primary to tertiary in order to expand access, improve quality and offer increased employability to youth. The main reform in the secondary sector is linked to assessment of learning. As from year 2010, a national assessment at Form III level (as recommended in the EHRSP, 2008-2020), is being piloted in state and secondary schools with the aim to be fully institutionalised by 2012. The assessment is conducted after three years of lower secondary education and aims at evaluating the competencies acquired by students in core subject areas and identifying their educational orientations according to their aptitudes and inclinations.

## **1.8 A Brief Overview of Innovative Practices in the Primary Sector**

### **1.8.1 Baseline Profiling**

It is an instrument which is administered at the beginning of the first year of primary schooling. It gives an indication of the learner's acquisition of skills and competencies at the end of the pre-school cycle and at entry point to Stage I of the primary cycle. The 'Bridging the Gap' programme comes in straight after the baseline profiling to address any learning deficit and lasts for the whole of the first term so that all children start on the same footing in order to ensure that 'no child is left behind'.

### **1.8.2 Diagnostic Assessment**

In view of the prevailing automatic promotion system in the primary cycle, the absence of a mechanism to monitor, in a scientific and systematic way, children's progress is a serious weakness in the Mauritius system, with the result that one quarter of the cohort passes through the system each year, reaching the end of the cycle without having acquired the basic literacy and numeracy skills. The introduction of a national diagnostic scheme at the beginning of Standard 3 (7 years old), aims at identifying pupil's strengths and weaknesses and charting their progress in English and Mathematics. About 20 000 students are assessed annually.

The early identification of learning difficulties enables appropriate measures to be taken to help children at risk. Teachers have a profile not only of individual pupils but also of their class as a whole and are in a better position to organize their lessons to meet the different needs of their pupils. Headmasters obtain a profile of the whole Standard 3 cohort and information about the learning areas where the school needs to devote more time so that a structured remedial plan can be adopted.

### **1.8.3 Continuous Assessment**

The continuous assessment currently in place in Standard 3 (since 2010) and Standard 4 (since 2011) is more of a formative nature, that is, assessment for learning. The assessment tools aim at identifying learning difficulties of pupils mostly for timely remedial purposes to prevent an accumulation of learning deficits.

### **1.8.4 Remedial Education Project**

This programme was started in 2009 in about 16 schools in Standard 3 and its main objective is to give special attention to slow learners in Mathematics, English and French in order to help them rejoin the mainstream.

### **1.8.5 Enhancement Programme**

Enhancement programme was started in Standard 3 in 2010 and was extended to Standard 4 in 2011. The programme is meant to provide more equity in learning opportunities for all. The objective is to enhance teaching and learning in schools through the provision of a fun way of learning. The programme uses an alternative pedagogy and diverse strategies to suit the learning needs of pupils of different ability levels. A variety of co- and extra-curricular activities have been incorporated for activity based learning. These activities are scheduled after school hours and are conducted either by educators at school or by other resource persons via payment of an allowance. At present, all Standard 3 and 4 students are encouraged to participate in the enhancement programme. Annual competitions are held to showcase the benefits of the programme.

### **1.8.6 CPE Repeaters Project**

It is a special programme for those pupils who have failed CPE and who repeat Standard 6. It aims at:

- Improving reading skills through a daily reading session of 15 minutes in English and in French,
- Focusing mainly on essential learning competencies to enable pupils to achieve at least the minimum passing marks in each examinable subject,
- Reinforcing monitoring by inspectors through more frequent class visits,
- Eventually reducing the failure rate of 30 percent at CPE.

### **1.8.7 Digitalisation of Teaching and Learning – the Sankoré Project**

The use of ICT and particularly of interactive whiteboards in all the primary schools through the Sankoré project is a joint English and French initiative and is meant to facilitate teaching and learning with the help of ICT. Each school is provided with an interactive white board as a tool for teaching and also for obtaining immediate feedback on pupils' learning in a dynamic way involving colour and sound. It was initially introduced at the level of Standard 4 and teachers are being trained to give a new dimension to their teaching. It is also to be noted that lessons are being designed locally and their production is entrusted to the Mauritius Institute of Education.

### **1.8.8 Introduction of “Kreol Morisien” and Bhojpuri in primary schools**

Mauritian Kreol, the ‘lingua franca’ in Mauritius, has been introduced as an optional subject in primary schools in Standard 1 from 2012. Bhojpuri, another commonly spoken language



was introduced as a component of the Hindi curriculum in Standard 1 from 2012. Pupils' textbooks and teacher support materials have been provided and teacher training already started.

## **1.9 Main Policy Concerns of the Ministry**

The most cited 'inefficiencies' of the current education system in Mauritius are the relatively high percentage of students failing and/or repeating the CPE and an alarming percentage of young children leaving school barely numerate and literate (EHRSP 2008-2020, 2009)

Critical Challenges facing the Ministry of Education are:

- Increasing the participation rate to 100 percent in pre-primary,
- Addressing the high failure rate at the end of the primary cycle so as to make public spending and the education system in general, more effective,
- Decreasing reliance on and subsequently eliminating private tuition,
- Devising and implementing a structured remedial education strategy to accompany automatic promotion from Standards 1-6 to reduce the failure rate at the end of six years of basic primary education,
- Integration of children with special needs in the regular school system,
- Reducing indiscipline of pupils at school and addressing behavioural problems in schools,
- Improving transition rates from primary to secondary and from secondary to tertiary and reducing attrition rates.
- Combating the high absenteeism rate of pupils during the third term, mostly in the secondary sector,
- Formulation of a policy framework for a quality supervision and inspection service in secondary schools.

The Ministry fully realises that a comprehensive review of the curriculum at the pre-primary, primary and the secondary levels in the lights of developments worldwide and according to the nation's needs were necessary, but are not enough to bring all the required improvements in all areas pertaining to education.

## **1.10 The SACMEQ consortium**

Fifteen Ministries of Education, Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania (Mainland), Tanzania (Zanzibar), Uganda, Zambia, and Zimbabwe are now members of the consortium known as the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ).

SACMEQ's mission is to undertake integrated research and training activities that will:

- (a) expand opportunities for educational planners to gain the technical skills required to monitor and evaluate the general conditions of schooling and the quality of their education systems, and
- (b) generate information that can be used by decision-makers to plan and improve the quality of education.

SACMEQ has undertaken three large-scale cross-national studies of the quality of education: SACMEQ I with seven ministries in the sub-region (1995-1999, Reading); SACMEQ II with 14 ministries (2000-2004, Reading and Mathematics); and SACMEQ III with 15 Ministries (2006-2010, Reading, Mathematics, and HIV and AIDS Knowledge). Mauritius participated in SACMEQ I, SACMEQ II, and SACMEQ III.

## **1.11 The Structure and Contents of the SACMEQ III National Report**

This first chapter sets the scene by describing briefly the Republic of Mauritius, the structure of the Mauritian school system, trends in access and participation, how school administration and finance work, and the policy reforms in education with a particular focus on the primary sub-sector.

Chapter 2 introduces the educational policy research project of SACMEQ. It explains the initial planning, the development of instrumentation, sampling methods, field work operations, the data entry and data cleaning, scoring of tests, and analysis and writing of the reports.

The next six chapters have been generated from five clusters of general policy concerns.

Chapter 3 presents data on pupils' characteristics and their learning environment.

Chapter 4 presents data on teachers' characteristics and their views on teaching, classroom resources, and professional support.

School heads characteristics, and the organization and operation of schools, and problems with pupils and staff as well as with the community, are outlined in Chapter 5.

Chapter 6 presents data on school resources with a focus on sanitation and school buildings, two of the factors contributing to the creation of a suitable learning environment.

Chapter 7 analyses the different levels and variation in achievement of Standard 6 pupils in Reading and Mathematics, both for Mauritius and its regions and sub-groups and makes a brief comparison with the other SACMEQ countries.

HIV and AIDS Knowledge levels of Standard 6 pupils and their teachers are analysed in Chapter 8. An insight into their attitudes towards people living with HIV and AIDS is also provided.

Finally, Chapter 9 is a concluding chapter that summarises the policy suggestions arising from the data and research results, and formulates an 'Agenda for Action'. It summarises the policy suggestions while identifying the division or unit which may be eventually responsible for the implementation of each policy.

# Chapter 2

## The Conduct of the study

Over the years since its first project in 1995, SACMEQ has developed research instruments and collected useful information using advanced research methods. An important principle in the studies is to ensure that SACMEQ is able to generate valid measures of levels and changes in achievement: (a) across countries at single time points, and (b) across time points for individual countries. To achieve this goal SACMEQ follows virtually the same methodologies across studies and uses the same instruments which must be kept confidential to remain valid. The methodology and instruments that were used in the SACMEQ III project in 2007 were, therefore, the same as in SACMEQ II. For a detailed account of the study design, sampling techniques and the development of the instruments reference should be made to the second chapter of the SACMEQ II report. A unique feature of the SACMEQ III research project was the inclusion of the HIV and AIDS knowledge test (HAKT) for Grade 6 pupils and their teachers.

The SACMEQ III project did however represent a major increase in the scale and complexity of SACMEQ's research and training programmes. The focus of the project was on conditions of schooling and the quality of education in fifteen school systems: Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania(Mainland), Tanzania(Zanzibar), Uganda, Zambia, and Zimbabwe. The purpose of the project was to gather information on a) the general conditions of schooling, b) the reading and mathematics achievement levels of Grade 6 learners and their teachers, and c) the knowledge that learners and their teachers have about HIV and AIDS. The main data collection for the project covered a total of around 60000 pupils, 8000 teachers, and 2800 school heads. In Mauritius, the coverage was 3524 Standard 6 pupils, 408 teachers and 152 school heads.

In this chapter specific aspects of the methodology followed in the SACMEQ III project have been outlined and this includes a description of the sample used, data collection, cleaning and analysis.

## 2.1 The Study Population

### (a) Desired Target Population

The desired target population definition for the SACMEQ III Project was exactly the same (except for the year) as was employed for the SACMEQ II Project. This consistency was maintained in order to be able to make valid cross-national and cross-time estimates of “change” in the conditions of schooling and the quality of education.

The desired target population definition for the SACMEQ III Project was as follows:

*“All learners at Grade 6 level in 2007 (at the third week of the ninth month of the school year) who were attending registered mainstream (primary) schools.”*

### (b) Excluded Target Population

One of the rules followed by SACMEQ for ensuring valid data in large-scale studies is that no more than 5 percent of the learners in the desired target population may be excluded from the defined target population. Like in SACMEQ II, special schools which provide education to learners with severe educational needs were excluded from the SACMEQ III sample. “Small” mainstream schools which had less than 15 learners enrolled in Grade 6 in 2007 were also allocated to the excluded population to reduce data collection costs – without the risk of leading to major distortions in the study population.

### (c) Defined Target Population

The “defined target population” was constructed by removing the “excluded target population” from the “desired target population”. In *Table 2.1* the numbers of schools and learners in the desired, defined and excluded populations for Mauritius have been presented.

**Table 2.1: Desired, Defined, and Excluded Populations for Mauritius**

	Desired		Defined		Excluded		Pupils %
	Schools	Pupils	Schools	Pupils	Schools	Pupils	
Mauritius	295	24946	286	24590	9	356	1.43%

From the last column of *Table 2.1*, it can be observed that the excluded population of learners was 1.43% percent which was less than the stipulated 5 percent to meet the SACMEQ criteria for accuracy in large-scale assessment data.

#### **(d) Stratification used to define population**

In all, seven regions were defined as strata for the target population as follows:

Region 1, Port Louis & North (1PL): government schools in Education Zone 1.

Region 2, Beau Bassin & East (2BB): government schools in Education Zone 2.

Region 3, Curepipe & South (3CU): government schools in Education Zone 3.

Region 4, Vacoas & West (4VA): government schools in Education Zone 4.

Region 5, Rodrigues (5RO): all schools in the Island of Rodrigues.

Region 6, Black River (6BR): all schools in Black River District.

Region 7, Private (7PR): private schools from different education zones.

## **2.2 Data Collection**

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

### **2.2.1 Preparations for the main data collection**

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

#### **(a) Instrument review**

As soon as the SACMEQ Assembly of Ministers took a decision to conduct the SACMEQ III project in 2007 the National Research Teams (NRTs), under the auspices of the SACMEQ Coordinating Centre in Paris, set out to prepare and update the instruments (tests and questionnaires). Between 2005 and 2006 the SACMEQ Coordinating Centre hosted at least three working sessions for the NRCs in Cape Town, Paris and Botswana, that were focused on reviewing existing test items and ensuring that, where there had been curriculum changes, the items were still relevant. Invariably, there were no significant changes on the Reading and Mathematics test items. The HIV and AIDS items, which were new, were piloted, first in a few primary schools in Botswana and then in individual member countries. The pilot study

was intended to ensure that the language in the HAKT test was accessible to learners, that there were no cultural biases in the items and learners could follow how to write their responses.

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

### **(b) Communication to schools**

The Chief Technical Officer of the Ministry of Education notified the sampled schools through the offices of the Directors of Zones and the relevant Education Authorities at the beginning of 2007. In addition, a coordinator for data collection was identified in each Zone and teams of data collectors were put up from a pool of trainee teachers at the Mauritius Institute of Education. The coordinators were responsible for distributing the data collection schedules, intensifying and monitoring communication to schools in their respective zones.

### **(c) Printing and distribution of data collection instruments**

Data collection instruments included a) School Head Booklets, b) School Information Forms, c) Teacher Booklets, d) Pupil Booklets and e) Pupil Name Forms. Each participating country received print-ready copies from the Coordinating Centre and was responsible for printing correct numbers of copies for their respective schools. In Mauritius the facilities of the printing unit at the National Centre for Curriculum Research and Development were used to print the materials.

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

The printed materials were distributed to data collectors that were assigned to collect data in each sample school on the eve of the exercise. The data collectors were responsible for checking the accuracy of the instruments in terms of correctness of numbers before carrying the instruments to the schools. The first level of checking was during the data collection

training sessions and the data collectors were charged to do further and final checks a day before the data collection.

#### **(d) Training of data collectors**

In Mauritius including Rodrigues, 105 data collectors were trained just one week before the data collection exercise. On the first day of training the NRC presented a “simulated” data collection exercise in which he/she acted as a data collector and the trainees took the roles of learners, teachers, and school heads. The second day involved an intensive study of the Manual for Data Collectors. This document set down, in sequential order, all of the actions to be taken by the data collector from the time of receiving packages of data collection instruments from the central office of the Ministry of Education to the time when the data collector had completed the data collection and was preparing all materials for return. The experiences gathered during these exercises were shared and discussed so that all data collectors understood the procedures to be completed within schools.

#### **2.2.2 Main Data Collection**

“Main Data Collection” in this report refers to the actual field work. One trained data collector was assigned to each sampled school to administer the instruments. Special effort was made to ensure that the data collections were conducted according to explicit and fully-scripted steps so that the same verbal instructions were used (for pupils, teachers, and school heads) by the data collectors in all sample schools in all countries for each aspect of the data collection. This was a very important feature of the study because the validity of cross-national comparisons arising from the data analyses depended, in large part, on achieving carefully structured and standardized data collection environments.

The main SACMEQ III data collection occurred for most SACMEQ Ministries of Education in the period September to December 2007. In Mauritius (mainland and island of Rodrigues) data was collected in September 2007 in 152 sample schools that were involved.

Two days of data collection were required for each sample school. On the first day the data collectors had to sample pupils from all the Standard 6 classes in the sampled schools, using a list of provided random numbers. The sampled pupils were then given the pupil questionnaire, the HAKT and the Reading test. On the second day they were given the Mathematics test. Part of the pupil questionnaire required pupils to get confirmation of the accuracy of the



information from their parents and so the questionnaire was taken home and returned the following day.

In addition to completing a teacher questionnaire, the Standard 6 teacher who taught the majority of the sampled pupils also completed the HIV and AIDS Knowledge Test.

The data collectors were provided with a 40-point checklist in order to ensure that they completed all important tasks that were required before, during, and after their visits to schools. Each task was cross-referenced to specific pages of instructions in the data collectors' manual. The data collectors also checked all completed questionnaires (pupil, teacher, and school head) and, if necessary, obtained any missing or incomplete information on the second day before they left the school. The materials were then handed over to the National Research Coordinator (NRC) at the head office of the Ministry of Education as soon as all data collection was completed.

## **2.3 Sampling and Sample Characteristics**

A two-stage sampling design was employed. In the first stage schools in the defined target population were sampled on a “probability-proportional-to-size” (PPS) basis from sampling frames that individual countries submitted to the SACMEQ Coordinating Centre. The PPS sampling technique meant that relatively large schools had a higher probability of being selected than smaller schools within each stratum independently. In the second stage of sampling pupils were sampled from all the Standard 6 classes in each of the sampled schools using computer-generated random numbers. Twenty five (25) pupils (minimum cluster size) were sampled where the total number of all enrolled Standard 6 pupils at the time of data collection was greater than 25. Where the number of Standard 6 pupils was 25 or less than 25 in a school, all the Standard 6 pupils were included in the sample.

For a detailed account of how the sampling of schools and pupils was carried out, including the software that was used in the SACMEQ III project the reader may refer to Ross and Saito (in press). The numbers of schools and pupils in the planned and actually achieved Mauritian sample have been presented in *Table 2.2*.

**Table 2.2: Planned and Achieved Samples for SACMEQ III in Mauritius**

Mauritius	Schools		Pupils	
	Planned	Achieved	Planned	Achieved
	152	152	3950	3524

From *Table 2.2* it can be seen that the planned Mauritian sample was 152 schools and 3950 pupils. There were six schools with two sample groups due to large number of Standard 6 pupils. The achieved sample comprised 152 schools and 3524 pupils. Pupils who were sampled in the sampled schools but were not available on the day of data collection were not replaced.

### 2.3.1 Response rates, design effects, effective sample sizes

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

The figures in first two columns under the heading “Response Rate (%)” in *Table 2.3* are the response rates for schools and learners, respectively. The third, fourth and fifth columns under the heading “Design Effects” are numbers (ratios) that indicate the amount of “sampling error” associated with the two-stage sample for each of Reading, Mathematics and HAKT estimates. Columns six, seven and eight under the heading “Effective Sample Sizes” are numbers of sample units (pupils) in a simple random sample that would give the same level of accuracy as the two-stage sample that was used in the study for each of Reading, Mathematics and HAKT.

**Table 2.3: Response Rates, Design Effects, Effective Sample Sizes for Mauritius in SACMEQ III**

	Response Rate (%)		Design Effect			Effective Sample Size		
	Schools	Pupils	Reading	Maths	HAKT	Reading	Maths	HAKT
<b>Mauritius</b>	100%	89%	5.9	6.5	9.9	596	539	354

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

**Response rate** in surveys refers to the percentage of the total sample units that were planned who actually participate in the study. The SACMEQ rule is that the overall response rate for both the schools and the learners should not be less than 90%. In the SACMEQ III project the Mauritian overall response rates for schools and pupils were 100% and 89%, respectively. The overall response rate in Mauritius during SACMEQ II had stood at 96% for schools and 93% for pupils.

**Design effect** is a number (ratio) which indicates the amount of “sampling error” that is introduced by the use of a clustered (two-stage) sampling method in relation to the “sampling error” that would result if a simple random sample of the same size had been used. Alternatively, the “design effect” is the ratio of the variance (of the sample mean) for a multi-stage sample to the variance for a simple random sample of the same size. Applied to SACMEQ III, this means that for Reading the achieved two-stage sample of 3524 had a variance (of the sample mean) which was 5.9 times the variance that would be realized if a simple random sample of the same size was used. For Mathematics this ratio was 6.5 while for HAKT it was 9.9. Generally, the inaccuracy associated with a multi-stage sample is many times greater than the inaccuracy associated with a simple random sample of the same size.

**Effective sample size** is calculated from the design effect. It is the size of a simple random sample that would be required to give the same level of accuracy as the given multi-stage sample. For Reading in this case, a simple random sample of 597 pupils would have given the same level of accuracy as the two-stage sample of 3524 pupils. The “Effective Sample Size” for Reading =  $3524/5.9 = 597$  pupils. Possible (small) inaccuracies in this calculation may be due to the fact that not all 3524 pupils in Mauritius took *all* three tests. The “Effective Sample Sizes” of each of Mathematics and HAKT can be calculated in the same way provided care is taken to use the correct values. Generally, the “Effective Sample Size” will be smaller than the given actual multi-stage sample.

The sample designs used in the SACMEQ III Project were selected so as to meet the standards set down by the International Association for the Evaluation of Educational Achievement (IEA). These standards require that sample estimates of important pupil population parameters in multi-stage designs should have sampling accuracy that was at least equivalent to a simple random sample of 400 pupils (thereby guaranteeing 95 percent confidence limits for sample means of plus or minus one tenth of a pupil standard deviation

unit). In SACMEQ III, the Mauritian sample sizes exceeded this threshold in reading and mathematics. The sample size did not exceed the threshold in the HAKT, reaching 354 pupils.

## **2.4 Data Entry, Data Checking, and Data Cleaning**

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

### **(a) Data Checking and Data Entry**

The Mauritian NRC received the completed materials from the data collectors and kept these safely while they were being checked, entered into computers, and then “cleaned” to remove errors prior to data analysis. Data- checking involved the “hand editing” of data collection instruments by a team of trained staff. The staff checked that: (i) all expected questionnaires, tests, and forms had been received, (ii) the identification numbers on all instruments were complete and accurate, and (iii) certain logical linkages between questions made sense (for example, they had to verify if the two questions to School Heads concerning “Do you have a school library?” and “How many books do you have in your school library?” were answered consistently).

Trained data capturers from Central Information Systems Division (CISD), supervised by the NRC, entered data into computers using the WINDEM software that was supplied by the SACMEQ Coordinating Centre. Data were “double entered” in order to monitor accuracy.

### **(b) Data Cleaning**

During December 2007, the SACMEQ Coordinating Centre organized a training programme for all NRCs. The teams were led step-by-step through the required data cleaning procedures that they were to follow in their respective countries.

At individual country level, NRTs followed a “cyclical” process whereby data files were cleaned by the NRT and then emailed to the Coordinating Centre for checking and then emailed back to the NRC for further cleaning. The entire data cleaning process in Mauritius lasted from January 2008 to August 2009.

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

## **2.5 Merging and Weighting**

When data cleaning was complete, the NRC merged the data from all the sources. The merging process required the construction of a single data file in which pupils were the units of analysis and the rest of the data from the other respondents were linked to the pupil data. That is, each record of the final data file for the country consisted of the following four components: (a) the questionnaire and test data for an individual 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.

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 III 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. A detailed account of weighting procedures can be found in Ross et al (2004).

## **2.6 Analyzing the data**

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

## **2.7 Writing the SACMEQ III Policy Reports**

The NRT commenced the process of drafting their national educational policy reports towards the end of 2009. Two workshops held in Paris during September 2009 and September 2010 were organized to support the NRCs in this work. These workshops permitted the NRCs from different countries to work together and exchange ideas concerning the policy implications of the research results. A third workshop was held in March 2011 in Namibia to further assist NRCs through the main stages of report writing.

## **2.8 Conclusion**

The aim of this chapter was to describe the research procedures that were applied for the execution of the SACMEQ III project. The chapter was prepared to give an overview of how the study was conducted in Mauritius. The sample design procedures and the construction of

the Reading and Mathematics tests for learners and their teachers were to a large extent modelled on the SACMEQ II project.

Following the trend started in the SACMEQ II project, the third SACMEQ project moved away from traditional approaches to the calculation of test scores (based on numbers of correct responses to test items) towards the use of Modern Item Response Theory to generate descriptions of “levels of increasing learner competence”. This approach to describing learner Reading and Mathematics achievement offered a mechanism for describing the performance of learners in a manner that was more meaningful within a teaching and learning context.

# Chapter 3

## Characteristics of Pupils and their Learning Environments

### 3.1 Introduction

This chapter presents information on some of the characteristics of pupils and their learning environments at home. The learning environment is an important variable in all analyses of educational achievement. It is normally expected that pupils from homes with a high socioeconomic status (SES) will have greater chances of achieving better at school than pupils from poorer backgrounds. It will be noted in a later chapter that mean scores of achievement in Reading and Mathematics are higher for pupils coming from high SES backgrounds.

The major concerns of this chapter are:

- What were the personal characteristics and home background characteristics of Standard 6 pupils that might have an implication for monitoring equity and/or that might impact upon teaching and learning?
- What were the school context factors experienced by Standard 6 pupils such as absenteeism and grade repetition that might impact upon teaching/learning and the general functioning of schools?
- Has the practice of Standard 6 pupils taking private tuition in school subjects outside school hours become widespread and who gives private tuition?

### 3.2 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?**

#### 3.2.1 Pupil age and gender

*What were the personal characteristics, for example age and gender of Standard 6 pupils?*



The table below gives the ages in months of the pupils as well as the percentages of girls in Standard 6 and the time spent in kindergarten or preprimary unit.

**Table 3.1: Means and sampling errors of pupils' age, the percentage of female pupils and the percentage of pupils who spent less than one year in a kindergarten/preprimary unit**

Region	Age		Sex (%Female)		Never attended kindergarten or pre primary	
	Mean	SE	%	SE	%	SE
1 P/Louis & North	136.9	0.31	49.5	1.69	3.4	0.79
2 B/Bassin & East	136.2	0.25	48.3	1.53	0.4	0.26
3 Curepipe & South	136.0	0.23	48.6	1.47	2.6	0.73
4 Vacoas & West	135.5	0.21	49.3	1.41	1.4	0.55
5 Rodrigues	137.3	0.72	50.2	5.10	0.4	0.38
6 Black River	138.3	0.99	48.5	3.77	6.0	1.53
7 Private Schools	136.4	0.42	48.7	2.62	1.7	0.84
<b>Mauritius SACMEQ III</b>	<b>136.5</b>	<b>0.14</b>	<b>48.9</b>	<b>0.84</b>	<b>2.1</b>	<b>0.31</b>
<b>Mauritius SACMEQ II</b>	<b>135.8</b>	<b>0.12</b>	<b>48.1</b>	<b>0.58</b>	-	-
<b>Mauritius SACMEQ I</b>	<b>136.5</b>	<b>0.25</b>	<b>49.0</b>	<b>2.05</b>	-	-

The mean age for all the Standard 6 pupils was 136.5 months (11.4 years). In 2001, the mean age of Standard 6 pupils was 135.8 months. Thus the pupils in 2007 were slightly older than the pupils in 2001 but were the same age as those in 1995. This may be due to more repeaters in 2007 than in 2001. The percentage of female pupils in Standard 6 was 48.9 percent for the whole of Mauritius. There was no great variation in mean ages or percentage of female pupils across regions. There was no great difference in mean ages and percentage of female pupils between SACMEQ II and SACMEQ III.

### 3.2.2 Attendance in a kindergarten or pre-primary unit

The percentage of pupils who had never attended a kindergarten or pre-primary unit was 2.1 percent. Black River showed the highest percentage (6 percent) of Standard 6 pupils that had never attended a kindergarten or a pre-primary unit. Given that it is universally acknowledged that pre-primary education has a great bearing on developmental processes of the child, the results from Black River should be investigated further.

***Policy Suggestion 3.1:*** The Ministry should commission an in depth survey in Black River region to find out the real causes of non enrolment of children aged three to five in a kindergarten or pre-primary unit with a view to propose measures to increase participation at pre-primary.

### 3.2.3 Pupil SES

The home environment is made of various components. One component concerns the wealth of the home in monetary terms. The wealth of the home can be measured in terms of the goods they possess (home possessions). The pupil questionnaire included thirty-one possessions that students might have at home: daily newspaper, weekly or monthly magazine, clock, piped water, bore hole, a table to write on, bed, private study area, bicycle, car, donkey or horse cart, motorcycle, tractor, electricity, refrigerator/freezer, air conditioner, electric fan, washing machine, vacuum cleaner, computer, internet, radio, T.V. set, video tape player, video disc player, audio disc player, audio cassette player, ordinary camera for photographs, digital camera for photographs, video camera, telephone or mobile. The number of possessions owned in the home was summed for each pupil. The lowest score possible was 0.0 and the highest was 31.0. The average number of possessions was 18.9 items. It is observed that in 2007, the material conditions of the homes of Standard 6 pupils had some variation from an index of 16.1 in Rodrigues to 20.4 in private schools.

The pupil's SES score was created using the Rasch scaling approach using home possessions, parents' education levels, lighting, floor, wall and roof structures of the house leading to the development of a composite measure of SES comprising eighteen variables.

The mean SES score for each region is shown in the *Table 3.2* below. The national mean score value was 636.3 which was higher than the average value of 500 for all the fifteen SACMEQ countries. Mauritius had the highest pupil SES levels of all SACMEQ countries and the lowest SES pupils in Mauritius had higher SES levels than the average pupils in most of the other SACMEQ countries.

There was some variation in mean SES score across the regions with the highest of 660.4 for pupils from private schools and the lowest of 585.5 for pupils from schools in Black River.

**Table 3.2: Mean SES scores and Mean index for possessions at home**

Region	Mean SES Score		Possessions at home - max 31 (index)	
	Mean	SE	Mean	SE
1 P Louis & North	624.0	5.25	18.7	0.33
2 B Bassin & East	643.6	5.19	19.0	0.29
3 Curepipe & South	635.5	7.18	18.7	0.40
4 Vacoas & West	647.3	6.88	19.2	0.41
5 Rodrigues	591.7	4.66	16.1	0.32
6 Black River	585.5	5.92	16.4	0.40
7 Private schools	660.4	8.47	20.4	0.47
<b>Mauritius</b>	<b>636.3</b>	<b>2.84</b>	<b>18.9</b>	<b>0.16</b>

### 3.2.4 Books at home

Another dimension of wealth is the intellectual wealth of the home which can be measured in terms of the number of books at home.

**Table 3.3: Means and sampling errors for number of books available at home**

Region	Books at home (number)	
	Mean	SE
1 P Louis & North	34.4	3.33
2 B Bassin & East	44.8	5.54
3 Curepipe & South	48.4	4.12
4 Vacoas & West	46.3	5.42
5 Rodrigues	36.4	4.19
6 Black River	18.5	2.26
7 Private Schools	49.1	4.91
<b>Mauritius SACMEQ III</b>	<b>42.2</b>	<b>1.93</b>
<b>Mauritius SACMEQ II</b>	<b>37.6</b>	<b>2.11</b>
<b>Mauritius SACMEQ I</b>	<b>37.8</b>	<b>1.98</b>

Information about the number of books available at home is given in *Table 3.3* above. There was an increase in the mean number of books at home for Standard 6 pupils from 37.6 in 2001 to 42.2 in 2007. A cause for concern is the extremely low mean value of 18.5 for Black River, which is approximately 23 books below the national average. In the pupils' questionnaire, pupils were asked if they were able to borrow books from another kind of library outside school and the overall percentage of pupils who were unable was 41.7 percent. It is important for pupils to be able to read at home if they are to develop their Reading skills. It is to be noted that the Ministry has already started addressing this issue to some extent by introducing the mobile library which visits schools on a rotation basis.

**Policy Suggestion 3.2:** *The Ministry should ensure that pupils borrow books to take home to read on a regular basis. There is a need to increase efforts in terms of the provision of books for pupils to borrow and take home to read in the region of Black River.*

### 3.2.5 Access to computer at home

Pupils were asked if they had a computer at home and the information collected is shown in *Table 3.4* below.

**Table 3.4: Percentages and sampling errors for pupils having a computer at home**

Region	Pupils having a computer at home	
	%	SE
1 P Louis & North	38.4	2.94
2 B Bassin & East	39.3	3.29
3 Curepipe & South	38.9	3.76
4 Vacoas & West	47.9	4.75
5 Rodrigues	34.0	3.19
6 Black River	25.2	3.36
7 Private schools	56.3	5.17
<b>Mauritius</b>	<b>42.5</b>	<b>1.69</b>

It is observed from the *Table 3.4* above that only 42.5 percent of pupils had a computer at home in 2007. The highest percentage 56.3 percent was in the private schools and the lowest 25.2 percent was in Black River. Recent curriculum reforms have led to the production, in the last 5 years, of new textbooks with integrated exercises using ICT. If computers are not made accessible to pupils at school in order for them to extract the maximum benefit from the ICT exercises in the new textbooks a digital divide may be created.

Another aspect surveyed is whether the pupils lived with their parents, with relatives or with others. It was found that 95 percent pupils stayed with their parents and there was no great variation among regions except for Rodrigues where a smaller percentage, 88 percent, lived with their parents.

A question concerning nutrition of pupils in terms of three main meals of the day, breakfast, lunch and dinner was asked. *Table 3.5* contains data on how often pupils were able to have the three basic meals of the day.

**Table 3.5: Percentages and sampling errors for frequency of each meal**

	Not at all		1 or 2 days per week		3 or 4 days per week		Every day of the week	
	%	SE	%	SE	%	SE	%	SE
Morning meal / Breakfast	5.1	0.53	6.2	0.52	4.8	0.49	83.9	0.93
Midday meal / Lunch	1.9	0.29	4.6	0.52	3.7	0.40	89.8	0.81
Evening meal / Supper	2.3	0.29	3.0	0.37	3.1	0.35	91.7	0.72

Data in *Table 3.5* above show that, in 2007, about 5.0 percent of pupils did not have breakfast at all, about 2.0 percent of pupils did not have lunch and 2.3 percent did not have dinner on any day of the week. The importance of having three main meals of the day for an eleven year old child cannot be stressed enough. This information should trigger some consideration and action on the part of all stakeholders particularly with a view to tackle the 5 percent of pupils who start the school day on an empty stomach.

### 3.2.6 Speaking English outside school

*How many pupils speak the language of the test, English, outside school?*

In Mauritius, in all government and almost all private schools, English is the language of the test. In the few private non aided schools where English is not used, French is used.

**Table 3.6: Frequencies and sampling errors for pupils speaking English outside school**

Region	Never speak English outside school	
	%	SE
1 P Louis & North	33.7	3.47
2 B Bassin & East	26.8	3.39
3 Curepipe & South	22.7	2.99
4 Vacoas & West	27.0	4.57
5 Rodrigues	33.3	3.03
6 Black River	46.7	4.27
7 Private schools	28.9	4.00
<b>Mauritius SACMEQ III</b>	<b>29.5</b>	<b>1.56</b>
<b>Mauritius SACMEQ II</b>	<b>35.6</b>	<b>2.29</b>

At the national level, about 30 percent pupils never spoke English outside school which was a slight improvement from the 35 percent pupils who never spoke English in 2001. The highest percentage not speaking English outside school was 46.7 percent in Black River region. This is a particularly interesting finding. It has often been claimed that the language barrier could be one reason behind the high failure rate at CPE examinations at the end of primary school. When one recalls that the percentage failure rate at the CPE examinations is also approximately 30 percent it would be interesting to trial Kreol language version of CPE examination papers.

### 3.3 General Policy Concern 2

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?

#### 3.3.1 School Location

School heads were asked whether their school was located in an isolated area, a village, a small town or a city. The responses to the first two categories were put together and called 'rural' and the last two categories were grouped as 'urban', though it should be understood that in Mauritius it does not take long for a pupil to move from what may be termed a rural or urban area. The percentage of pupils thus in schools located in 'urban' areas was calculated and results are shown in *Table 3.7* below.

**Table 3.7: Percentages and sampling errors for schools in urban areas**

	Urban	
	%	SE
SACMEQ III	48.2	3.93
SACMEQ II	51.7	2.37
SACMEQ I	49.2	1.88

There was a slight decrease from 2001 to 2007 in the percentage of pupils in schools considered to be in an urban location.

#### 3.3.2 Distance travelled to attend school

Pupils were asked a question concerning the distance they travelled each day to school from their place of residence during the school week and the information gathered has been presented in *Table 3.8* and *Table 3.9* below.

**Table 3.8: Percentages and sampling errors for distance travelled to school from place of residence**

Distance to school	%	SE
Up to 1 km	55.4	1.57
Between 1 and 5 km	36.2	1.33
Above 5 km	8.4	0.83

**Table 3.9: Mean and sampling errors for distance travelled to school**

Region	Mean Distance (km)	
	Mean	SE
1 P Louis & North	3.6	0.21
2 B Bassin & East	3.1	0.21
3 Curepipe & South	3.0	0.19
4 Vacoas & West	3.5	0.23
5 Rodrigues	4.1	0.23
6 Black River	2.9	0.15
7 Private schools	4.5	0.36
<b>Mauritius</b>	<b>3.6</b>	<b>0.11</b>

A policy of catchment area for admission purposes to Standard 1 exists but has been mostly defined for high demand schools. However this is often ignored by parents who target “good” schools irrespective of distance from their homes. From *Table 3.8* above it is observed that 55.4 percent Standard 6 pupils were indeed attending a school within a radius of 1 km from their home. However, 8.4 percent Standard 6 pupils were travelling more than 5 km to school each day.

The mean distances travelled from home to school have been displayed in *Table 3.9* above. It is noted that the mean distance travelled was 3.6 km and that the variation across regions was from a high of 4.5 km for private schools to a lowest of 2.9 km in Black River.

### 3.3.3 Absenteeism

In Mauritius, Standard 6 pupils were absent an average of 1.8 days in the month before the study took place. This figure was the same in 2001 but lower in 1995. The highest average of 2.9 days was recorded in Black River and the lowest average of 1.3 days in private schools.

**Table 3.10: Percentages, means and sampling errors for days absent from school and repetition**

Region	Days absent		Standard 6 repetition	
	Mean	SE	%	SE
1 P Louis & North	2.3	0.15	25.8	2.56
2 B Bassin & East	1.6	0.13	15.8	1.70
3 Curepipe & South	1.8	0.11	18.7	2.24
4 Vacoas & West	1.5	0.15	15.6	1.86
5 Rodrigues	2.1	0.19	41.3	5.14
6 Black River	2.9	0.22	40.7	5.86
7 Private schools	1.3	0.17	19.6	2.96
<b>Mauritius SACMEQ III</b>	<b>1.8</b>	<b>0.06</b>	<b>21.7</b>	<b>1.10</b>
<b>Mauritius SACMEQ II</b>	<b>1.8</b>	<b>0.09</b>	<b>18.7</b>	<b>0.82</b>
<b>Mauritius SACMEQ I</b>	<b>1.2</b>	<b>0.08</b>	<b>25.0</b>	<b>1.77</b>

The most common reason given for absences was illness (45.9 percent at national level and 56.3 percent in Black River). An interesting result is the 12.5 percent pupils who stated they had been absent because they had to care for a brother or sister.

### **3.3.4 Grade Repetition**

Standard 6 repetition increased slightly from 18.7 percent in 2001 to 21.7 percent in 2007 which was still lower than the level in 1995. It should be noted here that with effect from 2007, admission guidelines to secondary schools had been modified, as per government policy, and offered pupils sitting for the CPE examinations in 2006, the possibility to be admitted to the very high demand schools like Royal Colleges and the Queen Elizabeth College in 2007- something which was not possible the year before i.e. in 2006. This could be one of the factors which influenced even pupils who passed the CPE 2006 exams to repeat Standard 6 in 2007 thus causing an increase in the repetition rate. A repetition rate of 21.7 percent implies that about two out of ten Standard 6 pupils are repeaters.

Research has associated grade repetition (grade retention) with undesirable outcomes at the individual, school, and national levels. At the individual level, grade repetition is reported to negatively affect pupil self esteem, academic motivation, and peer relationships – which could lead to long-term problems such as poor academic achievement, behavioural problems and school dropout. At the school level, grade repetition is said to negatively affect school operations because high levels of grade repetition can lead to increased class sizes and classroom management problems (due to large age differences among pupils in the same classroom). At the national level, grade repetition is blamed for increasing the overall cost of schooling because if many pupils repeat each year, school systems need to employ more teachers and build more classrooms (Brophy, 2006).

In view of the large percentage of repeaters in Standard 6, a needs based special remedial programme should be developed to enhance the performance of these repeating students. A step in this direction has been taken earlier in 2011 through a ‘CPE repeaters’ programme which only focuses on training the repeaters, with every low performance levels, to answer a minimum set of examination questions based on core competencies so as to get, at least, the minimum passing marks. A more comprehensive and pedagogically sound approach would be to identify pupils with major learning deficits at a much earlier point in the primary cycle and provide customised remedial education to cater for their different needs. A closer



collaboration with parents will also ensure that these pupils are supported and encouraged at home as well.

### 3.3.5 Homework given and corrected

*How often was homework given and corrected?*

Pupils were asked how often homework was given and corrected by their teacher. Information gathered is presented in *Table 3.11* below.

**Table 3.11: Percentages and sampling errors for frequency of homework given and corrected by teacher**

	SACMEQ III		SACMEQ II			
	%	SE	Reading		Mathematics	
			%	SE	%	SE
No homework given	1.5	0.31	4.4	0.87	2.4	0.56
Never corrected	3.0	0.62	4.8	1.20	0.8	0.22
Sometimes corrected	17.2	1.53	26.1	2.60	9.8	1.58
Most of the time /always	78.4	2.06	64.7	2.85	87.0	1.73

### 3.3.6 Parental support or assistance with homework

Another very important aspect of the home environment is the support that pupils receive from parents with their schoolwork. *Table 3.12* below reflects the parental interest in their child's homework through the frequency with which assistance is provided in connection with homework.

**Table 3.12: Percentages and sampling errors for frequency of assistance by parents with homework**

	%	SE
No homework	1.5	0.31
Never helps	13.4	1.22
Sometimes helps	68.5	1.81
Helps most of the time	16.7	1.42

The majority of pupils, 85.2 percent, were helped at least sometimes by their parents which shows a high level of parental interest. However the 13.4 percent pupils who did not receive any help at home with their homework cannot be ignored. It is possible that more frequent and focused meetings such as class parent teacher meetings, could help improve parental behaviour in this area.

**Policy Suggestion 3.3:** *The Ministry needs to establish the practice of holding class parent-teacher meetings at least twice each term to create better linkages between the school and the community and to increase sensitization of parents on several important issues such as support at home, absenteeism etc. Such a measure may also address the issue of repetition.*

**Policy Suggestion 3.4:** *The primary inspectorate section in each region should ensure that appropriate needs based pedagogical strategies are put in place to bring real improvement in performance of repeaters.*

### 3.4 General Policy Concern 3

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

The provision of extra lessons in school subjects delivered outside school hours has become a worldwide phenomenon in both industrialized and developing countries. The issue of paid tuition has raised a great deal of concern among African researchers because it has the potential to challenge the Education for All initiative - which seeks to supply education of good quality to all primary school children regardless of their socio-economic background (Pavot L, 2010).

**Table 3.13: Percentages and sampling errors for pupils taking extra tuition in school subjects outside school hours**

Region	Pupils taking extra tuition	
	%	SE
1 P Louis & North	76.4	3.28
2 B Bassin & East	89.1	1.85
3 Curepipe & South	85.5	3.18
4 Vacoas & West	92.8	1.49
5 Rodrigues	72.7	4.08
6 Black River	68.6	3.12
7 Private schools	87.9	2.53
<b>Mauritius SACMEQ III</b>	<b>83.8</b>	<b>1.23</b>
<b>Mauritius SACMEQ II</b>	<b>86.5</b>	<b>1.10</b>
<b>Mauritius SACMEQ I</b>	<b>77.5</b>	<b>1.45</b>

It is interesting to observe from *Table 3.13* above, that the percentage of pupils taking extra tuition was 77.5 percent in 1995, increased to 86.5 percent in 2001 and was found to be at 83.8 percent in 2007. The percentage of pupils taking private tuition outside schools hours was indeed very high and was in fact the highest among all SACMEQ countries. Surprisingly a high percentage (87.9 percent) of pupils in private schools, were also having recourse to private tuition.

There is no doubt that extra tuition generally referred to as private tuition in Mauritius is a widespread phenomenon. Several attempts have been made in the past to try and curb private tuition among primary school pupils but to no avail. In the years 2003-2005 many secondary schools were constructed to open access to secondary schooling however from the data above this does not appear to have had much influence on private tuition.

**Table 3.14: Percentages and sampling errors for pupils taking extra tuition from different persons**

	%	SE
Same teacher	64.3	2.07
Another teacher from same school	8.2	1.02
Another teacher from another school	31.2	1.49
Another person	19.8	1.39

The results in the *Table 3.14* show the percentages of pupils taking extra tuition from different persons. At the national level, it was found that in 2007, 64.3 percent pupils took extra tuition from their own teacher and 31.2 percent from a teacher from a different school. Some 19.8 percent Standard 6 pupils took extra tuition from another person, not necessarily a teacher.

The time spent on extra tuition is a measure of the extent to which it has encroached on the pupils' quality time at home. Pupils were asked about the number of hours they spent weekly on extra tuition. *Table 3.15* below shows the amount of time spent on extra lessons by Standard 6 pupils.

**Table 3.15: Percentage of pupils spending different number of hours weekly on extra tuition**

Number of hours of extra tuition weekly	%	SE
0 to 5 hours	59.2	2.40
6 to 10 hours	27.9	1.83
11 to 15 hours	10.5	1.50
more than 15 hours	2.4	0.59

It is observed that the majority of Standard 6 pupils (59.2 percent) spent less than six hours on private tuition weekly. A small percentage, 2.4 percent, spent more than 15 hours weekly which amounts to 50 percent of the normal weekly school hours. From *Table 3.16* below, it can be seen that Standard 6 pupils spent a mean of 5.5 hours weekly on private tuition.

**Table 3.16: Means and sampling errors for number of hours spent on extra tuition weekly**

Region	Hours spent on extra tuition per week	
	Mean	SE
1 P Louis & North	5.0	0.52
2 B Bassin & East	6.6	0.65
3 Curepipe & South	5.6	0.47
4 Vacoas & West	5.9	0.51
5 Rodrigues	3.2	0.29
6 Black River	3.4	0.23
7 Private schools	5.6	0.47
<b>Mauritius</b>	<b>5.5</b>	<b>0.23</b>

Another pertinent aspect concerning private tuition is the group size. The mean private tuition group size is displayed in *Table 3.17* below. The mean number of pupils in a group taking extra tuition was 26 for the whole of Mauritius. However the highest mean of 30 pupils was recorded in the region of Vacoas & West. Black River showed the lowest mean size of 14. These are interesting observations as one of the most common excuses given by teachers in support of extra tuition is that effective teaching during normal school hours is hampered by the large class size. The average class size in Mauritius for the primary sector is 30 and therefore not very different from the extra tuition group size in 2007.

**Table 3.17: Means and sampling errors for size of extra tuition group**

Region	Mean	S E
1 P Louis & North	23.2	2.14
2 B Bassin & East	31.1	1.84
3 Curepipe & South	27.4	2.20
4 Vacoas & West	30.5	1.77
5 Rodrigues	14.5	0.93
6 Black River	13.9	1.09
7 Private schools	25.3	1.92
<b>Mauritius</b>	<b>25.8</b>	<b>0.88</b>

***Policy Suggestion 3.5:*** *The Ministry needs to evaluate the effectiveness of the Enhancement Programme recently introduced in Standard 4 and study ways of adapting it with a view to its implementation in Standard 6 as a measure to contain private tuition.*

***Policy Suggestion 3.6:*** *The Ministry needs to seriously consider exercising a measure of control over private tuition by establishing norms and criteria concerning the number of hours, group size, etc to safeguard the interest of the child.*

Evidence from the SACMEQ research programme (Paviot et al, 2008) suggests that in countries where there is a high incidence of paid tuition there is also the likelihood that socio-economic inequities will increase because it is often the children from wealthy homes that have access to the financial means required to pay for extra lessons.

Data from *Table 3.18* below show that only 7.1 percent of pupils who took private tuition thought there was no payment of any kind made to the person giving them extra tuition. The percentages of pupils taking extra lessons but not paying for them were highest in Black River and Rodrigues, 18.8 percent and 16.7 percent respectively. Thus, on the average 92.9 percent of pupils taking extra lessons thought there could be some form of payment, either money payment or payment in kind or both. From data presented here, it appears private tuition has not only developed into a parallel institution but has also become quite a lucrative activity. It is worth highlighting here that teachers are not the only ones deriving monetary gain. There are other indirect beneficiaries as it is common practice for teachers giving extra tuition to use a different set of pupils' workbooks which are purchased from local libraries by the parents. It would be interesting to undertake a study to evaluate how much money is involved in private tuition in Mauritius and to assess the real costs borne by parents for their child to get primary education which is "free" according to government policy.

**Table 3.18: Percentages of pupils taking extra tuition but not paying for them**

Region	%	SE
1 P Louis & North	7.5	2.49
2 B Bassin & East	6.2	1.46
3 Curepipe & South	4.3	1.80
4 Vacoas & West	5.9	3.50
5 Rodrigues	16.7	2.30
6 Black River	18.8	4.52
7 Private schools	6.9	1.52
<b>Mauritius</b>	<b>7.1</b>	<b>0.92</b>

### 3.5 Conclusion

This chapter has summarized information gathered on selected basic characteristics of Standard 6 pupils and on their home and classroom learning environments. It has also highlighted some of the main issues pertaining to Standard 6 pupils, pupil absenteeism, repetition rate, and private tuition. On the whole, six policy suggestions have been formulated in order to guide policy makers and decision takers in the light of findings made.

The issue of private tuition needs to be followed closely as private tuition is closely entwined with other educational aspects and is in itself a syndrome of the highly competitive admission procedures for “good” secondary schools. Mauritius had the highest percentage of Standard 6 pupils taking private tuition of all fifteen SACMEQ countries.

The two related policy suggestions on private tuition have been formulated with a view to control private tuition rather than to eliminate it. It will require major reforms of the primary cycle examinations and certifications and maybe even reforms in the secondary sector in addition to a strong government commitment to eradicate or regulate private tuition for Standard 6 pupils.

# Chapter 4

## Characteristics of Teachers and their Classrooms

### 4.1 Introduction

This chapter is concerned with some of the characteristics of Standard 6 teachers. In Mauritius all teachers of Standard 6 are class teachers and teach all subjects except Asian languages or Arabic. In this study the two aspects of pupil achievement that were measured were Reading and Mathematics. Unlike some other countries where there are separate Reading and Mathematics teachers, in Mauritius it is the same teacher who is responsible for teaching both.

The major concerns of this chapter were:

- What were the personal characteristics of Standard 6 teachers (for example, age, gender) and what was the condition of their housing?
- 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?
- How did Standard 6 teachers allocate their time among responsibilities concerned with teaching, preparing lessons, and marking?
- What was the frequency of tests, meeting with parents, mode of reporting and informing parents about pupil performance and was there a special section for reporting on a subject? Did parents sign homework?
- What professional support (in terms of education resource centres, and school head inputs) was given to Standard 6 teachers?

### 4.2 General Policy Concern 4

**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?**

Several important characteristics of teachers were measured. These concerned the age of teachers, their sex, whether they were specialist or general class teachers, their academic and professional qualifications, years of teaching experience, and the number of in-service courses attended. A sub-sample of three Standard 6 teachers was taken in each school. In nearly all schools there were only three classes in Standard 6, thus ensuring that nearly all of the teachers actually teaching Standard 6 answered the teacher questionnaire.

### 4.2.1 What were the age and gender distributions of teachers?

**Table 4.1: Means, percentages, and sampling errors for age and gender of Standard 6 teachers in 2007**

Region	Age (years)		Pupils taught by female teachers	
	Mean	SE	%	SE
1 P/Louis & North	43.3	1.20	46.2	6.47
2 B/Bassin & East	45.6	1.45	33.3	7.58
3 Curepipe & South	46.3	1.10	17.1	5.23
4 Vacoas & West	48.8	0.77	27.9	5.37
5 Rodrigues	38.7	0.43	28.8	3.86
6 Black River	38.3	0.55	54.9	1.07
7 Private schools	40.5	1.85	61.0	7.08
<b>Mauritius SACMEQ III</b>	<b>43.8</b>	<b>0.59</b>	<b>39.8</b>	<b>2.89</b>
<b>Mauritius SACMEQ II</b>	<b>44.9</b>	<b>0.50</b>	<b>28.1</b>	<b>2.73</b>
<b>Mauritius SACMEQ I</b>	<b>43.2</b>	<b>0.51</b>	<b>20.7</b>	<b>2.30</b>

The average ages of Standard 6 teachers in the various regions and in Mauritius as a whole are presented in *Table 4.1*. The average pupil in Mauritius had a teacher who was 43.8 years old. Across the regions the ages ranged from 38.3 years in Black River to 48.8 years in Vacoas & West. In SACMEQ II (2001) and SACMEQ I (1995), the average Standard 6 pupil in Mauritius had a teacher who was 43.3 and 45.6 years old respectively.

Overall in 2007 only 39.8 percent of pupils had teachers who were female. There was large variation among zones ranging from 61.0 percent female teachers in private schools to 17.1 percent in Curepipe & South. In Black River, 54.9 percent of pupils had a female teacher. In SACMEQ II (2001), overall, only 28.1 percent of pupils had teachers who were female. It was satisfying to see that the percentage of female teachers in Standard 6 had increased from 28.1 percent in 2001 to 39.8 percent in 2007. One point coming to light is the consistently low percentage of pupils taught by female teachers in Curepipe & South, from, 21.0 percent in 2001 (SACMEQ II) down to 17.1 percent in 2007. In both years, Curepipe & South had the lowest percentage of all regions. In Black River, the percentage of pupils taught by female teachers demonstrated a sudden increase to above 50 percent.

It is to be noted that in 2007, according to the Digest of Education Statistics, 2007, the average percentage of female teachers was 64.7 percent and for the age group 40-44 years in



particular, the percentage of female teachers was 60.7 percent. Three issues need to be researched further:

1. Is there a gender issue in class allocation at Standard 6 level?
2. Why is the gender bias more acute in Curepipe & South ?
3. Why is there a greater percentage of Standard 6 pupils taught by younger female teachers in Black River?

#### 4.2.2 What was the general condition (repair status and lighting) of teacher housing?

Teachers were asked to rate the condition of their accommodation and their responses were grouped as follows:

- Generally in a poor state or requiring major repairs (unacceptable)
- Generally in good condition or requiring minor repairs (acceptable)

The percentages of pupils taught by teachers who answered that their accommodation was acceptable are shown in *Table 4.2* below. Overall, the percentage of pupils whose teachers declared their housing conditions to be acceptable was 95.4 percent in 2007 showing a slight improvement from the previous SACMEQ studies. A decrease in percentage was noted for Curepipe & South from 96.0 percent in 2001 to 87.2 percent in 2007. Living conditions of teachers therefore does not represent a major issue in Mauritius.

**Table 4.2: Percentages and sampling errors for teacher housing in acceptable conditions**

Region	Teacher housing in acceptable conditions	
	%	SE
1 P/Louis & North	94.9	2.35
2 B/Bassin & East	98.3	1.62
3 Curepipe & South	87.2	4.38
4 Vacoas & West	100.0	0.00
5 Rodrigues	92.9	0.54
6 Black River	98.0	0.86
7 Private schools	97.3	1.79
<b>Mauritius SACMEQ III</b>	<b>95.4</b>	<b>1.05</b>
<b>Mauritius SACMEQ II</b>	<b>93.5</b>	<b>1.49</b>
<b>Mauritius SACMEQ I</b>	<b>93.7</b>	<b>1.23</b>

### 4.3 General Policy Concern 5

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?

#### 4.3.1 What were the levels of academic education of Standard 6 teachers?

Teachers were also asked about their academic education. The results are presented in *Table 4.3*. To become a primary school teacher initially, a teacher had to have completed at least up to the end of senior secondary school, which is eleven years of schooling. Many go on to take the A level exam which constitutes another two years of schooling. It can be seen from *Table 4.3* that 30.3 percent of pupils were taught by teachers who had completed senior secondary school and that 59.1 percent of pupils were taught by teachers who had completed A-levels. In 2007, 9.2 percent of pupils were taught by teachers who had completed tertiary education as compared to 2.6 percent in 2001.

Since the SACMEQ III survey in 2007, the Ministry has already reviewed the minimum entry requirements for primary school teachers. To become a primary school teacher, one must now hold a minimum of two subjects at A-level.

**Table 4.3: Percentages and sampling errors for pupils with teachers having different levels of academic education**

Region	Primary		Junior sec		Senior sec		A level		First degree	
	%	SE	%	SE	%	SE	%	SE	%	SE
1 P/Louis & North	0.9	0.88	1.1	1.10	31.4	5.58	60.4	6.44	6.3	3.14
2 B/Bassin & East	0	0	0	0	32.5	7.21	57.5	8.24	10.0	2.84
3 Curepipe & South	0	0	0	0	29.4	6.88	59.1	5.99	11.5	3.76
4 Vacoas & West	0	0	0	0	44.4	8.49	49.3	7.60	6.3	3.40
5 Rodrigues	4.0	0.39	0	0	63.6	3.26	19.2	0.86	13.3	2.97
6 Black River	0	0	0	0	37.2	2.56	62.8	2.56	0	0
7 Private schools	1.3	1.27	2.5	2.50	11.5	3.90	71.6	6.01	13.1	5.42
<b>Mauritius SACMEQ III</b>	<b>0.7</b>	<b>0.35</b>	<b>0.8</b>	<b>0.57</b>	<b>30.3</b>	<b>2.59</b>	<b>59.1</b>	<b>2.90</b>	<b>9.2</b>	<b>1.62</b>
<b>Mauritius SACMEQ II</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>55.0</b>	<b>2.83</b>	<b>42.4</b>	<b>2.93</b>	<b>2.6</b>	<b>0.82</b>
<b>Mauritius SACMEQ I</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

#### 4.3.2 How many years of teacher training had teachers completed?

Teachers were asked about the length of their training courses. *Table 4.4* below summarises data on pre-service and in-service training of Standard 6 teachers.

**Table 4.4: Percentages and sampling errors for in-service training of teachers exceeding 2 years and pre-service training in the last 3 years**

Region	Pre service training (> 2 years)				In service training in the last 3 years			
	2000		2007		2000		2007	
	%	SE	%	SE	%	SE	%	SE
1 P/Louis & North	88.0	3.91	95.0	2.16	47.7	6.21	55.4	6.82
2 B/Bassin & East	83.6	4.72	93.3	2.81	54.6	8.99	87.1	3.95
3 Curepipe & South	94.1	2.83	79.1	6.54	70.6	6.45	73.8	7.13
4 Vacoas & West	83.5	6.42	83.6	5.17	69.8	5.58	69.5	8.14
5 Rodrigues	90.8	1.27	96.4	0.95	80.9	1.62	72.2	2.35
6 Black River	96.7	0.95	100.0	0.00	87.6	1.99	82.3	1.81
7 Private schools	88.2	3.58	92.4	4.46	74.9	6.55	69.2	7.73
<b>Mauritius</b>	<b>88.2</b>	<b>1.79</b>	<b>90.7</b>	<b>1.67</b>	<b>63.2</b>	<b>3.10</b>	<b>70.1</b>	<b>2.87</b>

The overall percentage of pupils taught by teachers having pre-service training of more than 2 years was 90.7 percent which is an improvement on the 88.2 percent for 2001. Rather large variations between regions are noted in 2007, from 79.1 percent in Curepipe & South to 100 percent in Black River. The pre-service teacher training course lasts for three years inclusive of one year teaching practice.

Concerning, in-service training, 70.1 percent pupils were taught by teachers who had received in-service training in the previous 3 years. Large variations were recorded across the regions from 55.4 percent in Port Louis & North to 87.1 percent in Beau Bassin & East.

#### **4.3.3 How many years of teaching experience had teachers completed?**

Teachers were asked about the number of years of teaching experience they had and the results are displayed in *Table 4.5* below. It can be seen that the average pupil had a teacher who had 20.7 years of experience. As expected from the earlier information presented on age, the Black River teachers had fewer years of experience. In Black River, the average Standard 6 pupil was taught by a teacher with 14.4 years of experience. The highest percentage was in Vacoas & West at 25.6 percent. In 1995 and in 2001, the average number of years of teaching experience was 20.1 years and 21.7 respectively. A comparison of SACMEQ II and SACMEQ III data on the teaching experience and training of Standard 6 teachers seems to confirm the practice of allocating Standard 6 classes to senior teachers.

**Table 4.5: Means and sampling errors for teaching experience of teachers**

Region	Teaching Experience (years)	
	Mean	SE
1 P/Louis & North	20.6	1.27
2 B/Bassin & East	22.7	1.54
3 Curepipe & South	22.8	1.38
4 Vacoas & West	25.5	0.98
5 Rodrigues	17.4	0.38
6 Black River	14.4	0.61
7 Private schools	16.9	1.92
<b>Mauritius SACMEQ III</b>	<b>20.7</b>	<b>0.64</b>
<b>Mauritius SACMEQ II</b>	<b>21.7</b>	<b>0.52</b>
<b>Mauritius SACMEQ I</b>	<b>20.1</b>	<b>0.50</b>

A primary education cycle lasts six years. In 2007, the average Standard 6 pupil was taught by a teacher with 20 years of teaching experience which covers more than three complete cycles of primary education. It is to be recommended that more teachers with lesser years of teaching experience be given an opportunity to teach pupils at Standard 6 level.

***Policy Suggestion 4.1:*** *The human resource management and development unit needs to establish a minimum level of teaching experience requirement for teaching in Standard 6 and should formulate updated guidelines for class allocation for upper primary classes, to ensure gender fairness.*

#### **4.3.4 How many in-service courses did Standard 6 teachers attend?**

The teachers were asked to report on the number of in-service courses they had attended in the past three years. From *Table 4.6* below it can be seen that the average pupil had a teacher who had attended 1.9 courses over the last three years. Teachers were also asked for how many days they had attended the courses and the average over three years was about 20 days giving an average of 6.7 days per year which was an improvement on SACMEQ II where the number of days was approximately 15 days (an average of five days per year).

**Table 4.6: Means and sampling errors for teacher in-service courses and days of training attended in the last three years**

Region	In service Courses			
	No of In-service courses		Total No of Days attended	
	Mean	SE	Mean	SE
1 P/Louis & North	1.5	0.30	30.0	14.91
2 B/Bassin & East	2.5	0.43	13.6	5.10
3 Curepipe & South	2.0	0.60	14.7	2.62
4 Vacoas & West	2.0	0.46	32.4	21.04
5 Rodrigues	1.7	0.08	33.1	8.32
6 Black River	1.9	0.11	22.1	2.84
7 Private schools	1.9	0.45	9.9	1.75
<b>Mauritius SACMEQ III</b>	<b>1.9</b>	<b>0.18</b>	<b>20.6</b>	<b>4.81</b>
<b>Mauritius SACMEQ II</b>	<b>1.8</b>	<b>0.14</b>	<b>14.5</b>	<b>1.85</b>

It is to be noted that all Standard 6 teachers have to attend three days of in-service courses each year to discuss the school results of the CPE examination of the previous year. In-service courses are also regularly scheduled whenever new textbooks and teachers' guides are produced. Such a course lasts for one or two days. In view of the responses obtained on the number of courses and number of days attended in the last three years, one can assume that the in-service courses provided to Standard 6 teachers were generally restricted to the two main ones mentioned above.

In Mauritius in-service courses are usually scheduled during the school holidays so as to minimise disruption of classes. However, the regularity with which teachers have to forsake part of their end of term holidays is somewhat resented by teachers. Very often, it has been noticed that some teachers who do attend in-service courses during the school holidays do so under a sort of silent protest; being physically present but staying aloof from all participation or in extreme cases refuting everything said and done.

It is felt that, while it is good to obtain data on attendance of in-service courses it would be wise to acknowledge that one cannot stop at measuring attendance alone. There is a need to explore other options such as teams of supply teachers who can be deployed to replace teachers in classes on a rotation basis to allow teachers to follow more fruitful in-service courses during term time. This would ensure not only 100 percent attendance but would be more beneficial to teachers and therefore to pupils.

### 4.3.5 Did teachers consider that in-service training improved their teaching?

The teachers were also asked to what extent they found in-service courses to be effective in terms of improved teaching. The percentages and sampling errors on a regional basis are shown in *Table 4.7* below. The last column shows figures for those who found the in-service courses to be reasonably effective, effective or very effective. In short, 66.6 percent of pupils had teachers who had attended in service courses and had expressed satisfaction with the courses. This shows that the quality of the in-service courses had improved from 2001 when this percentage was 35 percent. However, the fact that 30 percent of pupils were taught by teachers who had not attended any in-service courses needs to be given some attention.

**Table 4.7: Percentages and sampling errors for the teachers' perception of effectiveness of in-service courses**

Region	Not attended any		Not Effective		Effective	
	%	SE	%	SE	%	SE
1 P/Louis & North	44.6	6.82	4.7	2.83	50.7	7.05
2 B/Bassin & East	12.9	3.95	5.7	2.40	81.3	4.33
3 Curepipe & South	26.2	7.13	3.5	2.43	70.3	7.35
4 Vacoas & West	30.5	8.14	1.0	1.06	68.4	7.99
5 Rodrigues	27.8	1.98	0.0	0.00	72.2	1.98
6 Black River	17.7	2.18	6.4	1.48	75.8	1.44
7 Private schools	30.8	7.73	1.5	1.41	67.7	7.40
<b>Mauritius SACMEQ III</b>	<b>29.9</b>	<b>2.87</b>	<b>3.5</b>	<b>1.01</b>	<b>66.6</b>	<b>2.92</b>
<b>Mauritius SACMEQ II</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>34.7</b>	<b>2.82</b>
<b>Mauritius SACMEQ I</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

***Policy Suggestion 4.2:*** *The Ministry needs to establish a computerised system of maintaining a record for each in-service course attended by a teacher so as to address in-service training gaps.*

## 4.4 General Policy Concern 6

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

### 4.4.1 How many hours per week did teachers spend in teaching?

From *Table 4.8* below, it is seen that the average time spent on teaching in the classroom amounted to 20.2 hours in 2007, showing almost no change from 2001, when the average was 20 hours. Average teaching time had more or less remained the same with no great variation across all the regions.

**Table 4.8: Mean and sampling errors for the number of periods and time spent on teaching per week.**

Region	No. of Periods per week		No. of Hours per week	
	Mean	S E	Mean	SE
1 P/Louis & North	43.2	1.61	19.4	0.81
2 B/Bassin & East	44.4	1.78	21.3	0.80
3 Curepipe & South	42.7	1.40	20.8	1.07
4 Vacoas & West	42.9	1.74	19.5	0.70
5 Rodrigues	38.5	1.07	18.8	0.68
6 Black River	44.4	0.40	20.1	0.31
7 Private schools	40.1	2.21	20.3	0.93
<b>Mauritius SACMEQ III</b>	<b>42.6</b>	<b>0.77</b>	<b>20.2</b>	<b>0.37</b>
<b>Mauritius SACMEQ II</b>	<b>24.5</b>	<b>0.24</b>	<b>20.0</b>	<b>0.08</b>
<b>Mauritius SACMEQ I</b>	<b>26.2</b>	<b>0.31</b>	<b>23.1</b>	<b>0.20</b>

### 4.4.2 How many hours per week did teachers spend in lesson preparation and marking?

Conscientious teachers spend a considerable amount of time preparing and marking lessons each week. A beginner teacher has to spend a lot of time preparing lessons. All teachers have to revise their lesson plans each term and have to correct homework all of the time.

Teachers were asked about how many hours, on average, they spent on lesson preparation and marking in a typical school week. The data are presented in *Table 4.9*.below.

**Table 4.9: Means and sampling errors for the teacher time spent on lesson preparation**

Region	Hours spent on lesson preparation	
	Mean	SE
1 P/Louis & North	6.5	0.52
2 B/Bassin & East	8.0	0.83
3 Curepipe & South	9.5	0.76
4 Vacoas & West	6.6	0.49
5 Rodrigues	8.7	0.22
6 Black River	5.3	0.16
7 Private schools	7.0	0.63
<b>Mauritius SACMEQ III</b>	<b>7.4</b>	<b>0.28</b>
<b>Mauritius SACMEQ II</b>	<b>11.3</b>	<b>0.54</b>
<b>Mauritius SACMEQ I</b>	<b>7.4</b>	<b>0.30</b>

As shown, there was a decrease in the number of hours devoted to lesson preparation from 11.3 hours in 2001 to 7.4 hours in 2007. The average time that a teacher actually taught per week was 20.2 hours in 2007 (*Table 4.7*), meaning that a teacher's week totalled 27.6 hours, including about 7.4 hours of lesson preparation and marking. In 2001, this total average time amounted to 31.3 hours showing that there was a decrease of 3.7 hours in total time between 2001 and 2007. This is an interesting finding which primary school inspectors could follow up on during class visits.

## 4.5 General Policy Concern 7

**What were Standard 6 teachers' viewpoints on assessment procedures and meeting and communicating with parents?**

### 4.5.1 How often did Standard 6 teachers give written tests to their pupils?

It is very important to have constant feedback from pupils on how they are progressing with their learning. One way of doing this is through tests. Teachers were asked how often they gave written tests. The results have been given in *Table 4.10* below.



Table 4.10: Percentages and sampling errors for the frequency of written tests

Region	Less often		2-3 times per month		1 or more per week	
	%	SE	%	SE	%	SE
1 P/Louis & North	69.3	5.73	21.6	4.59	9.1	3.16
2 B/Bassin & East	49.1	8.93	25.9	7.00	25.0	7.37
3 Curepipe & South	71.6	6.95	16.0	5.54	12.4	3.80
4 Vacoas & West	62.7	8.17	27.3	8.10	10.0	6.00
5 Rodrigues	60.6	2.17	22.7	1.55	16.7	2.24
6 Black River	42.4	3.32	40.8	3.18	16.8	2.29
7 Private schools	52.6	7.25	25.8	5.58	21.6	5.75
<b>Mauritius SACMEQ III</b>	<b>60.5</b>	<b>3.03</b>	<b>23.7</b>	<b>2.44</b>	<b>15.8</b>	<b>2.18</b>
<b>Mauritius SACMEQ II</b>	<b>29.9</b>	<b>2.82</b>	<b>26.2</b>	<b>2.72</b>	<b>43.8</b>	<b>2.99</b>
<b>Mauritius SACMEQ I</b>	<b>28.2</b>	<b>2.65</b>	<b>26.4</b>	<b>2.58</b>	<b>45.4</b>	<b>2.92</b>

In 2007, there were 15.8 percent of pupils who had teachers who gave them tests once or more per week. 23.7 percent had tests two or three times per month and this figure had not changed much since SACMEQ I. However some 60 percent were given tests less often than two to three times per month in 2007 as compared to 30 percent in 2001; a dramatic increase. The percentage of pupils who had not been given written tests often enough had almost doubled. This percentage was found to be highest at 71.6 percent in Curepipe and South. It would seem worthwhile examining what actually happens to those 60 percent of pupils whose teachers give tests less frequently and, if necessary, take remedial action.

The percentage of pupils given tests once or more per week greatly reduced from 43.8 in SACMEQ II to 15.8 in SACMEQ III. This may be put down to less inspection time due to fewer class visits effected by inspectors but no clear reason can be offered. It is suggested that the Ministry undertake a small study to examine this matter in depth.

***Policy Suggestion 4.3:*** *The Assistant Director (Primary), of the Ministry could undertake an evaluation of the continuous assessment practices in classrooms so as to set appropriate guidelines for improved teacher performance.*

#### 4.5.2 Is there a specific section in pupils' school reports for Reading and Mathematics?

Parents obtain feedback on how their children are 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 teacher on marks and /or grades obtained by the pupil in Reading, Mathematics and Health/Life skills. The results are presented in *Table 4.11*.

**Table 4.11: Percentages and sampling errors for the frequency of a specific section in pupil school report for Reading, Mathematics and health/life skills**

Region	Reading		Mathematics		Health/Life skills	
	%	SE	%	SE	%	SE
1 P/Louis & North	55.1	6.13	55.1	6.13	18.1	5.24
2 B/Bassin & East	66.3	6.8	66.3	6.8	24.3	6.81
3 Curepipe & South	80.3	7.25	80.3	7.25	35.6	7.83
4 Vacoas & West	75.4	6.19	76.1	6.41	27.0	7.36
5 Rodrigues	78.4	1.50	78.4	1.50	29.9	3.2
6 Black River	53.5	2.86	53.5	2.86	7.9	0.93
7 Private schools	68.2	6.51	67.1	6.51	29.0	6.69
<b>Mauritius SACMEQ III</b>	<b>66.9</b>	<b>2.79</b>	<b>66.7</b>	<b>2.80</b>	<b>25.2</b>	<b>2.76</b>
<b>Mauritius SACMEQ II</b>	<b>41.3</b>	<b>3.2</b>	<b>41.6</b>	<b>3.14</b>	-	-
<b>Mauritius SACMEQ I</b>	<b>8.2</b>	<b>1.86</b>	-	-	-	-

The data in the table show that approximately 67 percent pupils had a specific section in their reports for Reading and Mathematics. A smaller percentage of 25.2 percent of pupils had a specific section for reporting on health/life skills.

The low percentage for health/life skills can be explained by the fact that in certain schools, health and physical education was taught by separate teachers (Physical Education Instructors) and a separate section was being filled in by these teachers in those schools only. From SACMEQ I (1995) to SACMEQ II (2001) to SACMEQ III (2007), there have been large increases from 8.2 percent to 41.3 percent to 66.9 percent for pupils who had a specific section in their reports for comments on Reading by the teacher. It should not be difficult to extend this practice to cover 100 percent of pupils for all three subject areas.

***Policy Suggestion 4.4:*** *In order to extend good practices to all schools, the Ministry should establish a standard format for pupils' report books to include specific sections for comments on progress in all teaching areas and this should be made mandatory for all schools.*

### 4.5.3 How often did teachers meet with parents each year?

It is generally accepted that the more school head and teachers have contact with parents, the more effective the school is in promoting the achievement of pupils. Hence a question was asked about the frequency of teachers' meeting parents during the year. The results are presented in *Table 4.12*.

**Table 4.12: Percentages and sampling errors for frequency of meeting with pupils' parents.**

Region	Never		Once/year		Once/term		Once or more/month	
	%	SE	%	SE	%	SE	%	SE
1 P/Louis & North	3.0	1.78	11.0	3.55	56.3	5.52	29.6	5.73
2 B/Bassin & East	5.3	2.61	12.1	6.15	38.2	7.70	44.4	8.11
3 Curepipe & South	0.6	0.56	13.3	5.43	52.6	7.76	33.5	7.06
4 Vacoas & West	2.3	1.72	18.0	6.09	60.0	10.83	19.8	7.63
5 Rodrigues	0.0	0.00	12.0	1.85	74.1	1.75	13.9	0.78
6 Black River	6.5	1.54	37.4	1.29	36.6	2.64	19.5	1.38
7 Private schools	0.0	0.00	19.9	5.20	58.9	7.18	21.3	6.20
<b>Mauritius</b>	<b>2.4</b>	<b>0.72</b>	<b>15.1</b>	<b>2.11</b>	<b>53.3</b>	<b>3.06</b>	<b>29.2</b>	<b>2.87</b>

A small percentage of Standard 6 pupils had teachers who never met with their parents and this was more visible in regions such as Beau Bassin and East, and Black River where this percentage stood at 5.3 percent and 6.5 percent respectively.

The majority of pupils, 82.5 percent, had teachers who met with parents at least once a term that is, reasonably frequently. Heads of schools should encourage all teachers to meet with all parents at least twice a term. Private schools are not much better than public schools in terms of frequency of teacher meetings with parents of pupils.

***Policy Suggestion 4.5:*** *The primary inspectorate should, in collaboration with school heads, establish a policy on the frequency and nature of teachers meeting with parents over an academic year.*

There is need to establish a constant dialogue between parents and teachers to effectively monitor pupils' learning. From *Table 4.13* below, it can be seen that, overall, 21.2 percent of Standard 6 pupils were taught by teachers who requested parents to confirm 'by signing' that their children had completed their homework assignments. This is one way of ensuring parental interest and teachers should be encouraged to adopt this strategy.

**Table 4.13: Percentages and sampling errors of teachers asking parents to sign homework**

Region	Sign homework	
	%	SE
1 P/Louis & North	42.9	5.46
2 B/Bassin & East	48.3	8.55
3 Curepipe & South	41.1	7.29
4 Vacoas & West	54.0	9.08
5 Rodrigues	28.5	2.33
6 Black River	21.3	1.08
7 Private schools	50.1	6.88
<b>Mauritius SACMEQ III</b>	<b>44.8</b>	<b>2.98</b>
<b>Mauritius SACMEQ II</b>	<b>21.2</b>	<b>2.63</b>
<b>Mauritius SACMEQ I</b>	<b>26.5</b>	<b>2.60</b>

For comparison sake, percentages for the whole country average for homework in SACMEQ II and I are included. From *Table 4.13* above, it is observed that there has been an appreciable increase to 44.8 percent in the percentage of pupils whose teachers requested parents to sign when their children had completed their homework.

## 4.6 General Policy Concern 8

**What professional support (in terms of education resource centers, inspectors, advisory visits and school head inputs) was given to Standard 6 teachers?**

### 4.6.1 Did schools have access to an education resource centre?

From *Table 4.14* below, it is noted that only 22 percent of pupils were taught by teachers who replied they had access to an education centre. The lowest percentage, 10 percent, was noted in Port Louis & North. The highest percentage was recorded in Rodrigues. An education resource centre or teacher resource centre is a place where teachers from different schools in the surrounding area can visit for various reasons. For example, teachers can borrow and/or produce teaching materials (such as books, wall charts, games, equipment etc). Teachers can also seek the advice of the staff of the resource centre concerning some aspects of classroom practices.

**Table 4.14: Percentages and sampling errors for access to education resource centre**

Region	School served by an education resource centre	
	%	SE
1 P/Louis & North	10.2	3.73
2 B/Bassin & East	19.1	7.73
3 Curepipe & South	31.1	7.04
4 Vacoas & West	17.9	6.19
5 Rodrigues	94.8	1.24
6 Black River	22.3	1.17
7 Private schools	20.4	6.18
<b>Mauritius SACMEQ III</b>	<b>22.0</b>	<b>2.52</b>

Education resource centres can also provide a platform for exchange of ideas and sharing of best practices amongst teachers. It is therefore important that all schools be clustered round education resource centres in order to promote teacher development through teacher group interactions. These same resource centres could also be used to deliver the various in-service training sessions for teachers from a particular cluster of schools at the same time.

***Policy Suggestion 4.6:*** The Directors of zones may consider the possibility of setting up an education resource centre in each zone for primary school teachers.

#### 4.6.2 Access to computer and internet at school

Although the percentage of pupils being taught by teachers having access to a computer was almost 85 percent, the percentage of pupils being taught by teachers who had access to a to the internet was a very low at 2.9 percent. *Table 4.15* below displays information obtained from teachers concerning access to a computer and access to internet at school.

**Table 4.15: Percentages and sampling errors for access to computers and internet at school**

Region	Access to computer		Access to internet	
	%	SE	%	SE
1 P/Louis & North	83.8	3.54	0.0	0.00
2 B/Bassin & East	89.9	5.30	1.2	1.20
3 Curepipe & South	76.9	7.56	0.0	0.00
4 Vacoas & West	87.7	4.96	0.0	0.00
5 Rodrigues	65.7	1.97	2.2	0.79
6 Black River	82.7	0.42	0.0	0.00
7 Private schools	91.2	3.19	13.2	6.14
<b>Mauritius SACMEQ III</b>	<b>84.9</b>	<b>2.00</b>	<b>2.9</b>	<b>1.25</b>

Access to the internet is important for teachers to get exposure to international teaching practices, for their own professional growth and development which eventually benefits the pupils. It is expected that at present, this percentage would be much higher as much effort in the provision of internet in all primary schools have been made in the last few years.

### 4.6.3 How often did teachers receive advice from their school heads?

Teachers can feel very isolated if they are left teaching in their own classrooms and never hear how they are performing except if an inspector visits the classroom. Most teachers welcome constructive comments from school heads and other colleagues. But this assumes that other colleagues and the head can see the teacher teach. Teachers were asked how frequently they received advice from their school head and those saying ‘sometimes’ or ‘often’ were grouped together and recoded as ‘At least once a year’. The results are presented in *Table 4.16*.

**Table 4.16: Percentages and sampling errors for the frequency of advice from school heads to teachers**

Region	Never		At least once a year	
	%	SE	%	SE
1 P/Louis & North	17.3	5.47	82.7	5.57
2 B/Bassin & East	23.5	6.50	76.5	6.50
3 Curpipe & South	16.5	6.72	83.5	6.72
4 Vacoas & West	28.5	7.11	71.5	7.11
5 Rodrigues	7.4	0.21	92.6	0.21
6 Black River	20.0	0.40	80.0	0.40
7 Private schools	10.0	4.13	90.0	4.13
<b>Mauritius SACMEQ III</b>	<b>17.7</b>	<b>2.46</b>	<b>82.3</b>	<b>2.46</b>
<b>Mauritius SACMEQ II</b>	<b>9.0</b>	<b>1.61</b>	<b>91.0</b>	<b>1.61</b>
<b>Mauritius SACMEQ I</b>	<b>12.0</b>	<b>2.26</b>	<b>88.0</b>	<b>2.26</b>

Data from *Table 4.16* show that most teachers generally received advice from school heads at least once a year. It is in Vacoas & West that the percentage of pupils taught by teachers receiving advice from school heads was the lowest at 71.5 percent (almost 10 percentage points below the national average). It would be desirable that the management course attended by school heads emphasizes the importance of their role in advising their teachers.

***Policy Suggestion 4.7:*** The Ministry should ensure that the induction course designed for headmasters includes an updated component to emphasize their role as teacher adviser at school level.

## **4.7 Conclusion**

This chapter was designed to provide the reader with examples of baseline data on the characteristics of Standard 6 teachers. The characteristics focused on age, gender and housing conditions of Standard 6 teacher, their experience and training, in-service courses attended and how effective they were deemed to be, and finally how much professional support they received. Some of the same data were collected in 2001 for the SACMEQ II project and in 1995 for the SACMEQ I project. A comparison of these three sets of data or where not possible, the two sets of data, revealed some interesting changes that have occurred between 1995 and 2007.

In all, seven policy suggestions have been formulated with the aim of addressing certain issues where there has been too little or no improvement, where there is still room for improvement or where there has been some deterioration.

The first policy suggestion concerns the age, sex and seniority of Standard 6 teachers. It is suggested that younger teachers and more female teachers be given the opportunity to teach Standard 6 pupils and that a minimum level of teaching experience be used as a criterion for the allocation of Standard 6 classes. The second policy suggestion concerns the in-service courses. The dissatisfaction expressed by teachers is not only an indicator of the quality and relevance of these courses but also of the organisational modalities. The third policy suggestion concerns monitoring of teacher performance in the classroom with regard to continuous assessment of pupils in class for feedback.

Teachers obtain feedback about pupils' learning and this must be transmitted to parents. The fourth and fifth policy suggestions address the issue of increasing parental awareness and involvement in their children's academic progress. This could be done by having a specific section in pupils' reports set aside for teachers to make comments on each learning area. Certain school activities, such as publishing regular school newsletters, adopting an open-door policy and having frequent meetings between teachers and parents on a class-wise basis, are some of the strategies that could be adopted by schools not only to provide feedback to parents but also to generate parental interest in their children's learning.

The sixth policy suggestion addresses the lack of education resource centres and makes a proposal for each zone to initiate action for setting up at least one such centre for the benefit of teachers. One of the main roles of the head master is to proffer advice on pedagogical matters to teachers and to establish a working environment that allows teachers to perform at their best. This issue is addressed in the last policy suggestion. There is need for the teacher to feel the constant support of the headmaster and it is up to the headmaster to ensure that a motivating work environment is constantly upheld at school. Headmasters need, in particular, to be sensitised on their advisory role through a well-designed training strategy.



# Chapter 5

## Characteristics of School Heads and their Schools

### 5.1 Introduction

In this chapter, data describing information about the schools and school heads of Standard 6 pupils are presented. School heads are important components of a school system because they are the school managers and therefore they make decisions about the running of their school.

A school head is the top executive in a school, and is therefore responsible for supervising and evaluating all school staff (teaching and non-teaching) and making sure that all members of the school follow the rules. Heads are also the chief agents for enforcing national education policy within the school, and are responsible for ensuring that the official curriculum is followed and covered. As leaders, school heads are role models in schools, and their actions are noticed and interpreted by others as reflecting what is important (Lashway *et al.*, 1997). Heads of schools are the instructional leaders and school effectiveness depends very much on their leadership as well on as their managerial qualities. It is also believed that teacher experience improves the performance of headmasters. Being an instructional leader involves the identification of learning needs and giving instructions for curriculum implementation.

The three major concerns of this chapter are

- What were the personal characteristics of school heads (for example, age and gender)?
- What were the professional characteristics of school heads in terms of academic, professional, experience, and specialized training?
- What were the school heads' views on (a) daily activities for example, teaching, school-community relations, and monitoring pupil progress), (c) inspections, (d) community input, (e) problems with pupils and staff (for example, pupil lateness, teacher absenteeism, and lost days of school)?

### 5.2 General Policy Concern 9

**What were the personal characteristics of school heads (for example, age, and gender)?**

The school head is often said to be the driving force of a school. Quality of teaching and the achievement of pupils are very often influenced by the quality of leadership and the personal

characteristics of the heads of schools. What then were the characteristics of primary school heads in the year 2007 and were these different from those in 2001?

**Table 5.1: Means, percentages and sampling errors for school heads' age and gender**

Region	Age of school head (Years)		Gender (Female)	
	Mean	SE	%	SE
1 Port Louis & North	56.6	0.37	35.3	8.13
2 Beau Bassin & East	56.6	0.53	36.3	10.27
3 Curepipe & South	55.0	0.57	22.7	8.63
4 Vacoas & West	55.7	0.53	59.0	13.10
5 Rodrigues	53.1	0.02	19.8	0.29
6 Black River	56.6	0.04	25.7	0.60
7 Private Schools	56.2	0.92	61.3	10.01
<b>Mauritius SACMEQ III</b>	<b>56.0</b>	<b>0.25</b>	<b>40.1</b>	<b>4.04</b>
<b>Mauritius SACMEQ II</b>	<b>53.5</b>	<b>0.27</b>	<b>33.8</b>	<b>3.82</b>
<b>Mauritius SACMEQ I</b>	<b>54.0</b>	<b>0.23</b>	<b>30.7</b>	<b>3.94</b>

Data on the age and gender of the school heads is reported in terms of pupils in *Table 5.1* above. The percentage shown for female heads in the Port Louis & North region in SACMEQ III means that 35.3 percent of pupils were in schools with headmasters who were female. The mean age suggests that the average Standard 6 pupil in region 1 was in a school whose headmaster was 56.6 years old. For all of Mauritius, the average pupil had a school head that was 56.0 years old. There was not much variation among the zones except that the heads in Rodrigues were slightly younger than those in the other regions. The mean age of school heads for 2007 showed a slight increase from 53.5 to 56.0 years.

A comparative analysis between SACMEQ II and III showed that the percentage of pupils with female school heads increased from 33.8 percent in 2001 to 40.1 percent in 2007. Some variation among zones was noted. Vacoas & West and private schools had the highest percentage of pupils with female headmasters, 59.0 and 61.3 respectively. It was also noted that Curepipe & South and Rodrigues had the highest percentages of pupils with male school heads. With the increase of female teachers entering the profession the gender balance in all regions has been slowly improving which is a good sign as far as gender equality was concerned.

### 5.3 General Policy Concern 10

**What were the professional characteristics of school heads (in terms of academic, professional, experience, and specialized training)?**

Improving pupils' learning must always be high on the priority list of any head of school. The increasing concern with the achievement of pupils has encouraged countries to focus more on the functioning of schools. Recent research has emphasised that improving the quality of education is not simply a question of injecting more resources (didactic materials, equipment, teachers, teacher and head teacher training) into the system but that the management of these resources at the school level is fundamental. Also shown by various studies is the importance of professional supervision and support structures for teachers.

The professional characteristics of school heads were reported by analysing their levels of:

- academic education,
- teacher training,
- teaching experience,
- experience as a school head,
- specialised training in school management,
- teaching hours per week.

#### 5.3.1 What were the levels of academic education of school heads?

In 2007 (SACMEQ III) school heads were required to indicate the highest level of academic education they had reached. Data collected are presented in *Table 5.2* below. One element that stands out is the re-emergence of pupils who had heads of schools with less than senior secondary education, that is, they had only junior secondary or primary education. Curepipe & South, Vacoas & West and private schools, all reported school heads with this level of education. On a national level, 2.2 percent of pupils had school heads who had not reached senior secondary level.

One plausible explanation for this is the fact that heads of schools were appointed on a seniority basis from the grade of teachers, irrespective of academic qualifications at the time of the promotion. On the other hand the percentage of those pupils in schools where the heads had a tertiary education almost doubled from 4.7 percent in 2001 to 8.7 percent in 2007.

**Table 5.2: Percentages and sampling errors for level of academic education of school heads**

Region	Level of academic education – SACMEQ III							
	Primary/ Junior Secondary		Senior secondary		A-level		Tertiary	
	%	SE	%	SE	%	SE	%	SE
1 Port Louis & North	0.0	0.00	49.2	8.57	39.8	8.44	10.9	5.29
2 Beau Bassin & East	0.0	0.00	53.1	10.93	33.6	10.63	13.3	7.38
3 Curepipe & South	6.2	6.12	32.5	10.03	57.4	10.85	3.9	3.93
4 Vacoas & West	5.4	5.43	54.6	13.27	34.7	12.68	5.4	5.43
5 Rodrigues	0.0	0.00	69.1	0.58	14.0	0.41	16.9	0.51
6 Black River	0.0	0.00	65.0	0.67	35.0	0.67	0.0	0.00
7 Private Schools	3.5	3.54	65.4	9.37	24.1	8.32	7.1	5.00
<b>Mauritius SACMEQ III</b>	<b>2.2</b>	<b>1.32</b>	<b>52.5</b>	<b>4.23</b>	<b>36.6</b>	<b>4.11</b>	<b>8.7</b>	<b>2.37</b>
<b>Mauritius SACMEQ II</b>	<b>0.0</b>	<b>0.00</b>	<b>55.0</b>	<b>4.18</b>	<b>40.4</b>	<b>4.15</b>	<b>4.7</b>	<b>1.78</b>

### 5.3.2 Number of years of teacher training

Data collected showed that in 2007 about 79 percent of pupils were in schools where the head had benefitted from a two year pre-service teacher training. This can be explained by the fact that considering the age group of the school heads, most of them had followed the two year pre-service teacher training course which had been a pre-requisite for teaching in a primary school until 2003. (The duration of the pre-service teacher training course presently dispensed to trainee teachers is 3 years). Only about 10 percent of pupils were in schools with school heads who had followed teacher training for less than or equal to one year.

### 5.3.3 Teaching Experience

It is generally believed that school heads with more experience as teachers are better equipped to manage their schools than those with less teaching experience. *Table 5.3* shows the means and sampling errors for the years of teaching experience of the school heads, by region. An interesting finding was that the average Standard 6 pupil in Mauritius had a head of school who had 33.9 years of teaching experience compared to the 31.1 years in 2001, representing an improvement by 2.8 years. This was viewed positively as it was expected to impact on the quality of management and its effect on the quality of teaching and learning. This is expected to improve further after government's decision to raise the legal retirement age from 60 to 65 years.

**Table 5.3: Means and sampling errors for the teaching experience of the school heads**

Region	Mean	SE
1 Port Louis & North	34.9	0.76
2 Beau Bassin & East	35.1	0.88
3 Curepipe & South	31.8	0.76
4 Vacoas & West	34.0	0.67
5 Rodrigues	32.0	0.01
6 Black River	33.0	0.06
7 Private Schools	33.6	1.10
<b>Mauritius SACMEQ III</b>	<b>33.9</b>	<b>0.37</b>
<b>Mauritius SACMEQ II</b>	<b>31.1</b>	<b>0.35</b>
<b>Mauritius SACMEQ I</b>	<b>23.7</b>	<b>0.53</b>

### 5.3.4 Experience as a school head

In *Table 5.4* below, information has been presented on the school heads' years of experience in teaching including the years spent as a school head. School heads in Mauritius had on average 4.6 years of experience working as the head of a school. This is an improvement compared to 3.6 in 2001 but is still not at the 1995 level of 4.7 years.

**Table 5.4: Means and sampling errors of school heads' years of experience as a school head**

	Number of Years teaching		Number of Years as school head	
	Mean	SE	Mean	SE
<b>Mauritius SACMEQ III</b>	33.9	0.37	4.6	0.30
<b>Mauritius SACMEQ II</b>	31.1	0.35	3.6	0.18
<b>Mauritius SACMEQ I</b>	23.7	0.53	4.7	0.34

### 5.3.5 Specialised training in school management

It is also believed that school heads who have received special management training will run their schools more efficiently than those who have not received the management training. Data presented in *Table 5.5* below, show that in 2007, only 75.5 percent of pupils had school heads who had received specialised training in school management after they became the school head.

**Table 5.5: Percentages and sampling errors for specialised training in school management of the school heads**

Region	%	SE
1 Port Louis & North	78.5	7.27
2 Beau Bassin & East	54.3	10.92
3 Curepipe & South	75.7	9.06
4 Vacoas & West	67.9	13.57
5 Rodrigues	86.0	0.00
6 Black River	59.6	0.00
7 Private Schools	95.9	4.13
<b>Mauritius SACMEQ III</b>	<b>75.5</b>	<b>3.63</b>

It should be pointed out that heads of schools are presently required to follow a distance, diploma course in educational management at the Mauritius Institute of Education.

### 5.3.6 School heads' teaching hours per week

Data was collected from heads of schools on the time that they allocated to themselves for teaching. The average number of periods devoted to teaching by heads is presented in Table 5.6 below.

**Table 5.6: Mean number of periods taught by heads of school and sampling errors**

Region	Mean number of periods taught	
	Mean	SE
1 P Louis & North	4.03	1.80
2 B Bassin & East	4.48	2.74
3 Curepipe & South	4.40	0.98
4 Vacoas & West	1.73	0.84
5 Rodrigues	2.40	0.06
6 Black River	2.92	0.04
7 Private Schools	1.88	0.54
<b>Mauritius SACMEQ III</b>	<b>3.39</b>	<b>0.73</b>

Data in *Table 5.6* show that Standard 6 pupils had heads of schools who taught for a mean of 3.39 periods per week which is equivalent to about 85 minutes weekly based on the fact that each period is of 25 minutes duration. Whether heads of schools should teach in class so as to keep up to date and act as models for those teachers who are not experienced had been an issue of some debate. It is also true that an efficient head of school might not necessarily have been an efficient teacher and might be unable to act as a model teacher. Besides, the creation

of the new post of mentors was recommended by the Pay Research Bureau in 2003, so that the former could act as role models and guides to inexperienced teachers. It is also acknowledged that the role of school heads is becoming more and more administrative and managerial in nature allowing less time for teaching.

## 5.4 General Policy Concern 11

**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)?**

### 5.4.1 How many days were lost in the last school year?

In Mauritius, the school calendar is approved after consultation with union bodies. It is common to have a number of school days set aside each year for special festivities. School heads were asked about the number of school days lost (that is no teaching took place) in the preceding school year as a result of disruptions caused by factors beyond their control (e.g. natural calamities, strikes, social unrest, etc). Data collected are presented for the country and for each region in *Table 5.7* below.

**Table 5.7: Means and sampling errors for number of official school days lost**

Region	Mean (days)	SE
1 P Louis & North	2.6	0.27
2 B Bassin & East	1.8	0.25
3 Curepipe & South	1.3	0.26
4 Vacoas & West	2.2	0.03
5 Rodrigues	1.2	0.03
6 Black River	1.1	0.20
7 Private Schools	2.1	0.14
<b>Mauritius SACMEQ III</b>	<b>2.0</b>	<b>0.55</b>
<b>Mauritius SACMEQ II</b>	<b>6.2</b>	<b>0.56</b>

From 1995 to 2001 the average figure of 7.9 days per year had been reduced to 6.2 days in 2001. A much greater decrease was observed from 2001 to 2007 when a mean of 2.0 days was recorded for Mauritius, thus showing remarkable progress. It is almost impossible to control the number of days lost due to disruptions caused by factors beyond the control of the head of school. In recent years there has been an increase in weather disturbances resulting in

torrential rains and sudden flooding leading to ‘no school’ days for reasons of security. Due to a sudden outbreak of the infectious disease H1N1 in 2009, schools were closed as a preventive measure for about five days. As a palliative measure, a system was devised to provide school children with additional homework accompanied by intensive airing of educational programmes on television for maintaining some sort of continuity in the learning process. The credit for this quick response goes totally to the Ministry of Education including school heads and teachers. However, there is a need to work out, in consultation with stakeholders, emergency measures to be implemented in the event that school days are again lost to such sudden occurrences.

It is to be noted that the lost days did not take into consideration those days that were planned for co and extra-curricular activities. It is observed that the national mean in 2007 was three times less than the mean number of days lost in 2001. However it must be recalled that for Standard 6 pupils the number of working school days in the official third term is further reduced because of the CPE examination scheduled in mid to late October.

Presently the prescribed number of school days for primary is 180 days over a year and this is taken into consideration at the time of finalising school term dates for the next academic year. In recent years it has been observed that at the time of fixing of examination dates for the CPE other considerations (such as the need for early publication of results for a comfortable admission to Form I and religious festivals) supersede the importance of abiding by an established number of school working days. There may be a need to establish a national benchmark for an annual number of school working days specifically for Standard 6 which will need to be respected at the time of finalising the CPE examination time table.

***Policy Suggestion 5.1:*** *The school management unit of the Ministry needs to set up a task force to study the possibility of establishing a minimum mandatory number of school days in a year, specifically for Standard 6.*

#### **5.4.2 What was the frequency of inspectors’ visits over the last five years?**

The primary inspectorate is required to visit government schools on a regular basis. Private grant-aided primary schools have their own cadre. School heads were asked about how many times an inspector had visited the school in the last five years. In *Table 5.8* the percentages of



pupils in schools that received at least one visit for different purposes from 2003 onwards are presented.

**Table 5.8: Percentages and sampling errors for schools having school inspections**

Region	Last year of inspection													
	Never		before 2003		2003		2004		2005		2006		2007	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
1 P Louis	29.2	7.94	17.4	6.20	3.0	3.02	2.12	2.14	8.1	4.56	13.9	5.90	26.3	7.65
2 B Bassin	38.5	10.85	-	-	-	-	-	-	3.9	3.88	7.6	5.42	50.0	10.89
3 Curepipe	52.5	11.25	4.1	4.12	4.7	4.73	-	-	-	-	30.3	10.21	8.3	5.79
4 Vacoas	41.7	13.56	14.7	8.32	5.4	5.48	-	-	4.4	4.48	23.8	11.65	10.0	7.06
5 Rodrigues	29.1	0.34	4.3	0.19	-	-	-	-	-	-	29.8	0.47	36.8	0.47
6 Black River	36.1	1.31	3.9	0.25	-	-	12.9	0.31	-	-	6.2	0.16	40.9	0.97
7 Private	57.2	10.09	4.1	4.13	-	-	-	-	-	-	16.8	7.17	21.8	9.12
<b>Mauritius</b>	<b>41.7</b>	<b>4.21</b>	<b>8.1</b>	<b>2.15</b>	<b>2.1</b>	<b>1.24</b>	<b>1.1</b>	<b>0.58</b>	<b>3.4</b>	<b>1.51</b>	<b>17.3</b>	<b>3.11</b>	<b>26.3</b>	<b>3.61</b>

**Table 5.9: Mean and sampling errors for school inspections**

Region	Mean	SE
1 P Louis & North	21.8	3.74
2 B Bassin & East	33.4	7.24
3 Curepipe & South	27.5	6.99
4 Vacoas & West	29.0	7.97
5 Rodrigues	6.3	0.08
6 Black River	34.5	0.54
7 Private Schools	25.7	5.81
<b>Mauritius SACMEQ III</b>	<b>26.2</b>	<b>2.47</b>

A large percentage, 41.7 percent of pupils were in schools that were never visited as of 2007. 26.2 percent of Standard 6 pupils were in schools which received at least one visit from an inspector in 2007. The percentage of pupils which were in schools visited in 2007 was highest in Black River.

The mean number of visits received from inspectors in the period January 2006 to September 2007 is displayed in *Table 5.9* above. A national average of about 26 school visits was reported in that period. The highest value was obtained for Black River. It is interesting to find that schools in Rodrigues indicated the lowest mean of just 6.3 visits,

Inspectors visit schools for various reasons; pedagogical visits and those of an administrative nature are a regular feature. However it should be noted that inspectors do visit for other reasons such as carrying out investigations, for fact finding or for examination purposes. It would be interesting to evaluate the effectiveness of those visits, and how far advice tendered was useful to the teachers and school heads, wherever shortcomings were identified. It would

also be worthwhile to establish whether follow up visits were part of the school inspection strategy.

Data in *Table 5.10* below show that while 21.5 percent of pupils were in schools that did not have any inspections; 13.2 percent pupils were in schools inspected between 41 to 75 times and 5.9 percent pupils were in schools which received ninety or more visits. This is a highly anomalous situation and signifies that a large number of schools and a considerable number of teachers were working in isolation and did not receive any support while some schools were repeatedly subjected to visits by inspectors. There are different ways of interpreting this set of data: either these frequently visited schools were what is commonly referred to in the education jargon as ‘difficult’ schools and therefore had to be continuously monitored or, they were the inspectors’ ‘favourite’ schools where flying visits could be effected without involving much ‘hard work’. The ZEP schools that are indeed given extra support by a core team of designated inspectors would certainly account for a large part of these frequently inspected schools. It is hoped that the first interpretation is the correct one. It would be a worthwhile exercise to probe deeper into the factors which influence the choice of schools to be visited and to explore the possibility of establishing criteria for the number of visits to a school in a year.

**Table 5.10: Frequencies of inspection and sampling errors**

Frequency of visit in two years	%	SE
0	21.5	3.49
1 – 10	26.1	3.70
11 -20	10.1	2.52
21 – 30	6.7	2.02
31 – 40	11.7	3.00
41 – 75	13.2	2.99
76 – 89	4.8	1.78
90 or more	5.9	1.87

***Policy Suggestion 5.2:*** *The primary inspectorate should consider the setting up of a protocol for school inspection comprising criteria for the frequency of visits to schools and establish guidelines for a reporting and monitoring mechanism.*

### 5.4.3 Community contribution to school activities

The school head provides vision, leadership and direction for the school. In the quest of fulfilling the vision, the school head also secures the commitment of the wider community to

the school by developing and maintaining effective networks with the parent community and local institutions.

The heads of school were asked to indicate whether parents and/or the community contribute to the school. The responses are summarised in *Table 5.11* below. These provide a measure of the interest of parents and community in the local school. In 2001, 88.0 percent of Standard 6 pupils were in schools where parents/community contributed to organizing extra-curricular activities and about 60 percent of pupils were in schools where parents/community contributed to the construction/maintenance and repair of furniture/equipment and the purchase of other school supplies. In 2007, the focus on extra-curricular activities had been maintained and community involvement in the provision of school meals had doubled to 13.0 percent.

**Table 5.11: Percentages and sampling errors for community contributions to the school**

Type of contribution	Pupils in schools with community contributing to			
	SACMEQ II		SACMEQ III	
	%	SE	%	SE
Building of school facilities	8.3	2.50	11.1	2.70
Maintenance of school facilities	34.7	4.14	33.4	3.99
Construction/maintenance and repair of furniture/equipment	66.4	3.96	41.2	4.12
The purchase of textbooks	30.1	4.00	22.5	3.49
The purchase of stationery	42.8	4.28	34.5	3.99
The purchase of other school supplies	64.6	4.08	46.3	4.20
Payment of examination fees	14.4	3.04	8.9	2.53
Payment of the salaries of additional teachers	0.0	0.00	0.7	0.65
Payment of an additional amount of the salary of teachers	0.0	0.00	0.7	0.65
Payment of the salaries of non-teaching staff	0.0	0.00	0.7	0.65
Payment of an additional amount of the salary of non-teaching staff	2.4	1.55	3.5	1.86
Extra-curricular activities	88.0	2.70	85.1	3.11
Assisting teachers in teaching without pay	4.2	1.85	2.9	1.19
Provision of school meals	6.5	1.89	13.0	2.99

#### 5.4.4 School community problems

School heads were required to respond whether they had any problems with members of the community. It is a fact that the influence of the community on the day to day running of the school is becoming more pronounced. Cases involving parental intervention at school are reported almost every day and represent a threat to the teaching and the non-teaching personnel.

Table 5.12 gives the percentages of pupils with school heads reporting no problems. Data from the table shows that 38.1 percent of Standard 6 pupils were in schools where the heads did not have any problem with the school community which implies that about 62 percent had a problem, be it major or minor. The figures for Black River reveal that only 14.1 percent did not have a problem meaning that 85.9 percent of pupils were in schools where there were problems involving the community. The school community linkage needs to be strengthened in the case of most schools and is another area where school parent teacher associations could make a greater contribution in terms of effort and attention. The whole school stands to benefit from a closer community and school cooperation.

**Table 5.12: Percentages and sampling errors of pupils with school heads not having community problems**

Region	Not any problem	
	%	SE
1. Port Louis & North	28.7	7.58
2. East & Beau Bassin	35.5	10.15
3. South & Curepipe	40.4	10.61
4. West & Vacoas	60.9	12.43
5. Rodrigues	24.2	0.52
6. Black River	14.1	0.43
7. Private Schools	46.6	10.00
<b>Mauritius SACMEQ III</b>	<b>38.1</b>	<b>4.09</b>

#### 5.4.5 Pupils' behavioural problems

There are a few schools that do not have problems with their pupils and/or teachers. In SACMEQ I some 12 percent of pupils were in schools that had problems with pupil absenteeism, and by 2001 this had risen to nearly 15 percent. Pupil absenteeism was strongly related to poor reading performance. In 2001 as well as in 2007, questions were asked about many more types of behavioural problems that are sometimes encountered in schools. School heads were asked how frequently the problem occurred. The results for SACMEQ II and SACMEQ III are displayed in Table 5.13. The percentages are the percentages of pupils in schools where the head said that the problem never occurred.

The inverse of 'never occurred' is that it occurred sometimes or often. It can be seen that only 5 percent of pupils were in schools where the head said that the problem of pupils arriving late at school never occurred. It must then be inferred that 95 percent of pupils were in schools where the problem occurred sometimes or often. The most frequently cited problems were health, classroom disturbances, cheating, use of abusive language, theft, intimidation of

pupils, and fights. It should be noted that 4.1 percent and 8.0 percent of pupils were in schools where the problem of drug abuse and alcohol abuse respectively occurred sometimes or often. There are sufficient pupils in schools where the problems occurred to suggest that the Ministry commission a small study to determine the exact causes and nature of these problems and to suggest steps that can be taken to diminish them or to assess and address the real causes behind what may be simply symptomatic ills.

**Table 5.13: Percentages and sampling errors for pupil behavioural problems which never occurred**

	Indicating 'never' occurred			
	SACMEQ II		SACMEQ III	
	%	SE	%	SE
Arriving late at school	5.0	1.95	2.1	0.88
Pupil absenteeism(i.e. unjustified absence)	*	*	10.2	2.67
Skipping classes	67.6	4.07	67.8	3.92
Dropping out of school	43.0	4.25	51.4	4.20
Classroom disturbance	16.3	3.19	7.5	2.42
Cheating	25.6	3.73	16.2	3.11
Use of abusive language	19.6	3.34	14.4	3.12
Vandalism	58.7	4.23	45.2	4.24
Theft	36.2	3.98	23.7	3.66
Intimidation of pupils	19.0	3.24	10.2	2.42
Intimidation of teachers/staff	76.6	3.76	76.7	3.50
Physical injury to staff	97.2	1.40	96.1	1.51
Sexual harassment of pupils	91.3	2.38	85.3	3.01
Sexual harassment of teachers	100.0	0.00	98.2	1.16
Drug abuse	99.3	0.70	95.9	1.57
Alcohol abuse	97.2	1.28	92.0	2.13
Fights	10.8	2.46	6.4	2.19
Health problems	2.4	1.28	2.6	1.46

\* not included in SACMEQ II

***Policy Suggestion 5.3:*** The Ministry may commission a study to determine the exact nature of the health problems of pupils and the extent of drug and alcohol abuse in school so as to define a comprehensive school health strategy and an action plan to minimise their impact on learning activities of these pupils at school.

#### 5.4.6 Teachers' behavioural problems

Heads were also asked about behavioural problems associated with teachers. The results have been presented in Table 5.14. Again, the percentages are of pupils in schools where the head stated that the problem never occurred. It can be seen that the major problem for teachers was arriving late at school. Teachers' health was also a commonly occurring problem. Some 5.4 percent of Standard 6 pupils were in schools where the heads reported that teachers never arrived late. This implied that 94.6 percent of Standard 6 pupils were in schools where there

was a problem of teachers arriving late to school. It should be recalled that the official school days lost reported earlier (Table 5.7) was on the high side. These two problems taken together indicated a substantial loss in contact hours. The school year extends to just over 37 weeks, which leaves 15 weeks of yearly school holidays. Every year a school teacher is entitled to following additional days off work: 11 days of casual leave which is non-cumulative, 21 days' sick leave, of which an unused balance of up to a maximum of 16 days is paid, and a minimum of 15 days of overseas leave which can be cumulated to a maximum of 210 days.

**Table 5.14: Percentages for teacher behavioural problems**

Frequency of teacher behavioural problem	Indicating 'never' occurred			
	SACMEQ II		SACMEQ III	
	%	SE	%	SE
Arriving late at school	3.5	1.47	5.4	1.96
Absenteeism	55.4	4.26	45.5	4.27
Skipping classes	91.6	2.36	89.8	2.37
Intimidation or bullying of pupils	76.7	3.73	78.4	3.47
Sexual harassment of teachers	100.0	0.00	99.1	0.77
Sexual harassment of pupils	100.0	0.00	96.9	1.32
Use of abusive language	81.8	3.30	80.0	3.35
Drug abuse	100.0	0.00	98.6	0.90
Alcohol abuse	97.9	1.05	98.0	0.91
Health problems	21.3	3.55	16.2	3.14

The second major problem reported by the heads pertains to teachers' health. Just 16.2 percent of Standard 6 pupils were in schools where the heads reported that teachers did not have any health problems. It can be inferred that 83.8 percent of standard 6 pupils were in schools where the heads reported that teachers had health problems. Yet again, this problem can be translated into one of teachers being physically absent from the class.

***Policy Suggestion 5.4:*** The Ministry should carry out a study to examine the impact of teacher lateness and health problems on the number of teacher-pupil contact hours, and suggest steps to remedy this problem.

#### 5.4.7 Provision of free school meals

School heads were required to state whether there had been a free school meal / nutrition programme for pupils at their respective schools. Responses from school heads show that 27.8 percent of pupils were in schools where there was no such activity. However it should be pointed out that data collected showed that 72.2 percent pupils were in schools where at least

one free meal was provided per day. This could be explained by the existing government policy of providing one bread per pupil daily in government funded primary schools.

Currently in the ZEP schools, which represent about one tenth of the total number of primary schools, pupils are provided with a complete free meal. In *Table 5.11*, it can be seen that 13 percent of pupils were in schools where the community contributed to school meals.

#### 5.4.8 Borrowing of books from school library

As discussed in chapter 3, 80.1 percent of pupils were allowed to take books home from the class library. School heads were asked to report on whether pupils were allowed to borrow books from the school library to take home to read. Their responses are shown in *Table 5.15* below. It can be seen that in 2007, the responses of school heads indicated that 71.3 percent of Standard 6 pupils could take books home to read. However the percentage in Black River region is alarmingly low. From SACMEQ II to SACMEQ III a large decrease in percentage response was noted which is indicative of the extent to which the reading culture has deteriorated.

**Table 5.15: Percentages and sampling errors for school heads responses to whether pupils are permitted to borrow books from the school/class library**

Region	Can borrow from school library	
	%	SE
1 Port Louis & North	73.1	7.48
2 East & Beau Bassin	80.1	9.39
3 Curepipe & South	77.7	8.54
4 Vacoas & West	74.7	11.95
5 Rodrigues	87.0	0.20
6 Black River	34.0	0.37
7 Private Schools	57.5	9.84
<b>Mauritius SACMEQ III</b>	<b>71.3</b>	<b>3.77</b>
<b>Mauritius SACMEQ II</b>	<b>90.1</b>	<b>2.59</b>
<b>Mauritius SACMEQ I</b>	<b>93.2</b>	<b>2.19</b>

School heads can make reading, a school cause in order to reverse the trend and develop means and ways of inducing pupils to read. This can only be done at the school level through a proper partnership with parents, publishers and parents. The Ministry has in the past developed several strategies related to the provision of resources such as school and classroom libraries but the reading culture among pupils has not improved significantly. It is time for school leaders to tackle the lack of interest of pupils in reading through the adoption of small innovative measures which should become part of established school practices.

Parents' and teachers' reading clubs together with pupils' reading clubs, inter-class story telling competitions and once a term activities such as 'Bring a book, Take a book' are just a few examples of good practices which could be encouraged.

## **5.5 Conclusion**

In this chapter we have examined the characteristics of heads of primary schools pertaining to the age, gender, teaching experience, teacher training and specialised training in management. With the increase of female teachers entering the profession the gender balance in all regions has been slowly improving which is a good sign as far as gender equality was concerned. While examining the qualification of the school heads it was encouraging to note that there was an improvement and that they had more teaching experience, from those surveyed in SACMEQ I and II.

Another important aspect impacting on teaching and learning, which is the annual number of school days has also been examined. The prescribed number of school days which is 180 days over a year for primary is carefully taken into consideration at the time of finalising school term dates for the next academic year but does not appear to be strictly maintained especially for Standard 6 classes.

There may be a need to establish a national benchmark for an annual number of school working days specifically for Standard 6 which will need to be respected at the time of finalising the CPE examination time table.

The first policy suggestion hence pertains to establishing a minimum number of school days to be prescribed specifically for Standard 6.

This chapter also dealt with the issue of the frequency of visits of inspectors to a particular school. A school visit is one of the best ways to gauge a school's 'ethos' and an inspector's pedagogical input during a class visit has its own particular merits and is essential in improving the quality of pupils' learning. However too many visits too often may have a disruptive effect on the school and the teaching and learning process. The data revealed a highly anomalous situation concerning inspectors' visits to schools: while about one fifth of pupils were in schools that did not have any inspections, about six percent of pupils were in schools which received ninety or more visits in a year. Hence, the second policy suggestion expresses the need for a protocol concerning school inspections comprising criteria for the number of visits to schools and guidelines for a reporting and monitoring mechanism.



Some indicators relating to interactions between school heads and members of their teaching staff and some of the pupil and teacher behavioural problems were examined. Pupil lateness and teacher lateness were considered as the major problem. This should be a matter of concern for the authorities. Because teachers are role models, their behaviour can influence pupils' behaviours. If teachers arrive late to school pupils are likely to notice and emulate this behaviour. Teachers therefore need to be good role models to pupils by avoiding negative behaviour such as arriving late at school (Hungu, 2011).

The health of both pupils and teachers was also regarded as a major problem for school heads. Headmasters' relationships with parents and the community were explored as they are agents in the wider society and often contribute a lot to the success of a school. In view of the various problems reported by school heads, a policy suggestion was formulated with the aim of assessing the causes of and devising strategies to minimise the problems linked to health and substance abuse. The last policy suggestion is in relation to teacher lateness and teacher absenteeism.

## Chapter 6

### School Resources

#### 6.1 Introduction

This chapter is concerned with school resources: classroom resources, physical resources and human resources. These resource inputs were assessed by 36 indicators that have been aligned along the three main dimensions:

**Essential Classroom Resources:** Twelve indicators pertaining to two essential resource areas (i) Teaching and learning materials and (ii) Equipment and facilities were selected because they describe the presence of ‘essential classroom resources’ that could be expected to be available in all school classrooms if effective teaching and learning is to take place.

High levels of access to all these essential resources are required for all schools as they provide a minimal standard of educational environment for all pupils. For example, teachers can only teach the required curriculum if they have access to a teacher’s guide, pupils can only learn effectively if they have access to textbooks, and schools can only operate in an acceptable fashion when pupils have access to water and have places to sit and write.

**Desirable Physical Resources:** Twelve indicators pertaining to two physical resource areas (i) Buildings and (ii) Equipment and facilities were selected because they describe the presence of ‘desirable physical resources’ that could reasonably be expected to enhance the quality of the general conditions of schooling.

High levels of access to these resources imply that pupils will undertake their lessons in comfortable buildings that have suitable physical facilities for pupils, teachers and school heads. For example, good physical resource environments should feature school buildings that have been well maintained and that have working areas for both teachers and school heads. Additional physical resources would include classroom storage areas, sports fields or playgrounds and modern equipment such as a television set and a photocopier.

**Desirable Human Resources:** Twelve indicators pertaining to three human resource areas (i) School heads, (ii) Teachers and (iii) Educational environment were selected because they

describe the presence of ‘desirable human resources’ that could reasonably be expected to improve the quality and educational impact of human interactions within schools.

High levels of access to these resources imply that pupils will experience their education in un-crowded classrooms that are supervised by well-trained and knowledgeable teachers, and that these educational experiences will be managed by well-trained school heads. For example, better human resource environments should feature school heads that have completed at least senior secondary schooling and appropriate management training and teachers who have completed pre-service and in-service training and have a high level of subject matter knowledge.

The main research questions tackled in this chapter are:

- What were the levels of essential classroom resources (for example, sitting and writing places for pupils, teacher table and chair, writing board, teacher’s guides, book corner or school library, radio, water) and classroom materials (for example, exercise books, pen or pencil & ruler, dictionary, textbooks) in Standard 6 classrooms in 2007 and what were the trends between 2001 and 2007?
- What were the levels of desirable physical resources (for example, buildings in good condition, school fence, school head office, staffroom, bookshelves, sports or playground, electricity, television, photocopier and computer) and what were the trends between 2001 and 2007?
- What were the levels of desirable human resources (for example, female school heads, school head academic and professional background, female teachers, teacher training, acceptable class size and regular class attendance) in 2007 and what were the trends in these resources between 2001 and 2007?

## **6.2 General Policy Concern 12**

**Have material resources (for example, classroom teaching materials and facilities) been allocated in an equitable fashion among regions and what changes were there between 2001 and 2007?**

Pupils' textbooks are essential tools for effective teaching and learning to take place in the classroom. It is widely accepted that well-designed textbooks can provide a platform for effective teaching and learning in schools because they offer: a systematic plan for the curriculum, learning material that engages and motivates pupils, and exercises that enhance and sustain important knowledge and skills.

When pupils have textbooks their teachers can make more effective use of class time by avoiding tasks such as copying text onto a chalkboard. This results in more time being available for pupils to spend on active learning. Textbooks also permit teachers to utilize a wider range of teaching strategies such as: assigning reading exercises to the whole class while providing more focused teaching to slower learners, stimulating classroom discussions about material that has been read by all pupils, and providing reading homework and associated questions that reinforce classroom lessons (Ross, 2010). In Mauritius the Government policy is to provide each pupil in Standards 1-6 with free textbooks for all subjects at the beginning of every school year. In addition, as from Standard 5 each pupil is given a free dictionary and an atlas.

### 6.2.1 What percentage of pupils had their own Reading (English) and Mathematics textbooks and their own dictionary?

Table 6.1 below shows the percentages of Standard 6 pupils that had access to their own textbooks for Mathematics and English and a dictionary. The table also displays the percentages of Standard 6 pupils that had access to the most elementary of pupil requirements such as an exercise book, a pen or a pencil and a ruler.

**Table 6.1: Percentages and sampling errors for pupils having own English and Mathematics textbooks and dictionary.**

Region	SACMEQ II (2001)						SACMEQ III (2007)					
	Dictionary		Own English textbook		Own Maths Textbook		Dictionary		Own English Textbook		Own Maths Textbook	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
1 P Louis & North	88.9	3.43	89.1	3.67	94.0	2.73	89.8	3.26	90.2	2.92	90.8	2.70
2 B Bassin & East	89.2	5.23	89.1	3.63	93.2	2.50	100.0	0.00	86.5	4.26	90.3	3.34
3 Curepipe & South	98.7	1.26	88.2	5.50	99.2	0.45	97.2	1.64	89.7	3.26	91.3	3.29
4 Vacoas & West	96.3	2.68	92.6	2.72	91.8	3.47	92.6	4.48	91.9	2.02	95.5	1.36
5 Rodrigues	88.6	1.47	97.5	0.96	100.0	0.00	84.2	1.71	59.4	2.89	57.0	2.91
6 Black River	94.2	0.00	96.0	0.84	99.9	0.12	100.0	0.00	79.7	2.45	82.8	2.15
7 Private Schools	90.9	4.70	96.9	1.03	99.0	0.49	96.3	1.81	89.2	2.77	91.5	1.81
<b>MAURITIUS</b>	<b>92.0</b>	<b>1.68</b>	<b>91.5</b>	<b>1.58</b>	<b>95.9</b>	<b>0.99</b>	<b>94.6</b>	<b>1.10</b>	<b>87.7</b>	<b>1.37</b>	<b>89.7</b>	<b>1.17</b>

In 2007, 87.7 percent Standard 6 pupils had access to their own English textbook and 89.7 percent Standard 6 pupils had sole access to a Mathematics textbook. Almost all pupils had a dictionary. Rodrigues had a much lower level of textbook access; Mathematics textbook at 57.0 percent and English textbook at 59.4 percent. However, in the matter of access of pupils to textbooks a minor decrease of about 5 percentage points from 2001 to 2007 was noted.

It is the practice for the procurement unit of the Ministry to collect figures concerning number of textbooks required for pupils from users before launching the tender exercise each year. However, in recent years it has been observed that at time of distribution of textbooks to schools shortages are being reported at the last minute and it has become a practice for the Ministry to place additional orders to meet the sudden shortages which, given the urgency, cannot be immediately counter verified. Under such circumstances it would be worthwhile to undertake a deeper study to confirm that no malpractice has been allowed to creep into the system of provision of free textbooks to pupils which would account for the ten percent of pupils who did not have their own textbook at the time of the study.

**Policy Suggestion 6.1:** *The Ministry should put in place a mechanism to ensure that pupils have their own textbooks throughout the year by replacing lost or damaged textbooks against payment of a token fee to discourage abuse.*

### **6.2.2 What percentage of pupils had basic essential classroom materials such as an exercise book, a pen or pencil, and a ruler?**

Pupils were also asked about whether they had basic classroom materials such as an exercise book, a pen or pencil and a ruler, which are the basic necessities to ensure participation of the learner in classroom activities. The responses to this question are also shown in *Table 6.2*

**Table 6.2: Percentages and sampling errors for pupils having own basic learning tools such as exercise book, pen or pencil and ruler**

Region	SACMEQ II (2001)		SACMEQ III (2007)	
	Exercise book, pencil/pen & ruler		Exercise book, pencil/pen & ruler	
	%	SE	%	SE
1 P Louis & North	91.4	2.97	80.6	3.62
2 B Bassin & East	93.7	1.46	91.6	2.55
3 Curepipe & South	93.8	1.36	88.8	2.24
4 Vacoas & West	87.7	6.12	88.7	2.61
5 Rodrigues	84.7	2.23	76.6	2.25
6 Black River	90.6	2.44	73.0	3.14
7 Private Schools	95.5	1.03	88.5	2.05
<b>MAURITIUS</b>	<b>92.3</b>	<b>1.17</b>	<b>78.4</b>	<b>1.27</b>

It is surprisingly observed that whilst in year 2001, 92.3 percent of pupils had these basic materials, in year 2007 only 85.9 percent of pupils had the same basic materials. Region wise, Black River showed the lowest percentage (73 percent). There is a need to further analyse these findings. Could it be that between 2001 and 2007 there was an increasing lack of parental interest to meet the needs of their children concerning basic school requirements?

***Policy Suggestion 6.2:*** The Ministry should ensure that each class teacher has a stock of such basic materials such as erasers, rulers, pens and pencils readily available at the beginning of each school year so that that every pupil has the minimum requisites for full involvement in learning activities in the class.

### 6.2.3 What percentage of pupils had access to teachers with basic essential teaching resources such as teachers' guides and geometrical instruments?

**Table 6.3: Percentages and sampling errors for pupils having teachers with teacher guides**

Region	2001				2007			
	Teacher Guide (English)		Teacher Guide (Maths)		Teacher Guide (English)		Teacher Guide (Maths)	
	%	SE	%	SE	%	SE	%	SE
1 P Louis & North	25.6	5.15	22.6	5.19	70.6	5.02	56.8	5.51
2 B Bassin & East	20.2	6.68	16.7	6.30	86.6	5.63	80.7	6.41
3 Curepipe & South	46.4	8.00	37.2	7.43	85.0	4.41	78.3	4.95
4 Vacoas & West	35.0	8.73	27.4	8.31	70.8	9.38	65.1	9.29
5 Rodrigues	22.7	1.51	22.7	1.51	78.3	1.90	64.5	1.19
6 Black River	12.8	1.37	8.4	0.00	71.7	2.72	57.1	2.77
7 Private Schools	36.0	7.21	32.7	7.79	81.5	4.96	73.2	5.86
<b>Mauritius</b>	<b>30.6</b>	<b>2.85</b>	<b>26.0</b>	<b>2.85</b>	<b>78.4</b>	<b>2.33</b>	<b>69.1</b>	<b>2.61</b>

Data in *Table 6.3* above reveal that in 2007, more than 75 percent pupils were taught by teachers who had English teachers' guides. Almost 70 percent of pupils were taught by teachers who had Mathematics teachers' guides. There was some variation between regions with the lowest percentages in Port Louis & North (Mathematics 56.8 percent) and the region of Black River (Mathematics 57.1 percent).

The data show that there was much improvement in the availability of teachers' guides from 2001 to 2007. It can be seen that the percentage of pupils taught by teachers who had access to a teacher's guide for English in their school had increased considerably from 30.6 percent to 78.4 percent whereas for Mathematics it had increased from 26.0 percent to 69.1 percent. It is the Ministry's policy to provide every teacher with the relevant teacher's guide through the school, and although the situation has considerably improved there should be an investigation into why all pupils are not taught by teachers who had access to teachers' guides.

A dictionary and geometrical instruments such as a compass or protractor are essential tools to support teaching and learning of English and Mathematics. While the percentages of pupils taught by teachers who had access to a dictionary are quite high, nearly 90 percent, the percentage of Standard 6 pupils taught by teachers with access to geometrical instruments was disappointingly low at 40.8 percent as shown in *Table 6.4* below. Moreover, there was a substantial variation across regions from 27.3 percent in Vacoas & West to 51.1 percent in private schools.

**Table 6.4: Percentages and sampling errors for teachers with access to geometrical instruments**

Region	Geometrical Instruments	
	%	SE
1 P Louis & North	38.5	5.56
2 B Bassin & East	42.9	8.54
3 Curepipe & South	43.2	6.78
4 Vacoas & West	27.3	7.34
5 Rodrigues	33.5	2.98
6 Black River	28.7	2.92
7 Private Schools	51.1	7.41
<b>Mauritius SACMEQ III</b>	<b>40.8</b>	<b>2.95</b>
<b>Mauritius SACMEQ II</b>	<b>34.2</b>	<b>2.99</b>

Although there is currently no policy on the provision of geometrical instruments to schools on a regular basis, these are considered basic tools for effective teaching and learning. Two possible reasons why teachers don't have access to these tools are:

- i. The tools may be available at school but not brought to the attention of teachers.
- ii. The tools may be available but are not usable.

**Policy Suggestion 6.3:** *The planning unit of the Ministry should take steps to ensure that every school is equipped with basic teaching aids such as geometrical instruments and teachers' guides, and in addition set up a mechanism to ensure utilisation by teachers.*

#### 6.2.4 What was the distribution of classroom furniture and classroom equipment in Standard 6 classrooms?

It is quite clear that where there is inadequate furniture and equipment it is much more difficult for teachers to teach and pupils to learn. Questions were therefore asked of teachers about these facilities and the results are presented in this section. Information was sought from the teacher about the availability in their classrooms of a usable writing board, a classroom library or book corner, a teacher table and a teacher chair. The information obtained has been presented in *Table 6.5* below.

**Table 6.5: Percentages and sampling errors for writing board, teacher table and chair, class/school library**

Region	2001						2007					
	Writing Board		Teacher Table & Chair		Library (Class/School)		Writing Board		Teacher Table & Chair		Library (Class/School)	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
1 P Louis & North	93.5	3.26	91.8	3.57	97.9	1.75	90.7	3.21	90.7	3.21	91.9	3.65
2 B Bassin & East	84.8	6.41	82.9	6.40	97.4	2.55	98.8	1.23	99.5	0.52	98.8	1.23
3 Curepipe & South	90.5	4.04	87.6	4.90	100.0	0.00	97.7	1.59	96.2	2.15	99.4	0.56
4 Vacoas & West	88.0	6.17	86.2	6.27	100.0	0.00	90.4	4.85	92.6	4.48	98.7	1.32
5 Rodrigues	89.8	1.42	89.8	1.42	100.0	0.00	88.1	1.41	88.1	1.41	93.5	0.00
6 Black River	91.7	1.68	91.7	1.68	92.6	0.74	100.0	0.00	100.0	0.00	85.1	2.51
7 Private schools	88.2	4.21	88.2	4.21	95.8	3.02	97.7	1.57	96.1	2.08	100.0	0.00
<b>Mauritius</b>	<b>89.7</b>	<b>1.92</b>	<b>88.2</b>	<b>2.03</b>	<b>97.9</b>	<b>0.90</b>	<b>94.9</b>	<b>1.11</b>	<b>94.7</b>	<b>1.13</b>	<b>96.5</b>	<b>1.04</b>

There was a slight decrease in the percentage of pupils in classrooms with a classroom library or book corner. One would have expected the response to availability of a usable blackboard to be 100 percent but was found to be 95 percent; the 5 percent shortfall in percentage for blackboard was probably due to the small number of blackboards awaiting minor repairs at the time of study.



Information was collected on the number of sitting and writing places and all pupils had such places in all the three SACMEQ studies. From data shown in the *Table 6.5* above, it is seen that in 2007, 94.7 percent of the Standard 6 pupils were in classrooms where teachers had a teacher table and chair. It is a matter of concern that despite the Ministry's policy on the provision of basic facilities such as teacher table and teacher chair all teachers did not enjoy the same basic facilities.

It is also observed that 96.5 percent of Standard 6 pupils were in schools with a class or school library in 2007. Black River showed the lowest percentage at 85.1 percent. Private schools had the highest percentage of 100 percent.

### 6.2.5 Were there enough books in the classroom library or book corner?

In Chapter 3 it was shown that in 2001 there were more pupils in classrooms equipped with class libraries compared to 1995. It is good to note, from *Table 6.6* below, that the average number of class library books per pupil had increased from 0.8 in 2001 (SACMEQ II) to 1.8 in (SACMEQ III). However, the ratio of 1.8 library books per pupil was still far from the present prescribed ratio of 3 per pupil. There is a need to ensure that school heads are made aware of this established ratio and that at the end of every school year a survey be carried out for replenishment at the beginning of the following school year. Reading skills are greatly improved when children regularly read books other than their textbooks. Thus a library facility within the classroom is essential to promote a reading culture from a young age. Pupils were asked whether they were allowed to take books home to read. 80.1 percent of pupils replied that they were allowed to take books home from the class library.

**Table 6.6: Means and sampling errors of class library books per pupil**

Region	Class library books per pupil	
	Mean	SE
1 P Louis & North	1.9	0.62
2 B Bassin & East	2.7	1.63
3 Curepipe & South	1.8	0.29
4 Vacoas & West	1.4	0.16
5 Rodrigues	1.0	0.03
6 Black River	1.1	0.04
7 Private schools	1.4	0.16
<b>Mauritius SACMEQ III</b>	<b>1.8</b>	<b>0.35</b>
<b>Mauritius SACMEQ II</b>	<b>0.8</b>	<b>0.05</b>
<b>Mauritius SACMEQ I</b>	<b>1.3</b>	<b>0.20</b>

**Policy Suggestion 6.4:** *Given the availability of bookshelves in classrooms, the library services unit of the Ministry should study the possibility of supplying books to schools to start classroom libraries or book corners in all Standard 6 classrooms and put in place measures to encourage reading in class and borrowing of books.*

### 6.3 General Policy Concern 13

**What were the levels of provision of physical resources of the schools (for example water supply, school building, school fence, sports playground, staffroom, computer, photocopier) in different regions?**

Was there availability of water? How good were the school buildings? Did schools have a school fence for basic security of pupils and staff? Did school heads have an office accommodation? Was there availability of a meeting hall to provide space for meetings between stakeholders? Did schools have a sports/playground to actively promote health and sports activities in the school life? Did teachers have a staff room for providing a motivating environment and to encourage sharing of best practices and engaging in peer discussion?

#### 6.3.1 What was the situation concerning water supply in schools in different regions?

The situation concerning availability of water supply in schools is shown in *Table 6.7* below.

**Table 6.7: Percentages and sampling errors for availability of water**

Region	2001		2007	
	%	SE	%	SE
1 P Louis & North	100.0	0.00	92.1	4.47
2 B Bassin & East &	100.0	0.00	95.1	4.85
3 Curepipe & South	100.0	0.00	93.8	6.10
4 Vacoas & West	100.0	0.00	100.0	0.00
5 Rodrigues	100.0	0.00	85.5	0.00
6 Black River	100.0	0.00	87.2	0.00
7 Private schools	100.0	0.00	100.0	0.00
<b>Mauritius SACMEQ III</b>	<b>100.0</b>	<b>0.00</b>	<b>94.9</b>	<b>1.80</b>

Data in *Table 6.7* show that in 2007, 94.9 percent of Standard 6 pupils were in schools with a water supply. Some variation was observed across the regions. While all private schools and schools in Vacoas & West region had a water facility, Rodrigues and Black River showed the lowest percentages of 85.5 and 87.2 percent respectively. This was a regression from 2001 levels. In view of the increasing occurrences of water shortages noted throughout the year and its impact on health and hygiene standards in schools, it has become imperative to place a

special focus on the provision of water at school. As it is expected that water shortages will become more acute due to climatic changes, water storage capacities of schools will have to be improved in the near future.

### 6.3.2 What was the level of provision of school buildings in good condition, playground and school fence?

Results displayed in *Table 6.8* below show that in 2007, 81.4 percent of pupils were in schools with buildings in good condition. There was some variation between regions. The highest percentage of 95.0 percent was noted in Rodrigues and the lowest percentage of 69.6 percent was noted in Port Louis & North. From 82.4 percent in 2001 to 81.4 percent in 2007, there was not much change in the percentage of pupils in schools with good building conditions.

**Table 6.8: Percentages and sampling errors for schools with good building conditions, a sports playground and a school fence**

Region	2001						2007					
	Building Conditions		Sports/ Play Ground		School Fence		Building Conditions		Sports/ Play Ground		School Fence	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
1 PL	88.9	6.20	65.3	8.01	97.5	2.47	69.6	7.87	71.1	7.64	94.7	3.72
2 BB	75.5	9.70	75.7	8.91	100.0	0.00	87.9	6.78	74.7	10.10	100.0	0.00
3 CU	87.9	6.72	83.8	7.60	96.0	3.97	78.2	8.92	92.2	5.49	95.5	4.53
4 VA	82.0	9.89	81.9	10.00	100.0	0.00	89.2	7.54	85.5	8.29	95.6	4.48
5 RO	77.6	0.00	76.8	0.00	69.4	0.00	95.0	0.00	78.7	0.00	100.0	0.00
6 BR	90.9	0.00	79.2	0.00	100.0	0.00	89.1	0.00	63.0	0.00	100.0	0.00
7 PR	74.0	8.54	85.8	6.63	96.0	3.95	85.6	6.87	89.5	5.88	100.0	0.00
<b>MAU</b>	<b>82.4</b>	<b>3.31</b>	<b>76.9</b>	<b>3.48</b>	<b>96.7</b>	<b>1.24</b>	<b>81.4</b>	<b>3.27</b>	<b>80.3</b>	<b>3.29</b>	<b>97.4</b>	<b>1.33</b>

The decrease in the percentage of pupils in schools with good building conditions may be due to the fact that during the years 2001 to 2005, government policy had been to build more new secondary schools with the possible result that less effort was made with regard to repairs of primary school buildings.

From *Table 6.8*, it is good to note that in 2007, there were a very high percentage of pupils, 97.4 percent, in schools with a school fence. It is also noted that in Beau Bassin & East, Rodrigues, Black River and in private schools, all schools had a fence. These schools therefore presented a degree of security for both pupils and staff. About five percent of pupils were in schools with no fencing in the three regions of Port Louis & North, Curepipe & South and Vacoas & West. Overall, there had been negligible progress from 2001. It should be acknowledged that a school without a fence represents a degree of insecurity for both pupils and staff. A single stray dog on the school premises may represent a severe threat to the life of a pupil or may be a great nuisance which can negatively affect the health of the school community.

In 2007, 80.3 percent pupils were in schools with a sports or playground. There had been a distinct improvement since 2001 when the overall percentage was 76.9 percent. There was some variation across regions with the lowest percentage of 63.0 percent in Black River and a highest percentage of 92.2 percent in Curepipe & South. Physical education is a subject taught from Standard 1 to Standard 6 and according to the school time-table, 25 minutes are allocated to it weekly. It cannot be denied that the availability of a sports or playground is of prime importance for outdoor activities which are mandatory for the physical and mental health of children. The fact that about two out of ten pupils, were in schools without a sports or playground, is cause for concern especially in the region of Black River.

### 6.3.3 What was the availability of school head office and staffroom in schools in different regions?

**Table 6.9: Percentages of pupils in schools with a school head office and a staff room.**

Region	2001				2007			
	School Head Office		Staff Room		School Head Office		Staff Room	
	%	SE	%	SE	%	SE	%	SE
1 P Louis & North	86.5	6.59	65.1	8.19	91.6	4.74	57.2	8.50
2 B Bassin & East	83.8	7.63	47.5	10.67	81.0	8.09	47.3	10.89
3 Curepipe & South	84.1	7.50	23.6	9.75	71.8	10.04	31.5	10.23
4 Vacoas & West	58.7	13.95	41.7	13.60	67.1	11.61	55.2	13.23
5 Rodrigues	100.0	0.00	77.6	0.00	88.8	0.00	81.6	0.00
6 Black River	92.6	0.00	33.4	0.00	86.3	0.00	21.1	0.00
7 Private schools	82.9	6.89	89.6	5.68	92.8	5.01	92.2	5.44
<b>Mauritius</b>	<b>82.6</b>	<b>3.43</b>	<b>56.8</b>	<b>4.10</b>	<b>83.8</b>	<b>2.96</b>	<b>57.6</b>	<b>3.91</b>

For a school head to perform effectively, it is highly desirable that an office space be available in order to attend to all administrative matters and also to provide some confidentiality to conversations with staff and/or parents. From the results shown in the *Table 6.9* above, it is seen that the percentage of pupils in schools where the school head had an office was 83.8 percent in 2007. There was some variation among regions from 92.8 percent in private schools to 67.1 percent in Vacoas and West. In Rodrigues, where there had been 100 percent pupils in schools with a school head office in 2001, the percentage had gone down to 88.8 percent in 2007. This could be explained by the increase in number of pupils leading to the conversion of office space into additional classrooms. At the national level, there was very little improvement from 2001 when the percentage was 82.6 percent.

The percentage of pupils in schools where there was a staffroom for teachers was 57.6 percent in 2007. There was a large variation among regions from a high 92.2 percent for private schools to 21.1 percent and 31.5 percent in Black River and Curepipe and South respectively. The low overall percentage of 57.6 percent for Mauritius can be explained by the fact that as there is one class teacher for each class, the need for a staffroom may not have been so urgently felt. However it would be interesting to find out what the general purpose teachers (class teachers) in those schools without a staffroom do when their classes are being taken by the Asian languages teachers. One practice is for the teachers to sit in the school library. The lack of a staffroom may limit any fruitful exchange and sharing of classroom experiences which may impact positively on teaching and learning. Not having a staffroom facility may sap the morale of teachers who are forced to stay in the same classroom environment throughout the day.

***Policy Suggestion 6.5:*** *The planning unit of the Ministry of Education may undertake a feasibility study for the provision of offices for headmasters and staffrooms for teachers.*

### 6.3.4 What was the level of provision of classroom cupboards and bookshelves in schools in different regions?

**Table 6.10: Percentages and sampling errors, for pupils in classrooms having a cupboard and a bookshelf**

Region	2001				2007			
	Class Cupboard		Class Bookshelf		Class Cupboard		Class Bookshelf	
	%	SE	%	SE	%	SE	%	SE
1 P Louis & North	82.0	4.92	16.1	5.05	89.7	3.30	46.9	6.30
2 B Bassin & East	82.8	6.52	28.7	8.46	99.6	0.41	50.7	9.16
3 Curepipe & South	88.0	4.36	24.2	6.03	97.7	1.59	72.9	7.67
4 Vacoas & West	85.3	6.51	29.6	5.50	90.6	4.65	73.8	8.12
5 Rodrigues	77.4	1.48	42.4	2.22	86.8	1.49	52.9	2.80
6 Black River	91.7	1.68	54.4	2.22	100.0	0.00	83.7	2.78
7 Private Schools	86.9	4.39	29.6	7.18	96.2	2.14	66.3	7.20
<b>Mauritius</b>	<b>84.6</b>	<b>2.26</b>	<b>26.2</b>	<b>2.75</b>	<b>94.5</b>	<b>1.13</b>	<b>60.1</b>	<b>3.23</b>

Results in *Table 6.10* above indicate that in 2007 more than 90 percent of pupils were in classrooms with a cupboard, but only 60 percent were in classrooms with a bookshelf. While the variation across regions for cupboards was quite small, the variation across regions for bookshelves was quite remarkable from a high 83.7 percent in Black River to a low 46.9 percent in Port Louis and North. The percentages for both cupboards and bookshelves had increased since 2001 from 84.6 percent to 94.5 percent for cupboards and from 26.2 percent to 60.1 percent for bookshelves.

### 6.3.5 What was the situation concerning availability of essential teaching support equipment such as television, photocopier and computer at school?

**Table 6.11: Percentages and sampling errors for availability of a television, a photocopier and a computer**

Region	2001						2007					
	Television		Photocopier		Computer		Television		Photocopier		Computer	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
1 P Louis & North	100.0	0.00	5.5	3.80	100.0	0.00	90.8	5.11	39.8	8.43	100.0	0.00
2 B Bassin & East	100.0	0.00	20.4	9.39	100.0	0.00	83.8	7.71	20.6	8.52	100.0	0.00
3 Curepipe & South	91.7	5.50	19.5	7.85	96.0	3.97	100.0	0.00	37.4	10.97	100.0	0.00
4 Vacoas & West	100.0	0.00	47.3	14.43	100.0	0.00	81.5	9.11	56.9	13.11	100.0	0.00
5 Rodrigues	100.0	0.00	0.0	0.00	46.3	0.00	100.0	0.00	54.1	0.00	100.0	0.00
6 Black River	100.0	0.00	24.0	0.00	100.0	0.00	100.0	0.00	49.5	0.00	100.0	0.00
7 Private schools	100.0	0.00	60.6	9.38	100.0	0.00	88.3	6.50	86.3	6.57	100.0	0.00
<b>Mauritius</b>	<b>98.6</b>	<b>0.94</b>	<b>26.3</b>	<b>3.78</b>	<b>97.2</b>	<b>0.66</b>	<b>90.2</b>	<b>2.54</b>	<b>47.9</b>	<b>3.85</b>	<b>100.0</b>	<b>0.00</b>

Data in *Table 6.11* show that in 2007, all Standard 6 pupils were in schools where a computer was available. It will be recalled that in a previous chapter according to information obtained from teachers concerning access to a computer it was found that about 85 percent of pupils were taught by teachers who had access to a computer at school. One way of interpreting this disparity is that although computers are available at school it is not possible for all teachers to access a computer. It would be worthwhile to probe into the issue of access to a computer and study means of ensuring that all teachers at school can have access to computers.

About 90 percent pupils were in schools with a television and there was not much disparity between regions. The decline in percentage from 98.6 percent in 2001 to 90.2 percent in 2007 may be explained by the fact that, the viewing of educational programmes was increasingly delivered through computers instead of video cassette players and television. It must be acknowledged that in recent years the Government made the provision of computers and other ICT facilities in schools its priority objective and availability of computers in all primary schools has been ensured.

In 2007, 47.9 percent Standard 6 pupils were taught in schools where there was a photocopier. It is good to note that this percentage was almost twice what it had been in 2001. However, the variation among regions was striking - from a very low 20.6 percent in Beau Bassin and East to a high 86.3 percent in Private schools. Further, it is possible that although the photocopier is available at the school, teachers may not be allowed to have access to this facility. Presently, the photocopier is purchased through school PTA funds and is a school property. While it is up the head of school to ensure the judicious use of this piece of equipment and maintain running costs at a minimum, it is possible that excessive control has discouraged its use by teachers for worthwhile pedagogical exercises which would have been for the benefit of pupils eventually. There is therefore need to define a policy for provision of a photocopier to primary schools and to set up guidelines which would help establish a proper mechanism at school level for effective use of photocopier by teachers for enhancement of classroom activities.

It is to be noted that in 2007, 79.7 percent and 69.3 percent of pupils were in schools having a radio cassette player and an audio CD player respectively. These are essential tools which can be used in the classroom to develop language skills of pupils though it is noticed that the radio cassette player is being slowly replaced by the audio CD player. New textbooks have been

produced starting from Standard 1 in 2007. Since 2011, new textbooks had been issued to Standard 6 pupils. The new textbooks were accompanied by audio visual teacher aids such as audio and video CDs for use in schools. An effort must be made to ensure that all teachers have access to at least an audio CD player. To be able to use the above equipment such as a television, photocopier and computer, access to electricity is crucial. It is therefore reassuring to note that data collected show that in 2007, 100 percent Standard 6 pupils were in schools with access to electricity.

***Policy Suggestion 6.6:*** *The school management unit of the Ministry may wish to establish guidelines for schools to ensure optimum utilisation of photocopier, computer, television and other audio visual equipment by teaching staff.*

## 6.4 General Policy Concern 14

**How have desirable human resources (for example, female teachers, qualified teachers, trained school heads and conducive learning environment) been allocated among regions and what changes were there between 2001 and 2007?**

### 6.4.1 What was the gender distribution of school heads?

**Table 6.12: Percentages and sampling errors for female school heads**

Region	Female School Head	
	%	SE
1 Port Louis & North	35.3	8.13
2 Beau Bassin & East	36.3	10.27
3 Curepipe & South	22.7	8.63
4 Vacoas & West	59.0	13.10
5 Rodrigues	19.8	0.29
6 Black River	25.7	0.60
7 Private Schools	61.3	10.01
<b>MAU SACMEQ III</b>	<b>40.1</b>	<b>4.04</b>
<b>MAU SACMEQ II</b>	<b>33.8</b>	<b>3.82</b>
<b>MAU SACMEQ I</b>	<b>30.7</b>	<b>3.94</b>

The statistics in *Table 6.12* above are reported in terms of pupils. The percentage of pupils in schools with female school heads was 40.1 percent at the national level. Some variation among regions had been noted. Vacoas and West and Private schools had the highest percentage of pupils with female heads, 59.0 and 61.3 percent respectively. It was also noted that Rodrigues and Black River had the lowest percentage of pupils with female school heads.



The percentage of pupils with female school heads, had shown an appreciable increase from 30.7 percent in SACMEQ I (1995) to 40.1 percent in SACMEQ III (2007). This indicated a move in the right direction for gender balance in positions of higher responsibility.

#### 6.4.2 What was the distribution of school heads who had attended management courses?

**Table 6.13: Percentages and sampling errors for specialised training in school management of the school heads**

Region	School heads having attended school management course	
	%	SE
1 Port Louis & North	78.0	7.27
2 Beau Bassin & East	54.3	10.92
3 Curepipe & South	75.7	9.06
4 Vacoas & West	67.9	13.57
5 Rodrigues	86.0	0.24
6 Black River	59.6	0.71
7 Private Schools	95.9	4.13
<b>MAU SACMEQ III</b>	<b>75.5</b>	<b>3.63</b>

Data in *Table 6.13* above reveal that only 75.5 percent of pupils had school heads who had received specialised training in school management after they became the school head and that there was a rather large variation across regions from 54.3 percent in region Beau Bassin and East to 95.9 percent in private schools. It would be interesting to find out the possible reasons for this disparity.

#### 6.4.3 What were the levels of academic education of school heads?

It is interesting to note that in 2001 about 55.0 percent pupils were in schools where the head of school had O-level as the highest qualification, 40.4 percent were in schools where school heads possessed an A-level as highest qualification and a further 4.7 percent in schools where heads had a tertiary level qualification.

Data pertaining to the highest level of academic education reached by school heads for SACMEQ III are presented in *Table 6.14* below. It is noted that in 2007, a greater percentage

(45.3 percent) of pupils were in schools with school heads having A-levels or higher qualifications. It is interesting to observe that private schools registered a percentage of 31.2 percent of pupils in schools with heads having A-levels or higher qualifications, which was some 14 points below the national average. It is encouraging to find that the percentage of pupils in schools where the heads had a tertiary education had almost doubled, from 4.7 percent in 2001 to 8.7 percent in 2007.

**Table 6.14: Percentages and sampling errors for different levels of academic education of school heads (SACMEQ III)**

Region	Highest Level of academic education			
	A-level		Tertiary	
	%	SE	%	SE
1 Port Louis & North	39.8	8.44	10.9	5.29
2 Beau Bassin & East	33.6	10.63	13.3	7.38
3 Curepipe & South	57.4	10.85	3.9	3.93
4 Vacoas & West	34.7	12.68	5.4	5.43
5 Rodrigues	14.0	0.51	16.9	0.51
6 Black River	35.0	0.67	0	0
7 Private Schools	24.1	8.32	7.1	5.00
<b>MAURITIUS SACMEQ III</b>	<b>36.6</b>	<b>4.11</b>	<b>8.7</b>	<b>2.37</b>
<b>MAURITIUS SACMEQ II</b>	<b>40.4</b>	<b>4.15</b>	<b>4.7</b>	<b>1.78</b>

#### 6.4.4 What was the distribution of headmasters who had attended an HIV and AIDS course?

**Table 6.15: Percentages and sampling errors for heads of schools having attended an HIV and AIDS course**

Region	Attended HIV-AIDS course	
	%	SE
1 Port Louis & North	4.5	3.28
2 Beau Bassin & East	4.2	4.20
3 Curepipe & South	12.5	6.99
4 Vacoas & West	5.1	5.17
5 Rodrigues	30.6	0.00
6 Black River	25.7	0.00
7 Private Schools	9.4	5.41
<b>MAURITIUS SACMEQ III</b>	<b>8.7</b>	<b>2.03</b>

In 2007, not only a very small percentage of pupils (8.7 percent) were in schools where headmasters had followed training on HIV-AIDS, but there was also a large variation in percentages across regions. Lowest percentages were recorded in Beau Bassin and East (4.2 percent) and Port Louis and North (4.5 percent). The regions showing the highest percentages were Rodrigues (30.6 percent) and Black River (25.7 percent). Private schools also showed a low percentage of pupils with headmasters having attended a course on HIV-AIDS of 9.4%. The next policy suggestion is spelt out with a view to avoid such disparities as above, in distribution of heads of schools among regions.

***Policy Suggestion 6.7:*** *The human resource management and development unit of the Ministry should ensure that all newly appointed Headmasters benefit from a standard intensive induction course comprising core modules on school management and training on HIV and AIDS.*

#### 6.4.5 What were the characteristics of Standard 6 teachers in different regions in 2007?

In this section, the distribution of Standard 6 teachers in different regions in terms of gender, professional qualifications and training is analysed.

*What was the gender distribution of Standard 6 teachers?*

In 2007, 39.8 percent of pupils were taught by a female teacher- which was an improvement on the percentage of 28 percent recorded in SACMEQ II (2001). There was indeed a large variation among regions ranging from 61 percent female teachers in private schools to 17.1 percent in Zone 3 (Curepipe and South). In Black River, 54.9 percent of pupils had a female teacher. As in 2001, Curepipe and South was again the region where the greatest gender imbalance was noted.

**Table 6.16: Percentages and sampling errors for pupils with female teachers**

Region	Pupils taught by female teachers	
	%	SE
1 P Louis & North	46.2	6.47
2 B Bassin & East	33.3	7.58
3 Curepipe & South	17.1	5.23
4 Vacoas & West	27.9	5.37
5 Rodrigues	28.8	3.86
6 Black River	54.9	1.07
7 Private schools	61.0	7.08
<b>MAURITIUS SACMEQ III</b>	<b>39.8</b>	<b>2.89</b>
<b>MAURITIUS SACMEQ II</b>	<b>28.0</b>	<b>0.50</b>

In Black River and Private schools, the percentage of pupils taught by female teachers was, unlike in the other regions, above fifty percent, well above the national average.

*What were the professional characteristics of Standard 6 teachers, in terms of training?*

Teachers were asked about the length of their training courses. Data in *Table 6.17* below, show the distribution of Standard 6 teachers with pre-service training greater than 2 years.

**Table 6.17: Percentages and sampling errors for pre-service training exceeding 2 years.**

Region	Pre service training(> 2 years)			
	2001		2007	
	%	SE	%	SE
1 Port Louis & North	88.0	3.91	95.0	2.16
2 Beau Bassin & East	83.6	4.72	93.3	2.81
3 Curepipe & South	94.1	2.83	79.1	6.54
4 Vacoas & west	83.5	6.42	83.6	5.17
5 Rodrigues	90.8	1.27	96.4	0.95
6 Black River	96.7	0.95	100.0	0.00
7 Private schools	88.2	3.58	92.4	4.46
<b>Mauritius</b>	<b>88.2</b>	<b>1.79</b>	<b>90.7</b>	<b>1.67</b>

The overall percentage for number of pupils taught by teachers having pre-service training of more than two years was 90.7 percent which was an improvement on the percentage of 88.2 percent for 2001. A rather large variation between regions was noted in 2007, from 79.1 percent in Region 3 (Curepipe and South) to 100 percent in Black River. It is to be noted that the pre-service teacher training course lasts for three years including one year of teaching practice.

Concerning in-service training, 70.1 percent pupils were taught by teachers having followed an in-service training. Large variations were recorded across the regions from 55.4 percent in Port Louis and North to 87.1 percent in Beau Bassin and East. *Table 6.18* below shows data concerning the number of in-service courses attended in the past three years. It can be seen that the average pupil had a teacher who had attended 1.9 courses over the last three years. It can also be seen that in Beau Bassin and East, the average pupil was taught by a teacher who had attended 2.5 in-service courses whereas in Port Louis and North, the pupils were taught by teachers who had attended on average only 1.5 courses.

**Table 6.18: Means and sampling errors for teacher in-service courses in the last three years**

Region	In service Courses	
	No of In-service courses	
	Mean	SE
1 P Louis & North	1.5	0.30
2 B Bassin & East	2.5	0.43
3 Curepipe & South	2.0	0.60
4 Vacoas & West	2.0	0.46
5 Rodrigues	1.7	0.08
6 Black River	1.9	0.11
7 Private schools	1.9	0.45
<b>Mauritius SACMEQ III</b>	<b>1.9</b>	<b>0.18</b>
<b>Mauritius SACMEQ II</b>	<b>1.8</b>	<b>0.14</b>
<b>Mauritius SACMEQ I</b>	<b>4.8</b>	<b>0.28</b>

The percentages and sampling errors for teachers who had not attended any in-service course in the last three years, on a region wise basis, are shown in *Table 6.19* below.

**Table 6.19: Percentages and sampling errors for teachers who had not attended any in service course**

Region	2001		2007	
	Not attended		Not attended	
	%	SE	%	SE
1 P Louis & North	52.3	6.21	44.6	6.82
2 B Bassin & East &	45.4	8.99	12.9	3.95
3 Curepipe & South	29.4	6.45	26.2	7.13
4 Vacoas & West	30.2	5.58	30.5	8.14
5 Rodrigues	19.1	1.62	27.8	1.98
6 Black River	12.4	1.99	17.7	2.18
7 Private schools	25.1	6.55	30.8	7.73
<b>Mauritius</b>	<b>36.8</b>	<b>3.10</b>	<b>29.9</b>	<b>2.87</b>

Results in *Table 6.19* above show that in 2007, 29.9 percent of pupils were taught by teachers who had not attended any in-service course. Across the regions percentages varied from a lowest of 12.9 % in Beau Bassin and East to a maximum of 44.6% in Port Louis and North. Overall there had been a decrease from 36.8 percent in 2001 to 29.9 percent in 2007

*Did schools have at least one teacher with training on HIV-AIDS issues?*

Results in Table 6.20, show that there was a very low percentage of pupils in schools in 2007 that had at least one teacher who had been trained on HIV-AIDS issues. There was no school in the regions of Beau Bassin and East, Vacoas and West, and Black River that had a teacher with special training on HIV-AIDS issues. These results indicate that there is a need to review the training strategy on HIV and AIDS for teachers in the near future.

**Table 6.20: Percentages and sampling errors for pupils in schools with at least one teacher with special training on HIV-AIDS issues in 2007**

Region	Teacher with special training on HIV-AIDS	
	%	SE
1 P Louis & North	5.0	3.51
2 B Bassin & East	0.0	0.00
3 Curepipe & South	4.7	4.74
4 Vacoas & West	0.0	0.00
5 Rodrigues	18.8	0.00
6 Black River	0.0	0.00
7 Private schools	3.7	3.72
<b>MAURITIUS SACMEQ III</b>	<b>3.6</b>	<b>1.41</b>

#### 6.4.6 How many schools had average Standard 6 class sizes above 40?

Data concerning schools with Standard 6 classes having average class size less than or equal to 40 are displayed in Table 6.21. In 2007, 77.5 percent of pupils were in schools with an average class size less than or equal to 40, which was an improvement from the percentage of 65.9 percent in 2001. The highest percentage was recorded in Rodrigues at 100% and the lowest percentage of 62.5 % in Region 2 Beau Bassin and East, meaning that Beau Bassin had the largest number of pupils in schools with class size greater than 40.

**Table 6.21: Percentages and sampling errors for pupils in schools having class sizes less than or equal to 40**

Region	2001		2007	
	% ≤40	SE	% ≤40	SE
1 P Louis & North	56.9	7.44	81.0	5.83
2 B Bassin & East	70.5	9.12	62.5	8.54
3 Curepipe & South	70.0	8.58	84.6	6.89
4 Vacoas & West	49.4	11.09	64.5	11.40
5 Rodrigues	100.0	0.00	100.0	0.00
6 Black River	70.5	3.28	69.2	3.10
7 Private schools	73.3	7.04	84.9	7.98
<b>MAURITIUS</b>	<b>65.9</b>	<b>3.63</b>	<b>77.5</b>	<b>3.19</b>

It can thus be concluded that 22.5 percent of Standard 6 pupils in 2007 were in schools with class size above 40 when according to the prevailing Regulations and the Education Act, class sizes should not exceed 40.

#### 6.4.7 What percentage of teachers attended class regularly?

School heads were asked to provide information concerning the number of teachers who attended classes regularly.

**Table 6.22: Percentages and sampling errors for teachers who attended class regularly**

Region	2001		2007	
	% attended regularly	SE	% attended regularly	SE
1 P Louis & North	91.9	4.61	97.5	2.53
2 B Bassin & East	96.2	3.74	95.8	4.20
3 Curepipe & South	100.0	0.00	93.8	6.10
4 Vacoas & West	93.9	6.02	100.0	0.00
5 Rodrigues	92.0	0.00	84.7	0.00
6 Black River	100.0	0.00	95.6	0.00
7 Private schools	96.5	3.44	92.5	5.23
<b>Mauritius</b>	<b>95.4</b>	<b>1.74</b>	<b>95.3</b>	<b>1.76</b>

In 2007, results of survey show that at the national level, 95.3% of Standard 6 pupils were in schools where teachers attended classes regularly with little disparity among regions. The data from Table 6.22 above reveal that there had been no change from 2001 to 2007. Region wise it is noted that although one region Vacoas and West had improved from 93.9% in 2001 to 100.0% in 2007, two regions Curepipe and South and Black River had undergone a slight deterioration from 100% in 2001 to 93.8 % and 95.6 % respectively, in 2007.

## 6.5 Conclusion

This chapter was designed to provide the reader with information on quality of human resources and physical resources made available in schools. Data collection focused on characteristics of heads of schools and Standard 6 teachers such as age, gender, their experience and training, and in-service courses attended. Also taken into consideration were the different classroom and school resources such as availability of essential and desirable equipment and furniture. The same data were collected in 2001 for the SACMEQ II project and in 1995 for the SACMEQ I project and. A comparison of these three sets of data or where

possible the two sets of data reveals some interesting changes that have occurred during the period 1995-2007.

In all, seven policy suggestions have been formulated with the aim to address certain issues where either there has been too little or no improvement, where there is still room for improvement or where there has been some deterioration.

The first policy suggestion concerns the procurement and distribution of textbooks to pupils in schools. It is suggested that a mechanism should be set in place to ensure that pupils have their own textbooks throughout the year.

The second and third policy suggestions concern the provision of support materials such as teachers' guides and geometrical instruments and basic learning tools for pupils such as erasers, rulers, pens and pencils. It is proposed that a policy be evolved to ensure that each class teacher has a stock of such basic materials readily available at the beginning of each school year so that that every pupil has a minimum of requisites for full involvement in learning activities in the class throughout the year. It is also suggested that steps be taken by the Ministry to ensure that every school is not only equipped with basic teaching aids such as Teachers' guides on a one off basis but also a mechanism be set up for replacement of these items as and when required and availability at school be constantly monitored to ensure maximum benefit to teachers and pupils.

Policy number four makes provision for enhancing reading skills of pupils through simple measures such as extension of the classroom library facility to all schools in order to provide greater exposure to story books which will help promote a reading culture at a young age.

Reading skills are greatly improved when children read books other than their textbooks regularly. Thus a library facility within the classroom is essential to encourage reading from a young age. Given that more than 90 percent pupils were already in classrooms with bookshelves, it is proposed that the library services unit of the Ministry study the possibility of supplying books to schools to start off classroom library or book corners in all Standard 6 classrooms and put in place measures to encourage reading in class and borrowing of books to take home to read.



Policies number five addresses the different aspects linked to human resources management in schools such as working conditions and training. It is proposed that a feasibility study be undertaken for the provision of schools with an office for the school head and a staffroom for teachers. It is felt that, a school head will be able to perform more effectively if an office is available. The provision of staffroom for teachers will enable more sharing of classroom experiences with a positive impact on morale of teachers and teaching learning transactions in the classroom.

Policy suggestion number six concerns optimum utilisation at school of equipment such as the photocopier and other audio visual equipment and makes proposal for proper guidelines to help establish a proper mechanism at school level for effective use of photocopier by teachers for the enhancement of classroom activities.

Policy suggestion number seven makes recommendations for capacity building for heads of schools, namely that all newly appointed Headmasters benefit from a standard intensive induction course comprising not only core modules on school management but also training components on HIV and AIDS.

It is expected that the implementation of the above policy suggestions will help to reduce gaps between regions in terms of available resources.

## **Chapter 7**

# **Achievement Levels of Standard 6 Pupils in Reading and Mathematics**

### **7.1 Introduction**

Pupils' achievement in learning is not solely the concern of the teacher but the concern of a number of stakeholders including parents, heads of schools, inspectors, and policy makers. In this chapter, pupils' achievement in Reading and Mathematics, after six years of basic primary schooling, was measured and compared. The SACMEQ Reading and Mathematics tests were developed from a careful analysis of the official curricula, school syllabi, and textbooks used in both Mauritius and other SACMEQ school systems. These tests made it possible to employ Modern Item Response theory methods to undertake item analyses and test-scoring procedures. The test scores were transformed so that pupils from both the SACMEQ II and III projects were placed on a single scale with the SACMEQ II scores anchored to a mean of 500 and a standard deviation of 100.

### **7.2 Two types of scores**

The SACMEQ Reading and Mathematics tests were scored in two different ways for different reporting purposes:

- (a) **Scaled Scores** – which were useful for reporting the average performance of pupils at national and regional levels for both SACMEQ II and III projects. These scores were scaled so that meaningful comparisons could be made across countries for each project, and across projects for each country.
- (b) **Competency (or Skill) Levels** – which were useful for presenting a descriptive account of (i) the skills that pupils had acquired at eight levels of competence measured by the scaled scores, and (ii) the skills that must be acquired for pupils to move from one level of competence to a higher level.

Major concerns for this chapter were:

- What were the levels (according to Rasch scores and descriptive levels of competence) and variation (among schools and regions) in the achievement levels of Standard 6 pupils in Reading and Mathematics – for Mauritius?
- What were the Reading and Mathematics achievement levels of important sub-groups of Standard 6 pupils (for example, pupils of different genders, socio-economic levels, and school locations)?

This chapter also aims address the following:

- What were the overall percentages of pupils across the various levels of competence in Reading and Mathematics?
- What were the overall percentages of pupils across the various levels of mastery in Reading?
- What were the gender differences in Reading and Mathematics achievement for pupils?
- What were the school location differences in Reading and Mathematics achievement for pupils?
- What were the socioeconomic differences in Reading and Mathematics achievement for pupils?

### 7.3 General policy Concern 15

**What were the levels (according to Rasch scores and descriptive levels of competence) and variations (among schools and regions) in the achievement levels of Standard 6 pupils in Reading and Mathematics?**

#### 7.3.1 Reading Achievement

**Table 7.1: Means and sampling errors for Reading test scores of pupils (SACMEQ II and SACMEQ III)**

Region	2001		2007	
	Mean	SE	Mean	SE
1 P Louis & North	514.2	10.52	545.1	9.11
2 B Bassin & East	539.1	11.78	581.7	11.30
3 Curepipe & South	535.3	12.39	597.1	11.22
4 Vacoas & West	587.7	15.50	613.6	12.27
5 Rodrigues	519.1	5.56	508.3	6.77
6 Black River	475.9	7.12	494.2	7.28
7 Private	552.2	12.87	593.7	13.74
<b>Mauritius</b>	<b>536.4</b>	<b>5.45</b>	<b>573.5</b>	<b>4.92</b>

The overall mean Rasch scores of Standard 6 learners in the Reading tests in 2001 and 2007 have been summarized in *Table 7.1*. Mean scores and corresponding sampling errors have been shown for the seven regions and for the country. At the National level it was noted that the means for Reading were 573.5 in 2007, compared to 536.4 of 2001, showing that there had been an appreciable improvement from 2001.

Data in *Table 7.1* show that the mean scores for Reading for all regions in 2007 were above the mean score for SACMEQ II (500), with the exception of Black River region whose mean in Reading scores was still below the SACMEQ II average of 500. Reading scores in 2007 did not vary too widely across regions. Pupils from Vacoas obtained the highest scores (613.6). In 2007, there was some improvement in Reading scores of pupils in all regions except for Rodrigues where a slight decline was noted from 519.1 in 2001 to 508.3 in 2007. Even Black River region scored higher than the 2001 mark, reaching 494.2 against 475.9.

In 2007 girls scored higher than boys in Reading. However the gap between scores for boys and girls increased from 27.6 in 2001 to 30.1 in 2007. A deeper analysis of the percentage of pupils reaching various Reading competence levels later in this chapter will give a clearer picture of the difference between boys and girls.

**Table 7.2: Mean Reading test scores of pupils by gender**

Pupil gender	2001		2007	
	Mean	SE	Mean	SE
Boys	523.1	6.02	558.8	5.70
Girls	550.7	5.63	588.9	4.92

Schools located in urban region obtained higher scores than schools from rural regions. From 2001 to 2007 there was an improvement in scores obtained by both rural and urban schools in Reading but the gap between rural and urban mean scores in Reading increased considerably from 9.8 in 2001 to 22.5 in 2007.

**Table 7.3: Mean Reading test scores of pupils by school location**

School location	2001		2007	
	Mean	SE	Mean	SE
Rural	531.3	6.34	562.7	6.46
Urban	541.1	8.69	585.2	6.83

Pupils with high socio economic status (SES) scored higher than those coming from low SES backgrounds. Over all there was a considerable improvement in mean scores from 2001 to

2007 with all the mean scores surpassing the SACMEQ II mean of 500. However, the difference in Reading scores of pupils from low SES and high SES background increased from 137.3 in 2001 to 146.5 in 2007.

**Table 7.4: Mean Reading test scores of pupils by SES**

Socioeconomic level	2001		2007	
	Mean	SE	Mean	SE
Low SES (Bottom 25%)	471.1	4.90	510.8	4.62
High SES (Top 25%)	608.4	7.90	657.3	5.98

### 7.3.2 Mathematics Achievement

At the national level improvement was noted in the Rasch scores for Mathematics from 584.6 in 2001 to 623.3 in 2007.

**Table 7.5: Mean Mathematics test scores of pupils (SACMEQ II and SACMEQ III)**

Region	2001		2007	
	Mean	SE	Mean	SE
1 P Louis & North	567.8	12.39	588.4	9.46
2 B Bassin & East	586.0	14.24	624.3	13.55
3 Curepipe & South	579.3	13.06	653.4	13.73
4 Vacoas & West	646.0	21.48	660.3	14.16
5 Rodrigues	538.2	5.65	542.9	7.17
6 Black River	526.8	7.11	552.3	6.87
7 Private	596.9	13.29	656.7	17.42
<b>Mauritius</b>	<b>584.6</b>	<b>6.28</b>	<b>623.3</b>	<b>5.83</b>

Data in *Table 7.5* above shows that the mean scores for Mathematics for all regions in 2007 were above the mean score for SACMEQ II countries. Improvement was noted in all regions. Rasch scores for Mathematics did not vary too widely across regions in 2007. As in the case for Reading, pupils from Vacoas obtained the highest scores (660.3). Pupils in Rodrigues scored the lowest, 542.9, which represented an increase of only 4.7 points.

**Table 7.6: Mean Mathematics test scores of pupils by gender**

Pupil gender	2001		2007	
	Mean	SE	Mean	SE
Boys	579.3	6.78	616.1	6.75
Girls	590.2	6.78	630.7	5.80

In Mathematics, mean scores for boys and girls increased significantly with both sub-groups achieving over the 600 mark. It is to be noted that the gap widened slightly between boys and girls from 10.9 points in 2001 to 14.6 in 2007

Pupils in schools located in urban areas obtained higher scores than those in rural schools. From 2001 to 2007 there was an improvement in scores in both rural and urban schools in Mathematics but the gap between rural and urban mean scores increased from 13.7 points in 2001 to 20.9 in 2007.

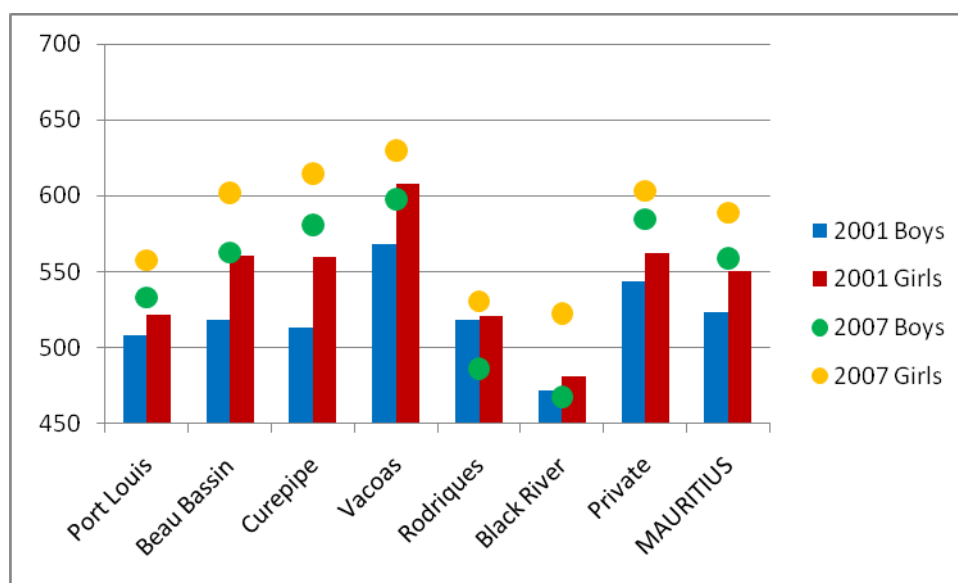
**Table 7.7: Means for Mathematics test scores of pupils by school location**

School location	2001		2007	
	Mean	SE	Mean	SE
Rural	577.6	6.75	613.2	7.65
Urban	591.3	10.47	634.1	8.11

**Table 7.8: Means for Mathematics test scores of pupils by SES**

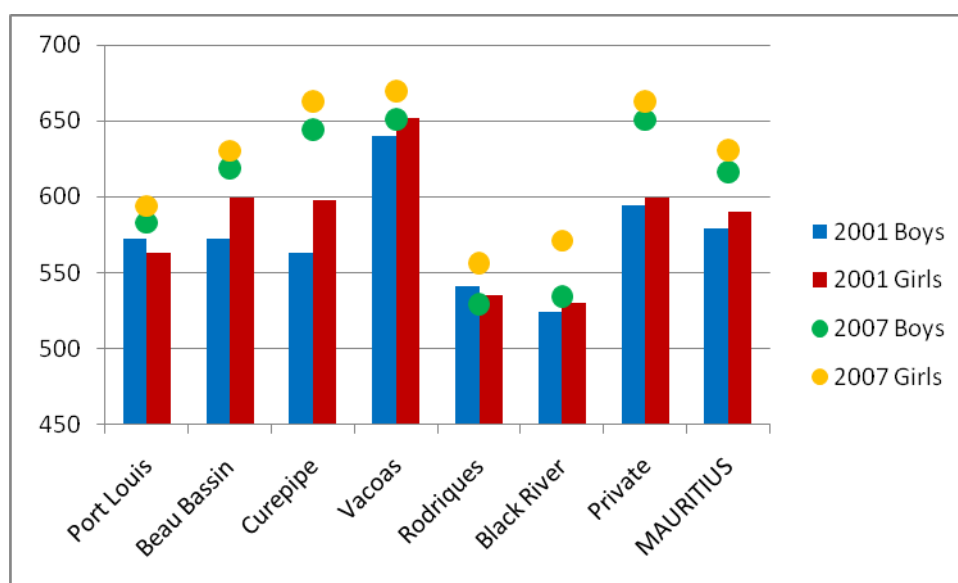
Socioeconomic level	2001		2007	
	Mean	SE	Mean	SE
Low SES (Bottom 25%)	512.2	6.05	554.2	5.55
High SES (Top 25%)	663.7	9.91	719.2	7.78

As for school location, the difference in Mathematics scores between the two categories of SES increased from 151.5 in 2001 to 165.0 in 2007.



**Figure 7.1: Mean Reading Scores for Boys and Girls in Mauritius (2001 and 2007)**

Source: SACMEQ Data Archive



**Figure 7.2: Mean Mathematics Scores for Boys and Girls by Region (2001 and 2007)**

Source: SACMEQ Data Archive

The two figures above illustrate the distribution of mean scores for Reading and mathematics for boys and girls by region. It is observed that in 2007 the gender gap was greater in Rodrigues and Black River for both Reading and Mathematics.

***Policy Suggestion 7.1:*** *The Ministry may consider the setting up of a task force to propose measures to address the increasing gender and rural-urban gap in achievement in Reading and Mathematics and the low achievement in Reading and Mathematics in Rodrigues and Black River.*

### 7.3.3 Reading competency levels

The achievement levels were split into eight levels of competences as shown in *Table 7.9* below. The percentages of pupils that attained each of the eight skill levels are also displayed in the table below. It is understood that the level of difficulty for each Reading skill was taken to be incremental from level 1 to level 8 and that a pupil achieving a higher level was deemed to have acquired the lower levels as well.

The table below also shows trends in achievement levels in reading from 2001 to 2007.

**Table 7.9: Percentages of Pupils Reaching Various Levels of Competence in Reading and percentage change between SACMEQ II and SACMEQ III**

Level	Description	Skill/Competence	2001		2007		Change
			%	SE	%	SE	%
1	Pre-Reading	Matches words and pictures involving concrete concepts and everyday objects.	6.6	0.62	3.7	0.37	-2.9
2	Emergent Reading	Matches words and pictures involving prepositions and abstract concepts.	12.1	0.91	7.4	0.69	-4.7
3	Basic Reading	Interprets meaning (by matching words and phrases, completing sentences).	13.7	0.84	10.0	0.68	-3.7
4	Reading for Meaning	Reads to link and interpret information located in various parts of the text.	14.5	0.81	12.1	0.70	-2.4
5	Interpretive Reading	Interprets information from various parts of the text in association with external information.	14.7	0.84	13.4	0.70	-1.3
6	Inferential Reading	Reads to combine information from various parts of the text so as to infer the writer's purpose.	12.1	0.80	15.7	0.72	+3.6
7	Analytical Reading	Locates information in longer texts (narrative, document or expository) in order to combine information from various parts of the text so as to infer the writer's personal beliefs (value systems, prejudices and biases).	16.0	1.03	22.3	0.95	+6.3
8	Critical Reading	Reads 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	10.3	1.10	15.4	1.18	+5.1

A striking result was that the percentage of pupils reaching levels 6 to 8 was higher than the percentage in SACMEQ II. The percentage of pupils reaching the 'pre' or 'emergent' reading levels dropped from 18.7 to 11.1 and there was a similar drop in the percentage with 'basic reading' and 'reading for meaning' skills from 28.2 to 22.1. At level 5 a slight decrease was noted. The increase in the percentage of pupils reaching the inferential, analytical and critical levels of Reading represents an improvement. This means that pupils at Standard 6 could read back and forth and locate information in longer texts in order to combine information from various parts of the text so as to infer and evaluate what the writer had assumed about both the topic and the characteristics of the reader.

*What were the achievement levels of competency in reading by region?*

The Reading achievement levels were also analysed by region and information is provided in *Table 7.10* and *Table 7.11* below for both SACMEQ II and SACMEQ III.

An analysis of pupils reaching various Reading competence levels by region is revealing in many aspects. There has been an overall increase in Reading at levels 6 to 8 in all regions except for Rodrigues. In Rodrigues, the percentage at level 6 has remained almost stagnant while at level 8 there has been a drop from 7.0 to 4.0 points. The tables below show data for SACMEQ II and SACMEQ III.



**Table 7.10: Percentages of pupils reaching the different skill levels in Reading by region – SACMEQ II**

2001	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
Region	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
1PL	9.5	1.50	15.3	1.98	16.1	1.20	14.4	1.47	13.0	1.27	10.1	1.44	14.4	1.91	7.2	1.69
2BB	6.3	1.39	10.1	1.92	12.2	1.85	15.4	2.16	15.2	2.18	15.2	2.10	16.6	2.51	8.9	2.62
3CU	6.4	1.32	13.0	2.05	12.7	2.22	15.1	2.29	16.1	1.92	10.5	2.22	15.9	2.21	10.3	2.50
4VA	4.8	1.10	7.3	2.37	6.7	1.60	10.6	1.32	15.3	3.55	15.2	2.10	17.4	2.01	22.7	4.24
5RO	5.2	1.37	11.1	1.94	18.5	2.46	19.8	2.53	17.2	2.36	11.6	2.00	9.6	1.85	7.0	1.28
6BR	12.6	2.74	16.6	3.04	23.3	3.20	19.7	3.05	10.8	2.35	8.3	2.00	6.6	2.14	2.0	1.05
7PR	3.3	1.12	10.6	1.94	13.8	2.61	13.4	2.09	15.2	2.05	12.7	1.67	20.1	3.12	10.8	2.28
Mauritius	6.6	0.62	12.1	0.90	13.7	0.84	14.5	0.81	14.7	0.84	12.1	0.80	16.0	1.03	10.3	1.09

**Table 7.11: Percentages of pupils reaching the different skill levels in Reading by region – SACMEQ III**

2007	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
Region	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
1PL	5.9	0.92	10.8	1.87	12.5	1.55	13.1	1.17	14.3	1.17	15.2	1.61	17.7	1.70	10.5	1.70
2BB	3.3	0.83	6.2	1.44	8.5	1.20	13.2	1.85	11.6	1.46	17.6	1.83	22.7	2.34	17.0	2.98
3CU	2.1	0.58	4.9	1.30	6.5	0.96	11.7	1.89	11.2	1.48	17.3	1.74	30.1	2.11	16.2	3.02
4VA	1.8	0.87	3.9	1.01	7.0	1.48	9.1	1.47	11.4	1.87	15.4	1.52	28.9	2.65	22.6	3.21
5RO	8.0	1.76	11.0	2.08	15.6	2.46	19.3	2.74	19.2	2.64	11.2	2.05	11.7	2.16	4.0	1.32
6BR	6.0	2.07	19.3	3.12	19.1	3.01	12.2	2.03	20.3	3.24	11.5	1.87	9.1	1.94	2.5	1.35
7PR	2.1	0.70	4.9	1.30	9.5	1.97	10.0	1.83	14.2	2.20	15.3	1.65	22.9	2.56	21.1	3.49
Mauritius	3.7	0.37	7.4	0.69	10.0	0.68	12.1	0.70	13.4	0.70	15.7	0.72	22.3	0.95	15.4	1.18

Data in *Table 7.12* below indicate that, in Reading, girls achieved better at higher levels than boys in 2001 and in 2007. However it is noted that the gap in terms of percentage difference is widening.

**Table 7.12: Percentages of pupils reaching the different skill levels in Reading by gender**

2001	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Boys	7.7	0.85	15.0	1.19	16.5	1.11	12.7	0.94	13.3	1.10	11.1	0.93	14.0	1.01	9.7	1.20
Girls	5.5	0.72	9.0	1.00	10.7	1.04	16.4	1.11	16.1	1.18	13.2	1.07	18.2	1.36	10.9	1.21

2007	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Boys	4.7	0.53	10.0	1.00	11.8	1.00	12.8	0.87	12.1	0.94	14.5	0.91	20.1	1.20	13.9	1.28
Girls	2.6	0.42	4.7	0.63	8.1	0.77	11.3	0.87	14.8	0.93	16.9	1.08	24.5	1.31	17.0	1.39

Data in *Table 7.13* below show that the percentage of pupils achieving levels 6 and above is considerably higher in urban schools than in rural schools. Although there was an increase in the percentage in both rural and urban schools for the levels mentioned above, the increase was greater for the urban schools.

**Table 7.13: Percentage of pupils reaching various Reading competence levels by school location (SACMEQ II and SACMEQ III)**

	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
<b>2001</b>																
Rural	6.4	0.80	11.8	1.03	13.8	1.06	16.1	1.24	15.2	1.13	13.0	1.25	15.3	1.38	8.3	1.25
Urban	6.9	0.91	12.4	1.46	13.7	1.29	13.0	1.05	14.1	1.23	11.2	1.01	16.7	1.48	12.1	1.72
	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
<b>2007</b>																
Rural	4.2	0.51	7.9	0.92	10.9	0.91	13.7	1.05	14.4	0.85	15.1	1.01	20.5	1.29	13.2	1.55
Urban	3.1	0.54	7.0	1.03	9.0	0.96	10.3	0.76	12.4	1.13	16.3	1.02	24.1	1.27	17.8	1.67

Data in *Table 7.14* below show the percentage of pupils reaching various competence levels by socio economic status for 2001 and 2007. Pupils coming from homes with high SES did better in Reading than those with low SES in 2007 as in 2001. However the gap was greater in 2007 than in 2001. It should be noted that 67.1 percent of pupils with high SES attained levels 7 and 8 compared to 17.9 percent of those with low SES.

**Table 7.14: Percentage of pupils reaching various Reading competence levels by socio economic status (SACMEQ II and SACMEQ III)**

	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
<b>2001</b>																
Low SES (Bottom 25%)	12.2	1.37	19.0	1.67	21.3	1.67	17.9	1.56	15.3	1.62	6.6	1.05	5.6	0.96	2.2	0.57
High SES (Top 25%)	2.1	0.51	5.0	1.02	8.0	1.09	9.9	1.23	10.2	1.36	14.8	1.32	27.1	1.74	22.9	2.31
	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
<b>2007</b>																
Low SES (Bottom 25%)	7.6	0.80	14.2	1.33	16.4	1.20	16.3	1.22	14.7	1.09	12.8	1.06	13.1	1.20	4.8	0.76
High SES (Top 25%)	0.3	0.22	1.6	0.60	3.3	0.82	4.7	0.90	8.9	1.42	14.0	1.56	30.8	2.39	36.3	2.63

### 7.3.4 Mathematics competency levels

The data collected concerning the percentage of pupils attaining each of the eight skill levels is displayed in *Table 7.15* below. It is understood that the level of difficulty for each mathematical skill was taken to be incremental from level 1 to level 8 and that a pupil achieving a higher level was deemed to have acquired the lower levels as well.

**Table 7.15: Percentages of pupils reaching the various levels of competence in Mathematics and percentage change between SACMEQ II and SACMEQ III**

Level	Description	Skill/Competency	2001		2007		Change
			%	SE	%	SE	%
1	Pre- Numeracy	Applies single step addition and subtraction.	2.4	0.32	1.1	0.20	-1.3
2	Emergent Numeracy	Applies a two-step addition and subtraction involving carrying.	18.2	1.11	10.1	0.79	-8.1
3	Basic Numeracy	Translates verbal information into arithmetic operations.	21.8	1.03	15.5	0.89	-6.3
4	Beginning Numeracy	Translates verbal or graphic information into simple arithmetic problems.	16.7	0.83	17.9	0.89	+1.2
5	Competent Numeracy	Translates verbal, graphic, or tabular information into an arithmetic form in order to solve a given problem.	12.2	0.82	12.8	0.62	+0.6
6	Mathematically Skilled	Solves multiple-operation problems (using the correct order) involving fractions, ratios, and decimals.	11.2	0.72	19.7	0.79	+8.5
7	Concrete Problem Solving	Extracts and converts information from tables, charts and other symbolic presentations in order to identify, and then solve multi-step problems	10.4	0.81	10.6	0.74	+0.2
8	Abstract Problem Solving	Identifies the nature of an unstated mathematical problem embedded within verbal or graphic information and then translate this into symbolic, algebraic or equation form in order to solve a problem.	7.0	0.93	12.2	1.16	+5.2

Analysis of the percentages of pupils reaching different competence levels in Mathematics shows that Standard 6 pupils improved in the acquisition of mathematical skills. A comparison with SACMEQ II revealed that the highest percentage of pupils (21.8 percent) reached level 3 in 2001 but the highest percentage (17.9) had shifted to level 4 in 2007. Correspondingly, percentages at levels 1 and 2 also decreased which meant that there were increases in levels 4 to 8.

It is to be understood that skills development in Mathematics had shifted from pre-numeracy, emergent numeracy and basic numeracy (levels 1, 2 and 3) to beginning numeracy (level 4) and above with an increase of 8.5 percent at level 6. At this level, pupils were mathematically skilled, that is, they were able to solve multiple-operation problems involving fractions, ratios and decimals. Similarly, a 5.2 percent increase was noted in pupils having reached level 8, meaning a level where abstract problem solving was measured. However the 11.2 percent of Standard 6 pupils who had not progressed beyond level 2, that is pre-emergent numeracy is the percentage of Standard 6 pupils who were still innumerate.

The levels of competence in Mathematics achieved by Standard 6 pupils by region were also analysed and are presented in the tables below.

**Table 7.16: Percentage of pupils reaching various Mathematics competence levels by region – SACMEQ II**

2001	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
1PL	3.1	0.69	23.7	2.73	19.7	1.81	16.0	1.63	11.5	1.85	11.2	1.48	9.2	1.60	5.5	1.53
2BB	3.3	1.15	14.6	2.06	22.2	2.16	18.5	1.65	14.3	1.77	9.0	1.36	10.9	1.78	7.2	2.34
3CU	2.0	0.50	19.0	2.69	21.9	2.07	17.4	1.48	12.1	2.04	12.4	1.90	10.2	1.64	5.1	1.96
4VA	1.6	0.73	10.7	2.12	14.8	2.84	14.8	3.27	13.3	2.27	15.1	2.14	13.4	1.88	16.2	4.37
5RO	2.9	1.07	23.8	2.74	30.4	2.81	17.2	2.44	10.9	1.97	8.5	1.77	4.4	1.24	2.0	0.78
6BR	1.1	0.53	27.7	3.63	30.1	3.75	18.6	2.89	10.9	2.28	9.0	2.45	2.0	1.02	0.7	0.46
7PR	1.5	0.46	14.0	2.01	25.2	2.86	16.2	2.18	11.4	1.63	10.9	1.63	13.1	2.34	7.6	1.48
MAU	2.4	0.32	18.2	1.11	21.8	1.02	16.7	0.83	12.2	0.82	11.2	0.71	10.4	0.81	7.0	0.93

**Table 7.17: Percentage of pupils reaching various Mathematics competence levels by region – SACMEQ III**

2007	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
1PL	1.1	0.37	14.0	1.98	20.3	1.83	21.2	1.82	11.7	1.14	17.1	1.79	8.1	1.38	6.5	1.33
2BB	0.7	0.42	10.3	1.77	14.2	2.01	18.2	1.95	12.9	1.76	21.1	1.53	12.3	2.29	10.2	2.61
3CU	1.3	0.49	5.7	1.46	12.3	1.74	14.3	1.92	13.3	1.61	23.5	1.76	12.9	1.61	16.6	3.07
4VA	0.7	0.40	6.2	1.45	10.4	2.32	14.9	2.02	13.7	1.27	21.2	1.62	15.0	1.58	17.9	3.19
5RO	3.1	1.05	23.1	2.80	23.4	2.78	21.2	2.73	8.5	1.79	15.0	2.42	3.5	1.28	2.2	0.87
6BR	1.6	0.55	16.7	2.81	23.1	3.23	28.0	3.55	12.6	2.30	11.9	2.28	6.1	1.91	0.0	0.00
7PR	1.1	0.60	6.3	1.69	12.4	2.35	15.0	2.43	14.0	1.52	20.5	2.12	10.7	1.70	19.9	3.68
MAU	1.1	0.20	10.1	0.79	15.5	0.89	17.9	0.89	12.8	0.62	19.7	0.79	10.6	0.74	12.2	1.16

No pupil in Black River attained level 8 in Mathematics in 2007. In Rodrigues and Port Louis & North regions, there were respectively only 2.2 and 6.5 percent of pupils who achieved level 8, while 19.9 and 17.9 percent of pupils in private schools and in Vacoas & West respectively achieved level 8.

The data summarized in *Table 7.18* show that the gap between boys and girls had increased slightly from 2001 to 2007 and that the percentage of boys achieving at level 8 surpassed that of girls as in 2001.

**Table 7.18: Percentage of pupils reaching various Mathematics competence levels by gender (SACMEQ II and SACMEQ III)**

	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
<b>2001</b>																
Boys	2.7	0.49	20.3	1.30	22.2	1.25	16.4	1.04	10.2	0.98	10.9	0.99	9.9	1.03	7.3	1.08
Girls	2.1	0.44	15.9	1.36	21.4	1.25	17.0	1.07	14.4	1.17	11.6	0.96	11.0	1.02	6.7	1.03
	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
<b>2007</b>																
Boys	1.6	0.35	12.0	1.09	16.9	1.07	16.8	1.01	11.5	0.79	18.2	1.01	10.2	0.87	12.9	1.32
Girls	0.7	0.20	8.2	0.87	14.1	1.08	19.0	1.23	14.1	0.88	21.3	1.19	11.2	0.90	11.6	1.25

**Table 7.19: Percentage of pupils reaching various Mathematics competence levels by school location (SACMEQ II and SACMEQ III)**

	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
<b>2001</b>																
Rural	2.3	0.37	16.8	1.37	24.1	1.42	18.2	1.24	13.0	1.21	10.8	1.01	9.7	1.17	5.0	0.96
Urban	2.5	0.52	19.5	1.77	19.7	1.45	15.2	1.10	11.4	1.12	11.6	0.98	11.1	1.14	8.9	1.55
	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
<b>2007</b>																
Rural	1.2	0.25	10.7	1.13	16.8	1.29	18.1	1.14	13.3	0.91	19.9	1.15	10.1	1.02	9.8	1.54
Urban	1.0	0.32	9.5	1.07	14.1	1.16	17.7	1.37	12.2	0.83	19.5	1.07	11.2	1.04	14.8	1.64

Data in table 7.19 above allow a comparison of rural against urban schools which shows that from 2001 to 2007 there had been an increase in the percentage of pupils at levels 6 and above in mathematical competences by 13.9 and 14.3 percentage points for urban and rural schools respectively. It is to be noted that the percentage at level 1 remained around 1 percent for 2007 while the increase at level 8 for both location groups was almost two-fold, which is a promising sign.

**Table 7.20: Percentage of pupils reaching various Mathematics competence levels by socio economic status (SACMEQ II and SACMEQ III)**

	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
<b>2001</b>																
<b>Low SES (Bottom 25%)</b>	4.5	0.85	29.3	1.96	32.0	1.81	16.3	1.43	8.3	1.21	4.7	0.84	3.5	0.69	1.4	0.46
<b>High SES (Top 25%)</b>	1.3	0.46	7.6	1.05	13.4	1.62	12.7	1.38	14.1	1.33	16.1	1.57	18.0	1.49	16.8	2.28

	Level 1		Level 2		Level 3		Level 4		Level 5		Level 6		Level 7		Level 8	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
<b>2007</b>																
<b>Low SES (Bottom 25%)</b>	2.2	0.42	19.8	1.44	23.3	1.41	22.2	1.51	11.8	0.99	11.8	0.92	5.7	0.85	3.1	0.77
<b>High SES (Top 25%)</b>	0.0	0.00	1.8	0.60	5.1	0.97	9.8	1.45	12.4	1.63	22.4	1.97	17.6	1.82	30.9	2.50

Although there was an improvement at both levels, the achievement gap between low SES and high SES pupils is still a matter of great concern. The gap widened from 47.1 percent (achieving level 5 or above) in 2001 to 51.9 percent in 2007. What is even more alarming is the fact that the percentage of low SES pupils reaching levels 5 and above was as low as 32.4 percent in 2007. This contrasted enormously with the 83.3 percent of high SES pupils who reached these levels. This situation reinforces our suggestion to place more focus on the teaching and learning of Mathematics.

### 7.3.5 Pupils achieving only basic reading and numeracy skills

**Table 7.21: Percentage and sampling errors for pupils achieving levels 1-3 by sub-groups**

Sub group	Reading		Mathematics	
	2001	2007	2001	2007
	Levels 1-3	Levels 1-3	Levels 1-3	Levels 1-3
	%	%	%	%
Boys	39.2	26.6	45.2	30.5
Girls	25.2	15.5	39.4	23.0
Rural	32.0	23.0	43.2	28.7
Urban	33.0	19.1	41.7	24.6
Low SES	52.5	38.2	65.8	45.3
High SES	15.1	5.2	22.3	6.9
<b>Mauritius</b>	<b>32.5</b>	<b>21.2</b>	<b>42.4</b>	<b>26.7</b>
<b>SACMEQ average</b>	<b>40.0</b>	<b>35.8</b>	<b>60.3</b>	<b>63.0</b>

#### *Pupils achieving basic reading skills*

Data in Table 7.21 above show that 21.2 percent of Standard 6 pupils in 2007 had not progressed beyond acquiring basic reading skills at the time of the study, which was one month before the final end of primary cycle (CPE) examinations. The greater percentage of pupils who acquired only basic reading skills came from low SES backgrounds (38.2 percent), schools in rural locations and were boys. A comparison with data from 2001 reveals that gender differences had decreased and the gap between rural and urban pupils had widened.

The gap between pupils from low and high SES which was still very marked had very slightly decreased from 2001 to 2007.

#### *Comparison of Achievement of Reading skills with SACMEQ countries*

The table below shows different achievement levels for Standard 6 pupils in Mauritius as compared to other SACMEQ countries.

**Table 7.22: Comparison of achievement of Reading skills for SACMEQ III countries**

COUNTRY	Pre and emergent reading Levels 1 & 2	Basic reading & reading for meaning Levels 3 & 4	Interpretative & inferential reading Levels 5 & 6	Analytical & critical reading Levels 7 & 8	Sub Total 1-4	Sub Total 5-8
Botswana	10.6	32.8	37.2	19.5	43.4	56.7
Kenya	8.0	31.4	40.5	20.1	39.4	60.6
Lesotho	21.2	56.8	18.1	3.9	78	22.0
Malawi	36.6	56.6	6.2	0.6	93.2	6.8
<b>Mauritius</b>	<b>11.1</b>	<b>22.1</b>	<b>29.1</b>	<b>37.7</b>	<b>33.2</b>	<b>66.8</b>
Mozambique	21.5	47.0	28.6	3.0	68.5	31.6
Namibia	13.6	50.6	26.4	9.3	64.2	35.7
Seychelles	11.8	20.5	30.1	37.7	32.3	67.8
South Africa	27.2	35.8	20.2	16.8	63.0	37.0
Swaziland	1.4	26.3	60.2	11.9	27.7	72.1
Tanzania	3.5	18.6	44.9	33.0	22.1	77.9
Uganda	20.4	49.2	26.0	4.5	69.6	30.5
Zambia	44.1	43.5	9.7	2.7	87.6	12.4
Zanzibar	9.0	28.6	42.0	20.4	37.6	62.4
Zimbabwe	18.5	39.4	26.0	16.2	57.9	42.2
<b>Total</b>	<b>17.3</b>	<b>37.3</b>	<b>29.7</b>	<b>15.9</b>	<b>54.6</b>	<b>45.6</b>

From data in *Table 7.22* above, it is seen that an encouragingly large percentage, 66.8 percent of Standard 6 pupils had attained the higher levels of reading skills. Mauritius ranked fourth among SACMEQ countries in terms of percentage of pupils having attained the higher levels of reading skills and was far above the SACMEQ III average.

#### *Pupils achieving basic numeracy skills*

Data in *Table 7.21* also indicate that in 2007, 26.7 percent of Standard 6 pupils had not acquired mathematics skills beyond basic numeracy as compared to 42.4 percent in 2001. The greater percentage of pupils who had not progressed beyond basic numeracy skills came from low SES backgrounds, were from schools in rural locations and were boys. An improvement was observed from 2001 to 2007 for all subgroups. However, gender differences and gap between rural and urban pupils had increased. Although the gap between pupils from low and

high SES backgrounds had decreased from 2001 to 2007, it was still the largest as compared to the differences between the other subgroups.

*Comparison of Achievement of Mathematical Skills with SACMEQ countries*

Data in Table 7.23 below show different achievement levels for Standard 6 pupils in Mauritius in relation to other SACMEQ countries.

**Table 7.23: Comparison of achievement of mathematical skills for SACMEQ III countries**

COUNTRY	PRE & EMERGENT NUMERACY Levels 1&2	BASIC & BEGINNING NUMERACY Levels 3&4	COMPETENT NUMERACY & MATHEMATICALLY SKILLED Levels 5&6	CONCRETE & ABSTRACT PROBLEM SOLVING Levels 7&8	Sub Total 1-4	Sub Total 5-8
Botswana	22.4	61.2	15.2	1.3	83.6	16.5
Kenya	11.2	59.2	15.6	3.9	70.4	19.5
Lesotho	41.8	52.9	5.2	0.1	94.7	5.3
Malawi	59.9	38.4	1.7	0	98.3	1.7
<b>Mauritius</b>	<b>11.2</b>	<b>33.4</b>	<b>32.5</b>	<b>22.8</b>	<b>44.6</b>	<b>55.3</b>
Mozambique	32.8	62.3	4.7	0.3	95.1	5.0
Namibia	47.7	46.2	5.6	0.6	93.9	6.2
Seychelles	17.8	50.9	27.6	3.7	68.7	31.3
South Africa	40.2	44.4	13.0	2.5	84.6	15.5
Swaziland	8.6	72.7	18.3	0.4	81.3	18.7
Tanzania	13.3	55.3	28.0	3.5	68.6	31.5
Uganda	38.8	54.1	6.9	0.2	92.9	7.1
Zambia	67.3	31.0	1.6	0.1	98.3	1.7
Zanzibar	32.4	61.7	5.8	0.1	94.1	5.9
Zimbabwe	26.6	53.3	16.6	3.5	79.9	20.1
<b>SACMEQ III</b>	<b>31.4</b>	<b>51.8</b>	<b>13.9</b>	<b>2.9</b>	<b>83.2</b>	<b>16.8</b>

Mauritius ranked first among the fifteen SACMEQ countries in terms of percentages of pupils who reached levels 5 to 8. It was understood that those who had reached levels 5 to 8 were deemed to have attained the higher levels of mathematical competencies.

***Policy Suggestion 7.2:*** The curriculum development and evaluation unit of the Ministry may consider the setting up of a mechanism for early detection of those pupils who have not progressed beyond emergent reading level (English) and emergent numeracy level at entry point to stage III (Standards 5 and 6) of the primary cycle for focused remedial action.



## **7.4 Conclusion**

One of the most important and exciting features of the SACMEQ research programme is that it has been possible to make a scientific assessment of trends over time in the reading and mathematics achievement levels of Standard 6 pupils, and also to make valid comparisons of the performance of the Mauritian education system with the performance of other similar education systems in the region.

In this chapter information about pupils' performance in both Reading and Mathematics was presented on the basis of research results derived from tests that were based on careful analysis of official curricula, school syllabi and textbooks used in SACMEQ school systems. Scientific assessment of trends over time in the Reading and Mathematics achievement levels of Standard 6 pupils were made.

Substantial improvements were registered between 2001 and 2007 with increases of 37 and 38 points in mean scores for Reading and Mathematics respectively.

Two striking features with regard to gender differences were noted: girls performed better than boys in 2007 as it was in 2001 and the gap between boys and girls had widened slightly. These results seem to suggest that there is a need to move the focus of the gender-related interventions beyond "access" and "participation" and concentrate more on "achievement". Moreover, the reasons for gender disparity in achievement in favour of girls need to be further examined in relation to the traditional and local context which may influence pupil attitudes towards subjects, school practices, and family support.

An improvement in both Reading and Mathematics levels was also observed. The percentage of pupils reaching the 'pre' or 'emergent' Reading levels had dropped. A similar decrease had been noted in the acquisition of 'basic Reading' and 'Reading for meaning' skills. This is indicative of the significant improvement in the percentage of pupils reaching advanced Reading competency. However the 21.2 percent of Standard 6 pupils who had not acquired higher than the basic Reading skills (levels 1-3) remain a concern. This percentage was strikingly similar to the percentage for Standard 6 repetition (21.7 percent) and seems to support the general belief that the language of the test not being first language of the learner may be a significant factor in failing. The Reading achievement results in the region of Black River remained low and were below the SACMEQ mean. Likewise the results showed that

the percentages reaching the advanced mathematical competencies had also increased. More pupils were operating at the mathematically skilled and at the abstract problem solving levels.

In as far as school location is concerned it was observed that pupils in schools located in urban areas did better although there was an improvement in scores obtained by both rural and urban schools in Reading and Mathematics from 2001 to 2007. However a widening of the gap between rural and urban schools was also noted between 2001 and 2007.

It is believed that improvement in Standard 6 can be achieved through an improvement in Reading competencies as all question papers are set in English. The Diagnostic Assessment takes place every year at the beginning of Standard 3 to try to identify those pupils with major learning difficulties in English and Mathematics with a view to take appropriate remedial steps to fill learning gaps. This can already be viewed as a step in the right direction. It is however generally considered that a structured remedial education strategy built in the actual system is essential in order to address the different shortcomings through appropriate and timely interventions.

## **Chapter 8**

# **Pupils' and Teachers' Knowledge about HIV and AIDS**

### **8.1 Introduction**

The United Nations has recognized that the education sector has a critical role to play in terms of the delivery of effective HIV and AIDS prevention education programmes. Ministries of Education have responded to challenges in this area by implementing education initiatives that aim to ensure that all young people possess the basic knowledge that is required to make informed decisions about behaviours related to HIV and AIDS that will protect and promote health.

The primary school level has been identified as a crucial access point for HIV and AIDS prevention education programmes because most children attend these schools, and because of the importance of improving the knowledge of children about HIV and AIDS before they become sexually active and/or get involved in high-risk behaviours.

The HIV prevalence rate in Mauritius has been very low compared with many African countries, and levels of public awareness about this pandemic have therefore also been rather low. However, in recent years the Mauritius Ministry of Education has taken action to ensure that schools are provided with the staff training and teaching materials required to support HIV and AIDS prevention education programmes.

This chapter presents the main findings on the HIV and AIDS knowledge and attitudes of Standard 6 pupils, teachers and school heads. The SACMEQ III Project launched in 2007, was designed to be a replication of the SACMEQ II project, but with the extra inclusion of a detailed assessment of pupil and teacher knowledge about HIV and AIDS.

This additional research component was included following a request made by SACMEQ Ministers of Education at the SACMEQ Assembly of Ministers in Paris in October 2005. SACMEQ Ministers wished to understand the impact of HIV and AIDS on the functioning of primary schools and obtain information that could be used to generate more effective educational planning responses to the challenges associated with the HIV and AIDS pandemic. SACMEQ III survey was carried out in Mauritius and Rodrigues in the month of

September in 2007 on a sample of about 3500 Standard 6 pupils, 400 teachers and 152 school heads with the aim of obtaining information on their HIV and AIDS knowledge levels and also to gain an insight into their attitudes towards persons living with AIDS and their own levels of risk.

The data collected have therefore been analysed with a special focus on the following aspects:

- Knowledge levels of pupils and teachers by region, gender, SES and school location,
- Attitudes of pupils, teachers and school heads about HIV and AIDS,
- Risk perceptions about HIV and AIDS.

## **8.2 Major Concerns**

Knowledge about HIV-AIDS has become a necessary condition for behaviors and attitudes towards the disease and towards those infected with the disease. Such knowledge is important to ensure that younger generations adopt behaviors that will protect and promote their own health and that of others. Some of the general concerns expressed at the meeting of SACMEQ Ministers of Education in 2005 addressed in this chapter are:

- What do Standard 6 pupils and their teachers know about HIV and AIDS?
- What can the education sector do as a preventive measure to stop the spread of HIV and AIDS?
- What is the perception of Standard 6 pupils and their teachers about people living with HIV and AIDS?

## **8.3 Pupil and Teacher knowledge**

In order to measure pupil and teacher knowledge about HIV and AIDS a separate questionnaire was administered to both pupils and teachers. This HIV and AIDS Knowledge Test commonly referred to as the HAKT was a test based on the course content of the official curricula across the SACMEQ countries and comprised 86 test items. These 86 HAKT test items addressed 43 curriculum topics concerned with 'basic knowledge required for protecting and promoting health'. These topics covered five main dimensions: definitions and terminology, transmission mechanisms, avoidance behaviors, diagnosis and treatment and myths and misconceptions.

The same HAKT questionnaire was administered to both pupils and their teachers. The resulting data analyses indicated that this instrument had a high level of reliability, and that it was suitable for placing pupils and their teachers on a common scale of knowledge about HIV and AIDS.

The performance of pupils and teachers was summarized in the form of three scores:

**Transformed Scores:** scaled HAKT scores that were transformed to an overall SACMEQ mean of 500 and standard deviation of 100.

**Minimal Knowledge Scores:** dichotomous scores that indicated whether or not respondents had mastered at least 50 percent of the officially designed curriculum assessed by the HAKT.

**Desirable Knowledge Scores:** dichotomous scores that indicated whether or not respondents had mastered at least 75 percent of the officially designed curriculum that was assessed, by the HAKT.

Table 8.1 below shows the mean scores obtained by region and the percentage of pupils and teachers reaching the minimum and desirable levels of knowledge about HIV and AIDS.

**Table 8.1: Mean performance on the HAKT of pupils and teachers and percentages and sampling errors for pupils and teachers reaching the minimum and desirable levels of knowledge about HIV and AIDS by region**

Region	PUPILS						TEACHERS					
	Transformed Score		% Reaching minimum level		% Reaching desirable level		Transformed Score		% Reaching minimum level		% Reaching desirable level	
	Mean	SE	%	SE	%	SE	Mean	SE	%	SE	%	SE
<b>1 PL</b>	448.4	3.17	16.5	1.37	0.7	0.30	688.9	4.15	96.9	0.80	56.3	1.86
<b>2 BB</b>	450.6	3.67	16.5	1.60	1.2	0.47	682.3	3.62	98.0	0.64	60.7	2.13
<b>3 CU</b>	461.9	4.56	18.5	1.78	6.1	1.26	678.0	2.98	100.0	0.00	52.5	2.21
<b>4 VA</b>	461.2	3.70	17.6	1.80	0.9	0.46	698.5	4.95	98.5	0.50	56.5	2.36
<b>5 RO</b>	445.9	5.38	13.9	2.10	1.1	0.69	703.3	7.03	92.9	1.60	64.4	3.06
<b>6 BR</b>	412.5	5.23	5.3	1.52	0.0	0.00	756.5	4.94	100.0	0.00	<b>87.3</b>	2.00
<b>7 PR</b>	458.7	3.76	20.6	1.67	2.4	0.62	725.4	3.83	98.0	0.60	<b>78.6</b>	1.73
<b>MAU</b>	<b>452.9</b>	<b>1.59</b>	<b>17.2</b>	<b>0.68</b>	<b>2.0</b>	<b>0.27</b>	<b>697.5</b>	<b>1.70</b>	<b>97.9</b>	<b>0.28</b>	<b>62.5</b>	<b>0.86</b>

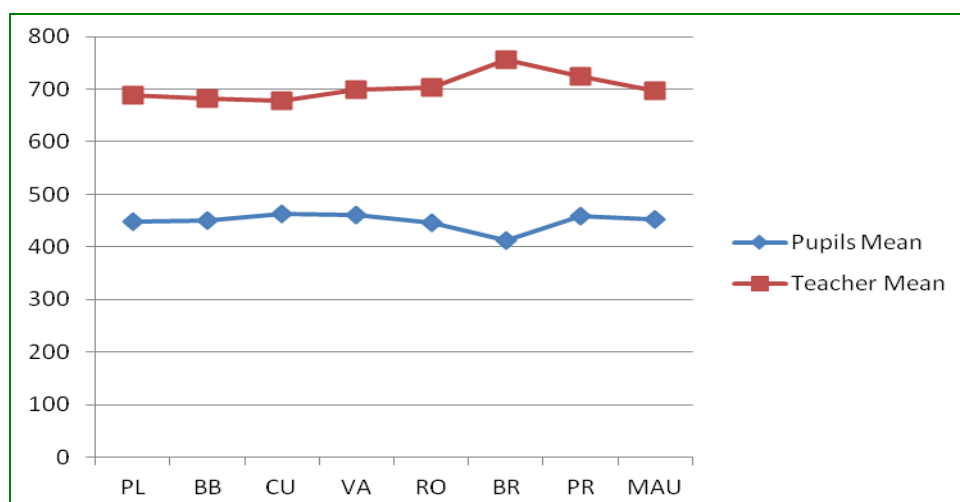


Figure 8.1: Mean transformed scores for pupils and teachers by region

### 8.3.1 HIV-AIDS Knowledge levels of pupils by region

Data from the *Table 8.1* show that at the national level, pupils' mean score was 452.9 which was almost 50 score points below the SACMEQ average of 500. The average HAKT scores for regions illustrated substantial between-region variation in Standard 6 pupils knowledge about HIV and AIDS. The highest average of 461.9 for the Curepipe & South region was almost 50 score points above the average of 412.5 for the Black river region.

An analysis of the percentage of pupils who reached the different levels of knowledge about HIV and AIDS reveals that, 17.2 percent of pupils reached the minimum level and only 2 percent of pupils reached the desirable level. The average HAKT minimal knowledge scores for the different regions also highlighted substantial between-regions variations in Standard 6 pupils' knowledge about HIV and AIDS. For example, the percentage of pupils in Curepipe & South (18 percent) that reached SACMEQ's minimal knowledge benchmark was almost four times higher than was observed for the Black River (5 percent). There is need to investigate further the reasons for the disparity between regions and the particularly low percentage in Black River. Possible reasons for this low value for Black River may be high absenteeism and a high percentage of pupils from low SES background.

The low results in Mauritius relative to other SACMEQ countries may be explained by the fact that the other countries had already included HIV and AIDS as a subject in the primary school curriculum. In Mauritius, however, at the time of study there was minimal curriculum content relating to HIV and AIDS and it only appeared in the teachers' guide for Health and

Physical Education which was and is still a non examinable subject. Another explanation is that the average age of Standard 6 pupils in Mauritius at time of survey was 11.4 years as compared to the average age of grade 6 pupils for SACMEQ countries which was 13.6 years.

In short, the present practice of mounting sporadic and generic sensitization & awareness programmes for all is not addressing the real issue of preventing HIV and AIDS through education. The different agencies wishing to sensitise school pupils may need to use a customized approach to cater for different regions.

### **8.3.2 HIV and AIDS Knowledge levels of teachers by region**

The transformed average score for teachers across the SACMEQ countries was 746 and the national average for Mauritius was 698. The highest score 756.5 was obtained by teachers in Black River and the lowest score of 678.0 by teachers in Curepipe and South. Teachers in Black River knew more than teachers in other zones.

Overall, 97.9 percent of teachers reached the minimum level of knowledge and 62.5 percent attained the desirable level of knowledge in HIV and AIDS. There was some variation in the percentage of teachers with the desirable knowledge level between regions from a low 52.5 percent in Curepipe and South to a high of 87.3 percent in Black River district. Interestingly, this is exactly the opposite of the variation observed in pupils' desirable knowledge levels which varied from 6.1 percent in Curepipe and South to zero percent in Black River district.

From the above, the following findings need to be highlighted:

1. Mauritius had the lowest average transformed score for pupils among SACMEQ countries and was almost 50 score points below the SACMEQ average.
2. A shockingly low percentage of two percent of pupils had the desirable level of knowledge.
3. Teachers knew a lot more than pupils. The high knowledge level of teachers contrasted singularly with the low knowledge level of pupils (desirable level of knowledge at national level: teachers 62.5 percent; pupils 2.0 percent).
4. Despite the amount of effort and substantial investments in HIV and AIDS prevention education programmes, knowledge about HIV and AIDS was still inadequate for the task of guiding decisions about behaviors that will protect and promote health.

One possible explanation for the low average score for pupils and the knowledge gap between teachers and pupils may be that previously, only teachers' guides for the subject "Physical and Health Education" which contained factual information about HIV and AIDS in the context of sexual health education were provided to Standard 6 teachers. No reference to HIV and AIDS, direct or indirect was found to be made in any textbook for primary schools. Following major curriculum reforms undertaken from 2006 and in accordance with the new national curriculum framework in force for the primary sector since year 2007, HIV and AIDS education has been introduced as one component of the subject "Health Education" in Standard 6 as from year 2011. For the first time, pupils of Standard 6 in year 2011 have been provided with textbooks with some content pertaining to HIV and AIDS.

Like the previous subject "Physical and Health Education", Health Education is also non examinable. A probable explanation for the great disparity in Teachers' and pupils' knowledge levels is that due to the subject being non examinable, not much effort was devoted to the actual teaching of the subject itself.

***Policy Suggestion 8.1:*** The Ministry needs to set up a task force to define the modalities for implementation of HIV and AIDS education in primary schools, as prescribed by the national curriculum framework.

### 8.3.3 HIV and AIDS knowledge levels of pupils by gender, SES and location

Table 8.2 below shows the mean scores of pupils on the HAKT by gender and the percentage of pupils reaching the minimum and desirable levels of knowledge about HIV and AIDS.

**Table 8.2: Mean performance on the HAKT of pupils and percentages and sampling errors for pupils reaching the minimum and desirable levels of knowledge about HIV and AIDS by gender**

Region	Transformed score				Reaching minimum level				Reaching desirable level			
	Boys		Girls		Boys		Girls		Boys		Girls	
	Mean	SE	Mean	SE	%	SE	%	SE	%	SE	%	SE
1 PL	441.0	4.62	455.9	4.31	15.4	1.87	17.7	2.02	1.0	0.51	0.5	0.32
2 BB	439.8	5.00	462.1	5.32	12.9	2.02	20.4	2.51	1.2	0.68	1.1	0.66
3 CU	459.5	6.71	464.3	6.17	18.9	2.52	18.1	2.50	7.5	1.92	4.6	1.60
4 VA	452.6	5.26	469.9	5.16	16.0	2.43	19.3	2.65	0.9	0.63	0.9	0.67
5 RO	432.9	7.47	459.0	7.72	11.8	2.70	16.0	3.37	0.8	0.53	1.5	1.29
6 BR	394.0	6.56	432.0	7.89	3.2	1.80	7.5	2.52	0.0	0.00	0.0	0.00
7 PR	457.9	5.44	459.6	5.20	22.6	2.44	18.5	2.25	2.6	0.91	2.1	0.86
<b>MAU</b>	<b>446.2</b>	<b>2.30</b>	<b>459.8</b>	<b>2.20</b>	<b>16.4</b>	<b>0.94</b>	<b>18.1</b>	<b>0.99</b>	<b>2.3</b>	<b>0.42</b>	<b>1.7</b>	<b>0.35</b>



Transformed scores were slightly in favour of girls both at national and at regional levels. Figure 8.2 below shows that mean scores for both girls and boys in Black River were worryingly low. There was not much difference in minimum knowledge levels reached by boys and girls. In terms of desirable knowledge levels, boys were very slightly ahead of girls at the national level and the same could be observed for all regions. The situation in Black River was worrying as only 3.2 percent of boys achieved the minimum level of knowledge. No boy nor girl achieved a desirable level of knowledge in Black River. No boy nor girl achieved a desirable level of knowledge in Black River.

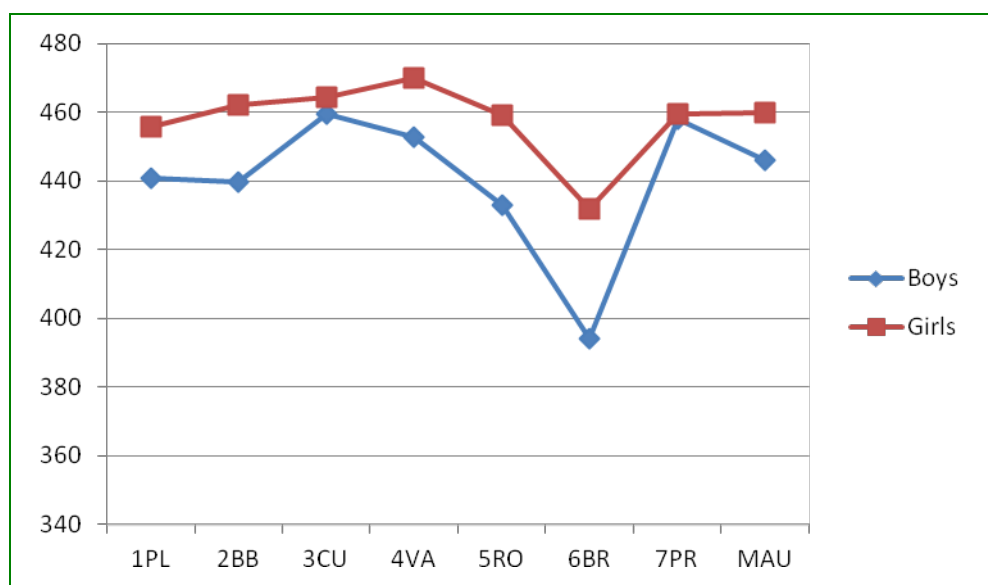


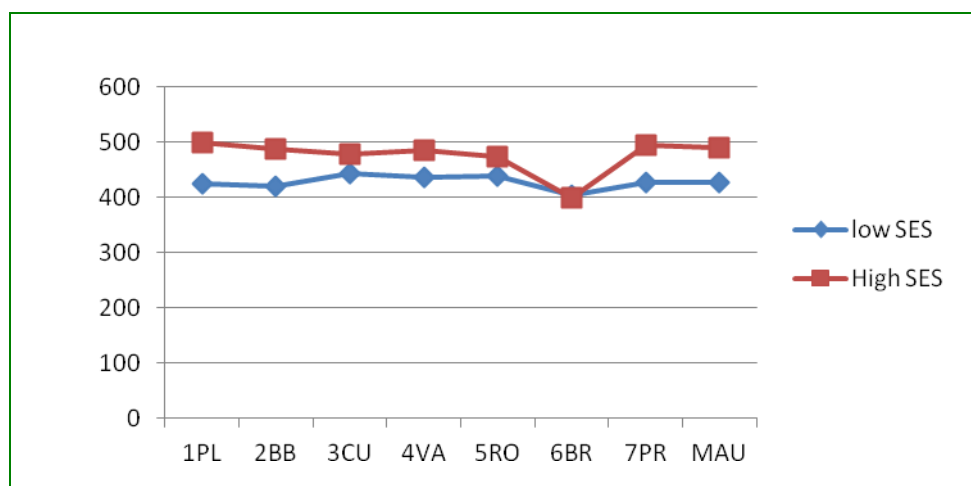
Figure 8.2: Transformed mean scores of pupils by gender

Table 8.3 below shows the mean scores of pupils on the HAKT by SES and the percentage of pupils reaching the minimum and desirable levels of knowledge about HIV and AIDS.

Table 8.3: Mean performance on the HAKT of pupil and percentages and sampling errors for pupils reaching the minimum and desirable levels of knowledge about HIV and AIDS by socioeconomic status

Region	Transformed scores				Reaching minimum level				Reaching desirable level			
	Low SES		High SES		Low SES		High SES		Low SES		High SES	
	Mean	SE	Mean	SE	%	SE	%	SE	%	SE	%	SE
1PL	424.6	5.13	498.8	10.25	10.7	2.02	36.9	5.13	0.0	0.00	2.8	1.63
2BB	419.1	5.69	488.1	9.47	6.3	2.06	26.2	4.70	0.0	0.00	2.3	1.66
3CU	443.8	9.26	477.2	9.61	15.6	3.12	17.8	4.28	8.9	2.66	3.5	2.48
4VA	436.0	6.89	484.4	7.31	9.8	2.61	25.9	4.51	0.8	0.81	2.0	1.43
5RO	437.8	7.45	473.1	33.97	12.1	2.60	16.3	13.29	0.4	0.35	16.3	13.29
6BR	404.5	6.77	400.2	26.73	4.2	1.79	11.3	12.48	0.0	0.00	0.0	0.00
7PR	426.1	7.28	494.0	6.95	7.4	2.63	34.5	3.64	0.7	0.73	3.8	1.53
MAU	427.7	2.73	488.9	3.87	9.9	0.99	29.3	1.97	1.7	0.47	3.2	0.79

From Table 8.3 above and Figure 8.3 below, it can be seen that at the national level, transformed scores of pupils coming from low SES backgrounds (427.7) were significantly lower than those of pupils coming from high SES backgrounds (488.9). The disparity was most evident in the Port Louis region with a difference of 74 score points. Even when considering the minimum and desirable knowledge levels reached by pupils, in all regions there were substantial differences in favor of pupils from high SES backgrounds except for Curepipe & South, where unlike other regions a greater percentage of pupils from low SES background had the desirable knowledge level. Rodrigues stood out as the region showing the greatest difference in the percentage of pupils having reached the desirable level of knowledge - 15.9 points in favor of pupils from high SES background.



**Figure 8.3: Transformed mean scores of pupils by SES**

Table 8.4 below shows the mean scores of pupils on the HAKT by school location and the percentage of pupils reaching the minimum and desirable levels of knowledge about HIV-AIDS.

**Table 8.4: Mean performance on the HAKT of pupils and percentages and sampling errors for pupils reaching minimum and desirable levels of knowledge about HIV and AIDS by school location**

	Transformed scores				Reaching minimum level				Reaching desirable level			
	Rural		Urban		Rural		Urban		Rural		Urban	
	Mean	SE	Mean	SE	%	SE	%	SE	%	SE	%	SE
<b>1 PL</b>	446.4	3.84	450.3	5.02	12.0	1.63	20.9	2.18	1.0	0.49	0.5	0.36
<b>2 BB</b>	449.1	4.22	454.3	7.41	15.2	1.82	19.9	3.31	1.1	0.53	1.4	1.01
<b>3 CU</b>	464.7	6.02	455.5	5.83	20.5	2.24	14.0	2.74	8.8	1.77	0.0	0.00
<b>4 VA</b>	-	-	461.2	3.70	-	-	17.6	1.80	-	-	0.9	0.46
<b>5 RO</b>	447.8	6.67	443.0	9.05	16.4	2.81	10.0	3.09	1.8	1.14	0.0	0.00
<b>6 BR</b>	412.5	5.23	-	-	5.3	1.52	-	-	-	0.00	-	-
<b>7 PR</b>	453.8	6.97	461.8	4.31	21.5	2.87	20.0	2.03	4.1	1.34	1.3	0.57
<b>MAU</b>	<b>449.7</b>	<b>2.27</b>	<b>456.3</b>	<b>2.23</b>	<b>15.8</b>	<b>0.92</b>	<b>18.8</b>	<b>1.01</b>	<b>3.1</b>	<b>0.48</b>	<b>0.8</b>	<b>0.23</b>

The first set of scores listed in the above table indicate that there were no appreciable differences in knowledge levels of Standard 6 pupils from rural and urban areas. However a surprising observation made is that the percentage of pupils who reached the desirable knowledge level in rural schools (3.1 percent) was higher than that of pupils from schools in urban areas (0.8 percent). It is to be noted, that in Vacoas, there were no schools considered as rural and in Black River there were no schools considered as urban.

#### **8.3.4 HIV and AIDS knowledge levels of teachers by gender,**

The mean scores for the country show that the knowledge levels of both male and female teachers were very similar. However, the largest gender gap of about 90 score points in favour of female teachers was noted in Black River. However gender difference was also observed in Beau Bassin & East with the lowest percentage (48.0 percent) of female teachers having a desirable level of knowledge.

**Table 8.5: Mean performance on the HAKT of teachers by gender**

	Transformed scores				Reaching minimum level				Reaching desirable level			
	Male		Female		Male		Female		Male		Female	
	Mean	SE	Mean	SE	%	SE	%	SE	%	SE	%t	SE
<b>1PL</b>	692.9	6.37	684.2	5.08	94.2	1.45	100.0	0.00	58.1	2.54	54.2	2.76
<b>2BB</b>	688.2	4.47	670.7	6.13	96.9	0.96	100.0	0.00	67.0	2.51	48.0	3.75
<b>3CU</b>	679.8	3.03	669.5	9.25	100.0	0.00	100.0	0.00	51.4	2.42	57.2	5.45
<b>4VA</b>	708.0	6.01	675.2	8.49	100.0	0.00	94.8	1.70	59.2	2.78	49.8	4.44
<b>5RO</b>	707.2	6.95	694.1	14.70	100.0	0.00	75.7	4.63	63.1	3.71	67.6	4.52
<b>6BR</b>	706.9	3.65	797.3	8.42	100.0	0.00	100.0	0.00	80.8	3.56	92.6	2.22
<b>7PR</b>	734.2	5.51	719.6	5.22	100.0	0.00	96.6	1.00	80.6	2.80	77.2	2.21
<b>MAU</b>	<b>697.5</b>	<b>2.21</b>	<b>697.4</b>	<b>2.70</b>	<b>98.0</b>	<b>0.40</b>	<b>97.8</b>	<b>0.37</b>	<b>62.5</b>	<b>1.11</b>	<b>62.5</b>	<b>1.37</b>

Although there is not much gender difference in terms of mean scores of male and female teachers at the national level, it is important to note that some significant gender gaps existed at the regional level: for example a 90 score points difference between male and female teachers in Black River.

## 8.4 Comparison of Mauritius with other SACMEQ countries

The scores on the HAKT have been summarized in *Table 8.6* below for Standard 6 pupils and their teachers from the fifteen SACMEQ countries. The analyses conducted for this table employed pupils as the units of analysis.

**Table 8.6: Comparison of performance of Standard 6 pupils and teachers on SACMEQ III, HIV and AIDS Knowledge test (HAKT) across 15 SACMEQ countries**

Country	Pupils						Teachers					
	Transformed Score		Reached Minimal Level		Reached Desirable Level		Transformed Score		Reached Minimal Level		Reached Desirable Level	
	Mean	SE	%	SE	%	SE	Mean	SE	%	SE	%	SE
<b>Mauritius</b>	<b>453</b>	<b>5</b>	<b>17</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>698</b>	<b>6</b>	<b>98</b>	<b>1</b>	<b>63</b>	<b>3</b>
Lesotho	465	4	19	1	5	1	751	8	99	1	82	3
Zimbabwe	477	5	30	2	4	1	785	7	99	0	93	2
Seychelles	488	2	25	1	3	0	789	3	99	0	95	0
Zambia	488	4	35	2	4	1	744	7	98	1	86	2
Uganda	489	4	33	2	4	1	708	9	98	1	72	3
Botswana	499	4	32	2	7	1	782	6	100	0	93	2
<b>SACMEQ</b>	<b>500</b>	<b>4</b>	<b>36</b>	<b>2</b>	<b>7</b>	<b>1</b>	<b>746</b>	<b>7</b>	<b>99</b>	<b>1</b>	<b>82</b>	<b>2</b>
Zanzibar	501	3	38	1	4	0	657	5	94	1	45	3
Namibia	502	3	36	2	6	1	764	6	100	1	87	2
S. Africa	503	4	35	2	8	1	781	6	100	0	93	2
Mozambique	507	6	40	2	8	2	741	7	99	1	81	3
Kenya	509	4	39	2	7	1	793	8	100	0	95	2
Malawi	512	5	43	2	9	1	714	9	99	1	72	4
Swaziland	531	3	52	2	4	1	759	7	100	0	89	2
Tanzania	576	4	70	2	24	1	724	7	99	1	82	3

The mean scores and the percentages of students reaching minimum and desirable levels indicate that there were substantial differences in Standard 6 pupil knowledge across the SACMEQ countries. Pupil knowledge levels ranged from relatively high in Tanzania (with an average transformed score of 576, and with 70 percent and 24 percent of pupils reaching the minimal and desirable knowledge levels, respectively) to relatively low in Mauritius (with an average transformed score of 453, and with 17 percent and 2 percent of pupils reaching the minimal and desirable knowledge levels, respectively). However, it must be recognized here that in late 2007 (at the time of the SACMEQ III Project data collection) Mauritius had not fully included HIV and AIDS prevention education initiatives in primary school programmes and in the SACMEQ III Project 71% of Standard 6 pupils in Mauritius reported that they had “never attended any classes/lessons on HIV and AIDS during the current school year”.

The striking finding from these results was the generally low level of knowledge about HIV and AIDS among Standard 6 pupils. For SACMEQ countries overall an average of only 36 percent of pupils reached the minimal knowledge level, and only 7 percent of pupils reached the desirable level. In addition, within most SACMEQ countries around 20 to 40 percent of pupils reached the minimal knowledge level, and less than ten percent of pupils reached the desirable knowledge level. In contrast, the second set of three scores listed in the table illustrated that the Standard 6 teachers in the SACMEQ countries had high knowledge levels with respect to HIV and AIDS based on the curriculum that had been officially specified for primary schools. The average transformed score for teachers across the SACMEQ countries was 746, and the national averages ranged from a high of 793 in Kenya to a low of 698 in Mauritius. Almost all teachers in the SACMEQ countries reached the minimal knowledge level, and around 80 to 95 percent of teachers in most SACMEQ countries reached the desirable knowledge level (Dolata S and Ross K, 2010)

## **8.5 Attitudes of pupils, teachers and school heads towards people living with HIV and AIDS**

People infected with HIV are often stigmatized by society. In order to gauge attitudes on this issue, pupils, teachers and school heads were asked the same question: “*Should a pupil who is infected with HIV be allowed to continue to attend school?*” There were three possible responses:

1. No
2. Yes
3. I am not sure.

The different responses obtained from pupils, teachers and school heads are shown in *Table 8.7* below.

**Table 8.7: Percentages and sampling errors for pupils, teachers and school heads expressing fear of casual contact with a pupil living with HIV (stigma)**

	Responses on the possibility of a pupil living with HIV to continue to attend school																	
	PUPILS						TEACHERS						SCHOOL HEADS					
	No		Not Sure		Yes		No		Not Sure		Yes		No		Not Sure		Yes	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
<b>1PL</b>	43.8	1.82	33.4	1.71	22.8	1.51	10.5	1.19	31.1	1.70	58.4	1.81	18.7	1.45	33.0	1.75	48.3	1.82
<b>2BB</b>	54.3	2.16	20.7	1.75	25.0	1.86	5.7	1.00	27.4	1.98	66.9	2.07	29.6	1.99	29.6	1.96	40.9	2.13
<b>3CU</b>	62.7	2.09	20.3	1.71	16.9	1.63	5.8	1.12	37.5	2.10	56.8	2.16	26.9	2.01	32.6	2.01	40.4	2.11
<b>4VA</b>	62.6	2.25	25.2	2.02	12.1	1.52	5.1	1.02	22.3	1.95	72.6	2.08	5.4	1.05	69.7	2.14	24.9	2.01
<b>5RO</b>	62.1	3.10	19.2	2.49	18.8	2.60	3.7	1.32	15.7	1.92	80.6	1.78	4.9	0.00	4.7	0.00	90.5	0.00
<b>6BR</b>	39.5	2.56	22.1	2.51	38.4	2.32	1.4	0.75	48.9	3.60	49.8	3.61	12.8	0.43	30.1	1.00	57.2	1.43
<b>7PR</b>	54.2	2.01	22.3	1.65	23.5	1.74	7.6	1.04	25.3	1.79	67.1	1.91	3.4	0.68	49.1	2.01	47.5	2.01
<b>MAU</b>	<b>53.4</b>	<b>0.87</b>	<b>24.9</b>	<b>0.75</b>	<b>21.7</b>	<b>0.72</b>	<b>7.1</b>	<b>0.48</b>	<b>29.4</b>	<b>0.81</b>	<b>63.5</b>	<b>0.85</b>	<b>16.8</b>	<b>0.66</b>	<b>38.1</b>	<b>0.82</b>	<b>45.1</b>	<b>0.85</b>

From *Table 8.7* above, it is noted that 53.4 percent of pupils, 7.1 percent of teachers and 16.8 percent of school heads were opposed to the idea of allowing infected pupils to continue attending school. Only 21.7 percent of pupils thought that pupils infected with HIV should be allowed to come to school. 63.5 percent of pupils were taught by teachers and 45.1 percent were in schools with headmasters who thought that an infected pupil should continue attending school. Thus less than one quarter of the pupils showed a positive attitude. This is indicative of the fact that much work still remains to be done in terms of attitude building towards people living with HIV in order to address the problem of stigmatization.

In order to assess the situation concerning the discrimination to which an HIV infected pupil may be subjected by his peers, pupils were asked the following question: “A close friend of yours has told you that he or she is infected with HIV. How would you behave towards him or her?”

Four possible answers were given:

1. I would be more friendly than before.
2. I would behave the same as before.
3. I would avoid or shun them.
4. I am not sure how I would behave.

Responses obtained are displayed in *Table 8.8* below, where answers 1 and 2 have been grouped together as representing a positive attitude.

**Table 8.8: Percentages and sampling errors for pupils refusing contact with a person living with HIV or AIDS (Discrimination)**

Region	PUPIL BEHAVIOUR WITH A FRIEND LIVING WITH HIV						PUPIL WILLING TO CARE FOR A RELATIVE ILL WITH AIDS					
	Avoid/ shun		Not sure		Positive attitude		No		Not sure		Yes	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
1PL	41.3	1.79	40.4	1.80	18.3	1.38	25.9	1.62	37.7	1.76	36.5	1.75
2BB	43.7	2.15	34.5	2.05	21.8	1.82	36.4	2.09	33.8	2.04	29.8	1.99
3CU	53.7	2.16	28.1	1.93	18.3	1.66	41.3	2.12	31.2	2.03	27.5	1.95
4VA	39.0	2.29	47.2	2.34	13.8	1.57	35.0	2.24	50.6	2.34	14.5	1.63
5RO	43.3	3.11	25.6	2.67	31.2	3.06	48.5	3.07	21.3	2.29	30.1	2.94
6BR	47.5	2.83	35.8	2.59	16.7	2.03	39.5	2.86	15.6	2.29	44.9	2.77
7PR	36.8	1.93	41.2	1.98	21.9	1.70	28.0	1.79	40.6	1.97	31.4	1.90
<b>MAU</b>	<b>42.9</b>	<b>0.87</b>	<b>37.4</b>	<b>0.85</b>	<b>19.7</b>	<b>0.70</b>	<b>33.1</b>	<b>0.82</b>	<b>36.3</b>	<b>0.84</b>	<b>30.5</b>	<b>0.81</b>

Only 19.7 percent of pupils expressed a positive attitude towards a friend infected with HIV. There was not much variation among the regions, however the highest percentage of pupils with a positive attitude was recorded in Rodrigues (31.2 percent). There is a marked tendency for discrimination against HIV infected pupils by peers. It is worthwhile to note that 37.4 percent of pupils were not sure about how they would behave. Therein lies the importance of mounting targeted and high quality sensitization programmes which can cause a shift from a “not sure” stance towards a more definite positive attitude towards those living with HIV.

The second set of responses in *Table 8.8* above, illustrate the different responses obtained when pupils were asked whether they would be willing to take care of a relative ill with AIDS. 33.1 percent of pupils answered in the negative. However it could be that the same percentage of pupils would generally be unwilling to look after any relative ill with any other disease and not just AIDS. However it is noted that the percentage was lowest (14.5 percent) in Vacoas.

## 8.6 Teachers' and School heads' perception about 'risk of getting infected with HIV at school'

Teachers of Standard 6 pupils and their head teachers were asked the following question: *What do you think is the general risk of being infected with HIV?* *Table 8.9* below shows the response obtained from teachers and head teachers.

**Table 8.9: Percentages and sampling errors for self-risk assessment of being infected with HIV made by teachers and school heads**

Region	SELF HIV RISK ASSESSMENT											
	TEACHERS						SCHOOL HEADS					
	No/ Risk	Low	Medium Risk	High/Very High Risk	No/ Risk	Low	Medium Risk	High/Very High Risk	No/ Risk	Low	Medium Risk	High/Very High Risk
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
1 PL	88.9	1.15	2.9	0.55	8.2	1.04	92.3	0.90	5.2	0.76	2.5	0.52
2 BB	95.1	0.97	3.2	0.78	1.7	0.59	96.0	0.90	4.0	0.90	0.0	0.00
3 CU	94.2	0.97	1.3	0.50	4.5	0.85	95.4	0.95	4.6	0.95	0.0	0.00
4 VA	87.1	1.60	5.0	1.01	8.0	1.31	89.5	1.46	10.5	1.46	0.0	0.00
5 RO	83.9	2.44	11.0	2.16	5.2	1.14	100.0	0.00	0.0	0.00	0.0	0.00
6 BR	100.0	0.00	0.0	0.00	0.0	0.00	100.0	0.00	0.0	0.00	0.0	0.00
7 PR	93.6	1.00	6.4	1.00	0.0	0.00	75.5	1.71	6.8	1.01	17.7	1.51
MAU	91.8	0.48	3.8	0.33	4.3	0.36	90.5	0.50	5.3	0.40	4.2	0.33



From *Table 8.9* above, it is noted that in Mauritius a very high percentage of teachers, 91.8 percent, thought that there was no risk or negligible risk of being infected at school. 8.1 percent thought they had a medium or high risk of being infected. What stands out is that all teachers in Black River district thought that there was no or low risk of being infected at school. Like teachers, 90.5 percent of head teachers thought they were at no or negligible risk of infection at school. 9.5 percent of school heads perceived that they had a medium or high risk of being infected. As for teachers, all head teachers from Black River district perceived that there was no or low risk of being infected.

## 8.7 Sources of information about HIV and AIDS

In recent years several agencies have been investing heavily in awareness and sensitization campaigns. The distribution of leaflets and posters, radio and television programmes, and interventions by guest speakers are some of the means, commonly adopted to transmit information about HIV and AIDS. *Table 8.10* below presents the responses of pupils on sources of information about HIV and AIDS. Only the ten most commonly cited sources have been shown.

**Table 8.10: Percentages and sampling errors for sources of information for pupils on HIV and AIDS**

Source of Information on HIV-AIDS	%	SE
1. Television	92.1	1.19
2. Radio	81.2	1.88
3. Magazine/Newspapers	80.3	1.64
4. Hospital/clinic	66.8	2.23
5. Poster/Billboard	58.8	2.52
6. Classroom lesson	52.7	3.05
7. Teachers	48.1	2.77
8. Friends	35.9	2.31
9. Community Health worker	32.9	2.37
10. Counselors	27.4	2.53
11. Religious person	18.4	1.63

The most common source of information was television with a percentage of 92.1 percent. Radio was the second most frequently stated source followed closely by magazine and newspapers. Posters and billboards obtained a response of 58.8 percent. Teachers as a source of information obtained 48.1 percent response and it is interesting to note that in this survey question, a small percentage of pupils (18.1 percent) stated that they had received information about HIV and AIDS from a religious person.

Pupils were also asked about which of the sources of information they rated as best and the information is displayed in *Table 8.11* below. The table gives a valuable insight into the sources of information most likely to appeal to pupils.

**Table 8.11: Percentages and sampling errors for pupils' best source of information**

Source of information	%	SE
1. Television	51.8	2.65
2. Radio	10.5	1.39
3. Doctor	4.7	1.14
4. Relatives	4.2	0.73
5. Internet	3.4	0.57
6. Magazines/newspapers	3.4	0.53
7. Counselors	3.2	1.09
8. Teachers	3.0	0.89
9. Hospital/clinic	2.8	0.46
10. Posters/Billboards	2.0	0.48
11. Religious person	0.4	0.18

The majority of pupils, 51.8 percent, considered television and 10.3 percent pupils stated radio to be the best source of HIV and AIDS information. Less than five percent pupils found either teachers or posters/billboards to be the best source of information where HIV and AIDS is concerned. Less than one percent pupils considered a religious person as the best source.

The above data leads to the following pertinent interpretations:

- audio-visual support materials could be a powerful tool for transmitting information about HIV and AIDS to pupils. Such tools will also add to the sustainability dimension of education and sensitization programmes as these tools can be used over and over again.
- posters/ billboards rate rather low on the pupils' favourites list. The fact that less than 3 percent of pupils found posters/billboards to be the best source of information should trigger some serious rethinking on one of the most common sensitization approaches in Mauritius.
- About 18 percent of pupils stated they had obtained information about HIV and AIDS through a religious person but that was considered the best source by only 0.4 percent of pupils. It is time that the various religious bodies in Mauritius that are very active in different fields are called upon for increased participation in HIV and AIDS prevention education programmes.

***Policy Suggestion 8.2:*** *The Ministry may wish to harmonise the various HIV and AIDS awareness and sensitization programmes targeting pupils and teachers in schools so as to reinforce the school curriculum through specific strategies.*

***Policy Suggestion 8.3:*** *The Ministry ought to provide guidelines for schools to mobilize whole communities through school Parent Teacher Associations and in collaboration with other stakeholders develop needs based awareness and sensitization strategies on HIV and AIDS to cater for schools in different regions.*

## 8.8 Teacher training on HIV and AIDS issues

Information concerning the number of days of in-service training on HIV and AIDS, attended by the teachers was gathered from the teachers themselves and is shown in *Table 8.12* below.

**Table 8.12: Percentages and sampling errors for number of days of in-service training attended by teachers**

No of days of training	%	SE
0	93.3	1.42
1	4.4	1.17
2	0.4	0.23
3	0.5	0.48
5	0.7	0.41
7	0.3	0.25
10	0.2	0.24
12	0.2	0.24

Surprisingly, 93.3 percent of pupils were taught by teachers who had not received even a single day of specialized training in HIV and AIDS after becoming a school teacher. Only 4.4 percent of pupils had teachers who had attended one day of in-service training. Those who had attended a training course on HIV and AIDS were questioned about the activities which took place during the training received. The percentages for the main different types of activities carried out during the training sessions are listed in *Table 8.13* below in order of frequency of response from teachers.

From the responses of teachers in the table below, it appears that the main activities were lectures followed by questions, which are often accompanied by distribution of handouts and reading materials. Watching a video and participating in group discussions were sometimes included.

**Table 8.13: Percentages and sampling errors for the main activities carried out during the training sessions on HIV and AIDS for teachers**

Main activities during training	%	SE
Asked questions	6.2	1.40
Reading material/pamphlets distributed	5.6	1.40
Lecture by course instructor	5.6	1.38
Watched video/film	4.2	1.20
Given contact addresses for more information	3.8	1.18
Participated in group discussion	3.7	1.19
Learned how to handle pupils' questions on HIV-AIDS	2.8	0.86
Listened to radio and/or recorded programme	2.6	1.00
Completed a questionnaire	2.4	0.99
Talk given by person living with HIV	1.3	0.63
Given practical demonstrations on condom usage	1.6	0.88
Participated in role play	1.4	0.88
Condoms were made available	1.2	0.85
Effectuated trip to hospital/care centre	0.4	0.28

When asked to indicate the activity that teachers who had attended training sessions liked best, it was noted that 92.8 percent of pupils were taught by teachers who made no response- which may be either an indication of the degree of mismatch between teacher needs and type of training devised for them. From the above table, the five most common activities carried out during the training sessions were reading, lecture, sharing of contact numbers and addresses for information sources, watching a video and listening to radio or recorded programme.

It is not surprising that the majority of teachers made no response. The above activities can only be used to transmit information without imparting skills in developing relevant teaching strategies for the maximum benefit of the teachers and pupils.

The singular situation of teachers knowing everything but pupils knowing nothing shows that there is a gap which can only be crossed through proper teacher training focusing especially on how to transmit knowledge about HIV and AIDS to pupils; that is training teachers on not only on what to teach but especially on how to teach about HIV and AIDS to children.

In view of findings made with regard to knowledge gap between teachers and pupils and keeping in mind the cultural sensitiveness of the Mauritian society, a committee involving all stakeholders must be set up to identify avenues of collaboration so as to give support to teachers, namely in the form of needs based training to equip teachers with appropriate skills and techniques for imparting HIV and AIDS knowledge to pupils in order to ensure that

pupils achieve a desirable knowledge level in HIV and AIDS without provoking strong feelings on the part of parents.

In the recent years, it is strongly suspected that training programmes have mostly targeted teachers and not school heads. This is further supported by the data revealed in *Table 8.14* below, where it is noted that 91.3 percent pupils were in schools headed by headmasters who had never attended any in-service course on HIV and AIDS

**Table 8.14: Percentages and sampling errors for heads of schools having attended an in-service HIV-AIDS course**

Region	Percentage attended HIV-AIDS course	
	%	SE
1 Port Louis & North	4.5	3.28
2 Beau Bassin & East	4.2	4.20
3 Curepipe & South	12.5	6.99
4 Vacoas	5.1	5.17
5 Rodrigues	30.6	0.00
6 Black River	25.7	0.00
7 Private Schools	9.4	5.41
<b>Mauritius</b>	<b>8.7</b>	<b>2.03</b>

In 2007, only a small percentage of pupils, 8.7 percent, were in schools headed by headmasters who had followed a training course on HIV-AIDS. There was a large variation in the percentages across regions. The lowest percentages of 4.2 percent and 4.5 percent were recorded in Beau Bassin & East and Port Louis & North respectively. The regions reporting the highest percentages were Rodrigues (30.6 percent) and Black River (25.7 percent). Surprisingly private schools also showed a low (9.4 percent) percentage of pupils with head teachers who had attended a course on HIV-AIDS

This again highlights the fact that head teachers had not sufficiently benefitted from training courses on HIV-AIDS and if this shortcoming is not addressed it may impact on education for the prevention of HIV-AIDS in the whole school, as the head of school is generally considered the driver of all school based programmes. A head teacher, by virtue of his status at school, is a key player on whom very often the success of education programmes depends. In view of his proximity with pupils' parents and teachers, any negativity in the attitude of a head teacher can influence the course of events at school and further aggravate stigma against infected pupils.

It is important that a specific training strategy be well defined for heads of schools which will focus on those aspects which are mandatory for an unprejudiced stand in their dealings with pupils living with HIV or their parents.

***Policy Suggestion 8.4:*** *The Human Resource Management & Development unit will need to conduct a needs analysis for all staff in schools and, in collaboration with other stakeholders, mount comprehensive induction courses with a well defined module on education for the prevention of HIV and AIDS for all newly appointed school heads and in service teachers.*

## 8.9 Conclusion

It is important to recall the main findings in this chapter:

- Standard 6 teachers performed quite well in the HAKTs but Standard 6 pupils displayed a worryingly low level of knowledge.
- HIV and AIDS education was not being effectively implemented at the primary level.
- Teachers were taught about HIV and AIDS but were not taught how to teach HIV and AIDS to pupils
- Many head teachers and teachers were against allowing pupils infected with HIV in schools which is a sign of stigma against persons living with HIV and AIDS.
- Many pupils were unwilling to have contact with HIV infected friends or relatives which is a sign of discrimination against persons living with HIV and AIDS
- A high percentage (about 90 percent) of teachers and school heads thought there was no or negligible risk of being infected with HIV at school.
- Television was the preferred source of information for pupils. Posters and billboards were among the least appreciated sources of information on HIV and AIDS.

Four policy suggestions have been made with regard to implementation of the new curriculum for health education, sensitization programmes for school children and training of teachers and head teachers.

It is clear from the SACMEQ III Project research results presented in this chapter, that in 2007 more than four fifths of the Standard 6 pupils in Mauritius did not possess sufficient knowledge about HIV and AIDS after completing six years of basic primary schooling. This was indeed alarming because Standard 6 pupils, with an average age of 11.4 years, are

moving towards a stage of mental and physical development where they may soon become sexually active, and/or may choose to become involved in high risk behaviour.

In recent years the Ministry of Education has made an excellent start on addressing this major challenge by taking action to facilitate the development and implementation of new HIV and AIDS prevention education programmes. These initiatives need to be strengthened and broadened so that all primary school leavers have the basic knowledge about HIV and AIDS that is required to protect and promote their health. There is a need to re-examine the new curriculum materials for pupils and teachers to assess how far the component of sexuality education and HIV and AIDS education as prescribed in the official curriculum has been translated into concrete teaching strategies and supported by appropriate teaching/learning materials. The time has come to launch a comprehensive review and evaluation of all aspects of the delivery of HIV-AIDS prevention education programmes in schools. The goal for such programmes must be to ensure that **all** children leave primary school with the basic knowledge that is required to guide their decisions about health protection and promotion of behaviours related to HIV-AIDS.

The findings provide valuable baseline information on the levels of knowledge on HIV and AIDS of pupils and their teachers for developing essential indicators for educational planners and decision makers in order to monitor HIV prevention education programmes in primary schools. A timely dissemination of findings and in depth discussions of the recommendations at different levels is essential for the elaboration of appropriate action plans involving all stakeholders and they should trigger the following reflections:

- (a) What are the 'unfulfilled' needs and inadequacies in the school education programmes relating to HIV and AIDS knowledge?
- (b) Which of the following resources are more effective in schools HIV and AIDS education programmes - posters, radio, television, teachers, magazines etc?
- (c) What can the education sector do to mitigate the impact of HIV and AIDS?
- (d) Is a minimum level of literacy a necessary condition for being able to absorb important knowledge about HIV and AIDS?
- (e) What are the low literacy implications for HIV and AIDS education in and out of school?

It is hoped that this research on HIV and AIDS (concerning pupil and teacher knowledge about HIV and AIDS) will form the centre piece for discussions, debates, changes and improvement in HIV and AIDS education programmes within schools and will help to justify and identify specific training needs for teachers and heads of schools.



## **Chapter 9**

### **Conclusion and Agenda for Action**

#### **9.1 Introduction**

This is the third national report on the conditions of schooling and the quality of primary education in Mauritius. This final chapter brings together all the research-based policy suggestions that have been made throughout this report. The analyses in the preceding chapters have been based on data emanating from a national survey carried out in a sample of 152 primary schools in Mauritius in the year 2007. The analyses provided detailed information on characteristics of Standard 6 pupils, their teachers and headmasters; the conditions of physical infrastructure and the learning environment of primary schools; the learning achievement levels of pupils and their teachers and major variables affecting pupil learning achievement in Standard 6.

There was need to indicate the responsible unit as per the current organisational structure of the Ministry that could take the lead in engaging in discussions and to act upon each policy suggestion. The intention is to link each policy suggestion to the relevant unit or department with the flexibility to initiate discussions concerning validity of the suggestion, make modifications wherever considered necessary and then integrate the revised suggestion through appropriate action plans. Most suggestions were made for national level implementation, as educational planning is mostly centralised. It is nevertheless understood that certain actions in accordance with some policy suggestions may be initiated at zone levels.

## 9.2 Summary of policy suggestions

**Table 9.1: Summary of policy suggestions**

<b>Sn</b>	<b>Policy Suggestion</b>	<b>Responsible Unit/ Officer</b>
1	3.1 The Ministry should commission an in depth survey in Black River region to find out the real causes of non-enrolment of children aged three to five in a kindergarten or pre-primary unit with a view to propose measures to increase participation at pre-primary.	Director Planning
2	3.2 The Ministry should ensure that pupils borrow books to take home to read on a regular basis. There is a need to increase efforts in terms of the provision of books for pupils to borrow and take home to read in the region of Black River.	Head Library Services
3	3.3 The Ministry needs to establish the practice of holding class parent-teacher meetings at least twice each term to create better linkages between the school and the community and to increase sensitization of parents on several important issues such as support at home, absenteeism etc. Such a measure may also address the issue of repetition.	Assistant Director Primary
4	3.4 The primary inspectorate section in each zone should ensure that appropriate needs based pedagogical strategies are put in place to bring real improvement in performance of repeaters.	Director Zone
5	3.5 The Ministry needs to evaluate the effectiveness of the Enhancement Programme recently introduced in Standard 4 and study ways of adapting it with a view to its implementation in Standard 6 as a measure to contain private tuition	Assistant Director Primary
6	3.6 The Ministry needs to seriously consider exercising a measure of control over private tuition by establishing norms and criteria concerning the number of hours, group size, etc to safeguard the interest of the child.	Director Planning

<b>Sn</b>	<b>Policy Suggestion</b>	<b>Responsible Unit/ Officer</b>
7	4.1 The human resource management and development unit needs to establish a minimum level of teaching experience requirement for teaching in Standard 6 and should formulate updated guidelines for class allocation for upper primary classes, to ensure gender fairness.	Director Human Resource Management & Development
8	4.2 The Ministry needs to establish a computerised system of maintaining a record for each in-service course attended by a teacher so as to address in-service training gaps.	Director Human Resource Management & Development
9	4.3 The Assistant Director (Primary) of the Ministry could undertake an evaluation of the continuous assessment practices in classrooms so as to set appropriate guidelines for improved teacher performance	Assistant Director Primary
10	4.4 In order to extend good practices to all schools, the Ministry should establish a standard format for pupils' report books to include specific sections for comments on progress in all teaching areas and this should be made mandatory for all schools	Assistant Director Primary
11	4.5 The primary inspectorate should, in collaboration with school heads, establish a policy on the frequency and nature of teachers' meeting with parents over an academic year	Director School Management
12	4.6 The Directors of zones may consider the possibility of setting up an education resource centre in each zone for primary school teachers	Director Zone
13	4.7 The Ministry should ensure that the induction course designed for Headmasters includes an updated component to emphasize their role as teacher adviser at school level	Director Human Resource Management & Development

<b>Sn</b>	<b>Policy Suggestion</b>	<b>Responsible Unit/ Officer</b>
14	5.1 The school management unit of the Ministry needs to set up a task force to study the possibility of establishing a minimum mandatory number of school days in a year, specifically for Standard 6.	Director School Management
15	5.2 The primary inspectorate should consider the setting up of a protocol for school inspection comprising criteria for the frequency of visits to schools and establish guidelines for a reporting and monitoring mechanism.	Chief Technical Officer
16	5.3 The Ministry may commission a study to determine the exact nature of the health problems of pupils and the extent of drug and alcohol abuse in school so as to define a comprehensive school health strategy and an action plan to minimise their impact on learning activities of these pupils at school.	Health & Anti Drug Coordinator and Principal Educational Psychologist
17	5.4 The Ministry should commission a study to examine the impact of teacher lateness and health problems on the number of teacher-pupil contact hours, and to suggest steps to remedy this problem	Director School Management

<b>Sn</b>	<b>Policy Suggestion</b>	<b>Responsible Unit/ Officer</b>
18	6.1 The Ministry should put in place a mechanism to ensure that pupils have their own textbooks throughout the year by replacing lost or damaged textbooks against payment of a token fee to discourage abuse.	Director Planning
19	6.2 The Ministry should ensure that each class teacher has a stock of such basic materials as erasers, rulers, pens and pencils readily available at the beginning of each school year so that every pupil has the minimum requisites for full involvement in learning activities in the class.	Director Zone
20	6.3 The planning unit of the Ministry could take steps to ensure that every school is equipped with basic teaching aids such as geometrical instruments and teachers' guides and in addition set up a mechanism to ensure utilisation by teachers	Director Planning
21	6.4 Given the availability of bookshelves in classrooms, the library services unit of the Ministry should study the possibility of supplying books to schools to start classroom libraries or book corners in all Standard 6 classrooms and put in place measures to encourage reading in class and borrowing of books.	Head Library Services
22	6.5 The planning unit of the Ministry may undertake a feasibility study for the provision of offices for headmasters and staffrooms for teachers.	Director Planning
23	6.6 The school management unit of the Ministry may wish to establish guidelines for schools to ensure optimum utilisation of the photocopier, computer, television and other audio visual equipment by teaching staff.	Director School Management
24	6.7 The human resource management and development unit of the Ministry should ensure that all newly appointed headmasters benefit from a standard intensive induction course comprising core modules on school management and training on HIV and AIDS.	Director Human Resource Management & Development
25	7.1 The Ministry may consider the setting up of a task force to propose measures to address the increasing gender and rural-urban gap in achievement in Reading and Mathematics and the low achievement in Reading and Mathematics in Rodrigues and Black River	Chief Technical Officer
26	7.2 The curriculum development and evaluation unit of the Ministry may consider the setting up of a mechanism for early detection of those pupils who have not progressed beyond emergent reading level (English) and emergent numeracy level at entry point to stage III (Standards 5 and 6) of the primary cycle for focused remedial action.	Director Curriculum Development & Evaluation

<b>Sn</b>	<b>Policy Suggestion</b>	<b>Responsible Unit/ Officer</b>
27	8.1 The Ministry needs to set up a task force to define the modalities for implementation of HIV and AIDS education in primary schools, as prescribed by the national curriculum framework.	Director Curriculum Development & Evaluation
28	8.2 The Ministry may wish to harmonise the various HIV and AIDS awareness and sensitization programmes targeting pupils and teachers in schools so as to reinforce the school curriculum through specific strategies.	Health and Anti-drug Coordinator
29	8.3 The Ministry ought to provide guidelines for schools to mobilize whole communities through school parent teacher associations and in collaboration with other stakeholders develop needs based awareness and sensitization strategies on HIV and Aids to cater for schools in different regions.	Chief Technical Officer
30	8.4 The human resource management and development unit will need to conduct a needs analysis for all staff in schools and, in collaboration with other stakeholders, mount comprehensive induction courses with a well-defined module on education for the prevention of HIV and AIDS for all newly appointed school heads and in service teachers	Director Human Resource & Development

### **9.3 Conclusion**

The agenda for action summarises the policy suggestions and recommendations of the third SACMEQ Study in Mauritius. The policy suggestions are made within the country context and should be considered within the framework of the broader plans of the Education and Human Resources Strategy Plan 2008-2020.

The third SACMEQ Study has provided high quality data that is internationally recognised and benchmarked. The trends in performance generated through participation of Mauritius in three SACMEQ studies, enables an evaluation of the quality of our education system over time for the improvement of future programmes. To this end, this report acts as a beacon for educational planners and policy makers in the non-ending quest for excellence in the education system. If implemented, the suggestions that have been made in this report could accelerate the country's aim of improving the conditions of schooling and the quality of education for all learners

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