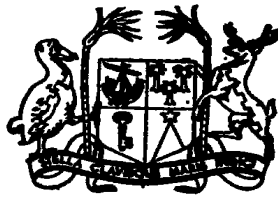


Dunshoo

R. H. M.



MAURITIUS

Ministry of Economic Planning and Development

CENTRAL STATISTICAL OFFICE

1983
Housing and Population Census
of
MAURITIUS

ANALYSIS REPORT

**VOLUME II—EDUCATION: Characteristics,
Prospects and some Implications.**

(ISLAND OF MAURITIUS)

June 1986

Price : Rs. 75.00

F O R E W O R D

This report is the second of a series of analytical reports to be prepared by the team set up to work on the evaluation and analysis of the 1983 Housing and Population Census data. This team of eight statisticians and demographers from this office and the Ministry of Health started work in 1984 under the supervision and guidance of Dr. K.V. Ramachandran, Regional Adviser at the United Nations Economic Commission for Africa. Dr. Ramachandran has already undertaken four short missions up to now to monitor the work of the analysts which will finally culminate in the publication of analytical reports on Evaluation of age-sex data, Education, Households and Housing conditions, Population Distribution and Migration, Economic Activity, Nuptiality and Fertility, Health, Morbidity and Mortality. The first report on evaluation of data was published in June 1985.

The present report deals with the analysis and evaluation of education data. It contains among other things, historical notes on the evolution of the education system in Mauritius, a comparison of education statistics obtained from different sources and a set of projections of the school population for the next ten years. Prior to the finalisation of this report, discussions were held with officials of the Ministry of Education, Arts and Culture to seek their views and comments. Although it has not been possible to implement all their suggestions because of lack of data at micro level, it is hoped that the report will still be of some help to education planners in assessing future prospects and implications at the national level.

I should like to place on record the efforts produced by all those who assisted in the analysis of the data and the preparation of the report. My thanks also go to the United Nations Fund for Population Activities and to the United Nations Economic Commission for Africa for financial and technical assistance. Finally the whole census team and myself are most grateful to Dr. K.V. Ramachandran for his excellent guidance and supervision.

D. Zmanay
Director of Statistics

Central Statistical Office
Rose Hill
Mauritius

June 1986

C O N T E N T S

	<u>Page</u>
List of tables and figures	
<u>CHAPTER I : INTRODUCTION</u>	
1.1 The focus	1
1.2 Historical background	2
1.3 Present education system	4
1.3.1 Pre-primary education	5
1.3.2 Primary education	6
1.3.3 Secondary education	10
1.3.4 Technical and Vocational education	12
1.3.5 Teacher training	13
1.3.6 University of Mauritius	13
1.4 Educational Statistics in Mauritius	14
1.4.1 Annual surveys	14
1.4.2 Population census	17
1.5 Quality of data	18
<u>CHAPTER II : EDUCATIONAL CHARACTERISTICS - THE PRESENT SITUATION</u>	
2.1 Introduction	19
2.2 Comparison of census and surveys data	19
2.2.1 Primary enrolment by grade	19
2.2.2 Secondary enrolment by grade	20
2.2.3 Enrolment by single year of age between 5 - 19 years	22
2.3 School enrolment ratios	25
2.4 Educational attainment	36
<u>CHAPTER III : PROJECTIONS OF SCHOOL POPULATION</u>	
3.1 Introduction	39
3.1.1 The role of education projections in educational planning	39
3.2 Methodology	39
3.2.1 Projections of population by single year of age and sex	40
3.2.2 Projections of age-sex-specific enrolment rates	45
3.2.3 Projected school population	45
<u>CHAPTER IV : IMPLICATIONS OF THE PROJECTIONS</u>	
4.1 Rate of growth	50
4.2 Teachers	50
4.2.1 Primary level	51
4.2.2 Secondary level	52
4.3 Classrooms	53
4.4 Other implications	54
<u>CHAPTER V : SUGGESTIONS FOR FUTURE DATA COLLECTION AND ANALYSIS</u>	
5.1 Census data	55
5.2 School statistics	55
<u>REFERENCES</u>	

List of Tables

<u>Table</u>	<u>Page</u>
1.1 - No. of schools, pupils, teachers and pupil/teacher ratio, Island of Mauritius (1965 - 1985) - Primary education	7
1.2 - No. of schools and pupils by type of school, no. of teachers and pupil/teacher ratio, Island of Mauritius (1965-1985) - Secondary education	11
1.3 - University of Mauritius - Students enrolled, 1983-1985	15
1.4 - University of Mauritius - Output, 1982-1984	16
2.1 - Primary School enrolment - Comparison by grade and sex from census and annual survey	20
2.2 - Secondary School enrolment - Comparison by grade and sex from census and annual survey	21
2.3 - School enrolment by single year of age and sex for 1983 census and 1983 school surveys	23
2.4 - Standardised general enrolment rates (%) by geographical district and sex, Island of Mauritius - 1972 & 1983 Censuses	28
2.5 - Age specific enrolment rates (%) by sex, Island of Mauritius - 1972 & 1983 Censuses	30
2.6 - Age grade distribution (%) of population aged 5 - 19 years by sex attending school - 1983 census	33
2.7 - Level specific enrolment rates (%) by sex, Island of Mauritius - 1972 & 1983 Censuses	35
2.8 - Percentage of population aged 5 and over who have never attended school by geographical district and sex (1972 & 1983 Censuses)	36
3.1 - Projections of Mauritian population by single year of age and sex as at 30th June (1986 - 1995)	42
3.2 - Projections of 5-year old Mauritian population by sex as at 1st January and annual intakes in primary schools (1986 - 1995)	44
3.3 - Projections of age-sex-specific enrolment rates - Island of Mauritius (1986 - 1995)	47
3.4 - Projected school population by sex and single year of age - Island of Mauritius (1986 - 1995)	48
4.1 - Projections of number of Primary school teachers for the period 1986 to 1995, Island of Mauritius	51
4.2 - Projections of number of Secondary school teachers for the period 1986 to 1995, Island of Mauritius	53

List of Figures

Figures

1.1 - Graph showing the number of primary and secondary schools (1965 - 1985)	8
1.2 - Graph showing enrolment in primary and secondary schools (1965 - 1985)	9
2.3 - Pyramids of school enrolment (1972 & 1983 Censuses)	26
2.4 - Age specific enrolment ratios (1972 & 1983 Censuses)	31

Chapter I

INTRODUCTION

1.1 The focus

In its broadest meaning, education is any process by which an individual gains knowledge or insight, or develops attitudes or skills. Formal education is acquired through organised study or institution, as in school or college. Informal education arises from day to day experiences or through relatively unplanned or undirected contacts with communications media such as books, periodicals, motion pictures, radio, T.V., etc.

Every society has institutions and instruments for training their members as education is known to open the mind for new ideas and for innovation. An educated person is adaptable and flexible. Thus education serves many purposes: economic, social, political or cultural. It has been observed that in countries where literacy levels are low, the financial and human resources are also in short supply. There is also a close association between enrolment ratios at all levels of education and Gross National Product (GNP) per capita. Thus human resource development is an essential pre-requisite for national development.

In Mauritius, it has been well recognised both by the people and the government that education is an investment for the future. This perception is well brought out by the recent White Paper on Education^{1/}, "Our main resource is our people. It is on their ability, attitudes and skills that the nation's future well being must be based. In so far as education helps to build these qualities, it is basic to our development".

It is admitted that the objectives of an educational system must be flexible so as to suit social and economic changes. As far back as the 1971-75 Development Plan, the machinery required to transform the old education system into a modern one geared to meet the challenges of the newly independent nation was set in motion and was followed by the 1975-80 Plan which underlined the need to develop the intrinsic potential of the people. In the 1984-86 Plan increasing

^{1/} Ministry of Education, Arts and Culture, White Paper on Education, June 1984.

emphasis was to be laid on the contribution of education to national development, by ensuring that the system is child centred, fair, relevant and cost effective.

Before independence in 1968, according to the 1962 census, around 43% of males and 60% of females aged 5 years and above had never attended school. Immediately after independence, the 1972 census indicated that these figures had reduced dramatically to 13% for males and 26% for females. According to the 1983 census, only 8% of males and 19% of females aged 5 years and above had never attended school. Thus the population has become education conscious and coupled with the increased availability and accessibility of schooling, the percentage who never attend school is declining. Again in 1962 only 9.5% of males and 7.1% of females aged 5 years and above had completed Standard VI whereas in 1972 it was about 16% and 15% and in 1983 it was about 19% for both sexes. Similar improvements took place at all levels of education during the short period since independence.

In addition to quantitative improvements in education, since the success or failure of an education system is inevitably judged by the degree to which it has prepared people for productive employment compatible with the economic and social development of a country, one of the main objectives of the 1984-86 educational plans was to explore all means for bringing the educational system into conformity with employment opportunities.

This report is an attempt to evaluate and analyse the educational statistics as obtained from the 1983 census and other surveys in order to delineate the characteristics, prospects and implications of education in the island of Mauritius.

Before proceeding with a consideration of the characteristics of education in the island of Mauritius, it is proposed to take a brief look at the historical background of the education system and the present situation.

1.2 Historical Background

The history of education in Mauritius can be traced back to 1767 with the opening of the first school in Port Louis. Subsequently

the "Ecole Centrale" was set up in 1800 and became later on in 1813 the Royal College. However, the development of popular or mass education is of rather recent date.

Under the French colonial rule (1715-1810) education was an exclusive right of a few children. Although some missionaries and private individuals attempted to provide educational opportunities for the less privileged group, these efforts were severely controlled and on many occasions, due to financial reasons, had to be abandoned.

British rule saw the creation of primary schools, with the assistance of Protestant missionaries, for children of free coloureds and slaves. The British missionary, Reverend Jean Lebrun initiated mass education in 1815. The provision of education for the masses progressed slowly culminating in 1950 with a Government sponsored programme of "Education For All". This led to the immediate expansion of both Government and aided (denominational) primary schools so that primary school enrolment more than doubled from 42,340 in 1946 to 85,500 in 1957.

Progress in education at the secondary level was relatively slow. Although enrolment had increased fivefold during the period 1946 to 1957, in absolute terms the numbers were small, rising from 2,973 to 12,606. Furthermore 55% of all secondary school children in 1957 were attending fee-paying private secondary schools.

The educational system which Mauritius inherited from the British was more or less geared towards the training of candidates for white-collar jobs. However, since independence in 1968, the government has embarked on an ambitious programme, adding new dimensions to education. Though remarkable progress has been made so far in providing education for Mauritians, yet the most acute problem at present in the educational system is generated by the intense competition at the primary level to secure a place in one of the high quality government secondary schools. It has been and remains the aim of educational policy in Mauritius to transfer the academic tradition into a modern one geared to meet the requirements of a young and developing nation. The unemployment problem has helped in making the population understand that holding a School Certificate or Higher

School Certificate should no longer be equated to securing a job in the public sector. The country is meeting more and more the increased demand for technical and vocational training and a spirit of entrepreneurship is now prevailing among many young people.

1.3 Present Education System

All government schools are administered by the Ministry of Education, Arts and Culture. The administration of aided schools is the concern of religious authorities. Schools in the private sector are administered by autonomous bodies or private individuals. Both the aided and private sectors are subjected to great control by the Ministry of Education, Arts and Culture, especially since the advent of free education at secondary and tertiary levels in 1977. Primary education was already free.

The structure of the Mauritian educational system is more or less a copy of the British structure with six years of primary education ending with the Certificate of Primary Education (CPE), five years of general secondary education leading to the Cambridge School Certificate or the General Certificate of Education (O level) and a further two years leading to the Cambridge Higher School Certificate or the General Certificate of Education (A level).

The present structure, it has been admitted, has certain weaknesses such as the poor quality of some schools, the low efficiency due to drop-outs and repetition. Besides, the system does not take into account the exigencies of the labour market. Conscious of these drawbacks, the Government set up a Commission of Enquiry (The Glover Commission) in August 1982 to review the system globally. Following the recommendations of this Commission, some of Government's broad objectives are as follows:

- (a) to promote the extension of pre-primary schooling to cover as much of the country as possible;
- (b) to ensure that all children leaving primary school are, at the least literate, numerate and able to express themselves clearly;
- (c) to improve the quality of teaching in both primary and secondary schools;

- (d) to encourage the repair, maintenance and improvement of school equipments;
- (e) to ensure that children in all parts of the country have a fair chance in the system;
- (f) to provide opportunities for further study to those who have left school or university;
- (g) to explore all means for bringing the educational system into conformity with employment opportunities.

1.3.1 Pre-primary Education

There are many pre-primary schools catering for the education of children below 5 years old, prior to their entering primary schools. According to a survey carried out in 1983, there were 1,369 such schools with a total enrolment of 34,595. In the past, the quality of education provided by those institutions suffered through inexperience of the teachers and lack of educational facilities. Out of the 1,369 schools, only 600 are registered with the Ministry of Education and conform to Ministry standards. The 1983 census reveals that about 58% of the population aged between 2 and 4 years were attending pre-primary education.

Most of the teachers of pre-primary institutions are untrained; out of about 2,000 teachers only 500 have had any form of training. Conscious of these problems, the Ministry of Education, Arts and Culture has set up a pre-primary unit whose efforts are geared towards the implementation of a UNICEF sponsored project on pre-primary education for the Islands of Mauritius and Rodrigues. This unit inspects, supervises and guides pre-primary schools and reports to the Ministry on their suitability concerning building, accommodation, staffing and curriculum and standard of educational activities.

Government has set up 18 pilot pre-primary schools and 6 training centres for pre-primary teachers. The Mauritius Institute of Education is now running a sixteen month part-time course for educators of pre-school teachers.

1.3.2 Primary Education

Primary education in Mauritius is free and open to all children. It is a six years long cycle. With few exceptions, children begin their primary schooling when they are between 5-6 years of age. In January 1981, the legal age for admission was brought down from 5 years to $4\frac{1}{2}$ years; but in January 1984 it was again raised back to 5 years.

In primary schools there is a system of automatic promotion up to the final grade. Pupils are allowed to stay in primary school until they reach the age of 12 and are given an opportunity to repeat the final grade (Standard VI) in case they fail or perform poorly in the national examination at the end of primary schooling. Usually around one-third of the Standard VI pupils are repeaters.

Most of the primary schools are run by the state and a few by religious authorities, mainly the Roman Catholic Authority. However, all teachers are recruited and paid by Government. Table 1.1 shows the number of schools, pupils, teachers and pupil/teacher ratio for the past 20 years while figures 1.1 and 1.2 show the trends in number of schools and enrolment respectively for the same period. The high student density in certain areas has brought schools to work on double shift for the lower grades thus reducing schooling of such pupils to only half a school day. However with the increase in number of schools and a decrease in population of primary school-going age, this practice is still on in only a very few schools.

The quality of education provided differs in the different schools and there is also variation in the quality of output. There are some excellent schools which regularly produce good results, but there are others with high failure rates. In this connection, one of the main objectives of Government policy for primary schools is to provide equal opportunities for all pupils entering primary schools by improving the standards of the poorest schools.

Table 1.1 - Number of schools, pupils, teachers and pupil/teacher ratio, Island of Mauritius (1965 - 1985) - Primary Education

Year	No. of Schools	No. of pupils	No. of ^{1/} Teachers	Pupil/Teacher ratio
1965	215	134,534	4,015	34
1966	223	136,944	4,139	33
1967	232	140,495	4,110	34
1968	231	142,959	4,151	34
1969	224	143,080	4,300	33
1970	226	146,859	4,622	32
1971	228	148,682	4,708	32
1972	229	151,614	4,928	31
1973	228	150,656	5,142	29
1974	233	148,142	5,421	27
1975	234	145,475	5,677	26
1976	235	139,499	5,865	24
1977	236	136,019	6,250	22
1978	244	135,432	6,352	21
1979	253	125,165	6,373	20
1980	256	123,710	6,182	20
1981	258	130,145	6,447	20
1982	262	131,594	6,420	20
1983	268	133,255	6,381	21
1984	267	129,744	6,262	21
1985	266	135,012	6,253	22

^{1/} including oriental language teachers, head teachers and deputy head teachers. For instance in 1985 there were 3,992 general purpose teachers, 262 head teachers, 335 deputy head teachers and 1,664 oriental language teachers.

**Fig. 1-1- NUMBER OF PRIMARY AND SECONDARY SCHOOLS
1965 — 1985**

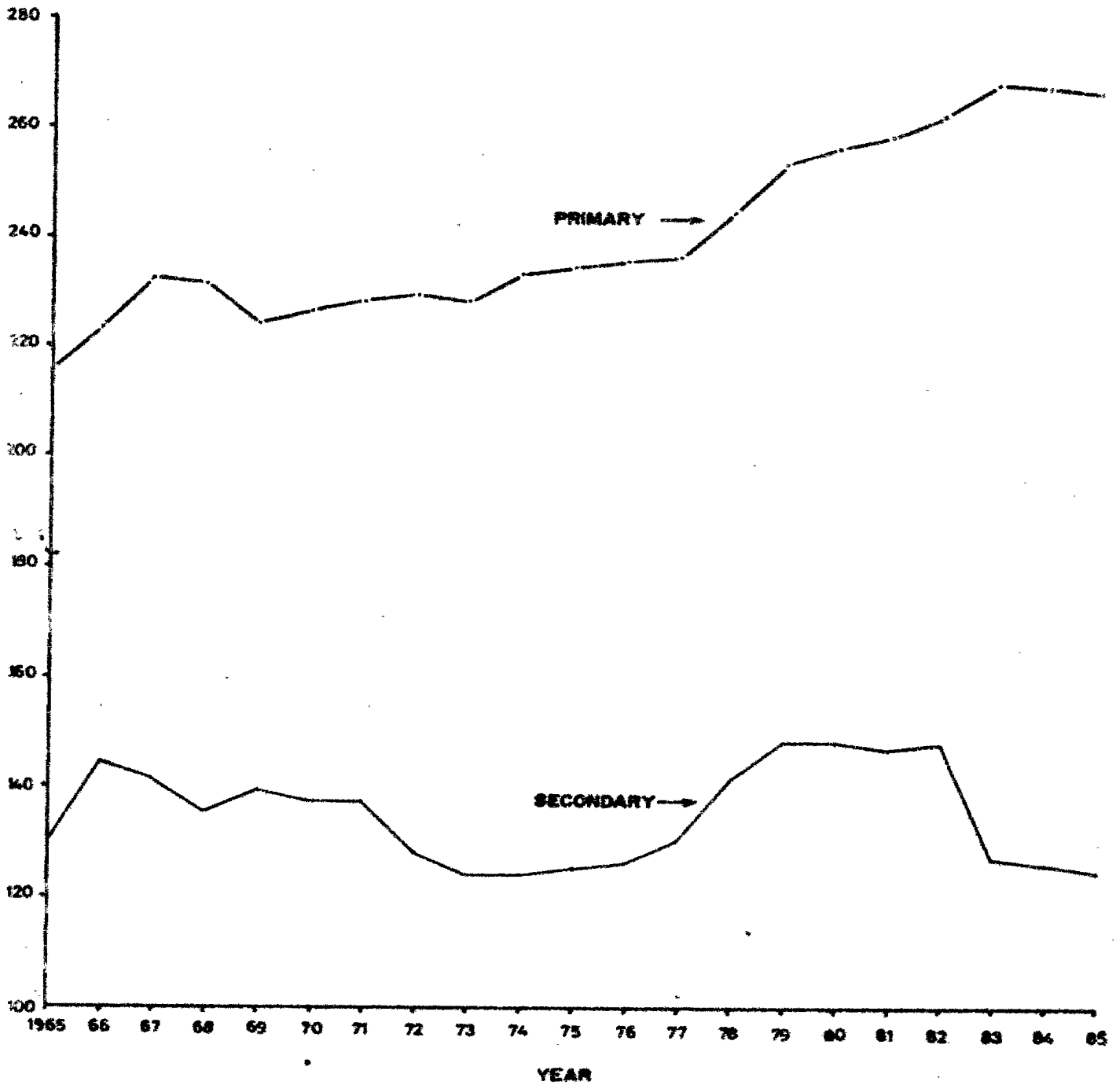
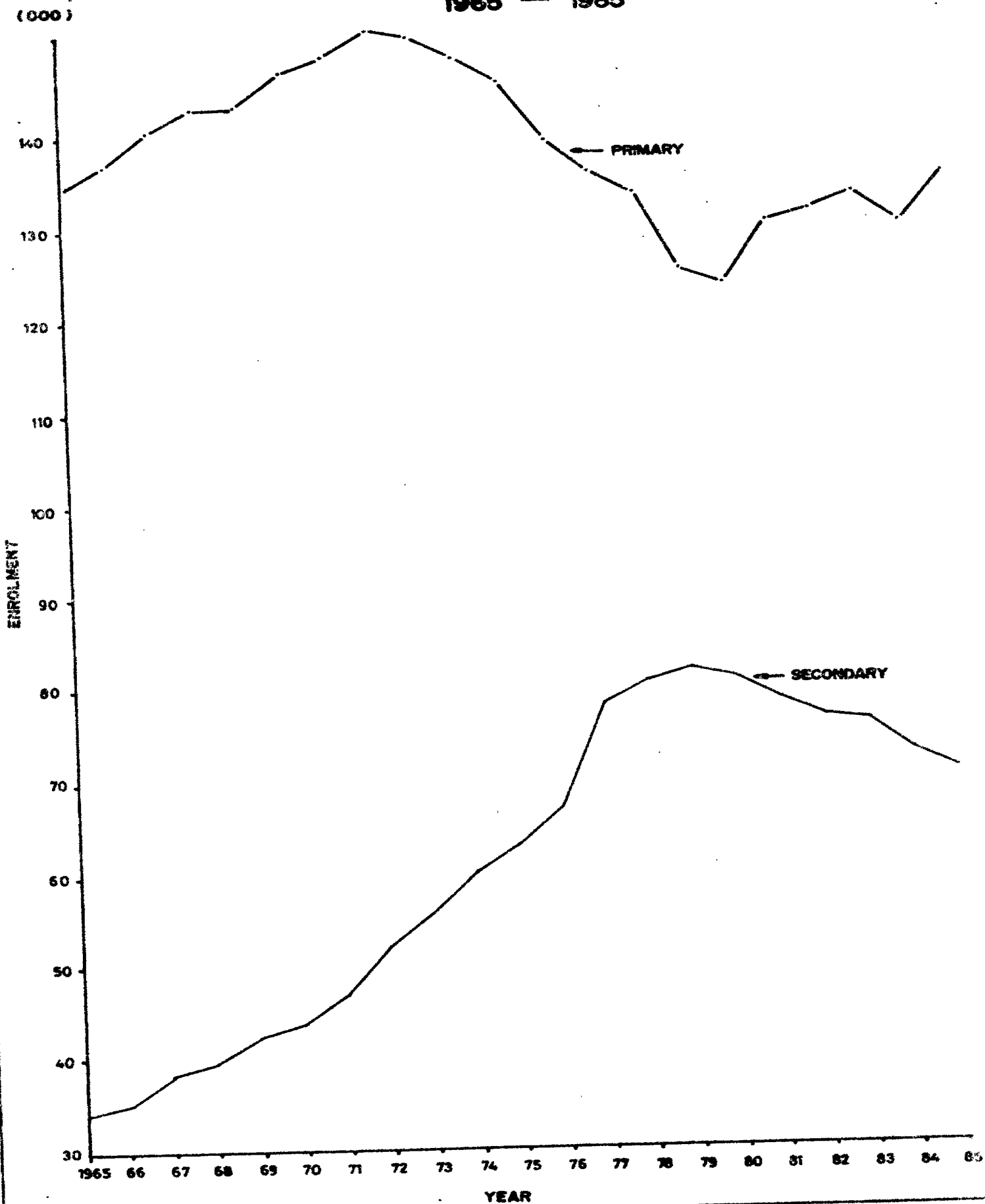


Fig.1-2 - ENROLMENT IN PRIMARY AND SECONDARY SCHOOLS
1965 — 1985



1.3.3 Secondary Education

Secondary Education is mainly of the grammar school type and is provided in state schools, in schools run by religious bodies and in others run by private individuals or associations. There is a highly marked difference between the quality of education provided in State Secondary Schools and schools run by religious bodies on the one hand and in private secondary schools on the other. At one time, running a private school was a highly lucrative occupation and private secondary schools have developed into an industry (Ramphul Commission - 1973). Any individual, even an unqualified person, was free to open a secondary school as long as a few conditions were satisfied. Many of these private schools had sub-standard buildings, inadequate laboratory and workshop equipment and a larger proportion of unqualified teachers. This explains the great and severe competition among students of primary cycle to secure a seat in one of the State colleges or those run by religious authorities at the end of their primary education. The number of state colleges increased from 4 in 1965 to 24 in 1985 and admission to these colleges is determined by performance at the Certificate of Primary Education Examinations. Table 1.2 shows the number of government and private colleges and the respective number of students, teachers and pupil/teacher ratio from 1965 to 1985. The trends in number of colleges and enrolment for the same period are shown in figures 1.1 and 1.2 respectively.

In view of its policy to introduce free education at the secondary level, Government set up the Private Secondary School Authority in 1976 to channel government assistance to and exercise control over private secondary schools. The actual date on which the policy became effective was January 1977 which marked a turning point in the history of education and social development in Mauritius.

One of the main objectives outlined for secondary education is to re-orient secondary schools towards the teaching of more scientific, technical and commercial subjects. This is to be achieved in an effort to curb the structural imbalance between the qualifications and aspirations of school leavers and the available opportunities on the labour market.

Table 1.2 - Number of schools and pupils by type of school, number of teachers and pupil/teacher ratio, Island of Mauritius (1965 - 1985) - Secondary Education

Year	Number of schools			Number of pupils			Total No. of teachers	Pupil/teacher ratio
	Govt.	Private	Total	Govt.	Private	Total		
1965	4	131	135	2,367	31,654	34,021	1,484	23
1966	4	140	144	2,431	32,696	35,127	1,542	23
1967	4	137	141	2,505	35,778	38,283	1,637	23
1968	4	131	135	2,538	36,953	39,491	1,696	23
1969	4	135	139	2,616	39,608	42,224	1,715	25
1970	4	133	137	2,679	41,028	43,707	1,736	25
1971	4	133	137	2,839	44,058	46,897	1,763	27
1972	4	124	128	2,937	49,093	52,030	1,733	30
1973	4	120	124	2,965	52,654	55,619	1,859	30
1974	5	119	124	3,157	56,959	60,116	1,908	32
1975	6	119	125	3,296	59,846	63,142	2,065	31
1976	6	120	126	3,459	63,461	66,920	2,123	32
1977	7	123	130	3,809	74,229	78,038	2,439	32
1978	13	128	141	5,564	74,915	80,479	2,769	29
1979	22	126	148	7,673	74,273	81,946	3,042	27
1980	23	125	148	9,692	71,189	80,881	3,075	26
1981	23	124	147	11,311	67,021	78,332	3,093	25
1982	24	124	148	13,199	63,109	76,308	3,144	24
1983	24	103	127	14,893	61,070	75,963	2,961	26
1984	24	102	126	15,151	57,579	72,730	3,497	21
1985	24	101	125	15,263	55,288	70,551	3,538	20

1.3.4 Technical and Vocational Education

Traditionally, technical education and training have been widely regarded as inferior to a more academic education. Pre-professional and technical/vocational education is provided in 3 state institutions which run basic courses in mechanical engineering, electrical installation and maintenance, automechanic, welding and metal fabrication, plumbing and **pipe** fitting, carpentry and joinery, masonry and concrete work, cabinet making, electrotechnics, etc. The oldest of these institutions, the Industrial Trade Training Centre of Beau Bassin, was set up in 1967 and organises a basic one year course and short duration courses of 6 to 8 weeks; 166 students were enrolled for the basic course in 1985. Another Industrial Trade Training Centre started operation in Piton in 1980 and conducts courses in maintenance fitting, sheet metal works, tractor mechanic and cabinet making. The courses are of two different types: (i) one year full time basic training course starting in January and (ii) short courses (3 to 6 weeks' duration) designed for people already in the trade. In 1985, 52 trainees were admitted to follow the basic course. In view of the increasing demand for such type of education, Government set up the Lycée Polytechnic Guy Forget in Central Flacq in 1982 to run 2 types of courses: a 3-year basic course and a 4-year basic course. The subjects taught in this technical institution are automobile mechanic, maintenance and production mechanic, electrotechnics, and building and construction; and the number of students has increased from 112 in 1982 to 280 in 1985.

In addition, John Kennedy College (one of the Government Secondary Schools) offers a technical and vocational course alongside the academic streams. There are also many privately owned institutions offering technical and vocational courses ranging from automechanics to computer programming. However, the Ministry of Education has no control whatsoever over these institutions and it is difficult to assess their standards.

1.3.5 Teacher Training

In 1862 a Normal School was established in Port Louis to train teachers in the theory and practice of elementary education. However, in 1876 for some unexplained reason this school was abolished and no provision existed for teacher training until 1902 when a Training College for men was established followed by a women's college in 1903. At first the college, faced with a growing demand for teachers, had to accept students with low academic qualifications, but with the great expansion of secondary education, and the saturation of the Civil Service, every year brought in an intake of more and better qualified students. The Training College provided a one-year course of academic and professional studies to the trainees who then had to follow one year's practical training in primary schools under the supervision and guidance of the college tutors. The number of teachers trained annually was around 200. However, with a drop in the population of primary school age, some teachers have become redundant and around the beginning of this decade it was no longer felt necessary to recruit students for the Teachers Training College on an annual basis and this ultimately led to the closing down of the College in 1981. The Mauritius Institute of Education will take over the training of additional teachers whenever the need will be felt.

The Mauritius Institute of Education came into being in 1973 as a corporate body under the general direction of the Minister of Education, Arts and Culture. It is responsible for the training of all primary school teachers and also organises courses for secondary school teachers leading to Teacher's Diploma, Teacher's Certificate and Post Graduate Certificate in Education. Thus at the end of 1984, 221 students succeeded in getting either the Teacher's Diploma, the Teacher's Certificate (for secondary school teachers) or the Teacher's Certificate (primary). In January 1985, 136 practising secondary school teachers were enrolled on fresh part-time Teacher's Diploma and Teacher's Certificate courses.

The Mauritius Institute of Education is also involved in curriculum development.

1.3.6 University of Mauritius

The University of Mauritius was inaugurated on the 24th March 1972 as a developmental university to respond to the needs of the country.

Until recently emphasis was placed on manpower training and teaching at degree, diploma and certificate levels in agriculture, sugar technology, engineering, public administration, social studies, business management and associated professional studies. The University is gradually shifting emphasis from a predominantly teaching institution to one of research, relevant to the Mauritian context

The University of Mauritius has 3 schools of studies: the School of Administration, the School of Agriculture and the School of Industrial Technology. A department of law has been set up in 1985.

Table 1.3 gives the number of students enrolled by school and level for the period 1983-85 and Table 1.4 shows the output for the period 1982-84.

1.4 Educational Statistics in Mauritius

There are 2 main sources of educational statistics in Mauritius:

- (1) Annual survey in schools
- (2) Population census

Some adhoc surveys carried out by the Central Statistical Office or other organisations usually include one or two questions on school attendance and or educational attainment.

1.4.1 Annual Surveys

Education statistics from primary and secondary school systems are collected by the Ministry of Education through an annual survey conducted by the Statistical Unit which benefits from the technical resources of the Central Statistical Office. The information so gathered refers to enrolments by grade, age and sex; teaching and non-teaching staff by age and qualifications, number of classrooms, availability of educational facilities, etc.

Questionnaires are sent by post to all schools and colleges and the information collected refers to a particular date, usually in February for primary schools and in April for Secondary Schools. The

Table 1.3 - University of Mauritius - Students enrolled, 1983 - 1985

	School of Administration		School of Agriculture		School of Industrial Technology		Total	
	1983-84	1984-85	1983-84	1984-85	1983-84	1984-85	1983-84	1984-85
Higher Degree courses	-	-	6	5	4	3	10	8
Degree courses	-	-	13	11	29	29	42	40
Diploma courses	121	92	33	42	25	38	179	172
Certificate courses	16	29	36	-	26	29	78	58
Professional courses	15	43	-	-	18	23	33	66
Non-award courses	62	-	-	-	-	-	62	-
Total	214	164	88	58	102	122	404	344

Source : Annual Digest of Statistics, 1984 - C.S.O.

Table 1.4 - University of Mauritius - Output, 1982 - 1984

	School of Administration		School of Agriculture		School of Industrial Technology		Total	
	1982-83	1983-84	1982-83	1983-84	1982-83	1983-84	1982-83	1983-84
Higher Degree courses	-	-	1	-	-	-	1	-
Degree courses	-	-	-	-	8	1	8	1
Diploma courses	23	53	5	-	-	-	28	53
Certificate courses	21	15	14	34	30	13	65	62
Total	44	68	20	34	38	14	102	116

Source : Annual Digest of Statistics, 1984 - C.S.O.

questionnaires are filled using information already available on school records as kept by all heads of schools. The response is 100% and if ever a school master has any problem in filling the questionnaire, which is rarely the case, an officer is sent to help him. Usually all the questionnaires are returned within the prescribed time limit to help in a timely processing.

Prior to 1983, the questionnaires were processed manually and thus the number of statistical tables produced was limited only to number of pupils by sex, age and grade and the number of teachers. In 1983 the French Government donated a micro-computer to the Ministry of Education and since then this has been used to process the survey with the result that data on educational statistics are available in greater details. Besides, the large volume of available data has made it possible for the Central Statistical Office to publish an annual digest of educational statistics since 1984 to disseminate the information collected. This digest contains statistical tables relating to distribution of schools; enrolments by age, standard and sex; teaching and non-teaching staff by sex, occupation status and residence; pupil/teacher ratio, examination results, etc.

Statistics on the pre-primary sector have till now been collected on an adhoc basis by the Ministry of Education. It is intended to extend the annual surveys to this sector also.

1.4.2 Population Census

Data on education characteristics are also collected at the Population Census conducted by the Central Statistical Office. For the 1983 census, a question on school attendance was asked for all persons aged 2 years and over. Those who were attending school full-time at the time of census had to indicate the standard, form or course being attended; and persons having attended school in the past had to give their highest education level attended. Persons who were studying privately at the time of census or who were attending educational institutions on a part-time basis were recorded as having attended school in the past. The same two questions were included for the 1972 census except that they covered persons aged 5 years and over. The reason for covering also children between 2 and 5 years for the 1983 census was that pre-primary schooling is becoming very common in Mauritius and this type of education is

followed by children aged between 2 and 5 years old. For both censuses, the questions on education were not asked of people in hotels and institutions and for foreigners.

From the data collected, the following tables were proposed:

- (i) Population 2 years of age and over by geographical district, sex, age-group and school attendance
- (ii) Population 2 to 24 years of age by sex, single years of age and school attendance
- (iii) Population 2 to 24 years of age, attending school, by sex, educational attainment and age-group
- (iv) Population 5 years of age and over, not attending school, by sex, educational attainment and age-group.

1.5 Quality of Data

The availability of computer facilities has extended the range of data on educational statistics and at the same time has improved their quality. Most of the information collected during the annual surveys is extracted from registers kept by management of the different institutions. An up-to-date list of schools and colleges is always available at the Ministry of Education, Arts and Culture.

Data collected during 1983 Housing and Population Census may be subject to usual errors like omission, misreporting of age, grade, etc. For example, an analysis of the population data has shown a deficit of 1,538 persons in the age-group 0-4 and 453 in the age group 5-9. It is one of the objectives of this report to evaluate the education data collected from the 1983 census and to compare them with current statistics on education. It is the first time that such an exercise on the evaluation and analysis of census data pertaining to education has been carried out in Mauritius; and this has been achieved by the staff of the Central Statistical Office under the expert guidance and with the assistance of an E.C.A. Regional Adviser on Demographic Analysis.

Chapter II

EDUCATIONAL CHARACTERISTICS - The Present Situation

2.1 Introduction

It has been noted that during the short span of less than 20 years, there has been tremendous progress in all levels of education in the island. It is now proposed to take a closer look at the available statistics on enrolment by age, sex and grade attended by geographic areas and also at the highest level of education attained by the population. However, first of all an assessment needs to be made of the relative accuracy of data from the census and the school system.

2.2 Comparison of census and survey data

Even though the census and survey data are not strictly comparable because of the varying reference dates (2-3 July for census and 20 April for survey), still the time gap is not very large to alter the broad picture of the existing situation. With this in mind, it is proposed to compare both the age distribution and grade distribution by sex obtained from the 1983 census with that obtained from the 1983 annual survey.

2.2.1 Primary enrolment by grade

Table 2.1 shows that there is a deficit of 944 (0.7%) primary students at the census. If we take into consideration the fact that 117 boys and 98 girls did not report the grade attended, the real deficit reduces to only 729 (i.e. 0.6%). The deficit is twice as many for girls than for boys. Though not very significant, this deficit can partially be accounted for by the number of students leaving the school system during the period April-June 1983.

An analysis of the enrolment gradewise shows that there is a transfer from Standard I to Standard II for both sexes when comparing the survey and census figures. This may not be a discrepancy in itself but can be explained by the fact that children who joined primary school at the age of 6, instead of the legal entry age of 5 years, are

admitted in Standard I and after the first term (by mid April) they are given an examination and, if successful, they are promoted to Standard II. Thus a child reading for Standard I during the school survey can in some cases be following Standard II during the census enumeration. (For the past two years i.e. since 1984 there has been no such examination).

The census seems to have under-enumerated boys and girls attending Standards III and IV and over-enumerated pupils attending Standard V. This could be due to usual errors of grade misreporting mainly in households where the parents are not well informed of the educational progress of their children.

Table 2.1 : Primary school enrolment - Comparison by grade and sex from census and annual survey

Standard	Male			Female		
	Census	Survey	Difference	Census	Survey	Difference
I	10,746	11,126	- 380	10,483	10,781	- 298
II	11,074	10,710	+ 364	10,660	10,321	+ 339
III	13,027	13,592	- 565	13,140	13,540	- 400
IV	9,971	10,374	- 403	9,625	10,067	- 442
V	9,421	8,789	+ 632	9,286	8,843	+ 443
VI	12,917	12,918	- 1	11,961	12,194	- 233
TOTAL	67,156	67,509	- 353	65,155	65,746	- 591

Both sources show a high degree of consistency as far as the number of boys attending standard VI is concerned. However, the number of girls attending the same grade at the census shows a deficit of 233 when compared to the survey figure. This deficit may be a real one and can only be partly accounted for by the few drop-outs during the interval.

2.2.2 Secondary enrolment by grade

40,372 males (including 456 cases of grade not stated) reported attending secondary level of education at the census compared to 40,057 as at the survey carried out in mid-April 1983. The corresponding figures

for females are 36,091 (including 406 cases of grade not stated) and 35,906 respectively. Thus the census enumerated 500 secondary school students more than the survey. One of the reasons for this surplus is probably the fact that some students who were studying privately (mainly for the Cambridge School Certificate or General Certificate of Education) could have been reported as attending school when instructions given for the census were that they should not have been recorded as such. In 1983, for instance, about 1,000 candidates sat for the Cambridge School Certificate as private candidates. In real term, this surplus due to private students outside the school system should exceed 500 if we take into consideration the drop-outs occurring during the lapse of time between the survey and the census.

Table 2.2 -- Secondary school enrolment - Comparison by grade and sex from census and annual survey

Grade	Male			Female		
	Census	Survey	Difference	Census	Survey	Difference
Form I	7,437	7,587	- 150	6,693	6,702	- 9
II	6,352	6,497	- 145	6,066	6,325	- 259
III	6,520	6,639	- 119	5,890	5,849	+ 41
IV	7,695	8,034	- 339	7,120	7,343	- 223
V	8,668	7,770	+ 898	7,460	6,956	+ 504
VI	3,244	3,530	- 286	2,456	2,731	- 275
TOTAL	39,916	40,057	- 141	35,685	35,906	- 221

The breakdown by grade attended and sex (Table 2.2) shows that the census has enumerated less male students from Form I to Form IV. The loss can be a real one due to drop-outs or may be explained by the 456 cases whose grade has not been stated at the census. Besides it is also suspected that, in some few cases, Form IV enrolment could have been underreported in favour of the more prestigious Form V. The number of female students reported in Form I at the census is almost the same as for the survey. However, just as for boys, a deficit of 259 girls was registered in Form II and 223 in Form IV at the census. In the absence of other evidence, these differences can be attributed to drop-outs or could be explained by the 406 cases whose grade attended was not specified.

A surplus of 898 male students and 504 female students has been noted in Form V at the census. As explained earlier, a major part of this surplus can be attributed to students who were studying on their own to take part in the London General Certificate of Examination ('O' level) or in the Cambridge School Certificate Examination, both examinations being meant for students at Form V level.

Unlike Form V, there were 286 boys and 275 girls less in Form VI at the census. These losses may represent students who were in Form VI in April but dropped out before the end of June for having secured a job or for other reasons. In fact, with the advent of free secondary education since 1977 and the problem of unemployment, some young people preferred to stay in college even after having passed the/or Cambridge Higher School Certificate, as long as they were eligible by virtue of age until they get a job.

Thus, on the whole, both in primary and secondary levels the data from the two systems do not differ too much from each other. However, it looks as if there is some amount of misreporting of grade, especially in the primary stage.

2.2.3 Enrolment by single year of age between 5-19 years

Since most of the primary and secondary school children must be aged between 5 and 19 years, Table 2.3 below considers only children between these ages by sex as reported in the census and the survey. However, it should be kept in mind that in the census enumeration every child aged 2 and above was required to be asked the question on school attendance and a large number of children aged 5 may be at the pre-primary school in contrast with the survey which covered only the primary and secondary schools. Also there could be children aged 19 or less who may be beyond the secondary stage and hence may not be reported in the survey but would be included in the census.

The 1983 Census, for instance reported around 1,200 children of each sex aged 5 years to be in pre-primary level, Also around 330 males and 140 females aged 15-19 years were reported to be in the third level and most of them would be aged around 18 or 19. Thus more than 1,500 male and 1,300 female children may be included in the age range 5-19 years as per the census and who may not be included in the survey.

Table 2.3 - School enrolment by single year of age and sex for 1983 Census and 1983 School Survey

Age (years)	Male			Female		
	Census	Survey	Difference	Census	Survey	Difference
5	10,959	10,444	515	10,665	10,180	485
6	10,652	10,433	219	10,403	10,309	94
7	9,719	10,032	- 313	9,851	10,072	- 221
8	10,316	10,270	46	9,972	9,911	61
9	9,792	9,317	475	9,741	9,214	527
10	8,638	8,842	- 204	8,246	8,359	- 113
11	8,467	8,420	47	8,264	7,865	399
5 - 11	68,543	67,758	785	67,142	65,910	1,232
12	7,849	7,287	562	6,988	6,624	364
13	7,220	6,959	261	6,263	5,989	274
14	5,908	6,261	- 353	5,231	5,389	- 158
15	5,663	5,508	155	5,224	5,183	41
16	4,752	4,757	- 5	4,276	4,514	- 238
17	4,465	4,326	139	3,876	3,666	210
18	2,933	2,846	87	2,299	2,032	267
19	1,643	1,403	240	1,083	765	318
12 - 19	40,433	39,347	1,086	35,240	34,162	1,078
5 - 19	108,976	107,105	1,871	102,382	100,072	2,310

An analysis of the single year data shows that the census has consistently enumerated more males and females than the survey for all ages except ages 7,10,14 and 16. Given the different reference periods of the two sources, shifting from one age to the other during the interval between the survey and the census may explain some of these differences. However data are not available to substantiate this point.

For the younger ages, the difference is highest for the 5 years old children. In fact census enumerated 515 more boys and 485 more girls as attending school. The main explanation for a major part of this difference lies in the fact that the intake in primary schools in January 1983 included 4,345 children (2,248 boys and 2,097 girls) who were between

4 $\frac{1}{2}$ years and 5 years old on the 31st December 1982 and all of them would have already reached their fifth birthday by the 1st July 1983. Thus many of them could have reached their fifth birthday during the 2 months interval between the survey and the census.

The higher figures at the census for ages 12 and 13 could be explained by pupils of community schools (about 600 in 1983) who were not covered by the survey. Community schools were special classes run for children who were forced to leave the primary school system even though they had not been successful in obtaining the Certificate of Primary Education either because they had already sat twice for this examination or they had reached their 13th birthday.

As mentioned earlier, single year of age data are not strictly comparable because of age misreporting and different reference periods. An appropriate grouping of the ages would partly take care of these drawbacks and would be more relevant for analysis.

If we consider age group 5 to 11 years to comprise of primary school students, then 785 more boys and 1,232 more girls have reported themselves as attending primary school during the census. Two main reasons for these differences are the admission of 4 $\frac{1}{2}$ year old children in primary schools in January 1983 and the fact that some 5-year old children were attending pre-primary schools and were thus not covered by the survey.

Broadly speaking the age group 12-19 represents the post primary school population, mostly at the secondary level and a few attending community schools or vocational training centres. Within this group also there were 1,086 boys and 1,078 girls more at the census. The possible misreporting of school attendance by some private candidates who were studying on their own to sit for the Cambridge School Certificate or General Certificate of Education and attendance at technical and vocational centres (not covered by the survey) could explain those differences to a great extent. It is worth noting also that a few children attending special education centres, like school for the deaf or the sub-normal children, are not included in the survey but may have been reported as attending school during the census.

Thus it is not wrong to conclude that even though there is a substantial excess especially among females at the census as compared to the survey a large part can be explained by the inherent differences in the two systems. With this premise, it is safe to state that the census data on education may not be very different from the actual existing situation in so far as the primary and secondary levels are concerned.

Information from the survey provides only statistics on children who are found in schools. The most important complement, i.e. children who are not in school, cannot be netted by the survey but have been recorded by the census together with those attending school even though the latter information may have been subjected to age and grade reporting errors.

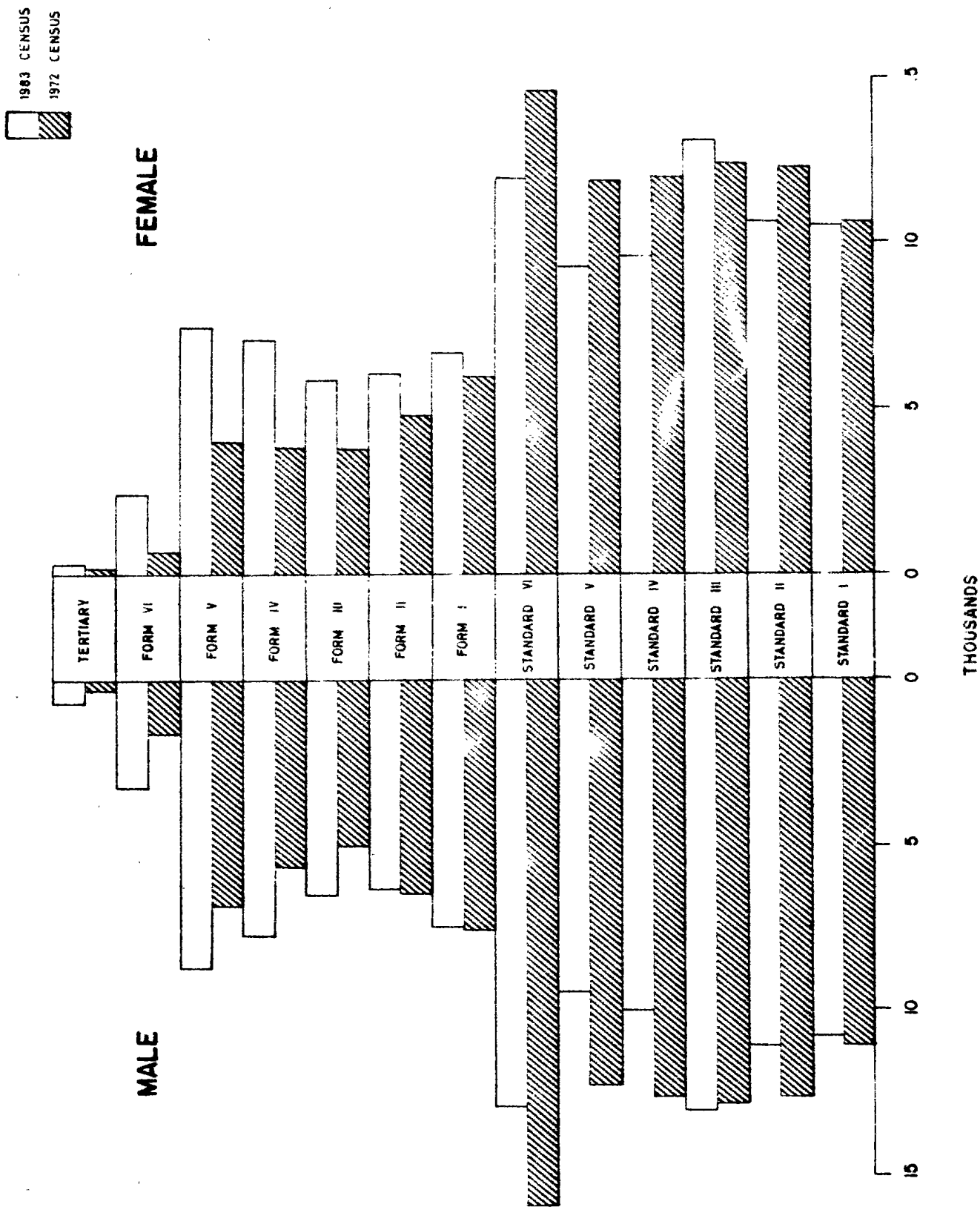
Assuming that age reporting errors of those in school and those not in school are similar, the ratios of those in school to those of that age i.e. enrolment ratio, is expected to be less susceptible to error. Again, since there is a high correlation between age and grade, i.e. most of the children aged 5-11 should be in primary and those aged 12-19 should be in secondary levels, it is possible to arrive at estimates of enrolment at the two levels by estimating the number of children in the appropriate age-groups.

2.3 School Enrolment Ratios

School enrolment, according to the United Nations, refers to enrolment in any regular educational institution, public or private, for systematic instruction at any level of education during a well defined and recent period. Data on school enrolment are used to measure the extent of participation in the school systems by persons of school age. Education planners utilise current enrolment statistics to indicate the trend in school population in both absolute and relative terms. They are utilised for projecting future school populations under suitable assumptions.

Figure 2.3 shows the pyramids of school enrolment for the 1972 and 1983 population censuses. A comparison of the two pyramids indicates that, in absolute terms, enrolment at the primary level is

Fig. 2.3 - PYRAMIDS OF SCHOOL ENROLMENT
(1972 & 1983 CENSUS)



decreasing except for Standard III which has registered an increase between 1972 and 1983. On the other hand, there has been considerable increases at all grades at the secondary level, with higher increases for the higher grades and a reduction in the gap between male and female enrolment.

In relative terms, enrolment has increased at all levels between 1972 and 1983. The primary level enrolment rate rose from 93.1 to 95.2 for male and from 91.3 to 93.8 for female. Higher increases were registered at the secondary level for that same period where the enrolment level rose from 39.9 to 46.2 for male and from 28.0 to 42.4 for female.

Certain measures of school enrolment are derived below to assess the educational status of the population as at the 1983 census and also to compare the situations at two different points in time, namely the 1972 and 1983 censuses. These would enable one to formulate realistic assumptions as to their future evolution.

(a) General Enrolment Rates

The general enrolment rate is usually defined as the total enrolment at all levels and ages expressed as a percentage of the total population of school going age. For the calculation of such rates for the Island of Mauritius, ages 5 to 24 have been taken as the age range of persons customarily enrolled in educational institutions.

To compare the trend in the level of enrolment rates for the different districts, the rates have been standardised to take into account the effect of age composition. The age structure by sex of the population of the whole Island at the 1983 Population Census has been taken as standard and Table 2.4 shows these standardised enrolment rates for all the districts at the last two censuses. The table clearly indicates an increase in enrolment rates for all districts during the eleven years separating the two censuses, the increases being more significant for females. The two urban districts, namely Port Louis and Plaines Wilhems registered the smallest increases whereas in the district of Black River with very low initial rates there has been considerable progress in enrolment rates of boys and girls. The low increases for urban districts is due to the fact that the rates for these regions have always been

higher and the rate of improvement is thus expected to be lower than in rural areas where the rates were not at a satisfactory level. Government policy in providing equality of education to all is thus being met.

Table 2.4 - Standardised^{1/} General Enrolment Rates (%) by Geographical District and Sex, Island of Mauritius - 1972 and 1983 Censuses

Geographical district	1972 Census		1983 Census		% Difference ^{2/}		Relative Sex Gap in enrolment % of 1983 to 1972 rates
	Male	Female	Male	Female	Male	Female	
Whole Island	48.7	43.1	52.1	49.7	7.0	15.3	43
Port Louis	50.9	47.6	52.1	51.8	2.4	8.8	9
Pamplénousses	48.6	41.5	51.0	48.4	4.9	16.6	37
Rivière du Rempart	48.4	40.2	50.9	48.0	5.2	19.4	35
Flacq	44.5	36.6	49.8	46.0	11.9	25.7	48
Grand Port	45.5	38.8	51.2	47.2	12.5	21.6	60
Savanne	45.1	38.0	51.7	47.5	14.6	25.0	59
Plaines Wilhems	52.5	48.3	55.3	54.1	5.3	12.0	29
Moka	46.9	39.8	51.4	48.7	9.6	22.4	38
Black River	36.7	32.4	43.4	40.7	18.3	25.6	63

^{1/} The standard chosen is the age distribution by sex for the whole island in 1983

^{2/} as a percentage of 1972 rates

On the whole, the enrolment rate in Mauritius has increased by 7% for males and 15.3% for females from 1972 to 1983. The passage of time between the two censuses has also witnessed a reduction in the gap between participation of boys and girls in education. In 1972, the difference between male and female general enrolment rates ranged from 3.2% to 8.2%, whereas in 1983 the range extended only between 0.3% and 4.2%. For the whole island the sex differential in general enrolment rate for boys and girls was only 2.4% in 1983 as compared to 5.6% in 1972. Even though the sex differential in enrolment decreased, still districts like Black River, Grand Port and Savanne had in 1983 comparatively large differentials of around 60% of what existed in 1972 and for the whole island around 40% of the gap still persisted.

(b) Age specific enrolment ratios

Even though the general enrolment ratio is a good indicator of the level of participation of children of relevant age in education, it is advisable to study the participation by single year of age because at the very young and old ages, the variation in the rates could be sufficiently large as to hide some of the nuances in the situation when aggregated ages are utilised. Single year of age ratios also make it easy for future calculations especially if any policy changes should involve changes in entry and/or withdrawal age into the education system. Moreover, data by single year of age make it possible to approximate gradewise distribution and hence projections become more useful and relevant to the planners and other users of such statistics. Table 2.5 presents the enrolment ratios as obtained from the 1972 and 1983 censuses, and figure 2.4 shows the graph of these ratios. On the whole, as indicated by the general enrolment ratios, there is an increase for both sexes at all ages. But, the increase is generally more for females than for males. Furthermore, the magnitude of increase for both sexes shows an increasing tendency from age 6 till age 14-15 and then tapers off. The high increase between 1972 and 1983 at age 5 is, as already explained, due to the recent liberalisation of minimum age at entry into primary school to age $4\frac{1}{2}$. The low increase at ages 6-11 is brought in by the already existing high enrolment rates with not much scope for improvement unless hard core areas like Black River with low participation rates catch up with the national pattern. With the introduction of free secondary education in 1977 it is but to be expected that participation at ages 12 and above will show the spurt observed. It is yet too early to see the effect of the free secondary education at higher ages like 16 and above because the large cohorts which entered the secondary stage at say age 11 in 1977 would be only 16 or 17 years in 1983. Future improvement in the rates at ages 12 and above would depend very much upon government policies concerning free secondary education vis a vis any orientation of curriculum towards more vocational and technical aspects, creation of different types of post primary schools attuned to the emerging needs of the country and potential job market.

Table 2.5 - Age specific enrolment rates (%) by sex, Island of Mauritius - 1972 & 1983 Censuses

Age (Years)	1972 Census		1983 Census		% increase 1972-83	
	Male	Female	Male	Female	Male	Female
5	73.8	73.7	98.0 ^{1/}	98.0 ^{1/}	33	33
6	96.5	95.4	98.4	98.4	2	3
7	96.6	95.6	98.0	98.3	1	3
8	96.5	95.7	98.3	97.9	2	2
9	95.8	94.5	97.3	97.2	2	3
10	93.6	91.1	96.1	95.4	3	5
11	88.9	84.1	92.4	89.6	4	7
12	71.5	59.8	81.5	75.6	14	26
13	56.7	44.1	69.1	62.7	22	42
14	48.7	36.4	59.7	54.6	23	50
15	44.0	31.6	51.8	48.4	18	53
16	39.0	27.8	43.7	40.7	12	46
17	33.0	21.3	37.5	32.8	14	54
18	23.9	13.1	25.0	20.0	5	53
19	13.2	6.6	13.7 ^{2/}	9.3 ^{2/}	4	41

^{1/} These rates are irrespective of grade attended and include children attending pre-primary school. If these children are excluded then the enrolment rate for age 5 is around 86% for both males and females.

^{2/} Includes persons aged 19 following tertiary education.

(c) Age-grade distribution

For many practical purposes, it is necessary to have, in addition to age specific enrolment ratios, the distribution by grade also. For instance, if one were to plan for the type of teachers needed, one ought to have the number of children by grade being attended. This is true for other things like laboratory and other equipments which are needed by children in specific grades.

Unfortunately even though it would have been rather easy to have a tabulation of children by age by their grade attending, this was not prepared in the 1972 Census.

**Fig. 2.4- AGE SPECIFIC ENROLMENT RATE
1972 CENSUS & 1983 CENSUS**

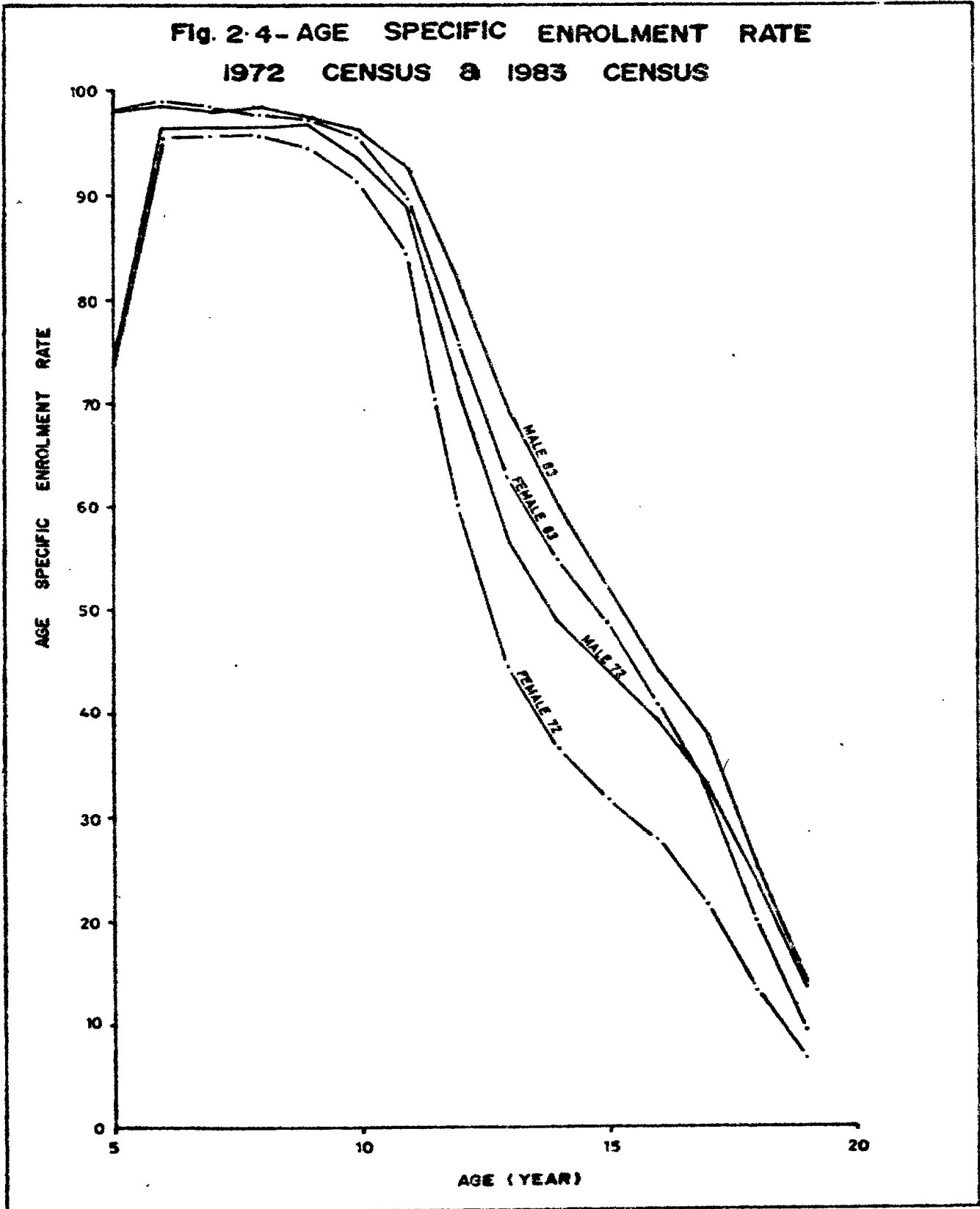


Table 2.6 shows the age-grade distribution of the population aged 5-19 years who were attending school at the time of the 1983 Population Census. This table has been prepared from the raw data and as such contains certain inconsistencies as to incompatibility between a certain age and the grade attended. The discrepancies may have arisen through wrong age reporting, incorrect grade reporting or still as a result of wrong coding of the fields. However, as can be noticed from the table, those cases are too few to affect the quality of the data on grade attending. For instance, only 0.8% of male children aged 5 years have reported a grade higher than Standard II and 0.7% of boys aged 19 years have been classified as attending a grade lower than Form V. The corresponding percentages for females are almost the same.

97.7% boys and 97.8% girls of age 5 were attending school at the time of the Census. Children of that age were mainly in the entry grade of primary level, i.e. Standard I : 80.3% for male and 80.4% for female. Next in importance is the pre-primary level which absorbed 10.4% boys and 10.6% girls of that age.

The percentage of children between 5 years and 10 years who were attending primary school fluctuated around 98% for both of the sexes. However from age 10 onwards, the gap between enrolment rates for each successive age started widening and showed considerable differences between ages 11 and 12 and ages 12 and 13. In fact enrolment for boys fell from 92.0% for age 11 to 79.5% for age 12 and 66.4% for age 13 and for girls from 89.3% to 74.4% and 61.2% respectively. Such great differences are due to the fact that ages 11-12 represent the transition period from primary level to secondary level and many students who failed their Certificate of Primary Education (C.P.E.) did not continue their academic education. Besides some lower income-group parents may prefer to see their children learning a trade or helping in household duties rather than pursuing secondary education.

Enrolment from age 13 to age 17 decreased with age with a drop of around 7%-8% from one age to another. However the drop in enrolment became more important between ages 17 and 19 as a result of the fact that at 17 years of age many students would have completed their School Certificate and would prefer looking for a job or opt for job-oriented courses instead of reading for Higher School Certificate and those who

Table 2.6 - Age-grade distribution (%) of population aged 5 - 19 years by sex, attending school - 1983 Census

MALE

Age (years)	Pre- Primary	Primary level						Secondary level						Total
		Std. I	Std. II	Std. III	Std. IV	Std. V	Std. VI	Form I	Form II	Form III	Form IV	Form V	Form VI	
		5	80.3	6.1	0.3	0.1	0.1	0.2	0.1	0.0	0.0	0.0	-	
6	11.1	80.3	4.8	0.3	0.2	0.3	0.1	0.2	0.2	0.0	-	-	-	98.2
7	1.0	13.8	77.7	4.0	0.4	0.3	0.1	0.1	0.1	0.1	-	-	-	97.8
8	0.2	2.5	41.8	48.3	3.6	0.9	0.0	0.0	0.0	0.2	0.0	0.0	-	98.0
9	0.1	0.3	3.3	44.3	45.6	3.0	0.0	0.0	0.0	0.0	0.0	-	-	97.0
10	0.2	0.2	0.9	4.3	40.2	48.9	0.9	0.0	0.0	-	-	0.0	-	95.8
11	0.1	0.1	0.2	1.0	6.3	58.3	24.8	0.7	0.1	0.1	-	-	-	92.0
12	0.1	0.4	0.1	0.2	1.5	21.2	33.3	21.3	1.0	1.0	0.1	0.0	0.0	79.5
13	0.0	0.2	0.1	0.1	0.3	4.7	12.8	26.8	20.5	20.5	0.6	0.1	0.0	66.4
14	0.0	0.1	0.3	0.2	0.1	1.6	2.8	10.0	25.1	25.1	16.7	0.6	0.0	57.5
15	-	0.0	0.1	0.3	0.1	0.6	0.7	2.4	11.1	11.1	27.2	7.6	0.1	50.4
16	-	0.0	0.0	0.1	0.1	0.2	0.2	0.4	2.7	2.7	14.8	22.1	1.7	42.5
17	-	0.0	0.0	0.0	0.2	0.2	0.0	0.2	0.7	0.7	5.1	7.0	5.1	36.0
18	-	-	-	-	0.1	0.2	0.0	0.1	0.2	0.2	1.4	13.9	8.0	23.9
19	-	-	-	-	0.0	0.2	0.0	0.0	0.1	0.1	0.4	4.7	7.7	13.0

Table 2.6 (cont'd) - Age-grade distribution (%) of population aged 5 - 19 years by sex attending school - 1983 Census

FEMALE

Age (years)	Pre- Primary	Primary level						Secondary level						Total		
		Std. I	Std. II	Std. III	Std. IV	Std. V	Std. VI	Form I	Form II	Form III	Form IV	Form V	Form VI			
5	10.6	80.4	5.7	0.3	0.1	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	97.8
6	1.0	11.3	79.2	5.7	0.4	0.2	0.3	0.3	0.1	0.2	0.0	0.0	0.0	0.0	0.0	98.3
7	0.4	0.9	13.3	78.3	4.0	0.5	0.4	0.4	-	0.1	0.2	0.0	0.0	0.0	0.0	98.2
8	0.3	0.2	2.4	41.8	48.1	3.8	0.9	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	97.8
9	0.3	0.1	0.6	3.6	42.8	46.7	2.9	0.0	0.0	-	-	-	-	-	-	97.0
10	0.2	0.2	0.2	0.8	4.3	39.5	48.8	1.1	0.0	-	-	-	-	0.0	0.0	95.2
11	0.2	0.5	0.2	0.2	0.8	6.0	56.8	23.5	0.9	0.1	0.0	0.0	0.0	-	-	89.3
12	0.0	0.3	0.3	0.1	0.2	1.2	17.7	32.1	21.3	1.0	0.1	0.1	0.0	0.0	0.0	74.4
13	0.0	0.1	0.3	0.2	0.1	0.3	3.1	10.6	26.8	18.7	0.8	0.8	0.1	0.0	0.0	61.2
14	0.0	0.0	0.1	0.2	0.2	0.1	0.7	1.9	9.6	23.6	16.5	16.5	0.6	0.6	0.0	53.6
15	0.0	-	0.0	0.3	0.1	0.1	0.3	0.4	2.3	10.7	25.3	25.3	7.9	0.2	0.2	47.5
16	-	-	-	0.1	0.2	0.2	0.1	0.2	0.5	2.5	13.7	13.7	21.2	1.7	1.7	40.1
17	-	-	-	0.0	0.2	0.2	0.2	0.0	0.1	0.6	4.8	4.8	21.5	4.8	4.8	32.2
18	-	-	-	0.0	0.0	0.0	0.1	0.0	0.0	0.1	1.3	1.3	10.6	7.1	7.1	19.3
19	-	-	-	0.0	0.0	0.0	0.1	-	0.0	0.0	0.4	0.4	3.3	4.9	4.9	8.7

failed their School Certificate after one or several attempts could not read for Higher School Certificate. The pattern in enrolment is almost the same for both male and female.

From the school statistics if one were able to get such distribution for a number of years, then it would have been possible to obtain grade progression, drop out and other needed ratios for applying the grade cohort method of school enrolment projections. Such data are collected but are not compiled. Efforts should be made to compile the information so that better use of the statistics can be visualised.

In any case, since similar information is not available for 1972, we have to only assume that either certain ages (modal ages) will refer to specific levels of schooling or use aggregate ratios like age group 5-11 as depicting the primary and 12-19 years as indicating the secondary stage of education. A level specific enrolment rate can then be worked out and used for planning for the specific levels.

The level-specific enrolment rate is the enrolment at a certain school level expressed as a percentage of the total population in the age-group corresponding to that same school level. Previous data have shown that, for Mauritius, the primary school population falls mostly within the age bracket 5-11 years and the secondary school population within 12-19 years.

Thus, for example, primary enrolment rate

$$= \frac{\text{Total enrolment in primary schools}}{\text{Total population aged 5-11 years}}$$

The numerator is not necessarily wholly included in the denominator. Although most children going to primary school are in the age range 5-11 years, some will be below and some above that age. The same applies for secondary enrolment rate.

The primary and secondary levels enrolment rates for 1972 and 1983 are shown below: Table 2.7)

Table 2.7 : Level-specific Enrolment Rates (%) by sex, Island of Mauritius 1972 and 1983 Censuses

Level	1972 Census			1983 Census		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Primary	92.2	93.1	91.3	94.5	95.2	93.8
Secondary	34.0	39.9	28.0	44.3	46.2	42.4

The enrolment rates for both levels have increased in the span of time between the two censuses. The increase is much more significant for the secondary level where the rate for both sexes has gone up from 34.0% to 44.3%.

The primary school enrolment increased only by 2% for males and 3% for females. This is reasonable because, already the levels are quite high and further improvements are not very easy. For the secondary level, the increase for male was 16% as against 51% for females. Considering the fact that female enrolment in 1972 was very low and that in 1977 the government introduced free schooling, it is not surprising to see the huge increase in the short period of 11 years. However, the question is will this tempo be kept up into the next 10 or more years? Most probably, not. Hence any projection of the future participation rates of children in the ages will have to keep this in mind.

2.4 Educational Attainment

Educational attainment is usually measured by the highest grade which a person has been able to complete. The analysis of 1983 census data on educational attainment and their comparison with 1972 figures indicate that the population of the Island of Mauritius is becoming more and more qualified academically and that people are staying longer in the educational system.

By the end of June 1983 only 13.3% of the population aged 5 years and over had never been to school and the corresponding figure for the 1972 Census was 19.4%. Among those who had never been to school, the population aged 25 years and over constituted 79.8% in 1972 and 92.2% in 1983. Both censuses showed that the proportion of female never attended school is greater than that for male, but the inequality is being reduced. Table 2.8 compares the proportion aged 5 years and over who have never attended school by geographical district and sex for the last two censuses.

Table 2.8 : Percentage of population aged 5 and over who have never attended school by geographical district and sex (1972 and 1983 Censuses)

Geographical district	1972 Census			1983 Census		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Whole Island	19.4	12.8	26.0	13.3	7.9	18.5
Port Louis	12.4	7.7	16.9	8.8	5.0	12.5
Pamplemousses	24.0	15.7	32.5	15.1	8.9	21.3
Riv. du Renpart	25.5	17.1	34.2	16.9	10.4	23.3
Flacq	26.9	17.6	36.4	17.9	10.8	25.0
Grand Port	25.4	17.3	33.5	17.4	10.8	23.9
Savanne	26.1	17.5	34.8	18.6	11.8	25.4
Plaines Wilhems	12.7	7.9	17.3	8.8	4.8	12.7
Moka	24.4	15.4	33.5	15.2	8.4	21.9
Black River	31.2	24.7	37.8	19.0	14.1	23.9

According to the 1983 census, 62.6% of the population aged 20 years and over and not attending school at the time of census have never studied beyond the primary level, compared to 72.2% for the 1972 Census. Among this population group, only 44.4% in 1972 and 31.9% in 1983 have successfully completed the Certificate of Primary Education (previously known as Primary School Leaving Certificate), which is the final grade for the primary level of education. The percentage of Certificate of Primary Education holders among males has gone up from 31.9 to 43.5 between the two censuses, and that for females from 31.8 to 45.4.

33.1% of the total population aged 20 years and over at the 1983 Census have ever had at least some years of schooling at the secondary level and the corresponding figure for the 1972 Census was 23.0%. Out of this population group, 28.9% and 32.1% have passed the Cambridge School Certificate or its equivalent in 1972 and 1983 respectively. Attainment levels (in terms of proportion of persons who completed Cambridge School Certificate or its equivalent) increased proportionately more for female than male during the past eleven years, 27.3% in 1972 and 32.5% in 1983 for female as compared to 29.6% and 31.7% respectively for male.

The census results also indicate an increase in the number of Cambridge Higher School Certificate holders or its equivalent. In June 1972, 1.1% of the population aged 20 and over had successfully passed the Higher School Certificate or its equivalent, which is the culminating grade at the secondary level of education and in June 1983 the figure had gone up to 2.1%, i.e. about double the level in 1972. If we compare the number of Higher School Certificate holders among only those who have ever been to colleges, the difference is not so high - 4.8% in 1972 against 6.2% in 1983, i.e. only a 30% increase.

The proportion of the adult population 25 years old and over who followed education at the third level is a widely used summary measure of educational attainment. Among the population aged 25 years and over, the percentage of those who have followed education at the third level and have successfully obtained a certificate, diploma or degree, rose from 1.2 in 1972 to 3.6 in 1983; but in the youngest age group (25 to 34 years), the proportions were higher : about 1.7% in 1972 and 5.0% in 1983.

In 1972, the median level of education attained by the population was Standard V for both males and females i.e. 50% of the population had completed at least 5 years of schooling by the time of 1972 Census. Only 25% of the male population had completed Standard IV or a lower level, for females this was Standard III or a lower level. In other words 75% of males had completed Standard IV or higher as against Standard III for females.

However, in 1983 the median level of education for both male and female had improved to Standard VI. The lower quartile level also improved to Standard V, meaning that in June 1983, 75% of the population had attained Standard V or above i.e. an increase of one standard or ~~even~~ more during the period.

Chapter III

PROJECTIONS OF SCHOOL POPULATIONS

3.1 Introduction

The previous chapters give an indication of the development in the education system of the Island of Mauritius and of the past trend in data relating to education. The analysis of the 1983 Census data on education and comparison with current statistics collected through annual surveys have helped to evaluate and analyse these data. Thus, having an idea of the past and present situation in the education system, let us now focus attention on what is expected to happen in the near future.

3.1.1 The Role of Education Projections in Educational Planning

Projections of the future numbers of pupils enrolled constitute the starting point of quantitative educational planning. They provide the basis for estimating future needs of teachers, classrooms, and planning various educational programmes including the provision of school buildings, teaching facilities and training of teachers, etc.

Usually projections are made at both national and regional levels for effective planning. However, data are not readily available in such details as will allow for regional projections and thus school population are projected only at national level.

In practice, projections are developed both through the extrapolation of certain trends and by assuming possible changes in one or more of other relevant factors such as legal age at entry and withdrawal. This compromise allows the planner explicitly to take into account expected changes in educational policy during the projection period. Thus projections should be considered as conditional forecasts of new entrants, total enrolment, as well as of the future structure of the educational system.

3.2 Methodology

Two main methods are available for the projection of school enrolment, viz. the 'cohort method' and the 'age-specific-rate method'.

The application of the 'cohort method' requires more elaborate data, like drop-out rate, rate of repetition etc. Consequently the 'age-specific rate method' is the most widely used procedure and has thus been adopted for the present exercise. This method uses two sets of data :-

- (1) The projected population by single year of age and sex
- (2) the projected enrolment rates by single year of age and sex

3.2.1 Projections of population by single year of age and sex

Initially it was planned to project the population by single year of age and sex as at 1st January of each year of the projection period so as to derive a set of projected enrolment for a date as close to the beginning of the academic year which is in January. Besides, the 5-year old population at 1st January can be used to give an idea of annual intake which is an important parameter for planners. However, for certain reasons, mainly drop-outs (a large proportion of which occurs during the first half of the year mostly after the results of overseas examinations), it has been found that the mid-year projections will be more appropriate since by that time, the enrolment will have become more stable. Also, since censuses are usually carried out in July, data collected in the census pertain to the mid-year rather than the beginning of the calendar year and hence population and school enrolment figures from the census which form an important input in the estimation process can be utilised straight away with very little manipulation.

The basic information on future population is obtained from the projection made by the C.S.O. based on the 1983 Census and registration data.

The main assumptions underlying the population projections are:

- The base population by age and sex is that enumerated at the 1983 Census adjusted for enumeration and age reporting errors.
- Fertility : G.R.R. declines from 1.10 in 1983 to 0.85 in 2000 A.D.

- Mortality : For both sexes under 30, mortality improves from level 22 to reach 24 in 2000 A.D. Adult male mortality reaches level 20 whilst adult female mortality reaches 21. (Levels are from Coale-Demeny West Model Life Tables)
- Migration : Net yearly out-migration of 2,000 males and 2,100 females up to 1993 and then none. (Age-sex distribution suitably chosen as to reflect past trends).

Since information is available for births, deaths and migrations till 1985, it was decided to carry forward the base adjusted 1983 population by single year of age and sex to 1985 and project this population by single year of age by single calendar year till 1995.

To carry out the projection, single year of age survival ratios were to be obtained by splitting the 5 year of age group survival ratios utilised in the already existing projection. In view of the difficulty involved in obtaining single year of age survival ratios, use was made of the unabridged life tables produced by the UN and the single year of age l_x values so chosen as to ensure their correspondence with the abridged life tables utilised in the projection. Since the projected population aged 0-19 years by single years of age should tally with the already available 5 year age group projected values, it was considered only necessary to calculate single year of ^{age}life tables for the first year and hold it constant for the 10 year period. This may not create much problem because already the survival ratios are quite high and changes over the 10 year period will not be large. Secondly, the technique of adjusting the single year of age projection with the 5 year of age group projections will take care of the improving survival ratios. Births were projected by utilising the five/^{year}interval projection values and assuring a smooth progression over time. Since migration has already been incorporated in the existing 5 year of age group population, the dodge of ensuring the equality of sum of single year values with those of the five year group projections takes care of the migration component as well. It should be mentioned here that the base 1985 population obtained by carrying forward the 1983 adjusted figures by fertility, mortality and migration indicated that the 5-19 age group was slightly smaller than the projected value (0.4% for males and 0.8% for females). This was adjusted in the further projections till 1995 and these are given in Table 3.1.

Table 3.1 - Projections of Mauritian Population by single year of age and sex as at 30th June (1986 to 1995) - Male

Age (in years)	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
0	9,355	9,560	9,625	9,724	9,843	9,903	9,892	9,842	9,848	9,763
1	9,244	9,204	9,403	9,502	9,619	9,695	9,729	9,705	9,707	9,624
2	9,738	9,178	9,136	9,367	9,485	9,562	9,613	9,634	9,661	9,574
3	9,988	9,676	9,118	9,109	9,357	9,435	9,487	9,525	9,596	9,535
4	10,822	9,957	9,616	9,093	9,103	9,311	9,365	9,404	9,491	9,475
5	11,424	10,792	9,897	9,593	9,089	9,061	9,245	9,285	9,373	9,374
6	12,320	11,394	10,727	9,874	9,590	9,048	8,996	9,167	9,255	9,258
7	11,856	12,290	11,327	10,703	9,872	9,547	8,984	8,921	9,138	9,142
8	11,206	11,827	12,219	11,303	10,701	9,829	9,482	8,910	8,894	9,027
9	10,724	11,179	11,758	12,193	11,301	10,654	9,761	9,404	8,883	8,786
10	9,794	10,698	11,114	11,733	12,191	11,252	10,581	9,681	9,375	8,776
11	10,492	9,771	10,637	11,091	11,732	12,139	11,174	10,495	9,652	9,262
12	9,998	10,468	9,715	10,615	11,089	11,681	12,055	11,082	10,463	9,535
13	8,854	9,974	10,407	9,694	10,613	11,041	11,600	11,956	11,048	10,336
14	9,100	8,833	9,916	10,385	9,692	10,567	10,964	11,503	11,918	10,914
15	9,572	9,078	8,781	9,894	10,382	9,650	10,492	10,872	11,467	11,773
16	10,320	9,549	9,024	8,761	9,891	10,335	9,581	10,404	10,838	11,327
17	9,793	10,294	9,492	9,003	8,758	9,847	10,262	9,501	10,370	10,704
18	10,756	9,768	10,232	9,470	9,000	8,718	9,776	10,175	9,470	10,242
19	10,685	10,728	9,709	10,208	9,466	8,959	8,656	9,693	10,090	9,464

Table 3.1 (cont'd) - Projections of Mauritian population by single year of age and sex as at 30th June (1986 to 1995) - Female

Age (in years)	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
0	9,136	9,244	9,316	9,415	9,529	9,580	9,585	9,544	9,525	9,507
1	8,955	8,983	9,096	9,191	9,306	9,379	9,425	9,405	9,388	9,368
2	9,354	8,888	8,920	9,058	9,169	9,244	9,313	9,334	9,337	9,319
3	9,776	9,291	8,835	8,891	9,045	9,116	9,187	9,231	9,275	9,276
4	10,749	9,744	9,241	8,810	8,882	8,997	9,065	9,111	9,177	9,219
5	11,170	10,717	9,693	9,217	8,803	8,837	8,948	8,992	9,060	9,124
6	11,910	11,139	10,663	9,670	9,211	8,761	8,791	8,877	8,942	9,009
7	11,530	11,878	11,084	10,638	9,665	9,166	8,715	8,722	8,829	8,892
8	10,962	11,501	11,819	11,059	10,633	9,619	9,120	8,647	8,676	8,780
9	10,344	10,935	11,445	11,793	11,054	10,583	9,571	9,049	8,601	8,628
10	9,823	10,319	10,882	11,420	11,788	11,003	10,530	9,497	9,001	8,555
11	9,987	9,799	10,268	10,858	11,415	11,733	10,947	10,449	9,447	8,953
12	9,967	9,962	9,752	10,246	10,853	11,362	11,675	10,863	10,394	9,397
13	8,564	9,943	9,913	9,731	10,241	10,803	11,305	11,585	10,806	10,337
14	9,065	8,543	9,896	9,891	9,728	10,193	10,748	11,218	11,524	10,748
15	9,082	9,043	8,500	9,874	9,887	9,682	10,142	10,666	11,159	11,462
16	9,834	9,060	8,999	8,481	9,869	9,841	9,633	10,064	10,609	11,099
17	9,356	9,809	9,016	8,978	8,477	9,823	9,791	9,559	10,010	10,551
18	10,613	9,333	9,761	8,995	8,974	8,437	9,773	9,715	9,508	9,955
19	10,330	10,586	9,287	9,738	8,991	8,932	8,393	9,697	9,663	9,455

Children are admitted to Primary I in January when the children have attained the age of 5. Thus it is of interest to have estimates of children aged 5 years as of January of the calendar years 1986-1995 in addition to the projections given in Table 3.1 which pertains to mid year.

Using an estimated intake rate, one can estimate the future number of children aged 5 who will be enrolled in Primary I for the various years. Table 3.2 gives the projected population aged 5 years in January of the respective years and the corresponding estimated intakes assuming a constant intake ratio of 0.97 for boys and girls (This ratio has been noted to be more or less stable for the past several years and may not vary much in the short period of 10 years).

Table 3.2 - Projections of 5 year old Mauritian population by sex as at 1st January and annual intakes in primary schools (1986-1995)

Year	Male		Female	
	Projected Population	Estimated intake	Projected Population	Estimated intake
1986	11,890	11,530	11,560	11,210
1987	11,110	10,780	10,940	10,610
1988	10,340	10,030	10,200	9,890
1989	9,740	9,450	9,400	9,180
1990	9,340	9,060	9,010	8,740
1991	9,080	8,810	8,820	8,560
1992	9,150	8,880	8,890	8,620
1993	9,260	8,980	8,970	8,700
1994	9,330	9,050	9,030	8,760
1995	9,320	9,040	9,090	8,820

By the time this report was being finalised, intake figures for the year 1986 were already known; 11,246 girls joined the primary cycle of education in 1986 and this figure is quite close to the estimated intake of 11,210. However, the difference is greater for male; an actual intake of 11,782 against an estimated figure of 11,530, i.e. 2% lower than the actual value. Such a difference is still within acceptable limits when we consider the limitations of such projections.

3.2.2 Projections of age-sex-specific enrolment rates

Basically, extrapolating the trends in changes of the population attending school may yield estimates of future enrolment rates. However, a mechanical extrapolation of these proportions based on their increases in recent years would not yield very good results because the level of such proportions would soon reach 100% for most of the younger segments. It is obvious that an increase in proportions of this kind is likely to slow down its pace of increase approaching a sort of maximum level.

Initially it was decided to apply a logistic model to enrolment rates calculated from 1972 and 1983 censuses to derive a set of projections of age-sex specific enrolment rates. Unfortunately, the model did not yield reasonable results and had to be abandoned.

Based on the trend in age-specific enrolment rates of the recent past and on expected development in education, the values of such rates for the end year of the projected period, i.e. for the year 1995 have been estimated. Then, interpolating between actual 1985 ratios and estimated 1995 ones, the age specific enrolment rates for the intermediate years have been estimated taking the following factors, among other things, into consideration:-

- (i) the enrolment rates for lower ages have already attained high levels and it is expected that further increases will be marginal,
- (ii) generally speaking, the female rates are expected to increase faster than those for males and the tendency will be towards a decreasing gap between the two sexes.

Projections of age-specific enrolment rates for both sexes for the period 1986-1995 are given in Table 3.3.

3.2.3 Projected School Population

Table 3.4 shows the projected school population for ages 5 to 19 for the period 1986 to 1995. The figures have been obtained by multiplying the projected population at each age by the corresponding

projected enrolment ratio. These projections refer only to primary and secondary school population and do not take into account any future policy of government concerning drastic changes in the education system.

Any changes in population enrolled in schools will imply policy decisions concerning infrastructure, number of teachers, the relative share of expenditure out of the national budget, and other relevant matters. The next chapter analyses some of these implications in the light of the figures obtained above.

Table 3.3 - Projections of age-sex-specific enrolment rates-Island of Mauritius (1986-1995)

Age (in years)	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
5 Male	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0
Female	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0
6 Male	98.0	98.4	98.5	98.6	98.7	98.8	99.0	99.0	99.0	99.0
Female	98.0	98.4	98.5	98.6	98.7	98.8	99.0	99.0	99.0	99.0
7 Male	98.1	98.2	98.3	98.3	98.4	98.4	98.4	98.5	98.7	99.0
Female	98.1	98.2	98.3	98.3	98.4	98.4	98.4	98.5	98.7	99.0
8 Male	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
Female	98.5	98.5	98.6	98.6	98.6	98.7	98.9	99.0	99.0	99.0
9 Male	98.2	98.2	98.3	98.3	98.3	98.4	98.4	98.5	98.5	98.6
Female	97.4	97.6	97.7	97.8	97.9	98.0	98.1	98.2	98.3	98.5
10 Male	97.0	97.2	97.4	97.5	97.7	97.8	98.0	98.0	98.0	98.0
Female	96.9	96.9	97.0	97.3	97.5	97.7	97.9	98.0	98.0	98.0
11 Male	87.2	87.8	88.2	88.6	89.0	89.5	89.8	90.0	90.0	90.0
Female	86.0	86.5	86.8	87.0	87.2	87.4	87.6	87.9	88.0	88.0
12 Male	69.6	70.2	70.6	71.0	71.6	72.0	72.6	73.5	74.0	75.0
Female	69.2	69.5	69.9	70.0	70.0	70.5	70.8	71.5	72.0	72.0
13 Male	65.7	66.7	67.5	68.2	68.8	69.4	69.7	69.9	70.0	70.0
Female	64.0	65.0	66.0	66.9	67.2	67.7	67.9	68.0	68.0	68.0
14 Male	61.0	61.4	62.0	62.5	63.0	63.4	63.7	64.2	64.8	65.0
Female	60.5	61.3	62.0	62.4	63.0	63.1	63.4	63.7	63.9	64.0
15 Male	56.0	56.6	57.2	58.0	58.5	59.2	60.0	60.8	61.5	62.0
Female	53.0	54.0	55.1	56.2	57.2	58.0	58.7	59.0	59.4	60.0
16 Male	50.3	50.5	50.8	50.9	51.0	51.3	51.5	51.6	51.8	52.0
Female	46.8	47.0	47.5	48.0	48.2	48.6	49.0	49.3	49.5	50.0
17 Male	44.0	44.0	44.1	44.3	44.4	44.5	44.7	44.8	44.9	45.0
Female	36.4	36.6	36.8	37.0	37.2	37.5	38.0	38.7	39.3	40.0
18 Male	23.5	24.0	24.4	24.8	25.2	25.6	26.0	26.4	26.7	27.0
Female	17.8	18.2	18.6	19.0	19.4	19.8	20.1	20.4	20.7	21.0
19 Male	12.9	13.0	13.2	13.4	13.8	14.0	14.2	14.4	14.6	15.0
Female	8.3	8.4	8.6	8.7	9.0	9.0	9.2	9.3	9.5	10.0

Table 3.4 - Projected school population by sex and single year of age - Island of Mauritius (1986 - 1995)

MALE

Age (in years)	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
5	9,940	9,390	8,610	8,350	7,910	7,880	8,040	8,080	8,160	8,160
6	12,070	11,210	10,570	9,740	9,460	8,940	8,910	9,080	9,160	9,170
7	11,630	12,070	11,130	10,520	9,710	9,390	8,840	8,790	9,020	9,050
8	11,090	11,710	12,100	11,190	10,590	9,730	9,390	8,820	8,800	8,940
9	10,530	10,980	11,560	11,990	11,110	10,480	9,600	9,260	8,750	8,660
10	9,500	10,400	10,820	11,440	11,910	11,000	10,370	9,490	9,190	8,600
11	9,150	8,580	9,380	9,830	10,440	10,860	10,030	9,450	8,690	8,340
12	6,960	7,350	6,860	7,540	7,940	8,410	8,750	8,140	7,740	7,150
13	5,820	6,650	7,020	6,610	7,300	7,660	8,080	8,360	7,730	7,240
14	5,550	5,420	6,180	6,490	6,110	6,700	6,980	7,380	7,720	7,090
15	5,360	5,140	5,020	5,740	6,070	5,710	6,300	6,610	7,050	7,300
16	5,190	4,820	4,580	4,460	5,040	5,300	4,930	5,370	5,610	5,890
17	4,310	4,530	4,190	3,990	3,890	4,380	4,590	4,260	4,660	4,820
18	2,530	2,340	2,500	2,350	2,270	2,230	2,540	2,690	2,530	2,770
19	1,380	1,400	1,280	1,370	1,310	1,250	1,230	1,400	1,470	1,420
5 - 11	73,910	74,340	74,170	73,060	71,130	68,280	65,180	62,970	61,770	60,920
12 - 19	37,100	37,650	37,600	38,550	39,930	41,640	43,400	44,210	44,510	43,680
5 - 19	111,010	111,990	111,770	111,610	111,060	109,920	108,580	107,180	106,280	104,600

Table 3.4 (cont'd) - Projected School population by sex and single year of age - Island of Mauritius (1986 - 1995)

FEMALE

Age (in years)	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
5	9,720	9,320	8,430	8,020	7,660	7,690	7,780	7,820	7,880	7,940
6	11,670	10,960	10,500	9,540	9,090	8,660	8,700	8,790	8,850	8,920
7	11,310	11,660	10,900	10,460	9,510	9,020	8,580	8,590	8,710	8,800
8	10,800	11,330	11,650	10,900	10,480	9,490	9,020	8,560	8,590	8,690
9	10,080	10,670	11,180	11,530	10,820	10,370	9,390	8,890	8,460	8,500
10	9,520	10,000	10,560	11,110	11,490	10,750	10,310	9,310	8,820	8,380
11	8,590	8,480	8,910	9,450	9,950	10,260	9,590	9,180	8,310	7,880
12	6,900	6,920	6,820	7,170	7,600	8,010	8,270	7,770	7,480	6,770
13	5,480	6,460	6,540	6,510	6,880	7,310	7,680	7,880	7,350	7,030
14	5,480	5,240	6,140	6,170	6,130	6,430	6,810	7,150	7,360	6,880
15	4,810	4,880	4,680	5,550	5,660	5,620	5,950	6,290	6,630	6,880
16	4,600	4,260	4,280	4,070	4,760	4,780	4,720	4,960	5,250	5,550
17	3,410	3,590	3,320	3,320	3,150	3,680	3,720	3,700	3,930	4,220
18	1,890	1,700	1,820	1,710	1,740	1,670	1,960	1,980	1,970	2,090
19	860	890	800	850	810	800	770	900	920	950
5 - 11	71,690	72,420	72,130	71,010	69,000	66,240	63,370	61,140	59,620	59,110
12 - 19	33,430	33,940	34,400	35,350	36,730	38,300	39,880	40,630	40,890	40,370
5 - 19	105,120	106,360	106,530	106,360	105,730	104,540	103,250	101,770	100,510	99,480

Chapter IV

IMPLICATIONS OF THE PROJECTIONS

4.1 Rate of growth

Male population aged 5 to 11 years who will attend school in the future will increase from about 70,000 in 1985 to reach a peak of 74,300 in 1987, representing an average annual increase of 3.0%. From 1987 onwards, the primary school male population, represented by the age group 5-11 years, is expected to fall continuously to a level of about 60,900 by the end of the projection period in 1995, i.e. an average annual decrease of 2.5%.

Enrolment of 5 to 11 year old female population is expected to follow an almost similar pattern, with an average annual rate of growth of 3.0% between 1985 and 1987, followed by an average rate of decline of 2.5% between 1987 and 1995. The increase in enrolment for both sexes up to 1987 can be accounted for by the relatively high number of births in the late 1970's while the decrease from 1988 onwards is due to the anticipated fast drop in fertility.

If, as assumed throughout this report, we consider that the secondary school population comprises mostly of children between 12 and 19 years of age, then the future situation prevailing at secondary level of education will be quite different from what is expected at the primary level. In fact, the number of boys of that age group attending school will increase continuously from 34,500 in 1985 to 44,500 in 1994, representing an average annual rate of increase of 2.8% while the number of girls will increase from 31,100 to 40,900 for the same period, i.e. an average annual rate of increase of 3.1%. The higher increase for females is explained by the fact that past trend has revealed that more and more girls are now going to colleges, thus reducing the gap that exists between male and female participation.

4.2 Teachers

The change in number of pupils enrolled may bring about changes in teacher requirements. However the future need for teachers does not depend only on trend in future enrolment of pupils; it will

depend also on other factors like government policy concerning pupil/teacher ratio, changes in the educational system, regional changes in demand and supply, etc.

4.2.1 Primary Level

In Mauritius, there are 2 categories of teachers at the primary level:-

- (1) General Purpose Teachers who teach traditional subjects like English, French, Mathematics, Geography
- (2) Oriental Language Teachers who teach only oriental languages.

It is not possible for this present exercise to estimate the future needs of oriental language teachers because such projections would require a series of population projections by religion or mother tongue and such projections are not available.

The number of general purpose teachers required to cope with the change in enrolment has been calculated under 4 different assumptions of pupil/teacher ratio, namely 30, 31, 32 and 33. The results are shown in Table 4.1 below.

Table 4.1 - Projections of number of primary school teachers for the period 1986 to 1995 - Island of Mauritius

Year	Number of teachers required :			
	Pupil/Teacher ratio of 30	Pupil/Teacher ratio of 31	Pupil/Teacher ratio of 32	Pupil/Teacher ratio of 33
1986	4,850	4,700	4,550	4,410
1987	4,890	4,730	4,590	4,450
1988	4,880	4,720	4,570	4,430
1989	4,800	4,650	4,500	4,370
1990	4,670	4,520	4,380	4,250
1991	4,480	4,340	4,200	4,080
1992	4,280	4,150	4,020	3,900
1993	4,140	4,000	3,880	3,760
1994	4,050	3,920	3,790	3,680
1995	4,000	3,880	3,750	3,640

The above figures do not take into consideration the number of teachers who leave the profession permanently or temporarily through: death, retirement, resignation, movement to other occupations, temporary secondments, study leave, in-service courses, transfer to administrative work or to other levels of education, and other causes.

Ideally a data system needs to be developed to enable one to keep track of losses due to each of these causes of outflow and also identify return flows and types of inflow other than new recruits. However, most systems do not record flows in this detail and annual loss has to be calculated on a net basis at the aggregate level.

For the last 3 years, the pupil teacher ratio for primary level was around 33 (see Table 1.1), and assuming this ratio throughout the projection period, i.e. up to 1995, some 450 more teachers will be required by 1987 to take care of increase in enrolment of students only. However, assuming a drop out of 1% annually among existing teaching staff, then the real number of additional teachers required by 1987 will be around 570. The drop in enrolment from 1988 onwards will be automatically accompanied by a decrease in the required number of teachers. It appears from the projections that if a pupil/teacher ratio of 33 is to be maintained, no recruitment of additional teachers will be necessary for 1988 onwards. The fall in enrolment will bring about a certain number of redundant teachers, even after taking into account the additional number required to replace drop-outs.

4.2.2 Secondary Level

The projection of future needs of teaching staff for the secondary level of education is a more complex exercise because the number of teachers will depend also on subjects chosen by students. Such information being not available, future requirements of teachers have been based on overall pupil/teacher ratio. During the past years (see Table 1.2) the pupil/teacher ratio for the secondary level of education has been improving and is now around 20.

Enrolment in secondary schools is expected to rise during the next ten years, thus bringing along a need for additional teachers. The future teacher requirements have been worked under 3 different assumptions of pupil/teacher ratio namely 20, 21 and 22 and the results are presented in Table 4.2.

Table 4.2 - Projections of number of secondary school teachers for the period 1986 to 1995 - Island of Mauritius

Year	Number of teachers required:		
	Pupil/teacher ratio of 20	Pupil/teacher ratio of 21	Pupil/teacher ratio of 22
1986	3,530	3,360	3,210
1987	3,580	3,410	3,250
1988	3,600	3,430	3,270
1989	3,700	3,520	3,360
1990	3,830	3,650	3,480
1991	4,000	3,810	3,630
1992	4,160	3,970	3,790
1993	4,240	4,040	3,860
1994	4,270	4,060	3,880
1995	4,210	4,010	3,830

The figures in Table 4.2 do not take into account losses of teachers through causes mentioned in Section 4.2.1. Assuming a pupil/teacher ratio of 20 for the next 10 years, some 670 additional teachers will be required by the year 1995, i.e. an annual average of 70, taking into consideration only changes in the number of students enrolled. However with an attrition rate of 1%, the true figure will fluctuate around 110 annually. The corresponding annual needs for additional teachers under assumptions of pupil/teacher ratio of 21 and 22 will be around 90 and 70 respectively.

4.3 Classrooms

Available data show that in 1985 there were about 3,880 classrooms in primary schools and this is equivalent to an average of 35 pupils per classroom. If this classroom size is to prevail for the next ten years, then some 300 additional classrooms will be required by 1987. However, the drop in enrolment from 1988 to 1995 will release on the average some 90 classrooms annually.

In 1985 there were approximately 32 students per classroom in secondary schools. If this class size remains constant for some time,

then the additional needs for classrooms will only be marginal up to 1988. However from 1989 up to 1995 some 100 additional classrooms will be needed annually.

4.4 Other implications

Besides implications on number of teachers and classrooms the change in enrolment will have implications on other fields like cost of education, size and distribution of administrative staff, provision of infrastructure (laboratories, workshops, etc.). Detailed data are not readily available to enable such in depth analysis and we had to restrict ourselves to the impact on the number of teachers and classrooms only.

Chapter V

SUGGESTIONS FOR FUTURE DATA COLLECTION AND ANALYSIS

5.1 Census data

The two questions on school attendance and level of education which have been asked at the two previous censuses satisfy the international recommendations and national needs and are sufficient for most analysis if supplemented by regular statistics from the school system. However, it would be interesting to study education characteristics both at the individual and household levels in relation to other socio-economic variables such as economic activity, occupation, industry, and employment status, fertility, mortality and migration for a deeper understanding of relationships. It is therefore suggested that consideration be given to better exploitation of the census data by producing a larger number of tabulations cross classifying education with other relevant variables.

On the **macro** scale the information coming from the census look reasonable and consistent, but certain inconsistencies and discrepancies emerge at the micro level. For instance, in some cases the information on grade is inconsistent with the age. Although the extent of such errors is small, keeping in view the generally high quality of the Mauritian data it should be endeavoured that such errors and biases be minimised by appropriate controls not only on the field but also at the coding and processing stages.

5.2 School statistics

Every effort should be made to establish a system of collection of data in pre-primary schools.

A lot of information is collected but very often they cannot be used in an efficient manner because they are not compiled and presented in a way that could be useful for analyses. For instance, it is generally understood that if information is collected on age and grade distribution of children on an annual basis then it should be possible to compute drop-out rates, repetition rates, continuation rates and other input parameters for projecting age-grade cohorts. Unfortunately current data available are not usable for such type of analytical work. What is required is presentation of the collected information in a fashion to make possible the application of this method. A two-way classification of students

enrolled and those leaving the system for various reasons by age, grade and sex for a given point in time on an annual basis would be sufficient to meet the requirement.

At a more developed level of data collection it would be interesting to have some information about the drop-outs and the probable causes for this, like mortality, migration and withdrawal from the system.

Besides, the analysis of data collected from school surveys has shown some possible misreporting and further investigation is necessary to check the quality of data provided by the schools and initiate actions to rectify these defects.

R E F E R E N C E S

1. White paper on education, Ministry of Education, Arts and Culture
2. The Development of Education in Mauritius - Ramesh Ramdoyal
3. A Plan for Education, Ministry of Education, Arts and Culture
4. Annual Report 1983 and 1984 of Mauritius Institute of Education
5. Annual Report University of Mauritius - 1982/83
6. 1971-75 Development Plan, Ministry of Economic Planning and Development
7. 1972 Housing and Population Census of Mauritius - Volume V (C.S.O.)
8. Digest of Educational Statistics, C.S.O. - 1984
9. 1983 Census Analysis Report Volume I (C.S.O.)
