



REPUBLIC OF MAURITIUS

Ministry of Economic Planning and Development

CENTRAL STATISTICAL OFFICE

1990
HOUSING AND POPULATION CENSUS
OF
MAURITIUS

ANALYSIS REPORT

Volume VII — Nuptiality and Fertility

December 1996

Price : Rs 150

**MINISTRY OF ECONOMIC DEVELOPMENT AND
REGIONAL CO-OPERATION**

CENTRAL STATISTICAL OFFICE

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FOREWORD

The Central Statistical Office conducted a complete Housing and Population Census in 1990. This was the sixteenth census for the country. A series of tabulation reports covering various topics such as housing, demography and fertility, economic activity, education, household characteristics, migration and disability was published during the following years. At the same time, an evaluation and analysis of the census data was carried out with the help of a regional advisor from the United Nations Economic Commission for Africa (UNECA).

This report, forming part of a series of analytical reports prepared by the Central Statistical Office covers the important factor of population change - Fertility. Since fertility, in the context of Mauritius, is within the institution of marriage, the report focuses on nuptiality. Mauritius has been a success story in fertility management. Therefore a section deals with family planning and fertility management also.

I would like to convey my gratitude to the staff of local analysts for the efforts put into the analysis and preparation of this report. I also acknowledge collaboration with the Ministry of Health and specifically Mr. R. Sunkur (Demography Division) for his assistance in preparing some of the sections. My thanks also go to the United Nations Population Fund (UNFPA) and the United Nations Economic Commission for Africa (UNECA) for financial and technical assistance. Finally, the analyst team and myself are most grateful to Dr. K.V. Ramachandran for his guidance and supervision.

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Director of Statistics**

**Central Statistical Office
Ministry of Economic Development and Regional Co-operation
Port Louis
December 1996**

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CHAPTER 1 - NUPTIALITY

1.1 Introduction

Fertility is the main factor responsible for changes in the size and composition of the population in many countries. In Mauritius also, this is the case - the population growth of the country, which was quite large in the past despite comparatively high mortality, was determined by the level of fertility. The growth rate was considered so high that national leaders felt the need for curtailing the rate of fertility. In the last three decades there has been considerable reduction in fertility, but because of the tremendous fall in mortality, it has been the level of fertility which has determined the level of growth of the population.

In Mauritius, births outside of wedlock is looked down upon and the institution of marriage has played an important role not only in fertility but also in family formation and living arrangements. For instance, in 1990 only 0.24% of women aged 15 years and above were reported as unmarried mothers. Therefore, for a meaningful study of fertility, it is necessary to analyze the level, pattern, trend and differentials in marriage as also the other aspects like divorce, separation, widowhood etc.

1.2 Marriage

1.2.1 Introduction

Marriage is an important determinant of fertility. In Mauritius where the majority of people marry and where illegitimacy is infrequent, a study of marriage is relevant, as marriage usually exposes the couple to the possibility of child-bearing which in turn has a direct bearing on fertility levels and trends.

In Mauritius as of 1990, there were around 374,000 women aged 15 years and above. Of these, about 98,000 were reported as never married. Thus, 276,000 are ever married. But, since fertility is mostly concentrated in the reproductive ages 15-49, it is relevant to consider only women in these ages. The number of ever married women in the age range 15-49 was only 194,227, which is slightly more than two thirds of women in that age. Again, since reproduction is mostly within the formal institution of marriage, it is essential to include only currently married women, whose number is 175,596, in any consideration of fertility.

Marriage is universal and used to occur at a very young age in the country. According to the cultural practices, marriages were solemnized by religious rites but for civil purposes, the marriages were registered in the civil status. There are also a few unions

contracted consensually. Hence, in order to obtain accurate information on nuptiality, the census collected information pertaining to marriages in the various categories - (a) married religiously and civilly, (b) married religiously only, (c) married civilly only and (d) consensually married.

Even though the civil status department is responsible for registration of all marriages, unlike the situation regarding births and deaths, the registration of marriages is not a true reflection of the prevailing situation. It has been recognized that many marriages are unregistered and at the same time a large number of marriages which took place several years ago are registered only when legal documents are required. Thus the data from the civil registration system is of very little practical use to analysts in the study of nuptiality. Table 1.1 gives the proportion of married females in the four categories.

Table 1.1- Percentage of the married females by age in various types of marriages,
Republic of Mauritius & Island of Rodrigues- 1990

(a) Republic of Mauritius				
Age	Married civilly and religiously	Married religiously only	Married civilly only	Consensually married
15-19	64.4	17.1	5.6	12.9
20-24	80.0	10.8	4.2	5.0
25-29	83.0	10.7	3.0	3.4
30-34	83.3	10.8	2.6	3.3
35-39	84.9	9.8	2.5	2.8
40-44	85.8	8.5	2.6	3.0
45-49	87.8	6.8	2.2	3.1
50-54	88.5	5.8	2.4	3.3
(b) Island of Rodrigues				
15-19	23.2	1.1	10.6	65.1
20-24	49.7	0.1	13.9	36.2
25-29	76.3	0.1	7.6	16.0
30-34	81.0	0.3	5.1	13.6
35-39	82.1	0.4	4.6	12.9
40-44	86.7	0.4	2.7	10.2
45-49	88.2	0.4	1.8	9.6
50-54	86.5	0.4	1.3	11.8

Two prominent facts emerging from the table are:- (1) in the Republic and particularly in the Island of Mauritius a significant number of marriages are solemnized religiously and the proportion of civil and consensual marriages are larger at younger ages and reduce at older ages and (2) in Rodrigues quite a large number of marriages are consensual unions and very few are of religious only type. In both islands, the vast majority of marriages are of civil and religious type.

Comparing the situation in 1990 with that in 1983, it is noticed that there is not much change in the various categories of marriages in the country .

1.2.2 Trends in marriage

Table 1.2 shows the proportion of the population in each marital status at the last 2 censuses. In order to account for differences in age structure, the rates have been standardized using the age distribution in the Republic of Mauritius in 1990.

Table 1.2 - Standardized percentage distribution of population aged 15 years and over by sex and marital status for 1983 and 1990 censuses, using 1990 age distribution

Sex and marital status	Republic of Mauritius		Island of Rodrigues	
	Census year		Census year	
	1983	1990	1983	1990
Male: single	37.6	39.4	35.7	39.0
Married 1/	57.0	55.3	53.1	47.0
Consensually married	2.1	2.0	8.5	10.5
Widowed	1.9	1.8	1.3	1.4
Divorced and separated	1.4	1.5	1.4	2.1
Female: single	26.0	26.3	28.0	30.7
Married 1/	54.8	55.5	52.7	47.3
Consensually married	2.2	2.1	9.1	10.4
Widowed	13.1	12.5	7.4	7.8
Divorced and separated	4.0	3.6	2.8	3.8

1/ Civilly/religiously married

The main trends discernible in the Republic are:

- (i) an increase in the proportion single and a corresponding decrease in proportion married aged 15 years and over
- (ii) a decrease in the reporting of consensual marriages
- (iii) a decrease in the proportion of widows/widowers probably due to an improvement in mortality

In the island of Rodrigues, the pattern regarding single and married are similar to those in the Republic, but the incidence of consensual marriages has gone up in recent years as also occurrence of widow/widowerhood and divorce/separation.

A summary measure of the proportion in various marital categories is measured by SMAM (singulate mean age at marriage). The SMAM measures the mean age

at first marriage for those who ever-marry. In this calculation, it is assumed that all first marriages occur between the age of 15 to 50 years.

Considering the evolution of the mean age at marriage by sex (Table 1.3), it can be seen that in the Republic males marry at a slightly older age in 1990 than in 1983. For female, there is only a slight increase in the mean age at marriage. In the island of Rodrigues, the increases are higher for both of the sexes .

Table 1.3 - SMAM in years by sex for 1983 and 1990 Censuses, Mauritius

Census years	Republic of Mauritius		Island of Rodrigues	
	Male	Female	Male	Female
1983	27.5	23.7	24.7	21.7
1990	28.2	23.8	26.1	22.0

Also a look at Table 1.4 indicates that marriage for females start early and that only a small proportion remains single throughout life. More than half of the females had married before age 20-24 and that in Rodrigues the age at marriage is younger than in the Island of Mauritius.

Table 1.4 - Distribution (%) of female population by age group and marital status, Mauritius - 1983 and 1990

(a) Republic of Mauritius								
Age	Single 1/		Married 2/		Widowed		Divorced/Separated	
	1983	1990	1983	1990	1983	1990	1983	1990
15-19	88.8	88.7	10.8	11.0	0.0	0.0	0.4	0.3
20-24	49.2	48.7	48.3	49.5	0.3	0.2	2.2	1.6
25-29	24.0	23.9	71.1	72.6	0.9	0.6	4.0	2.9
30-34	14.8	14.2	76.9	79.8	2.4	1.6	5.9	4.4
35-39	8.8	11.2	79.3	79.3	5.1	3.7	6.8	5.8
40-44	5.8	8.5	79.0	76.3	8.7	8.5	6.5	6.7
45-49	4.1	5.5	75.2	74.1	14.6	14.1	6.1	6.2
50-54	4.0	3.9	68.4	68.3	22.0	22.2	5.6	5.6
(b) Island of Rodrigues								
15-19	80.6	85.1	18.9	14.6	0.1	0.0	0.4	0.3
20-24	36.6	44.8	61.2	52.5	0.3	0.0	1.9	2.8
25-29	16.1	14.2	80.3	80.9	0.8	0.8	2.8	4.1
30-34	11.5	6.3	83.3	87.9	1.4	1.5	3.8	4.4
35-39	9.9	4.5	85.4	86.9	1.6	2.9	3.1	5.7
40-44	7.7	2.2	83.8	88.9	4.5	3.3	4.0	5.7
45-49	5.8	2.4	80.0	82.0	7.7	9.7	6.5	6.0
50-54	6.3	2.6	77.5	79.2	12.3	9.7	3.9	8.5

1/ Unmarried mothers are excluded in 1990 but included in 1983

2/ Includes religious, civil and consensual marriages

Looking at the distribution of marital status by age, in both the Republic of Mauritius and the Island of Rodrigues during 1990, the proportion married increases upto age 30-34 and thereafter the proportion of widowed and divorced/separated show increases. Whereas in the Republic, the proportion widowed increased rather fast, in Rodrigues the increase seems less. In both cases, the divorced and separated show more or less an increase but seem to stabilize at older ages. The pattern in 1983 was not very different.

Table 1.5 gives the median age at widowhood in 1983 and 1990. It can be noted that the median age of widowers increased by 1.5 years as against 1.3 years for widows in Island of Mauritius. In Rodrigues, the corresponding values were 3.2 and 0.6 and in the Republic, they were 1.6 and 1.4. Thus, despite a widening gap between male and female life expectancy, the gap between median age of widows and widowers seem to be closing.

Table 1.5 - Median age at Widowhood, Mauritius - 1983 and 1990 by sex

Sex	Island of Mauritius		Island of Rodrigues		Republic of Mauritius	
	1983	1990	1983	1990	1983	1990
Male	67.0	68.5	66.8	70.0	66.9	68.5
Female	62.6	63.9	66.0	66.6	62.6	64.0

Again, table 1.6 giving the percentage of divorced and separated shows that the incidence of divorce/separated increased slightly for males but decreased for females in the Island of Mauritius and in the Republic but in Rodrigues both values increased.

Table 1.6 - Percent divorced/separated aged 15+ years among ever married by sex, Mauritius - 1983 & 1990

Sex	Island of Mauritius		Island of Rodrigues		Republic of Mauritius	
	1983	1990	1983	1990	1983	1990
Male	2.2	2.5	2.1	3.4	2.2	2.5
Female	5.4	4.8	3.9	5.2	5.4	4.8

With the life table in 1983, it means that a widower in the Republic of Mauritius will spend 10.1 years in that state as compared with a widow who will be in that state for 16.5 years. In 1990, the corresponding periods are 10.4 and 16.2 years. Thus, between 1983 and 1990 there is a reduction of 0.3 year in the period of time spent in widowhood status but an increase of 0.3 years in widowerhood status. The pattern in the Island of Mauritius is similar. But in Rodrigues, due to faster improvement in mortality, the widower is estimated to spend 9.7 years in 1990 as against 10.6 years in 1983. But a widow in 1990 would spend 14.9 years as against 13.7 years in 1983. Thus the gap between periods spent by widowers and widows widened to 5.2 years from 3.1 years. At the same time, the

incidence of divorce/separation in Republic of Mauritius and in Island of Mauritius increased marginally from 2.2% in 1983 to 2.5% in 1990 for men but declined significantly for females from 5.4% to 4.8%. However, for Rodrigues, both rates went up (from 2.1 to 3.4 for men and from 3.9 to 5.2 for women between 1983 and 1990). So it means that the trauma of divorce/separation is also more pronounced for women in Rodrigues.

1.2.3 The marriage market in Mauritius

The number of available partners to men or women has profound effects on the basic structure of society, including social, cultural, economic and psychological components. Imbalances in the relative availability of men and women have significant effects on their comparative status and power, on norms of sexual behaviour, and on marriage rates, family stability, and child bearing practices. In the past in Mauritius, there was a preponderance of males because of selective migration and higher female mortality, but in recent periods there has been a slight excess of females over males. Moreover, since girls are 4-5 years younger than their husbands, the supply of grooms should not pose much of a problem as far as the total numbers are concerned. However it is interesting to study the relative number of men and women in the population at appropriate ages to determine the marriage market. This can probably be measured by the sex ratio at the various age-groups.

Table 1.7 gives the sex ratios by marital status at the 1990 census. Two indices of the marriage market are shown

Table 1.7 - Sex ratios by marital status, Republic of Mauritius - 1990 Census

Age (years)	Total	Single ^{1/}	Single ^{2/}	Married ^{3/}	Widowed	Divorced/ Separated
All ages	99.78	120.21		98.20	13.95	42.47
Under 15	102.26	102.28		16.22	0.00	150.00
15 & over	98.76	148.69		98.21	13.95	42.46
15-19	102.66	115.18		5.26	44.44	6.12
20-24	104.36	187.79	107.86	26.01	10.00	17.29
25-29	103.46	238.87	120.82	62.78	15.26	34.32
30-34	104.01	166.96	88.23	97.98	10.23	44.98
35-39	103.40	90.86	62.22	114.37	7.58	39.91
40-44	99.40	71.52	41.13	119.00	4.81	32.37
45-49	96.08	92.45	45.34	118.68	5.72	35.89
50-54	94.31	106.57	64.42	125.87	7.97	43.89
55-59	95.22	116.99	87.78	140.02	10.62	58.89
60-64	91.73	93.81	95.62	163.07	14.08	69.64
65-69	87.25	83.37	71.48	193.08	16.56	92.16
70-74	78.36	60.36	46.69	227.72	19.46	112.10
75+	53.55	33.60	65.54	272.17	19.86	111.59

1/ Ratio of men aged (x, x+4) years to women of the same age group

2/ Ratio of men aged (x, x+4) years to women aged (x-5,x-1) years

3/ includes civil, religious and consensual marriages

Note: "single" exclude unmarried parent

- Single^{1/} is the ratio of single men in a particular age-group to single women in the same age-group.

- Single^{2/} is the ratio of single men in an age-group to single women in the previous age-group younger than them. This ratio has been calculated because it reflects the marriage market more realistically - the mean age difference between spouses being around 4.4 years.

From the table, it appears that

- (i) a significant level of male celibacy has occurred and is likely to occur for those born between 1960 and 1965.
- (ii) a significant level of female celibacy has occurred for those born between 1945 and 1960.
- (iii) Widowhood indicates very low sex ratios implying perhaps the higher male mortality and remarriage of men and
- (iv) the incidence of divorce/separation also is much higher among females- also indicative of male remarriage.

CHAPTER 2 - FERTILITY

2.1 Fertility levels and trends

2.1.1 Evolution with time

The evolution of fertility is shown in Table 2.1 which gives the crude birth rate of the Republic and its two main constituent islands from 1951 to 1990.

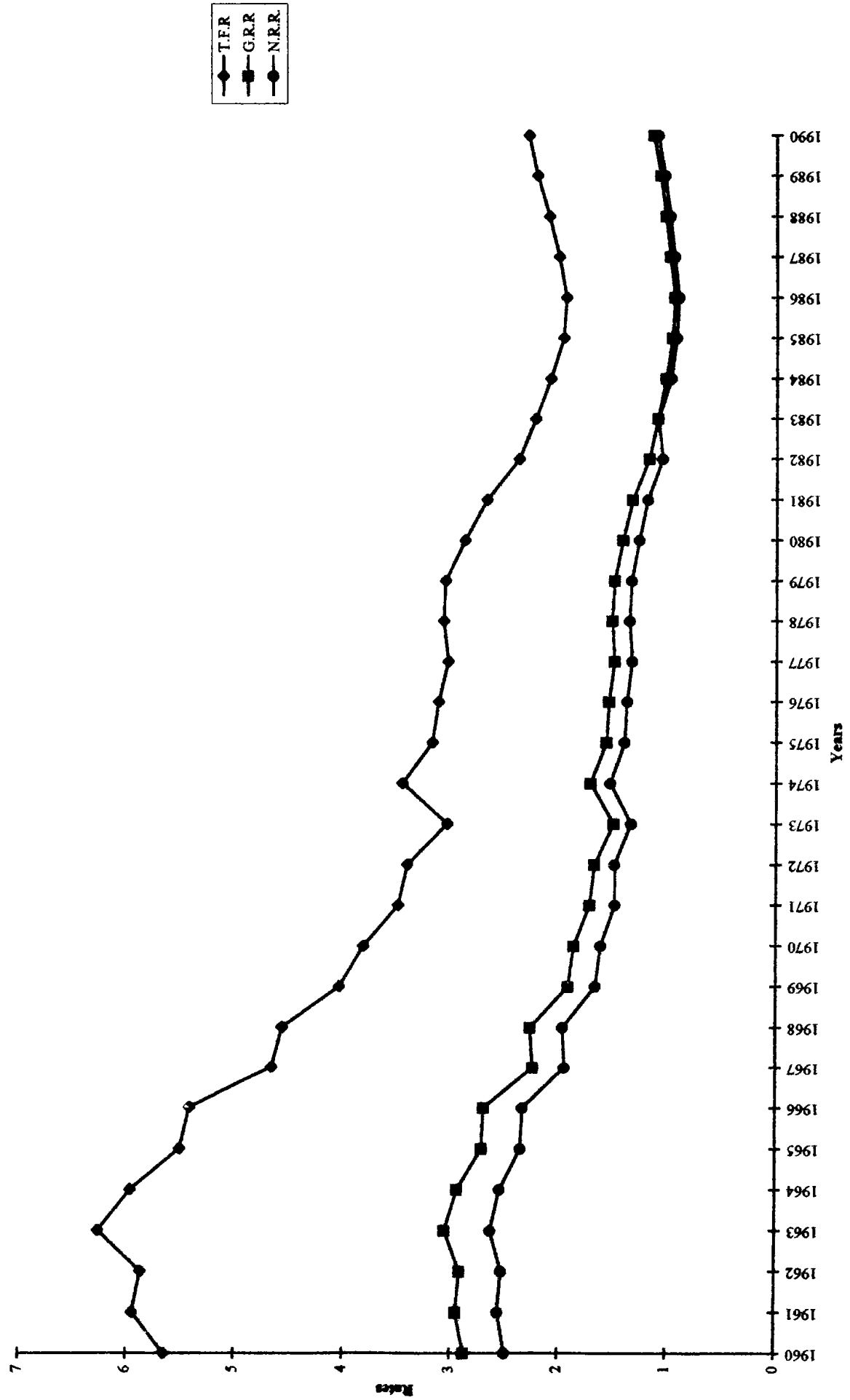
Table 2.1 - Crude birth rate, 1951 - 1990

Year	Republic of Mauritius	Island of Mauritius	Island of Mauritius	Year	Republic of Mauritius	Island of Mauritius	Island of Rodrigues
1951-1955	44.3	44.3	42.0	1979	27.5	27.2	42.4
1956-1960	40.9	40.7	46.9	1980	27.2	26.6	44.0
1961-1965	38.9	38.6	50.8	1981	25.5	24.9	42.9
1966-1970	30.6	30.2	46.1	1982	22.6	22.1	38.4
1971	26.1	25.5	44.8	1983	21.0	20.6	34.7
1972	25.3	24.8	42.1	1984	20.1	19.6	30.7
1973	23.0	22.4	44.5	1985	19.0	18.8	28.5
1974	27.3	26.8	44.8	1986	18.6	18.3	26.3
1975	25.3	24.8	43.4	1987	19.3	19.1	26.2
1976	25.8	25.3	43.9	1988	20.1	19.9	25.9
1977	26.0	25.5	42.5	1989	20.8	20.6	25.1
1978	27.1	26.7	42.3	1990	21.3	21.3	23.7

As shown in the table, fertility has been very high in the Republic and its main island up to the late sixties; gradually decreasing to reach a minimum in the mid-eighties and increasing therefrom. In Rodrigues, fertility has remained high right up to the early eighties. However, there is a decreasing trend which goes on to 1990 with an indication of convergence of the rates in recent years to those in the island of Mauritius.

Though the crude birth rate can be used to describe the general trend of fertility over time, its use is affected by factors such as age, sex and other characteristics of the population. Consequently a more refined time-series with measures such as the total fertility rate and the reproduction rates is required. This time-series starting with 1960 is available for the island of Mauritius only. As the latter comprises most of the Mauritian territory, it can be assumed that the rates for the Republic as a whole will not be much different. Table 2.2 gives the rates for the island of Mauritius. Figure 1 depicts clearly that the first major decline in fertility took place between 1963 and 1973. During this time the total fertility rate (T.F.R) was halved; falling from 6.3 in 1963 to 3.0 in 1973. This decline in fertility is attributed to a very widespread postponement of marriage. The second rapid decline in fertility occurred between 1979 and 1986 whereby the T.F.R decreased by 37% from 3.07 to 1.94. This fall was mostly through family planning which was adopted by the population. There was also effect of social practices like postponement of marriages,

Figure 1 - Selected fertility rates, Island of Mauritius, 1960 - 1990



avoidance of very early and late age pregnancies and reduction of higher order births. Both the table and the graph show that the 1986 level is the minimum ever attained so far. During that year, the N.R.R was much below replacement level at 0.90.

Table 2.2 - Selected fertility rates - Island of Mauritius, 1960 - 1990

Year/period	T.F.R	G.R.R	N.R.R	Year/period	T.F.R..	G.R.R.	N.R.R.
1960	5.646	2.874	2.493	1976	3.130	1.543	1.379
1961	5.939	2.948	2.556	1977	3.042	1.493	1.334
1962	5.863	2.913	2.525	1978	3.087	1.516	1.356
1963	6.265	3.053	2.630	1979	3.068	1.496	1.338
1964	5.964	2.938	2.545	1980	2.887	1.419	1.269
1965	5.512	2.715	2.352	1981	2.681	1.328	1.188
1966	5.421	2.696	2.336	1982	2.385	1.174	1.050
1967	4.662	2.244	1.945	1983	2.228	1.097	1.089
1968	4.570	2.268	1.966	1984	2.090	1.020	0.970
1969	4.044	1.916	1.661	1985	1.970	0.960	0.920
1970	3.820	1.862	1.613	1986	1.940	0.940	0.900
1971	3.502	1.714	1.486	1987	2.010	0.980	0.940
1972	3.418	1.670	1.490	1988	2.100	1.020	0.980
1973	3.046	1.500	1.340	1989	2.210	1.070	1.030
1974	3.466	1.710	1.530	1990	2.290	1.130	1.090
1975	3.189	1.567	1.399				

2.2 Age patterns of fertility

Analysis of trends with respect to age-patterns will be limited to the two latest census years 1983 and 1990. The age-specific fertility rates for these two years, obtained by using the enumerated population by age and sex as denominators for the calculation of these rates are shown in table 2.3-2.8.

2.2.1 Republic of Mauritius

Important changes have occurred in the age-pattern of fertility between 1983 and 1990. From Table 2.3, it is seen that fertility has increased for the young age-groups 15-29 years whereas in the older age-groups, fertility has dropped. Major decreases of the order of 25% have been registered in the 40-49 age-group. This change in the fertility pattern can be associated with

- (i) a change in the mean age of childbearing indicating an increase from 26.3 years to 26.7 years. The mean age of fertility schedule which adjusts for the age-structure of the female population in the reproductive age-group however shows a decline - from 27.6 years in 1983 to 27.1 years in 1990.

- (ii) a significant increase in the proportion of first order births; from 34% of total live births in 1983 to 43% in 1990. As shown in table 2.4, the first and second birth-order specific fertility rates have increased whereas for the higher-order births, fertility has decreased from 1983 to 1990. The table also illustrates the diminishing importance of high order births (3 and above) associated with old age-groups (30 years and above) and
- (iii) an increase in proportion married at younger ages and an increase in marital fertility especially at younger ages

Table 2.3 - Fertility rates, 1983 and 1990 - Republic of Mauritius

Age specific fertility rate	1983	1990	% change
15-19	41.4	45.2	9.2
20-24	135.5	147.2	8.6
25-29	133.6	138.1	3.4
30-34	88.4	80.4	-9.0
35-39	43.8	39.1	-10.7
40-44	15.2	11.4	-25.0
45-49	2.4	1.8	-25.0
General fertility rate	78.3	77.4	-1.2
Total fertility rate	2.30	2.32	0.9
Gross reproduction rate	1.13	1.14	0.9
Net reproduction rate	1.08	1.10	1.9
Mean age of fertility schedule	27.6	27.1	
Mean age of childbearing	26.3	26.7	

2.2.2 Island of Mauritius

The changes in the age pattern of fertility for the Island of Mauritius are almost the same as for the Republic. These changes are shown in table 2.5 whereas table 2.6 gives the age-specific fertility rates by live-birth order for 1983 and 1990.

Table 2.5 - Fertility rates, 1983 and 1990 - Island of Mauritius

Age specific fertility rate	1983	1990	% change
15-19	40.1	44.1	10.0
20-24	132.6	146.9	10.8
25-29	131.0	137.7	5.1
30-34	85.7	79.8	-6.9
35-39	40.8	38.4	-5.9
40-44	13.6	10.7	-21.3
45-49	1.9	1.4	-26.3
General fertility rate	76.2	76.7	0.7
Total fertility rate	2.23	2.29	2.7
Gross reproduction rate	1.10	1.13	2.7
Net reproduction rate	1.05	1.09	3.8
Mean age of fertility schedule	27.5	27.1	
Mean age of childbearing	26.3	26.7	

1/
Table 2.4 - Age specific fertility rates by age of mother and live birth order, Republic of Mauritius, 1983 & 1990

Year	Age of mother	Live birth order						Total
		First	Second	Third	Fourth	Fifth	Sixth & over	
1983	15 - 19	30.7	9.7	0.9	0.1*	-	-	41.4
	20 - 24	62.2	48.2	18.9	5.0	1.0*	0.2*	135.5
	25 - 29	33.5	47.1	29.5	14.5	6.0	3.0	133.6
	30 - 34	11.8	21.1	20.0	15.4	10.0	10.1	88.4
	35 - 39	3.9	5.9	8.1	6.1	5.5	14.3	43.8
	40 - 44	1.6	1.3	1.2	1.5	1.9	7.7	15.2
G.F.R.	45 - 49	0.2*	0.2*	0.1*	0.2*	0.1*	1.6	2.4
1990	15 - 19	27.2	23.8	13.0	6.6	3.4	4.3	78.3
	20 - 24	37.9	6.7	0.6*	0.0	-	-	45.2
	25 - 29	87.9	47.6	9.6	1.8	0.3*	0.0	147.2
	30 - 34	50.7	51.8	24.8	7.9	2.2	0.7	138.1
	35 - 39	15.6	26.3	21.3	10.1	4.2	2.9	80.4
	40 - 44	5.7	7.7	10.2	7.2	3.6	4.7	39.1
G.F.R.	45 - 49	1.6	1.8	2.3	1.3	1.6	2.8	11.4
		0.3*	-	0.2*	0.4*	0.3*	0.6*	1.8
		34.1	24.1	11.3	4.5	1.8	1.6	77.4

1/ in calculating the rates, live births occurring to mothers aged less than 15 years have been included in the age group (15-19) whilst occurring to mothers aged 50 years and above in the age group (45-49). Births for ages "Not stated" and birth order "Not stated" have been prorated.

2/ excluding Agalega and St Brandon.

* rates based on a small number of events (<30).

Table 2.6 - Age specific fertility rates^{1/} by age of mother and live birth order, Island of Mauritius, 1983 & 1990

Year	Age of mother	Live birth order						Total
		First	Second	Third	Fourth	Fifth	Sixth & over	
1983	15 - 19	29.9	9.3	0.9	0.0	-	-	40.1
	20 - 24	62.0	47.2	18.0	4.3	0.9	0.2*	132.6
	25 - 29	33.6	47.1	29.3	13.5	5.2	2.3	131.0
	30 - 34	11.8	21.0	19.9	15.1	9.4	8.5	85.7
	35 - 39	3.9	5.9	7.9	6.0	5.2	11.9	40.8
	40 - 44	1.4	1.3	1.3	1.4	1.9	6.2	13.5
G.F.R	45 - 49	0.3*	0.2*	0.2*	0.1*	0.1*	1.0*	1.9
1990	15 - 19	27.0	23.5	12.8	6.2	3.2	3.5	76.2
	20 - 24	37.0	6.5	0.6*	0.0	-	-	44.1
	25 - 29	88.0	47.5	9.4	1.7	0.3*	0.0	146.9
	30 - 34	51.2	52.1	24.5	7.4	1.9	0.6	137.7
	35 - 39	15.7	26.6	21.3	10.0	3.7	2.5	79.8
	40 - 44	5.7	7.9	10.2	7.0	3.5	4.1	38.4
G.F.R	45 - 49	1.5	1.8	2.3	1.2	1.6	2.3	10.7
	45 - 49	0.3*	-	0.1*	0.4*	0.2*	0.4*	1.4
G.F.R	15 - 49	34.0	24.2	11.2	4.3	1.6	1.4	76.7

1/ in calculating the rates, live births occurring to mothers aged less than 15 years have been included in the age group (15-19) whilst those occurring to mothers aged 50 years and above in the age group (45 - 49). Births for ages "Not stated" and birth order "Not stated" have been prorated.

* rates based on a small number of events (<30).

2.2.3 Island of Rodrigues

Fertility in Rodrigues (Table 2.7) has decreased drastically among all age-groups except for the ages 15-19 years where only a modest decline of around 18% is registered. In fact, adolescent fertility has decreased from 91.1 in 1983 to 75.2 in 1990 but continues to be high. On the other hand, very high reductions in fertility have been registered in the age-groups 45-49 years (60%) and 30-34 years (46%). In spite of this, the contribution of women aged 30 years and above still remained important in 1990; their share to the total fertility rate is around 40% as against 28% in the Island of Mauritius.

The general reduction in fertility can be attributed to

- (i) a decrease in the mean age of childbearing consequent on reduction in fertility of older women ;
- (ii) a significant decrease in the proportion of 3rd order birth and above from 57% in 1983 to 43% in 1990. Table 2.8 which compares the 1983 and 1990 age-specific fertility rates by birth order sheds more light on the decreasing weight of higher-order births in the fertility of Rodrigues.

Table 2.7 - Fertility rates, 1983 and 1990 - Island of Rodrigues

Age specific fertility rate	1983	1990	% change
15-19	91.1	75.2	-17.5
20-24	245.1	152.2	-37.9
25-29	234.9	150.3	-36.0
30-34	206.3	110.7	-46.3
35-39	155.8	94.5	-39.3
40-44	77.0	46.8	-39.2
45-49	21.7	8.6	-60.4
General fertility rate	155.8	101.0	-35.2
Total fertility rate	5.16	3.19	-38.2
Gross reproduction rate	2.54	1.56	-38.6
Net reproduction rate	2.34	1.48	-36.8
Mean age of fertility schedule	29.5	28.8	
Mean age of childbearing	27.0	26.5	

1/
Table 2.8 - Age specific fertility rates by age of mother and live birth order, Island of Rodrigues, 1983 & 1990

Year	Age of mother	Live birth order						Total
		First	Second	Third	Fourth	Fifth	Sixth & over	
1983	15 - 19	63.4	23.0	4.7*	-	-	-	91.1
	20 - 24	72.9	79.0	58.3	25.8	7.1	2.0*	245.1
	25 - 29	21.4	39.9	46.4	51.7	41.3	34.2	234.9
	30 - 34	9.6*	16.1	22.2	26.6	37.4	94.4	206.3
	35 - 39	3.6*	3.2*	11.7*	12.6*	20.8	103.9	155.8
	40 - 44	2.7*	0.9*	2.8*	2.3*	4.6*	63.7	77.0
G.F.R	45 - 49	-	-	0.6*	-	1.1*	20.0	21.7
		36.4	30.2	23.9	17.4	14.2	33.7	155.8
1990	15 - 19	62.3	11.4	1.5*	-	-	-	75.2
	20 - 24	75.4	48.4	21.4	5.4*	1.5*	-	152.2
	25 - 29	22.8	46.6	37.2	24.8	12.6	6.3*	150.3
	30 - 34	6.5*	15.2	19.5	18.9	23.9	26.7	110.7
	35 - 39	4.7*	4.7*	8.9*	13.6	11.5	51.1	94.5
	40 - 44	4.2*	2.1*	3.8*	2.2*	4.2*	30.3	46.8
G.F.R	45 - 49	-	-	0.5*	0.9*	2.4*	4.8*	8.6
		35.3	22.5	14.4	9.2	7.2	12.4	101.0

1/ in calculating the rates, live births occurring to mothers less than 15 years have been included in the age group (15-19) whilst those occurring to mothers aged 50 years and above in the age group (45 - 49). Births for ages "Not stated" and and birth order "Not stated" have been prorated.

2/ An average of live births registered for 3 years have been used
* rates based on a small number of events (<30).

2.3 Marital fertility

In order to study the effect of marriage on fertility, table 2.9 gives the age specific marital fertility rates. It can be noted that the general marital fertility rate declined from 139.8 in 1983 to 127.4 in 1990, mostly through a huge reduction of more than 30% in the rate in Rodrigues. The reduction in Island of Mauritius was only marginal- around 8%. Actually at younger ages 15-29 there was an increase in marital fertility in the Island of Mauritius. The highest increase was at age 20-24 of about 8% and lowest at age 25-29 of around 3%. At age 15-19 the increase was 7%. The general fertility rate, on the other hand, showed an increase of less than 1% for the Island of Mauritius from 76.2 in 1983 to 76.7 in 1990, but with a huge decrease of about 35% for Rodrigues (from 155.8 in 1983 to 101.0 in 1990) and only around 1% for the Republic (from 78.3 in 1983 to 77.4 in 1990). Thus the observed increase in fertility in recent period occurred within the younger married women who perhaps may have been controlling their fertility in the past , but seem to have decided to have a baby in the recent period

Table 2.9 - Age specific marital(ASMFR) and general fertility(ASFR) rate by age, 1990

(a) Marital fertility									
Island	Age							GMFR	TMFR
	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
	ASMFR								
Republic of Mauritius	411.7	298.5	190.8	101.1	49.5	15.0	2.4	127.4	5.35
Island of Mauritius	406.9	297.8	190.4	100.5	48.6	14.1	1.8	126.2	5.30
Island of Rodrigues	524.6	317.5	198.4	124.6	92.7	59.7	20.0	171.9	6.69
(b) General fertility									
	ASFR							GFR	TFR
Republic of Mauritius	45.2	147.2	138.1	80.4	39.1	11.4	1.8	77.4	2.32
Island of Mauritius	44.1	146.9	137.7	79.8	38.4	10.7	0.9	76.7	2.29
Island of Rodrigues	75.2	152.2	150.3	110.7	94.5	46.8	8.6	101.0	3.19

Another indication of effect of marital status on fertility is from table giving the age specific marital fertility (ASMFR) and general fertility rates in 1990. Defining the total fertility rate (TFR) as 5 times sum of age specific fertility rate we see that it is 2.32 in Republic of Mauritius and 3.19 in Rodrigues. Using only married women one can obtain a related measure TMFR which for Republic of Mauritius was 5.35 corresponding to 6.69 for Rodrigues, i.e., 25% higher. Thus the higher fertility in Rodrigues, though relatively higher than in Island of Mauritius, both among all women and married women, it is the higher proportion and younger age at marriage in Rodrigues which makes the difference even more prominent. In 1983, TFR in Island of Mauritius was 2.23 and in Rodrigues it was 5.16, i.e., 131% higher and TMFR were 4.95 and 8.61 respectively in Island of Mauritius and Rodrigues. The difference in marital fertility is only 74%. Therefore between 1983 and 1990 Rodrigues reduced its fertility tremendously and more so among the ever married women. It

seems that with yet higher age at marriage and reduced proportion of women marrying, the fertility in Rodrigues could fall very fast.

2.4 Parity distribution

The births occurring in a specific period of time and the corresponding fertility rates portray only the current situation and pattern. What is equally important is the cumulated effect of fertility over a long period of time, especially over the reproductive span of women. The mean number of children ever born alive by age of women gives a fair idea of the fertility performance over the reproductive period. This is called the parity distribution and is reflective of the effect of fecundity of women and the exposure to reproduction as affected by marital status. The average parity of older women who have completed their reproduction would give an idea of the completed family size. Empirical results have indicated that total fertility rate is related to parity and vice versa, so that in the absence of one type of data, the other could be estimated. In Mauritius, both types of data are available and of acceptable levels.

Again, the data on children ever born alive by age of mother is an important source for study of fertility performance. For instance, women who have had no children born by the time they reach the end of reproductive age group, can be considered to be infertile- especially if they are still currently married. Otherwise, the incidence of widowhood, divorce and separation - in situations where remarriage is infrequent - will also affect reproduction. In Mauritius, the parity distribution obtained from the 1990 census indicate that around 3% of ever married women are still childless at age 50-54 when women are expected to have reached end of reproduction. Usually, every society has a certain proportion of women who are infertile and international experience indicates that it varies around 2-5%. Thus the incidence of childlessness among the Mauritian population is well within expected levels.

Table 2.10 gives the parity distribution in the Republic and in the constituent Island of Mauritius and Rodrigues. It can be noted that the 1990 rates are consistently lower than those in 1983. For instance, in the Republic, the rates in 1990 are only 75-80%, of those in 1983 and there is a tendency for a larger decline at young ages. Whereas, the pattern in the Island of Mauritius is similar to those in the Republic, in Rodrigues the pattern is quite distinct. Not only is the fall in the younger ages much less; at older ages, there is some increase as well. We have noticed that fertility has been quite high in Rodrigues and only recently has it shown some decline.

Table 2.10 - Parity distributions, 1983 & 1990 Censuses

Age group	Republic of Mauritius		Island of Mauritius		Island of Rodrigues	
	1983	1990	1983	1990	1983	1990
15-19	0.08	0.06	0.08	0.06	0.15	0.12
20-24	0.67	0.53	0.66	0.52	1.04	0.84
25-29	1.54	1.28	1.52	1.26	2.46	2.04
30-34	2.38	2.02	2.36	1.99	3.37	3.30
35-39	3.34	2.60	3.30	2.56	4.58	4.50
40-44	4.09	3.27	4.06	3.23	4.99	5.41
45-49	4.67	4.18	4.66	4.12	4.87	6.16
15-49	1.80	1.68	1.79	1.67	2.31	2.36

Table 2.11 presents the parity for all women, ever married and currently married women in the Republic of Mauritius and island of Rodrigues indicating that the effect of marriage is, as expected, more intense in the younger ages. By age 40, since most women eventually get married, the difference in fertility performance at older ages is only through the small proportion who never marry. For instance, at age 15-19 the ever married woman has a rate about 10 times larger than that for all women in the Republic. In Rodrigues it is only around 7 times, because of higher proportion married by that age. At age 20-24 the factor is less than 2. In 1983 the pattern was similar but the intensity was lower.

Table 2.11 - Mean number of children ever born by women aged 15-49 years by age and marital status, Mauritius 1983 and 1990

(a) Republic of Mauritius					
Age	All women		Ever married women		Currently married women
	1983	1990	1983	1990	1990
15-19	0.08	0.06	0.73	0.57	0.59
20-24	0.67	0.53	1.32	1.03	1.08
25-29	1.54	1.28	2.03	1.68	1.77
30-34	2.38	2.02	2.79	2.35	2.54
35-39	3.33	2.60	3.66	2.93	3.29
40-44	4.09	3.27	4.36	3.58	4.30
45-49	4.67	4.18	4.88	4.42	5.65
(a) Island of Rodrigues					
15-19	0.15	0.12	0.77	0.84	0.86
20-24	1.04	0.84	1.63	1.63	1.71
25-29	2.45	2.04	2.93	2.54	2.69
30-34	3.37	3.30	3.81	3.67	3.91
35-39	4.57	4.50	5.09	4.88	5.36
40-44	4.98	5.41	5.41	5.87	6.46
45-49	4.86	6.16	5.17	6.58	7.84

Currently married women naturally have a higher fertility than ever married women. At younger ages marriage disruption due to widowhood, divorce and separation is not as high as at older ages and hence the differences between ever married and currently

married women are smaller. At older ages the significant effect of marriage disruption is clear. In Republic of Mauritius, the completed fertility of currently married women (aged 45-49) are 27.8% higher than those of ever married women and 35.2% higher than those of all women. At younger ages, say for instance at age 25-29, the currently married woman has a 5.4% higher parity than the ever married and 38.3% higher parity than all women. Thus marriage disruption may be contributing around 3-5% to reduction in fertility. In Island of Rodrigues, currently married women at end of reproductive life have a 27.2% higher parity than all women and a 19.1% higher parity than ever married women. Currently married younger women, say aged 25-29 have a parity only 5.9% higher than the ever married, but 31.9% higher than for all women. Marriage disruption seems to have lesser impact in Island of Rodrigues than in Island of Mauritius.

Looking at the parity distribution in yet another angle, table 2.12 shows that for every age at marriage, the mean number of children ever born increases as duration of marriage is increased almost proportionately to the number of years of exposure. This is more pronounced in the Republic, but in Rodrigues the increments are slightly higher than what is predicted by linear trend. This trend may have been affected by the smaller size of the population involved also.

Again, the effect of duration is direct only in the cohorts married at younger ages up to age 25. Those who married late seem to be compensating by having their births soon after marriage so that even with shorter duration their fertility performance is higher.

Table 2.12 - Mean no. of children ever born by women, by age at marriage and duration of marriage, Mauritius 1990

(a) Republic of Mauritius				
Age at marriage	Duration of marriage(yrs)			
	<1	1-4	5-9	10-14
<15	0.25	0.95	2.02	2.87
15-19	0.14	0.94	1.96	2.68
20-24	0.15	0.88	1.79	2.47
25-29	0.17	0.85	1.75	2.32
30-34	0.22	0.87	1.70	2.15
35+	0.37	0.92	1.34	1.67
All ages	0.16	0.89	1.84	2.52
(b) Island of Rodrigues				
<15		1.00	1.96	3.50
15-19	0.27	1.03	2.15	3.34
20-24	0.33	1.09	2.31	3.46
25-29	0.25	1.26	2.28	3.01
30-34	0.50	1.62	2.71	2.84
35+	1.67	2.11	1.14	2.50
All ages	0.31	1.09	2.22	3.34

2.4.1 Parity increment between 1983 and 1990

The average parity of women increases over the age span and the rate of increment is related to the level of fertility in the intervening period. One method of studying level of fertility is by parity increment. In table 2.13, parity of women in a given age-group in 1983 is compared with the parity of the same cohort in 1990.

For the Republic, the mean parity of women in the reproductive ages has increased by 0.67 during the intercensal years. As expected, the women in younger age-groups 15-29 years have registered highest parity increases. However, the parity increments at older ages are higher than expected and could be due to fluctuations in size of population and reporting errors especially in Rodrigues.

Table 2.13 - Parity increment between 1983 and 1990

(a) Republic of Mauritius			
Age group in 1983	Mean parity in 1983	Mean parity in 1990	Parity increment 1983-1990
15-19	0.08	0.82	0.74
20-24	0.67	1.59	0.92
25-29	1.54	2.25	0.71
30-34	2.38	2.85	0.47
35-39	3.34	3.67	0.33
40-44	4.09	4.50	0.41
45-49	4.67	5.23	0.56
15-49	1.80	2.47	0.67
(b) Island of Mauritius			
15-19	0.08	0.80	0.72
20-24	0.66	1.57	0.91
25-29	1.52	2.22	0.70
30-34	2.36	2.82	0.46
35-39	3.30	3.61	0.31
40-44	4.06	4.43	0.37
45-49	4.66	5.19	0.53
15-49	1.79	2.43	0.64
(c) Island of Rodrigues			
15-19	0.15	1.26	1.11
20-24	1.04	2.51	1.47
25-29	2.46	3.88	1.42
30-34	3.37	4.79	1.42
35-39	4.58	5.85	1.27
40-44	4.99	6.41	1.42
45-49	4.87	6.67	1.80
15-49	2.31	3.83	1.52

The island of Mauritius shows almost the same features as the Republic. As for Rodrigues, the mean parity increment for women aged 15-49 years in 1983 is 1.52; i.e. more than twice that for the island of Mauritius. Parity increments of more than 1 are registered for all age-groups showing that fertility among Rodriguan women was still high in the intercensal years.

2.5 Stable parameters

An important factor affecting age - sex distribution is fertility. Again, fertility is in turn affected by the existing age - sex distribution. Therefore, it would be interesting to study the hypothetical stable vital parameters under the existing fertility-mortality conditions and given age-sex distribution. The Stable parameters are measures associated with a stable population, i.e., one derived if fixed age-specific schedules of mortality and fertility remain in effect indefinitely. These parameters which have been computed for the Republic and its two main constituent islands are shown in table 2.14.

Table 2.14 - Stable population parameters, 1983 and 1990

(a) Year 1983			
Stable parameters	Republic of Mauritius	Island of Mauritius	Island of Rodrigues
Intrinsic growth rate %	0.29	0.18	2.95
Intrinsic birth rate /1000	16.3	15.7	36.7
Intrinsic death rate /1000	13.4	13.9	7.3
Mean length of generation (yrs)	27.6	27.5	28.5
(b) Year 1990			
Intrinsic growth rate %	0.36	0.33	1.41
Intrinsic birth rate /1000	16.4	16.2	23.3
Intrinsic death rate /1000	12.8	12.9	9.2
Mean length of generation (yrs)	27.0	27.0	28.4

The recent increase in fertility in the Republic has had an impact on the various stable parameters. For instance, the intrinsic growth rate increased from 0.29 to 0.36 in the Republic and from 0.18 to 0.33 in the Island of Mauritius between 1983 and 1990. On the other hand, in Rodrigues the fall in fertility had a tremendous impact on the intrinsic growth rate which declined from 2.95 in 1983 to 1.41 in 1990. Correspondingly, the intrinsic birth rates in the Island of Mauritius and in the Republic increased respectively from 15.7 and 16.3 in 1983 to 16.2 and 16.4 in 1990 as against a decrease of the rate from 36.7 in 1983 to 23.3 in 1990 in Rodrigues. The intrinsic death rate in the Island of Mauritius and in the Republic showed slight decline of 0.6 - 1.0 whereas the rate in Rodrigues increased by 1.9, mostly due to changing age structure. The mean length of generation (calculated as 27.6 years in Republic and 28.5 in island of Rodrigues in 1983 and 27.0 in the Republic and 28.4 in island of Rodrigues in 1990) declined in both islands - more in the Island of Mauritius and in the Republic of 0.5 - 0.6 years. In Island of Rodrigues, the mean length of generation continued to be high and was more or less constant.

The increase in the intrinsic growth rate and fall in the length of generation, imply faster growth of population and an arrest of its aging structure.

2.6 Fertility differentials

2.6.1 Introduction

The number of children that a couple has is influenced by social and economic characteristics. To measure the differences in fertility among socio-economic groups, the average parity of the women in each group is compared. To take account of age composition, the average parities are standardized to a given age distribution - in this case the age distribution of women in the Republic is utilized. Differential fertility indices are useful to discern future trends in fertility. Further to study the effect of differentials in age structures between groups and remove such effects, standardization is carried out by using also the respective age distributions of categories in the Republic. These are called vertical (using Republic age distribution of a given category to standardize corresponding categories in Islands of Mauritius and Rodrigues) and horizontal (using age distribution of Republic) standardization.

The available data allows the following characteristics - geographic and urban-rural residence, education, economic activity and occupation of women to be considered for differentials in fertility.

2.6.2 Geographic differentials

The type of place of residence which may influence socio-economic variables is noted to affect fertility through factors like marriage, contraception etc. which may in turn be brought in by education, economic activity and other socio-economic factors.

In Mauritius it has been noted that women residing in Flacq, Black River and Rodrigues have higher fertility than those in the other districts and Plaines Wilhems has the lowest level. For instance the average parity in Rodrigues in 1990 was 2.67 as compared to 1.87 in island of Mauritius, i.e., 43% higher. The difference becomes even larger when adjusted for the young age structure of Rodrigues. The standardized average parity is 2.99, i.e., a difference of 60%.

In 1983 also Flacq had highest (19% higher), Plaines Wilhems the lowest (14% lower) and Rodrigues had higher level (18% unstandardized) than that in island of Mauritius.(Table 2.15).

Even though there are not much differences between urban and rural areas in Mauritius in terms of amenities, facilities and other factors, still the life styles of people in urban and rural areas may be different as to bring in differentials in fertility. Considering that Port Louis and Plaines Wilhems to be urbanized and the other districts to represent rural

areas, the standardized mean parities given in Table 2.16 show that both in 1983 and 1990 there are some differences between urban and rural fertility levels. For instance, in 1983 the urban-rural difference was 27% in Republic and in island of Mauritius and considering island of Rodrigues as rural, the difference between Rodriguan fertility and that of island of Mauritius(urban) is around 48%. (Table 2.16).

Table 2.15 - Mean parity and standardized mean parity by district, Mauritius - 1983 and 1990

District/Region	Mean Parity 1990	Standardized mean parity	
		1983	1990
Port Louis	1.79	2.01	1.75
Pamplemousses	1.98	2.45	2.05
Rivière du Rempart	1.96	2.49	2.05
Flacq	2.04	2.62	2.17
Grand Port	2.00	2.39	2.04
Savanne	1.96	2.36	1.96
Plaines Wilhems	1.70	1.91	1.61
Moka	1.89	2.33	1.93
Black River	2.07	2.47	2.16
Island of Mauritius	1.87	2.20	1.87
Island of Rodrigues	2.67	2.85	2.99
Republic of Mauritius	1.89	2.21	1.89

Table 2.16 - Standardized mean parity by rural/urban region, Mauritius, 1983 and 1990

Region	Republic of Mauritius		Island of Mauritius		Island of Rodrigues	
	1983	1990	1983	1990	1983	1990
Urban	1.93	1.65	1.93	1.65	-	-
Rural	2.46	2.10	2.45	2.05	2.85	2.99

2.6.3 Educational characteristics

Women exposed to education may marry later and manage their fertility also, as their knowledge about reproduction may be better. Education may in fact postpone marriage and pregnancy because of the need for continuation in the school system till higher ages. Education also may bring in aspirations and hopes for career among women who may find marriage, pregnancy and children conflicting with their education and career possibilities.

The mean parities and standardized mean parities for the various educational level are given in Table 2.17. Since the age structure of women in an educational category has an influence on its mean parity, two sets of standardized mean parities have been calculated, the first set taking the age structure of the Republic of Mauritius for each educational category as standard (Vertical standardization) and the second set taking one fixed standard

population that is the female population of the Republic (Horizontal standardization). It should be noted that differences between the two sets of standardized rates are due to the use of different standard populations. The analysis will be based on figures from both horizontal and vertical standardizations.

The data indicate that women in island of Mauritius in 1983, with pre primary or no education had the highest fertility which was around 3.7 times the level of those with tertiary education. Education even at primary level reduced the fertility by 13%. Secondary education reduced the level further by another 35%. But, if age structure differences between educational groups are also taken into account, there are dramatic differentials. For instance, the preprimary and no education group had a level 5.3 times as high as the tertiary and the reduction in fertility among the primary educated is 39%. Secondary education brought in a further 58% reduction..

Table 2.17 - Unstandardized/Standardized mean parity by level of education,
Mauritius - 1983 and 1990

Island/Region		Level of Education			
		Preprimary & no education	Primary	Secondary	Tertiary
		1990 Census			
Republic of Mauritius	Unstandardized	4.46	2.87	1.74	1.67
	Vertical stand.	3.97	2.19	0.97	1.06
	Horizontal stand.	2.32	2.02	1.39	0.94
Island of Rodrigues	Unstandardized	5.29	3.72	1.84	1.00
	Vertical stand.	5.52	3.25	1.34	0.56
	Horizontal stand.	3.51	2.98	1.92	0.30
		1983 Census			
Island of Mauritius	Unstandardized	3.88	2.18	0.97	0.77
	Vertical stand.	4.21	2.56	1.08	0.79
	Horizontal stand.	2.70	2.36	1.53	0.73

In 1990, the reductions were much less and the differentials decreased. . For instance, the preprimary and no education category had a level which was only around 2.5 times the level for the tertiary educated in Republic of Mauritius. The primary educated women had levels 13% lower than the pre primary and no education group and the secondary group had only a further 31% reduction. Age structural differentials when taken into consideration accentuated the differentials. For instance, the preprimary and no educated group indicated a level 3.7 times that of the tertiary and the primary group had a reduction of 45% with the secondary group showing further 56% fall in fertility. In Rodrigues, in 1990 the pre primary and no education category had a level 51% higher than that for the corresponding group in Republic of Mauritius and for every educational category, the level in Rodrigues was higher than in Republic except those with tertiary education. This is definitely because of the very small size of the tertiary educated in Rodrigues, bringing in fluctuations. All the same, in Rodrigues, primary education depressed fertility by 15% from its level

among the preprimary and no educated group. Secondary education reduced it further by another 35%.

2.6.4 Economic characteristics

The unstandardized and standardized mean parities for women in the various economic activity groups in 1983 and 1990 are given in Table 2.18. In 1983, employed women in island of Mauritius had a level of fertility intermediate between the unemployed and housewife. The lower level for the unemployed may be because the women who were reported as unemployed may be better educated than the employed- a large number of whom may have been in the unskilled and elementary occupations. Taking the horizontally standardized figures, it is observed that housewives, constituting the vast majority of women had a level 34% higher than the level for the employed. The pattern in 1990 was similar, but the level for the unemployed and the employed narrowed significantly. This may be because, by then, a large number of women had entered the labour market and the unemployed constituted many women who may be not as highly educated as corresponding women in 1983. In Rodrigues also the pattern was similar, but the level in each case was higher than in Republic of Mauritius. Adjustment for age structure differences between the categories did not bring forward as dramatic results as shown by educational categories.

Table 2.18 -Unstandardized/ Standardized mean parity of mother by type of economic activity, Mauritius - 1983 and 1990

Island/Region		Type of activity		
		Employed	Unemployed	Housewife
		<u>1990 Census</u>		
Republic of Mauritius	Unstandardized	2.63	2.03	2.80
	Vertical stand.	1.75	0.71	2.28
	Horizontal stand	1.67	1.60	2.12
Island of Rodrigues	Unstandardized	4.13	2.61	3.72
	Vertical stand.	3.08	1.32	3.32
	Horizontal stand	2.90	2.67	3.09
		<u>1983 Census</u>		
Island of Mauritius	Unstandardized	N.A.	N.A.	N.A.
	Vertical stand.	1.94	0.71	2.64
	Horizontal stand	1.83	1.65	2.46

N.A. - Not available

Table 2.19 looks at the economic characteristics from the angle of the occupation of the women. Those in unskilled and elementary occupations had the highest fertility in Republic of Mauritius, but in Rodrigues the women in group C consisting of skilled agricultural and fishery workers, craft and related trade workers, plant and machine operators and assemblers had the highest level. In Republic of Mauritius and Rodrigues, it was women in group B consisting of clerks, service and sales workers who reported lowest fertility. The highest occupational category A had a slightly higher level and this may be due to the small

numbers of women involved resulting in fluctuations. Standardization brought in only marginal changes confirming the earlier conclusion that age structure differences may not be very much between economic groups.

Table 2.19 -Unstandardized/ Standardized mean parity of mother by occupational group, Mauritius - 1990

Island/Region		Occupational group			
		A	B	C	D
Republic of Mauritius	Unstandardized	2.10	1.80	2.22	3.71
	Vertical stand.	1.61	1.03	1.29	3.12
	Horizontal stand.	1.25	1.21	1.60	2.16
Island of Rodrigues	Unstandardized	3.33	2.63	4.89	4.06
	Vertical stand.	2.99	1.81	2.82	4.25
	Horizontal stand.	2.37	2.13	3.32	2.95

A: Legislators, senior officials, managers, professionals, technicians and assistant professionals

B: Clerks, service and sales workers

C: Skilled agricultural and fishery workers, craft and related trades workers, plant and machine operators and assemblers

D: Elementary occupations

2.7 Future Scenarios and implications

Fertility level in the country showed a declining trend till 1986 but then a slight increase was registered attaining a peak in 1992 with a total fertility of 2.37 for the Republic and 2.36 for Island of Mauritius. During the 1992 -95 period, a fall in fertility has been registered in the Republic , almost reaching replacement level fertility. In the Island of Rodrigues fall in fertility for the period since 1990 has been more or less regular though the level remained well above replacement level in 1995. (Table 2.20)

Table 2.20 Total fertility rate (TFR) in Mauritius during period 1990-95

Year	Republic of Mauritius	Island of Mauritius	Island of Rodrigues
1990	2.32	2.29	3.19
1992	2.37	2.36	2.79
1995	2.14	2.13	2.64

With anticipated higher numbers of women in the reproductive ages with post primary education, coupled with widening opportunities for employment, improvements in living conditions and availability and accessibility to fertility regulation, it is anticipated that fertility will decline. The initial level of fertility in Rodrigues is higher than in the Republic, but catching up seems to have already commenced as it is noted that the tempo of fertility decline in Rodrigues is much higher. The prognosis is that by the end of the century, Island of Mauritius will attain replacement level fertility, but that it may need a further 5 to 10 years for Rodrigues to reach that level. Thus the Republic of Mauritius may be expected to have a TFR

of slightly higher than 2 by the year 2000. Fertility may fall below replacement level thereafter, as happened in Island of Mauritius for a brief period during 1984-88.

With the imminent fall in fertility to replacement level or even lower in the country it implies that the rate of growth of population will slow down not only through reduced birth rate but also to a small extent, in the initial stages, by an increase in death rate. However, because of the momentum generated by past high fertility regimes, the growth rate of population will continue to be positive, though small (0.6% per annum) . The child population (aged below 15) with negative growth of around -0.2 percent in the last decade of the 30 year period starting 1994 , will dwindle therefore down to around 18-20 percent from its current 28 percent . The old age population (aged 65 and over), on the other hand, will grow at around 4.5 percent and thus increase to more than 10 percent in the next 25 - 30 years. These changes will bring down the school age and school population and for most of the period also reduce the dependency burden. The labour force will grow but only with a low growth rate of 0.2 percent. Even though total dependency may decline, old age dependency is poised to increase from its current around 8 percent to around 19 percent. These changes have policy and programme implications which need to be addressed in order to avoid problems later.

CHAPTER 3- FAMILY PLANNING AND FERTILITY MANAGEMENT

3.1 Family Planning - The existing scenario

The population of Mauritius has had a sufficiently long period of practicing birth limitation using Family Planning and other methods. Side by side with improvement in level of education and level of living, the age at marriage increased and the fertility rate at young ages decreased significantly. Even at the prime ages of reproduction (25-39 years) there was noticeable declines in fertility including marital fertility. At older ages the rates became rather very low because of changes in socio-cultural patterns involving the avoidance of higher order births and confinements of more than one generation at the same time. Therefore the attack on fertility was on all fronts - postponement of marriage, postponement of births within marriage, stopping of higher order births and reduction in the occurrence of births to older cohort when younger generation cohorts in their families have commenced reproduction.

Of late, concerns have been raised regarding the efficiency of some of the methods being adopted for birth control in preference to more efficient methods. Any unwanted pregnancy resulting from this practice may be aborted. Thus births are avoided, but at a cost to the individual. Another concern is regarding recent trend towards earlier marriage and reproduction especially teenage and adolescent fertility. Part of the increase in recent fertility has been due to this factor and it has connotations not only for fertility but also for health of mother and child and growth rate of population. The increasing participation of young men and women in economic endeavours and opportunities for youngsters to meet each other outside of the homes and parental inability to have much say in the youngsters' life styles seems to have resulted in sexual activities resulting in pre-marital pregnancies most of which may be aborted. Since abortion is illegal, recourse is taken to clandestine practitioners, some times resulting in complications and death.

For instance, around 10% of all pregnancies, live births and admissions to hospitals for complications arising from abortions are for women under age 19. One of the criteria in the evaluation of a successful family planning programme is not just the reduction in total fertility rate, but in the reduction of births to mothers who are too young or too old, as these have health implications for babies and mothers. In Mauritius, fertility has been reduced considerably, but the fertility at the young teen ages is still high and recently started showing signs of increasing. The reported low fertility may be because several pregnancies which otherwise might have resulted in live births may have been aborted. Concerns have been raised about the suspected high levels of abortions which are clandestinely carried out by untrained personnel under unhygienic and risky conditions, because of the illegality of the procedure.

3.2 An exploratory analysis of number of abortions

In order to arrive at some estimation of the number of abortions, a simulation study on the effect of various factors on the fertility was carried out.

Firstly, a projection was made by assuming that the 1962 fertility level would continue up to 1992 but that mortality would have improved as observed. The projected number of births would be about 84,000. The actual number is about 22,000 i.e. the difference is about 62,000.

With a contraceptive prevalence rate and pattern observed in the 1991 service statistics (which is not significantly different from the figures from the 1991 CPS) the expected number of live births is about 42,000. Thus contraception cannot explain the 62,000 births averted as estimated earlier. So the difference of 20,000 births averted may have been achieved by factors such as:

1. Postponement of marriages
2. Social control
3. Abortion

Postponement of marriage: The effect of postponement of marriages is direct to reduce fertility, since in Mauritius childbearing occurs only within marriages. In fact, when fertility started declining, postponement of marriages reduced the fertility at the young ages by half while marital fertility remained stable. For instance, if the 1962 fertility rates at ages 15-19 and 20-24 would have been reduced by 1992 because of increasing age at marriage (mean around 23 years) and reduced proportion married, the number of births would be reduced. It has been noticed that in the past, the ASFR at age 15-19 was reduced to half its level between 1962 and 1972 and that at age 20-24 by about 40 percent. Assuming such a pattern, the number of births averted in 1992 would be around 12,000-16,000.

Social control: In the past, women used to give birth even after their daughters were married. Mother and daughter being confined at the same time was not uncommon. But in recent years this is rare due to abstinence and social control and may be some use of contraceptives. Thus, certainly some births may have been averted particularly through abstinence but its contribution to reduction in fertility may not be significant (around 2,000 births in 1992).

Abortion: According to our analysis, a total of 20,000 births are averted which cannot be explained by the contraceptive use. If we assume that the two factors -

postponement of marriage and abstinence - can explain part of the births averted, the number of yearly abortions may be between 2,000 and 8,000.

Looking at the matter differently, with the reported contraceptive prevalence pattern (method mix) and an observed TFR of 2.4(1992), the number of women who should be using contraceptives is around 145,000 to 155,000. Knowing that now only about 135,000 women are contracepting, it seems that 10,000 to 20,000 women are averting births by the various other methods including abortion.

3.3 Action needed

Thus it is evident that studies should be made to find out the real dimension of the problem of abortion as it has considerable health impact - both physical and mental. Family planning programme should try to reach the teen agers who seem to be either not using appropriate family planning methods or are otherwise exposed to unwanted pregnancies which they then try to avert by abortion. If unsafe abortions are as high as conjectured, and continues to be high, then ways and means for controlling it may be called for.

The increasing adolescent fertility has been responsible for the increasing level of fertility. Therefore it is necessary to strengthen FP programmes and launch an aggressive IEC programme to encourage people to use more effective contraceptive methods and to postpone marriage and pregnancy much beyond teenage as had been demonstrated by the population in the eighties