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Ministry of Finance and Economic Development

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REPUBLIC OF MAURITIUS

ANALYSIS REPORT

VOLUME IX – NUPTIALITY AND FERTILITY

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FOREWORD

The Central Statistics Office conducted a Housing and Population Census in year 2000. Census 2000 was the seventeenth for the Island of Mauritius and the seventh for the Island of Rodrigues.

A series of table reports covering housing and living conditions, demographic and fertility characteristics, economic characteristics, educational characteristics, household characteristics, geographical and migration characteristics and disability was published during the following year. Subsequently, the census data were evaluated and analysed, and the results are being published in a series of analytical reports.

The present report is the ninth of the series and covers nuptiality and fertility. It presents an analysis of nuptiality and fertility data as collected at the 2000 Population Census and as obtained through the Vital Registration System.

Where necessary, figures have been rounded off to the nearest digit, and hence in some tables, there may be slight discrepancies between the sum of the constituent items and the total given.

It is hoped that the report will be useful to the public in general and to policy makers, planners and researchers in particular.

I would like here to thank all staff who contributed in one way or another in the preparation of this report. My special thanks go to the Principal Demographer and Demographer of the Ministry of Health and Quality of Life for their contribution.

H. Bundhoo
Director of Statistics

Central Statistics Office
Ministry of Finance and Economic Development
Port Louis
September 2005

Contact person: Mr Chettun Kumar ARIANAICK
Statistician – Functional Unit
Central Statistics Office
LIC Centre
John Kennedy Avenue
Port Louis
Tel: (230) 2080859
Fax: (230) 2114150
e-mail: carianaick@mail.gov.mu

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Chapter 1 – Nuptiality

1.1 Introduction

The family is the structural unit within which births usually occur. Thus any changes in the rate of family formation and dissolution play an important role, though indirect, in population growth. Therefore an analysis of marriage and divorce is essential together with the analysis of fertility proper in order to have a complete picture of fertility trends.

In the Mauritian society since the gross majority of births occur within marriage, a study of trends in marriage becomes even more important in order to better understand changes in fertility.

Demographers are really interested in the number of persons in stable marital unions irrespective of whether it is contracted civilly or religiously or is a free union since it is in a stable union that a woman is exposed to a greater risk of childbearing.

Marriage data is obtained from two sources, namely, the Civil Registration System and Census. Data from the civil registration system covers only civil marriages while census data covers all types of marriages namely civil, religious and free unions. Therefore analysis of data from census gives a more accurate picture of the marital conditions of the population.

1.2 Marital status

Before focusing on marriage data, it is useful to analyse the marital characteristics of the population. Table 1.1 gives the population distribution by marital status for the Republic of Mauritius, the Island of Mauritius and the Island of Rodrigues. The percentages have been standardised for age in order to make them more comparable. The age structure of a population changes over time and the comparison of unstandardised rates for two points in time might be misleading. The year 2000 age distributions have been used as standard.

Table 1.1 - Standardised percentage distribution of the population aged 15 years and over by sex and marital status, Republic of Mauritius, Island of Mauritius and Island of Rodrigues - 1990 and 2000

1. Republic of Mauritius

Sex and census year		Marital Status				
		Single	M.C.R	M. C.	Widowed	D.S
Male:	1990	34.6	59.4	2.0	2.0	1.7
	2000	35.5	58.3	2.2	1.8	2.0
Female:	1990	23.7	56.1	2.1	14.0	3.8
	2000	23.2	57.4	2.1	13.0	3.8

2. Island of Mauritius

Sex and census year		Marital Status				
		Single	M.C.R	M. C.	Widowed	D.S
Male:	1990	34.6	59.7	1.8	2.0	1.6
	2000	35.4	58.7	1.9	1.8	2.0
Female:	1990	23.7	56.4	1.9	14.1	3.8
	2000	23.1	57.8	1.9	13.1	3.8

3. Island of Rodrigues

Sex and census year		Marital Status				
		Single	M.C.R	M. C.	Widowed	D.S
Male:	1990	36.2	49.4	10.5	1.7	2.2
	2000	38.8	45.7	11.3	1.6	2.4
Female:	1990	29.5	47.9	10.2	8.5	3.9
	2000	32.1	44.5	11.0	8.5	3.9

M.C.R. = Married civilly and religiously

M.C. = Married consensually

D.S. = Divorced and separated

The table indicates that from 1990 to 2000, there is:

1. An increase in the proportion of single males possibly due to males getting married at an older age.
2. A decrease in the proportion of single females in the Republic and the Island of Mauritius while an increase was registered in the island of Rodrigues.
3. A slight increase in the proportion of persons in consensual unions.
4. A slight decrease in the proportion widowed may be due to an improvement in mortality.

A detailed breakdown of population by marital status and age group for years 1990 and 2000 is given in Table 1.2. The figures show that marriage starts quite early with around 50% females in the age group 20-24 already married. In the Republic of Mauritius, around 7% of females have remained unmarried by age 50-54 in 2000. In the Island of Rodrigues, the proportion of unmarried females aged 50-54 was around 3% in 1990 compared to around 2% in 2000. In the Republic of Mauritius, the proportion of single women aged 15-24 years has increased between 1990 and 2000, whilst the proportion single aged 25-44 has decreased.

Table 1.2 - Distribution (%) of female population by age group and marital status, Republic of Mauritius, Island of Mauritius and Island of Rodrigues - 1990 and 2000

(a) Republic of Mauritius

Age	Single ^{1/}		Married ^{2/}		Widowed		Divorced/Separated	
	1990	2000	1990	2000	1990	2000	1990	2000
15-19	88.7	90.2	11.0	9.6	0.0	0.0	0.3	0.2
20-24	48.7	50.1	49.5	48.1	0.2	0.2	1.6	1.6
25-29	23.9	19.4	72.6	77.1	0.6	0.6	2.9	3.0
30-34	14.2	9.9	79.8	84.6	1.6	1.4	4.4	4.1
35-39	11.2	8.3	79.3	83.8	3.7	2.9	5.8	5.0
40-44	8.5	8.1	76.3	80.1	8.5	5.9	6.7	6.0
45-49	5.5	8.4	74.1	73.6	14.1	11.4	6.2	6.6
50-54	3.9	7.4	68.3	66.0	22.2	20.1	5.6	6.5

(b) Island of Mauritius

Age	Single ^{1/}		Married ^{2/}		Widowed		Divorced/Separated	
	1990	2000	1990	2000	1990	2000	1990	2000
15-19	88.8	90.4	10.8	9.4	0.0	0.0	0.3	0.2
20-24	48.8	50.1	49.4	48.1	0.2	0.2	1.6	1.6
25-29	24.1	19.3	72.4	77.2	0.6	0.6	2.9	3.0
30-34	14.4	10.0	79.6	84.6	1.6	1.4	4.4	4.1
35-39	11.3	8.4	79.1	83.7	3.7	2.9	5.9	5.0
40-44	8.6	8.2	76.0	79.9	8.6	5.9	6.8	6.0
45-49	5.6	8.5	73.9	73.5	14.2	11.4	6.3	6.6
50-54	3.9	7.5	68.0	65.8	22.5	20.3	5.5	6.4

(c) Island of Rodrigues

Age	Single ^{1/}		Married ^{2/}		Widowed		Divorced/Separated	
	1990	2000	1990	2000	1990	2000	1990	2000
15-19	85.1	86.0	14.6	13.6	0.0	0.0	0.3	0.4
20-24	44.8	50.1	52.5	47.3	0.0	0.2	2.8	2.4
25-29	14.2	21.4	80.9	73.7	0.7	0.6	4.1	4.3
30-34	6.3	8.1	87.9	85.3	1.5	1.4	4.4	5.2
35-39	4.5	4.1	86.9	85.6	2.9	2.7	5.7	7.6
40-44	2.2	2.9	88.9	87.7	3.3	4.6	5.7	4.9
45-49	2.4	3.6	82.0	79.6	9.7	9.8	6.0	7.0
50-54	2.6	2.3	79.2	80.2	9.7	10.7	8.5	6.8

1/ Excludes unmarried mothers

2/ Includes religious, civil and consensual marriages

It is also observed that around 80% of Rodriguan women aged 50-54 years were married compared to around 70% for the Island of Mauritius. One of the reasons for the occurrence of higher proportion married in Rodrigues could be the lower mortality prevailing in the island. The mortality factor could also be one of the factors responsible for the lower proportion of widowed in the age group 50-54 among Rodriguan women.

1.3 Marriage

Since childbearing is associated with females and that most births occur within marriage, the analysis that follows will be mainly focused on married females.

At Census 2000, around 45% of females (266,853) were married either civilly, religiously or in a union while the corresponding proportion in 1990 was around 41% (215,243).

Among the 266,853 married females in 2000, only 215,167, that is, around 80% were in the childbearing age 15-49 years, roughly the same proportion as in 1990.

1.3.1 Trends in marriage

Marriage is universal and used to occur at a very young age in the past. According to the cultural practices, marriages are solemnized by religious rites but for civil purposes, the marriages are registered at the civil status office. There is a small proportion of 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.

Breakdown of married women by age and type of marriage, expressed as a percentage within each age group is given in Table 1.3.

Table 1.3 - Percentage of the married females by age in various types of marriages
 Republic of Mauritius, Island of Mauritius and Island of Rodrigues - 2000

(a) Republic of Mauritius

Age	Married civilly and religiously	Married religiously only	Married civilly only	Consensually married	All types of marriage
15-19	53.6	21.4	7.7	17.3	100.0
20-24	77.7	11.4	5.5	5.4	100.0
25-29	83.3	7.9	5.2	3.6	100.0
30-34	85.4	6.6	4.6	3.5	100.0
35-39	87.5	6.0	3.4	3.2	100.0
40-44	88.1	5.9	3.0	3.0	100.0
45-49	89.1	5.5	2.8	2.6	100.0
50-54	89.8	4.8	2.9	2.5	100.0

(b) Island of Mauritius

Age	Married civilly and religiously	Married religiously only	Married civilly only	Consensually married	All types of marriage
15-19	56.1	22.9	7.4	13.6	100.0
20-24	78.8	11.7	5.0	4.5	100.0
25-29	84.0	8.1	4.9	3.1	100.0
30-34	85.9	6.7	4.4	3.0	100.0
35-39	87.7	6.1	3.3	2.9	100.0
40-44	88.2	6.0	2.9	2.8	100.0
45-49	89.2	5.6	2.8	2.4	100.0
50-54	89.9	4.9	2.8	2.4	100.0

(c) Island of Rodrigues

Age	Married civilly and religiously	Married religiously only	Married civilly only	Consensually married	All types of marriage
15-19	16.8	0.3	11.8	71.1	100.0
20-24	44.7	0.5	20.4	34.4	100.0
25-29	57.5	0.4	18.0	24.1	100.0
30-34	63.4	0.7	12.8	23.0	100.0
35-39	76.8	0.2	8.3	14.7	100.0
40-44	82.1	0.2	6.3	11.4	100.0
45-49	83.2	0.4	5.9	10.5	100.0
50-54	87.6	0.7	3.6	8.2	100.0

Several salient features emerge from the data. These are:

1. Most married women are married both religiously and civilly and there is a higher predominance of civilly/religiously-married women among older women.
2. Among married women in the Republic of Mauritius, a significant proportion of girls were married religiously only especially at young ages 15-19 years. This proportion however decreases with age indicating that they eventually marry civilly over time.

3. The proportion of women in consensual union is quite high among married women in the young age groups. This feature is much more prominent in the island of Rodrigues.

Since there has been a fall in the proportion of single women as mentioned in section 1.2, it would be interesting to investigate its effect on age at marriage. The SMAM* (Singulate Mean age at Marriage) is the most appropriate indicator to be used for this purpose. In this calculation, it is assumed that all first marriages occur between the ages 15 to 50 years.

Table 1.4 - SMAM in years by sex, Republic of Mauritius, Island of Mauritius and Island of Rodrigues - 1990 and 2000

Census years	Republic of Mauritius		Island of Mauritius		Island of Rodrigues	
	Male	Female	Male	Female	Male	Female
1990	28.2	23.8	28.3	23.8	26.1	22.0
2000	28.5	22.5	28.6	22.5	27.4	22.6

The figures in Table 1.4 show that there has been an increase in age at marriage among men in the Republic from 28.2 in 1990 to 28.5 in 2000. Conversely, there has been a decrease from 23.8 to 22.5 years among women. This observation is in line with registered marriage statistics, which indicate a slight decline in age at first marriage in the late nineties. With regards to Rodrigues, there has been a general rise in age at marriage.

1.3.2 *Marriage dissolution*

Marriage dissolution is brought about either by the death of one partner or by divorce. It would be interesting to investigate the changes in the characteristics of the widowed and divorced over time.

Table 1.5 - Median age of the widowed by sex, Republic of Mauritius, Island of Mauritius and Island of Rodrigues - 1990 and 2000

Census years	Republic of Mauritius		Island of Mauritius		Island of Rodrigues	
	Male	Female	Male	Female	Male	Female
1990	68.5	64.0	68.5	63.9	70.0	66.6
2000	71.6	65.0	71.6	64.9	69.4	66.7

Table 1.5 gives the median age of widows and widowers. The figures show an increase in the median age for both sexes and even more so for males. In fact, the increase is 3.1 years for males against only 1.0 year for females of the Republic of Mauritius. This may be explained by the fact that improvement in the health status of the elderly (since we are dealing with a marital condition usually manifesting itself at older ages) has been faster among males than among females. In the case of

* For definition, see glossary at end of report

Rodrigues, since the differential mortality by sex at older age has not changed over the years, the median age has remained more or less stable.

Table 1.6 - Percentage of divorced/separated among the ever married population aged 15 years and over by sex, Republic of Mauritius, Island of Mauritius and Island of Rodrigues - 1990 and 2000

Census years	Republic of Mauritius		Island of Mauritius		Island of Rodrigues	
	Male	Female	Male	Female	Male	Female
1990	2.5	4.8	2.5	4.8	3.4	5.2
2000	3.2	4.9	3.1	4.9	3.9	5.2

Table 1.6 gives the percentage of divorced/separated by sex. The figures indicate that the proportion of divorced/separated persons is on the rise both in the Island of Mauritius and the Island of Rodrigues. The proportion is higher among women possibly because divorced/separated women are less likely to remarry. Also, the incidence of divorce/ separation is more in Rodrigues than in the Island of Mauritius.

1.3.3 The marriage market in Mauritius

The number of men and women of marriageable age in the population determines the marriage market. Since there is going to be one to one matching of prospective spouses, any imbalances in the relative numbers of partners may result in increased proportion of celibacy in the population. This may have profound psychological, sociological and economic impact on the population.

Table 1.7 - Sex ratios by marital status, Republic of Mauritius,
Island of Mauritius and Island of Rodrigues - 2000 Census

1. Republic of Mauritius

Age (years)	Total	Single 1/	Single 2/	Married 3/	Widowed	Divorced/ Separated
15-19	102.5	113.1		6.7	12.5	7.9
20-24	98.8	175.2	107.4	22.9	12.2	18.8
25-29	99.4	271.8	88.6	58.8	11.4	47.6
30-34	100.8	245.1	132.2	87.8	9.4	57.5
35-39	102.6	171.3	145.7	102.0	8.3	58.0
40-44	102.7	110.4	95.3	112.9	6.5	55.0
45-49	100.9	69.1	62.6	124.3	6.9	47.5
50-54	95.3	59.7	39.2	132.3	5.7	43.2
55-59	90.4	80.8	41.7	137.5	7.5	49.6
60-64	86.0	87.8	54.0	152.5	10.9	56.3
65-69	83.9	95.7	71.4	176.1	14.9	74.8
70-74	77.8	75.7	68.2	223.8	17.8	99.3
75+	59.0	45.8	82.9	290.8	21.3	87.3
All ages	98.1	121.2		98.3	13.3	51.9

2. Island of Mauritius

Age (years)	Total	Single 1/	Single 2/	Married 3/	Widowed	Divorced/ Separated
15-19	102.7	113.1		6.4	12.5	8.7
20-24	98.8	175.5	108.9	22.2	12.6	18.8
25-29	99.4	273.8	89.3	58.1	11.3	48.1
30-34	100.9	244.2	133.2	87.6	9.6	58.1
35-39	102.8	169.8	145.5	102.1	8.2	58.5
40-44	102.7	109.7	95.0	113.0	6.4	54.2
45-49	100.7	68.8	62.4	124.2	6.8	47.1
50-54	95.1	59.3	39.1	132.4	5.6	42.5
55-59	90.2	80.5	41.3	138.0	7.4	47.9
60-64	85.9	88.3	53.9	153.4	10.7	56.1
65-69	83.8	96.0	71.3	177.6	14.8	73.5
70-74	77.5	76.0	68.5	223.4	17.8	101.8
75+	59.0	45.8	83.4	295.0	21.2	85.8
All ages	98.1	121.4		98.2	13.2	51.7

3. Island of Rodrigues

Age (years)	Total	Single 1/	Single 2/	Married 3/	Widowed	Divorced/ Separated
15-19	97.1	113.4		11.8	0.0	0.0
20-24	99.6	167.8	72.9	46.3	0.0	20.0
25-29	97.6	206.4	65.8	85.6	12.5	35.8
30-34	98.5	295.6	100.7	97.0	0.0	35.6
35-39	95.2	313.3	154.9	98.8	13.3	44.0
40-44	101.8	200.0	124.4	110.3	8.9	95.8
45-49	108.8	108.0	96.4	129.7	13.2	71.4
50-54	104.9	123.1	64.0	125.3	16.7	78.9
55-59	98.2	107.1	115.4	123.3	15.7	117.2
60-64	90.0	61.5	57.1	129.2	19.7	60.0
65-69	86.8	83.3	76.9	139.5	19.2	105.3
70-74	90.0	63.6	58.3	239.0	20.1	41.7
75+	60.0	50.0	63.6	190.0	23.4	118.2
All ages	97.9	116.0		99.6	18.7	59.3

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

A simple way of studying the marriage market is to examine the relative number of males and females at the appropriate ages. This can probably be measured by the sex ratio at the various ages by marital status. Also since wives are usually 4-5 years younger than their husbands, it would be interesting to compute the sex ratio of single men of a particular age group to single women aged around 5 years younger.

Thus two indices of the marriage market have been computed and are shown in Table 1.7. These are:

- Single^{1/}: the ratio of single men in a particular age-group to single women in the same age group
- Single^{2/}: the ratio of single men in an age group to single women in the age group five years younger than them. This ratio has been calculated because it reflects the marriage market more realistically.

The figures in table 1.7 for the Republic show

1. A significant level of female celibacy for those born between 1975 and 1980.
2. A significant level of male celibacy for those born between 1960 and 1970.
3. A significant level of female celibacy for those born between 1955 and 1965
4. Fewer widowers than widows at all age groups possibly because men live less longer than women and also men are more likely to remarry.
5. A higher incidence of divorce/separation among females than among males possibly because men are more likely to remarry.

For the Island of Rodrigues the table shows

1. A significant level of female celibacy for those born between 1975 and 1985
2. A significant of male celibacy for those born between 1955 and 1965
3. Fewer widowers than widows at all age groups possibly because men live less longer than women and also men are more likely to remarry.
4. A higher incidence of divorce/separation among females than among males possibly because men are more likely to remarry.

Chapter 2 – Fertility

2.1 Introduction

Fertility is one of the main factors influencing population growth besides mortality and migration. Therefore an analysis of the past and present levels and patterns of fertility helps to better understand future trends in population growth. Analysis of the evolution of fertility pattern helps in detecting problem areas such as adolescent fertility in order to initiate prompt intervention programmes.

2.2 Changes in level of fertility over time

A crude measure of the level of fertility is the crude birth rate* (CBR). Table 2.1 shows a general fall in fertility over time for the Republic of Mauritius as well as for the islands of Mauritius and Rodrigues. The fall in fertility in the Island of Mauritius started around the early 60's. In the island of Rodrigues, the crude birth rate was around 40 in the early 50's but increased to around 50 in the early 60's after which it declined a little but remained above 40 until the early 80's. As from the early 80's fertility started declining to attain a minimum value of 19.8 in 1997. It then increased slightly to 23.4 in 2003.

Table 2.1 - Crude birth rate, Republic of Mauritius, Island of Mauritius and Island of Rodrigues -1951-2003

Year	Republic of Mauritius	Island of Mauritius	Island of Rodrigues	Year	Republic of Mauritius	Island of Mauritius	Island of Rodrigues
1951-1955	44.3	44.3	42.0	1986	18.6	18.3	26.3
1956-1960	40.9	40.7	46.9	1987	19.3	19.1	26.2
1961-1965	38.9	38.6	50.8	1988	20.1	19.9	25.9
1966-1970	30.6	30.2	46.1	1989	20.8	20.6	25.1
1971	26.1	25.5	44.8	1990	21.3	21.3	23.7
1972	25.3	24.8	42.1	1991	20.7	20.7	22.3
1973	23.0	22.4	44.5	1992	21.1	21.1	20.8
1974	27.3	26.8	44.8	1993	20.3	20.4	20.7
1975	25.3	24.8	43.4	1994	19.6	19.5	20.5
1976	25.8	25.3	43.9	1995	18.3	18.2	20.9
1977	26.0	25.5	42.5	1996	18.3	18.2	20.2
1978	27.1	26.7	42.3	1997	17.4	17.4	19.8
1979	27.5	27.2	42.4	1998	16.7	16.7	20.2
1980	27.2	26.6	44.0	1999	17.3	17.1	21.2
1981	25.5	24.9	42.9	2000	17.0	16.9	22.2
1982	22.6	22.1	38.4	2001	16.4	16.2	22.5
1983	21.0	20.6	34.7	2002	16.5	16.3	22.6
1984	20.1	19.6	30.7	2003	15.8	15.6	23.4
1985	19.0	18.8	28.5				

For a more detailed analysis of fertility trends it would be more appropriate to use some more refined measures of fertility such as the total fertility rate* (TFR),

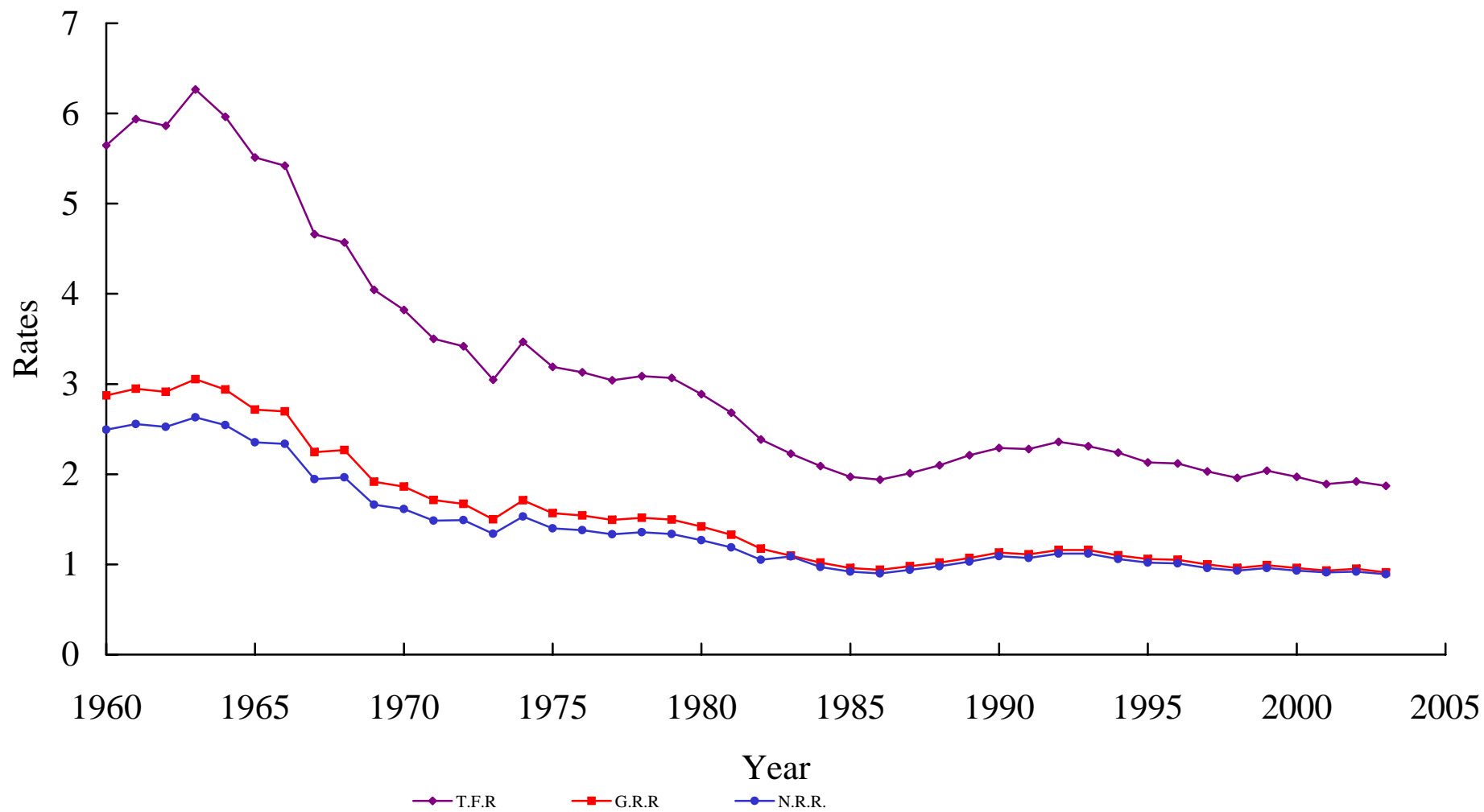
* For definition, see glossary at end of report

gross reproduction rate* (GRR) and the net reproduction rate* (NRR). These measures of fertility are less affected by the age pattern of the population than the crude birth rate. The time series is however available for the Island of Mauritius only and is shown in table 2.2.

Figure 2.1 which depicts the evolution of these indicators, shows that the first major decline in fertility occurred during the period 1963 to 1973 when the TFR fell from 6.3 to 3.0. This fall in fertility was attributable to various reasons which include the use of family planning methods, later age at marriage, as a result of better and longer education opportunities and increased employment opportunities for women. General socio-economic development including improvement in health and social services must have been instrumental in this decline.

* For definition, see glossary at end of report

Figure 2.1 - Selected fertility rates, Island of Mauritius, 1960-2003



The second major fall in fertility was registered during the period 1975 to 1986 when the TFR fell from 3.19 to 1.94 thus attaining below replacement level fertility. By the end of that period, the contraceptive prevalence rate among married women was around 75% showing the widespread use of family planning methods among married women, resulting in lower fertility.

Since 1986 fertility has increased to reach a peak value of 2.36 in 1992 and then has declined to a value of 1.87 in 2003. There is evidence that the fertility behaviour of people is influenced by changes in the economic prospects of the country. Thus the increase in fertility in the late eighties and early nineties could be associated with the flourishing of the economy at that time after a period of worldwide economic recession of the 80's. A plausible explanation would be that people could afford an additional child, being in a better economic situation.

Table 2.2 - Selected fertility rates, Island of Mauritius - 1960 - 2003

Year/period	T.F.R	G.R.R	N.R.R	Year/period	T.F.R	G.R.R	N.R.R
1960	5.65	2.87	2.49	1982	2.39	1.17	1.05
1961	5.94	2.95	2.56	1983	2.23	1.10	1.09
1962	5.86	2.91	2.53	1984	2.09	1.02	0.97
1963	6.27	3.05	2.63	1985	1.97	0.96	0.92
1964	5.96	2.94	2.55	1986	1.94	0.94	0.90
1965	5.51	2.72	2.35	1987	2.01	0.98	0.94
1966	5.42	2.70	2.34	1988	2.10	1.02	0.98
1967	4.66	2.24	1.95	1989	2.21	1.07	1.03
1968	4.57	2.27	1.97	1990	2.29	1.13	1.09
1969	4.04	1.92	1.66	1991	2.28	1.11	1.07
1970	3.82	1.86	1.61	1992	2.36	1.16	1.12
1971	3.50	1.71	1.49	1993	2.31	1.16	1.12
1972	3.42	1.67	1.49	1994	2.24	1.10	1.06
1973	3.05	1.50	1.34	1995	2.13	1.06	1.02
1974	3.47	1.71	1.53	1996	2.12	1.05	1.01
1975	3.19	1.57	1.40	1997	2.03	1.00	0.96
1976	3.13	1.54	1.38	1998	1.96	0.96	0.93
1977	3.04	1.49	1.33	1999	2.04	0.99	0.96
1978	3.09	1.52	1.36	2000	1.97	0.96	0.93
1979	3.07	1.50	1.34	2001	1.89	0.93	0.91
1980	2.89	1.42	1.27	2002	1.92	0.95	0.92
1981	2.68	1.33	1.19	2003	1.87	0.91	0.89

2.3 Age patterns of fertility

2.3.1 Republic of Mauritius

Fertility varies considerably with age. Table 2.3 gives the age pattern of fertility for the Republic of Mauritius. The figures show that there has been a significant fall in fertility at all ages, especially at the extreme ends of the age range. For instance at the early ages, falls of the order of 13.9% and 17.5% were registered for the age brackets 15-19 and 20-24 respectively. At the extreme ages, falls of the order of 28.9% and 66.7% were registered at the ages 40-44 and 45-49 respectively. It should however be noted that though the fall at the ages 40-49 was the highest, it had little contribution on the overall fertility decline because at these ages, relatively few women give birth.

As a result, the pattern of fertility has become more concentrated at the middle of the age range of childbearing. However, the mean age at childbearing has remained at around 27 years during the period 1990 to 2000. Table 2.4, gives the age specific fertility rate and general fertility rate by birth order for 1990 and 2000 for the Republic of Mauritius. In 2000, there was an average of 60.1 births occurring per 1,000 women and among them, 48.3 or around 80% were first or second order births. In 1990, the proportion of first or second order births was around 75%.

This is a clear indication that the proportions of first and second order births have increased in 2000 compared to 1990 while the proportions of higher order births have decreased. It can be concluded that in the Mauritian society a smaller proportion of women are giving birth to three or more children.

Table 2.3 - Fertility rates, Republic of Mauritius - 1990 and 2000

Age specific fertility rate	Percentage		
	1990	2000	change
15-19	45.2	38.9	-13.9
20-24	147.2	121.5	-17.5
25-29	138.1	120.4	-12.8
30-34	80.4	75.1	-6.6
35-39	39.1	34.2	-12.5
40-44	11.4	8.1	-28.9
45-49	1.8	0.6	-66.7
General fertility rate	77.4	60.1	-22.4
Total fertility rate	2.32	1.99	-14.2
Gross reproduction rate	1.14	0.97	-14.9
Net reproduction rate	1.10	0.94	-14.5
Mean age of fertility schedule	27.1	27.1	
Mean age of childbearing	26.7	26.9	

Table 2.4 - Age specific fertility rates ^{1/} by age of mother and live birth order, Republic of Mauritius, 1990 & 2000 ^{2/}

Year	Age of mother	Live birth order						Total
		First	Second	Third	Fourth	Fifth	Sixth & over	
1990	15 - 19	37.9	6.7	0.6*	0.0*	0.0*	0.0*	45.2
	20 - 24	87.9	47.6	9.6	1.8	0.3*	0.0*	147.2
	25 - 29	50.7	51.8	24.8	7.9	2.2	0.7	138.1
	30 - 34	15.6	26.3	21.3	10.1	4.2	2.9	80.4
	35 - 39	5.7	7.7	10.2	7.2	3.6	4.7	39.1
	40 - 44	1.6	1.8	2.3	1.3	1.6	2.8	11.4
	45 - 49	0.3*	0.0*	0.2*	0.4*	0.3*	0.6*	1.8
G.F.R	15 - 49	34.1	24.1	11.3	4.5	1.8	1.6	77.4
2000	15 - 19	33.0	5.5	0.4*	0.0*	0.0*	0.0*	38.9
	20 - 24	75.9	38.3	6.2	1.0	0.1*	0.0*	121.5
	25 - 29	43.2	54.7	17.4	4.2	0.7	0.2*	120.4
	30 - 34	15.7	31.1	18.9	6.2	1.9	1.3	75.1
	35 - 39	6.3	11.1	8.8	4.5	1.7	1.8	34.2
	40 - 44	1.3	2.0	1.8	1.5	0.7	0.8	8.1
	45 - 49	0.1*	0.1*	0.1*	0.1*	0.0*	0.2*	0.6*
G.F.R	15 - 49	27.0	21.3	7.9	2.5	0.8	0.6	60.1

^{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.

^{2/} excluding Agalega and St Brandon.

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

2.3.2 *Island of Mauritius*

Fertility rates for the Island of Mauritius are given in Tables 2.5 and 2.6. The patterns observed for the Island of Mauritius are more or less the same as for the Republic.

Table 2.5 - Fertility rates, Island of Mauritius - 1990 and 2000

Age specific fertility rate	1990	2000	Percentage change
15-19	44.1	37.7	-14.5
20-24	146.9	121.6	-17.2
25-29	137.7	119.6	-13.1
30-34	79.8	74.4	-6.8
35-39	38.4	33.4	-13.0
40-44	10.7	7.5	-29.9
45-49	1.4	0.6	-57.1
General fertility rate	76.7	59.4	-22.6
Total fertility rate	2.29	1.97	-14.0
Gross reproduction rate	1.13	0.96	-15.0
Net reproduction rate	1.09	0.93	-14.7
Mean age of fertility schedule	27.1	27.1	
Mean age of childbearing	26.7	26.9	

As for the Republic, there is a tendency for the concentration of childbearing towards the middle of the age range of childbearing from 1990 to 2000. Also, the proportions of first and second order births are higher in 2000 compared to 1990 indicating that smaller proportions of women are giving birth to three or more children.

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Table 2.6 - Age specific fertility rates by age of mother and live birth order, Island of Mauritius, 1990 & 2000

Year	Age of mother	Live birth order						Total
		First	Second	Third	Fourth	Fifth	Sixth & over	
1990	15 - 19	36.9	6.5	0.6*	0.0*	0.0*	0.0*	44.1
	20 - 24	88.0	47.5	9.3	1.7	0.3*	0.0*	146.9
	25 - 29	51.2	52.1	24.5	7.4	1.9	0.6	137.7
	30 - 34	15.7	26.6	21.3	10.0	3.3	2.5	79.8
	35 - 39	5.7	7.8	10.2	7.0	3.5	4.1	38.4
	40 - 44	1.5	1.8	2.3	1.2	1.5	2.3	10.7
	45 - 49	0.3*	0.0*	0.1*	0.4*	0.1*	0.4*	1.4
G.F.R	15 - 49	34.0	24.2	11.2	4.3	1.7	1.4	76.7
2000	15 - 19	32.0	5.2	0.5*	0.0*	0.0*	0.0*	37.7
	20 - 24	75.9	38.4	6.3	0.9	0.1*	0.0*	121.6
	25 - 29	43.4	54.3	17.0	4.0	0.7	0.2*	119.6
	30 - 34	15.8	31.3	18.5	5.9	1.8	1.1	74.4
	35 - 39	6.4	11.1	8.7	4.2	1.5	1.5	33.4
	40 - 44	1.3	2.0	1.7	1.4	0.6*	0.5*	7.5
	45 - 49	0.2*	0.1*	0.1*	0.1*	0.0*	0.1*	0.6*
G.F.R	15 - 49	26.8	21.3	7.7	2.4	0.7	0.5	59.4

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 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).

2.3.3 Island of Rodrigues

As in the Island of Mauritius, the fall in fertility in the Island of Rodrigues is concentrated at the extreme ages. For instance, falls of 13.8% and 20.6% were registered at the ages 15-19 and 20-24 respectively while falls of 40.2% and 57.0% were registered at the ages 40-44 and 45-49 respectively. This indicates that childbearing is becoming more concentrated in the middle of the childbearing age range. The mean age of childbearing has however remained at around 27 years in both 1990 and 2000.

Table 2.8 gives the age specific fertility rate and general fertility rate by birth order for 1990 and 2000 for the Island of Rodrigues. The table indicates that out of the average 82.6 births per 1,000 women of child-bearing age in 2000, 69.4 or around 84% were first, second or third order births. In 1990, the proportion of first, second or third order births was around 71%.

This is a clear indication that the proportion of first, second and third order births have increased in 2000 compared to 1990 while the proportions of higher order births have decreased. This indicates that high order births are becoming less popular but unexpectedly, birth of order three has gained importance over the years representing 15% of total births in 2000 compared to 14% in 1990.

Table 2.7 - Fertility rates, Island of Rodrigues -1990 and 2000

Age specific fertility rate	Percentage		
	1990	2000	change
15-19	75.2	64.8	-13.8
20-24	152.2	120.8	-20.6
25-29	150.3	141.2	-6.1
30-34	110.7	101.6	-8.2
35-39	94.5	66.7	-29.4
40-44	46.8	28.0	-40.2
45-49	8.6	3.7	-57.0
General fertility rate	101.0	82.6	-18.2
Total fertility rate	3.19	2.63	-17.6
Gross reproduction rate	1.56	1.29	-17.3
Net reproduction rate	1.48	1.25	-15.5
Mean age of fertility schedule	28.8	28.3	
Mean age of childbearing	26.5	26.8	

Table 2.8 - Age specific fertility rates ¹ by age of mother and live birth order, Island of Rodrigues, 1990 & 2000

Year	Age of mother	Live birth order						Total
		First	Second	Third	Fourth	Fifth	Sixth & over	
1990	15 - 19	62.3	11.4	1.5*	0.0*	0.0*	0.0*	75.2
	20 - 24	75.4	48.4	21.4	5.4*	1.5*	0.0*	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
	45 - 49	0.0*	0.0*	0.5*	0.9*	2.4*	4.8*	8.6
G.F.R	15 - 49	35.3	22.5	14.4	9.2	7.2	12.4	101.0
2000	15 - 19	55.0	9.1*	0.7*	0.0*	0.0*	0.0*	64.8
	20 - 24	76.5	34.8	7.8*	1.3*	0.4*	0.0*	120.8
	25 - 29	39.5	58.7	30.4	9.4*	2.5*	0.7*	141.2
	30 - 34	13.0*	27.4	32.7	18.3*	4.4*	5.8*	101.6
	35 - 39	4.4*	9.1*	13.5*	13.9*	12.3*	13.5*	66.7
	40 - 44	0.3*	1.7*	3.1*	4.4*	4.1*	14.4*	28.0*
	45 - 49	0.0*	0.0*	1.1*	0.0*	0.0*	2.7*	3.7*
G.F.R	15 - 49	35.2	21.9	12.3	6.1	2.9*	4.2	82.6

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 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).

2.4 Marital fertility

This section deals with fertility prevailing among married women. As expected, married women tend to have higher fertility since they are more exposed to the risk of childbearing. The total marital fertility rate* (TMFR) for the Republic was 4.80 compared to a total fertility rate of 1.99 in 2000. It is to be noted that TMFR is calculated for married women only. A 10% fall in TMFR was noted in the Republic from 5.35 in 1990 to 4.80 in 2000 and the same percentage fall was noted in the Island of Mauritius from 5.30 to 4.75. In the Island of Rodrigues, there has been a 7% fall, from 6.69 to 6.19.

Table 2.9 - Age specific marital fertility rates(ASMFR), Republic of Mauritius, Island of Mauritius and Island of Rodrigues - 1990 and 2000

(a) 1990

Island	Age							GMFR	TMFR
	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
	<i>ASMFR</i>								
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) 2000

Island	Age							GMFR	TMFR
	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
	<i>ASMFR</i>								
Republic of Mauritius	408.0	254.0	157.2	89.3	41.0	10.2	0.8	94.1	4.80
Island of Mauritius	402.7	253.6	155.5	88.3	40.0	9.4	0.8	92.6	4.75
Island of Rodrigues	486.8	265.8	222.2	133.3	83.7	40.7	5.4	151.4	6.19

When analyzing the age pattern of marital fertility, it is observed that fertility is highest at the youngest age and falls rapidly with age indicating that there is less fertility control at the very young age probably because they tend to have their first child very soon after marriage. Between 1990 and 2000, the highest fall in fertility has occurred in the age groups 20-24 years (15%) and 25-29 years (18%) in the Republic of Mauritius. The same observation is valid for the Island of Mauritius. For the Island of Rodrigues, however, a fall has been registered for the age group 15-19 (7%) and 20-24 (16%) while the age groups 25-29 and 30-34 have registered increases of 12% and 7% respectively. This is an indication that the older age groups have been catching up on fertility, may be, explaining to some extent the unexpected rise in third order births observed previously.

2.5 Parity distribution

A very important type of fertility data collected in censuses is the number of children ever born to ever-married women. From these data, the age specific parity, that is, the average number of children an ever-married woman of a specified age

* For definition, see glossary at end of report

group has at the time of census, can be calculated. An estimate can be obtained for the Republic or for any specified subpopulation such as a district, an occupational group etc. The peculiarity with parity data is that it gives the fertility performance of an actual age cohort as opposed to indicators such as the TFR derived from vital statistics that give the fertility performance of a synthetic cohort.

Table 2.10 - Parity distributions, Republic of Mauritius, Island of Mauritius and Island of Rodrigues - 1990 and 2000

Age group	Republic of Mauritius		Island of Mauritius		Island of Rodrigues	
	1990	2000	1990	2000	1990	2000
15-19	0.06	0.06	0.06	0.05	0.12	0.11
20-24	0.53	0.47	0.52	0.47	0.84	0.57
25-29	1.28	1.18	1.26	1.18	2.04	1.40
30-34	2.02	1.74	1.99	1.72	3.30	2.25
35-39	2.60	2.10	2.56	2.07	4.50	3.15
40-44	3.27	2.40	3.23	2.36	5.41	4.08
45-49	4.18	2.71	4.12	2.66	6.16	4.91
15-49	1.68	1.45	1.67	1.44	2.36	1.81

Table 2.10 gives the parity distributions for 1990 and 2000 for the Republic and the islands of Mauritius and Rodrigues. The figures indicate lower parity in 2000 than in 1990 when compared age for age. This is a clear indication of a general fertility decline in the population of Mauritius and Rodrigues. It is also observed that fertility in Rodrigues is higher than in Mauritius. The average parity for older women, that is, those aged 45-49 years gives an idea of the completed family size of that age cohort. For example, the average parity of ever-married women aged 45-49 years in 2000 was 2.71 implying that these women, born during the period 1950-55, have had on average 2.71 children during their lifetime. This figure when compared with the corresponding figure of 4.18 for 1990 gives an idea of the extent of fertility fall.

In Rodrigues, the terminal fertility for ever- married women aged 45-49 years in 2000 was 4.91 children compared to 6.16 in 1990.

The proportion of ever-married women still childless at the age 50-54 years gives an indication of the degree of childlessness among women. Census data show that in the Republic of Mauritius, around 4.2% of women aged 50-54 years were childless in 2000 compared to 3.3% in 1990. This could be an indication of an increase in childlessness among married women. In the Island of Mauritius, the situation is the same as for the Republic while in Rodrigues it has remained in the range of 2-3 %.

Table 2.11 - Mean number of children ever born to women aged 15-49 years by age and marital status, Republic of Mauritius, Island of Mauritius and Island of Rodrigues- 1990 and 2000

(a) Republic of Mauritius

Age	All women		Ever married women		Currently married women	
	1990	2000	1990	2000	1990	2000
15-19	0.06	0.06	0.57	0.56	0.59	0.58
20-24	0.53	0.47	1.03	0.94	1.08	0.99
25-29	1.28	1.18	1.68	1.46	1.77	1.54
30-34	2.02	1.74	2.35	1.93	2.54	2.06
35-39	2.60	2.10	2.93	2.29	3.29	2.52
40-44	3.27	2.40	3.58	2.61	4.30	3.02
45-49	4.18	2.71	4.42	2.95	5.65	3.69

(b) Island of Mauritius

Age	All women		Ever married women		Currently married women	
	1990	2000	1990	2000	1990	2000
15-19	0.06	0.05	0.55	0.55	0.57	0.57
20-24	0.52	0.47	1.02	0.94	1.06	0.98
25-29	1.26	1.18	1.66	1.46	1.74	1.53
30-34	1.99	1.72	2.32	1.91	2.50	2.04
35-39	2.56	2.07	2.89	2.26	3.24	2.48
40-44	3.23	2.36	3.53	2.57	4.25	2.97
45-49	4.12	2.66	4.36	2.91	5.57	3.64

(c) Island of Rodrigues

Age	All women		Ever married women		Currently married women	
	1990	2000	1990	2000	1990	2000
15-19	0.12	0.11	0.75	0.67	0.86	0.80
20-24	0.84	0.57	1.44	1.07	1.71	1.30
25-29	2.04	1.40	2.35	1.74	2.69	2.13
30-34	3.30	2.25	3.51	2.42	3.91	2.91
35-39	4.50	3.15	4.71	3.27	5.36	3.91
40-44	5.41	4.08	5.53	4.19	6.46	4.93
45-49	6.16	4.91	6.30	5.09	7.84	6.45

Table 2.11 gives the average parity for all women, ever married women and currently married women. As expected, parity for currently married women is the highest since these women are exposed to the risk of childbearing while a proportion of ever-married women who are widowed, divorced and separated are not. This is a clear indication that stable marital relationship tends to increase fertility. Also, at the beginning of the reproductive ages parity for “all women” is much lower than parity for ever-married and currently married women due to the fact that in those age groups a high proportion of women are still unmarried.

Table 2.12 - Mean number of children ever born, by age of women at marriage and duration of marriage, Republic of Mauritius, Island of Mauritius and Island of Rodrigues - 2000

(a) Republic of Mauritius

Age at marriage	Duration of marriage(yrs)					All durations
	<1	1-4	5-9	10-14	15+	
<15	0.23	0.99	1.76	2.49	5.52	5.06
15-19	0.17	0.89	1.72	2.31	3.88	2.97
20-24	0.18	0.81	1.60	2.11	3.08	2.25
25-29	0.18	0.84	1.57	1.98	2.74	2.00
30-34	0.25	0.86	1.41	1.72	2.46	1.68
35+	0.32	0.66	0.90	1.11	1.88	1.11
All ages	0.18	0.84	1.60	2.11	3.44	2.49

(b) Island of Mauritius

Age at marriage	Duration of marriage(yrs)					All durations
	<1	1-4	5-9	10-14	15+	
<15	0.33	1.03	1.81	2.45	5.54	5.13
15-19	0.17	0.89	1.72	2.30	3.84	2.95
20-24	0.18	0.81	1.60	2.11	3.02	2.22
25-29	0.18	0.84	1.57	1.98	2.70	1.98
30-34	0.24	0.86	1.41	1.72	2.43	1.67
35+	0.32	0.66	0.89	1.11	1.86	1.10
All ages	0.18	0.84	1.60	2.11	3.39	2.46

(c) Island of Rodrigues

Age at marriage	Duration of marriage(yrs)					All durations
	<1	1-4	5-9	10-14	15+	
<15	0.00	0.75	1.52	3.00	4.60	2.79
15-19	0.18	0.88	1.70	2.55	5.26	3.70
20-24	0.20	0.88	1.58	2.36	5.17	3.51
25-29	0.17	0.86	1.74	2.38	4.99	3.18
30-34	0.50	0.94	1.56	1.82	4.10	2.59
35+	0.33	0.67	2.60	1.11	2.74	2.00
All ages	0.19	0.87	1.66	2.43	5.15	3.51

In Table 2.12 parity has been cross tabulated by age at marriage and duration of marriage. As expected, the figures indicate that as the duration of marriage increases, the mean number of children ever born also increases. Another piece of information that comes out is that age at marriage is an important determinant of fertility, as women marrying early tend to have more children over time.

Also women marrying late tend to have their first child soon after marriage compared those marrying at an early age.

2.6 Parity increment between 1990 and 2000

In this section comparison is being made between the mean number of child ever born to ever married women of a particular age group as at census 1990 and the mean number of children ever born to women aged ten years older as at census 2000. The fertility performance of the same cohort of women is thus being compared at two points in time ten years apart. The change in fertility of a particular age group of

women during the 1990-2000 inter-censal period gives the parity increment during that period.

Table 2.13 gives the parity increment of women between 1990 and 2000. The pertinent information that comes out of the table is the additional number of children born during the intercensal period, which is given by age of mother as at census 1990. As expected there is a general fall in parity increment with increasing age, that is, older women tend to have less additional children compared to younger ones'. The only exception is for age 20-24 which registered the highest increment probably due to the highest fertility prevailing at that age.

Table 2.13 - Parity increment between 1990 and 2000
Republic of Mauritius, Island of Mauritius and Island of Rodrigues

(a) Republic of Mauritius

Age group in 1990	Mean parity in 1990	Mean parity in 2000	Parity increment 1990-2000
15-19	0.06	1.18	1.12
20-24	0.53	1.74	1.21
25-29	1.28	2.10	0.82
30-34	2.02	2.40	0.38
35-39	2.60	2.71	0.11
40-44	3.27	3.24	-0.03
45-49	4.18	4.09	-0.09
15-49	1.68	2.28	0.60

(b) Island of Mauritius

Age group in 1990	Mean parity in 1990	Mean parity in 2000	Parity increment 1990-2000
15-19	0.06	1.18	1.12
20-24	0.52	1.72	1.20
25-29	1.26	2.07	0.81
30-34	1.99	2.36	0.37
35-39	2.56	2.66	0.10
40-44	3.23	3.19	-0.04
45-49	4.12	4.02	-0.10
15-49	1.67	2.25	0.58

(c) Island of Rodrigues

Age group in 1990	Mean parity in 1990	Mean parity in 2000	Parity increment 1990-2000
15-19	0.12	1.40	1.28
20-24	0.84	2.25	1.41
25-29	2.04	3.15	1.11
30-34	3.30	4.08	0.78
35-39	4.50	4.91	0.41
40-44	5.41	5.56	0.15
45-49	6.16	6.22	0.06
15-49	2.36	3.45	1.09

Also, figures for the oldest age are negative probably due to old women forgetting to report all children born to them as a result of memory lapse. It is also observed that parity increment for Rodrigues is higher than for Mauritius at all ages thus indicating higher fertility prevailing in Rodrigues.

2.7 Stable parameters

Stable parameters are usually associated with a stable population. A stable population is one in which the age specific birth and death rates have remained constant for a long period of time resulting in a fixed age structure of the population and a constant population growth rate. The resulting parameters of the population such as birth rates, death rates are called intrinsic parameters.

Due to changing levels of fertility over time, the population age structure of Mauritius tends to bulge at certain ages and shrink at other ages. These have an impact on current estimates of population growth and vital rates. It would be interesting to estimate intrinsic population parameters of the population whereby the current birth and death rates are assumed to remain constant over time and that the age structure has stabilized into a constant one.

Table 2.14 - Stable population parameters, Republic of Mauritius, Island of Mauritius and Island of Rodrigues - 1990 and 2000

(a) Year 1990

Stable parameters	Republic of Mauritius	Island of Mauritius	Island of Rodrigues
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

(b) Year 2000

Stable parameters	Republic of Mauritius	Island of Mauritius	Island of Rodrigues
Intrinsic growth rate (%)	-0.20	-0.24	0.80
Intrinsic birth rate (/1000)	12.9	12.7	18.4
Intrinsic death rate (/1000)	14.9	15.1	10.4
Mean length of generation (yrs)	27.1	27.1	28.2

The table 2.14 above gives the intrinsic parameters for 1990 and 2000 for the Republic and the Islands of Mauritius and Rodrigues. It is observed that the intrinsic growth rate of the population has declined from 0.36 for the Republic in 1990 to -0.20 in 2000. This is mainly due to a fall in fertility observed during the recent years. In fact, we are currently experiencing below replacement level fertility (TFR= 1.99 in 2000). Our current population growth rate is still around one due to past levels of high fertility that have generated a momentum of growth in the population. In the Island of Rodrigues the intrinsic growth rate has decreased due to fall in fertility during the intercensal period.

The intrinsic birth rates have decreased during the intercensal period due the fall in fertility registered. In 2000, the intrinsic death rate was higher than the intrinsic birth rate resulting in a negative population growth rate for the Republic and the Island of Mauritius. The intrinsic growth rate for the Island of Rodrigues was still positive though it has regressed over the years.

The mean length of generation, defined as the mean age of mothers at the birth of their daughters, has remained more or less constant at around 27 for the Republic as well as for the Island of Mauritius. For the Island of Rodrigues there has been a slight fall in mean length of generation from 28.4 in 1990 to 28.2 in 2000.

2.8 Fertility differentials

2.8.1 Introduction

The number of children born to a woman is influenced by various social and economic factors. In order to measure these influences, the parity of women in the different socio-economic groups is compared. In order to take care of the varying age structures in these groups, the average parities have been standardized for age in order to make them more comparable.

The data available allows comparisons of differentials due to the following variables: geographic and rural-urban residence, education, economic activity and occupation of women.

2.8.2 Geographic characteristics

Table 2.15 gives the standardized mean parity by district and by island for 1990 and 2000 using the age distribution for females for the Republic as standard. The figures of 2000 indicate that the highest parity has been prevailing in the district of Flacq (1.59), followed by Black River (1.56) while the lowest parity was prevailing in Plaines Wilhems (1.28). It is also to be noted that islandwise, Rodrigues has the highest parity (2.22).

Table 2.15 - Mean parity and standardised mean parity by district,
Republic of Mauritius - 1990 and 2000

District/Region	Mean Parity 2000	Standardised mean parity	
		1990	2000
Port Louis	1.48	1.73	1.47
Pamplemousses	1.48	2.02	1.50
Rivière du Rempart	1.47	2.01	1.48
Flacq	1.56	2.14	1.59
Grand Port	1.52	2.03	1.53
Savanne	1.46	1.93	1.45
Plaines Wilhems	1.32	1.60	1.28
Moka	1.45	1.91	1.45
Black River	1.54	2.16	1.56
Island of Mauritius	1.44	1.85	1.43
Island of Rodrigues	1.81	3.03	2.22
Republic of Mauritius	1.45	1.88	1.45

As regards the changes in parity between the two census years, the lowest fall in parity was registered in the district of Port Louis by around 15% while the fall in the other districts was around 25%.

Table 2.16 - Standardised mean parity by rural/urban region,
Republic of Mauritius - 1990 and 2000

Region	Republic of Mauritius	
	1990	2000
Urban	1.65	1.33
Rural	2.04	1.52

Table 2.16 shows that differences in parity due to rural/urban residence still exist. Women living in rural areas tend to have higher parity, that is, 1.52 in 2000 compared to their counterparts living in urban areas (1.33). However, the fall in parity between 1990 and 2000 has been higher in the rural areas (25%) compared to the urban areas (20%) resulting in a narrowing of the gap between rural and urban fertility over time.

2.8.3 Educational characteristics

Table 2.17 gives the mean parity by educational attainment for 1990 and 2000, for the Republic and the islands of Mauritius and Rodrigues. The figures clearly show that women with higher educational attainment tend to have fewer children. For instance in 2000 women with primary education or less in the Republic had a parity of 1.62 compared to 1.31 for those with secondary education and 0.88 for those with tertiary education. Similar trends are observed for Rodrigues.

Table 2.17 - Standardised mean parity by level of education, Republic of Mauritius, Island of Mauritius and Island of Rodrigues - 1990 and 2000

Island/Region	Level of Education			
	Preprimary & no education	Primary	Secondary	Tertiary
	<u>1990 Census</u>			
Republic of Mauritius	2.30	2.02	1.41	0.98
Island of Mauritius	2.25	1.99	1.41	0.98
Island of Rodrigues	3.58	3.01	1.97	n.a
	<u>2000 Census</u>			
Republic of Mauritius	1.62	1.62	1.31	0.88
Island of Mauritius	1.56	1.59	1.31	0.88
Island of Rodrigues	2.71	2.30	1.57	n.a

n.a = not available due small number of events in these cells

Such results are expected since higher level of education increases women's prospects for career and they tend to postpone marriage. Also career minded women tend to have less time to look after children.

2.8.4 Economic characteristics

The type of economic activity of a woman also has an impact on her fertility. In 2000 the economically inactive women in the Republic of Mauritius had the highest parity (1.70), followed by unemployed women (1.38) while employed women have the lowest parity (1.28). The figures for the Island of Mauritius and the Island of Rodrigues show similar tendency as for the Republic.

Table 2.18 - Standardised mean parity of mother by type of economic activity, Republic of Mauritius, Island of Mauritius and Island of Rodrigues - 1990 and 2000

Island/Region	Type of activity		
	Employed	Unemployed	Housewife
	<u>1990 Census</u>		
Republic of Mauritius	1.66	1.56	2.10
Island of Mauritius	1.63	1.51	2.08
Island of Rodrigues	2.95	2.84	3.13
	<u>2000 Census</u>		
Republic of Mauritius	1.28	1.38	1.70
Island of Mauritius	1.27	1.32	1.68
Island of Rodrigues	2.11	2.16	2.39

Figures for the 1990 census show similar pattern as in 2000 except that unemployed women had a lower fertility than the employed.

Among the employed, the type of employment also has an impact on the level of fertility. For instance, as Table 2.19 shows, women employed in elementary occupations had the highest mean parity (1.90) in 2000, followed by women in employment category C (1.43). As expected, women in the professional group had the

lowest parity (1.22) being more career minded and having less time for child bearing and childcare. The figures for Rodrigues also show similar tendency.

Table 2.19 - Standardised mean parity of mother by occupational group, Republic of Mauritius, Island of Mauritius and Island of Rodrigues - 1990 and 2000

Island/Region	Occupational group			
	A	B	C	D
1990				
Republic of Mauritius	1.43	1.40	1.83	2.41
Island of Mauritius	1.39	1.39	1.76	2.39
Island of Rodrigues	2.76	2.41	3.81	3.38
2000				
Republic of Mauritius	1.22	1.33	1.43	1.90
Island of Mauritius	1.21	1.32	1.40	1.89
Island of Rodrigues	1.72	1.93	2.80	2.66

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

The figures for 1990 also show similar trend except that women in group B had the lowest fertility.

2.9 Future scenarios and implications

The latest fertility estimates for the Republic and the Island of Mauritius indicate a continued decline in fertility bringing the TFR still below replacement level. Though the decline has been erratic during the past few years, there is however an indication of a reduction in the rate of decline over time, resulting in a more stable TFR. If this level of fertility is maintained or if fertility increases but remains below replacement for a very long time, for example for the next half of a century, it is expected that the population growth rate will fall from its actual level of 0.9% towards zero population growth and may even attain negative growth.

Table 2.20 - Total fertility rate (TFR), Republic of Mauritius, Island of Mauritius and Island of Rodrigues - 2000-2003

Year	Republic of Mauritius	Island of Mauritius	Island of Rodrigues
2000	1.99	1.97	2.63
2001	1.91	1.89	2.66
2002	1.94	1.92	2.67
2003	1.89	1.87	2.70

Using this projected fertility trend, it is expected that population under 15 years of age will dwindle to 90% of its actual number in 40 years. The population 15-64 years will continue to increase quite rapidly during the next 20 years after which it will stabilize. The elderly population will however more than treble in the next forty years. Implications of such changes will need to be addressed by appropriate educational, labour and pension policies.

In Rodrigues, it is observed that fertility has been declining continuously to reach a minimum of 2.38 in 1997 and then catching up again to attain 2.70 in 2003. Assuming that this tendency is reversed through appropriate action by the relevant authorities, still it will take quite a long time for fertility to attain replacement level fertility. It is therefore expected that natural growth will remain quite high in Rodrigues in the years to come. The population growth, actually of the order of 0.5% due to high out migration will increase over time. This will be due to the population being quite young, and the children will soon be shifting into the age of procreation and will bear more children.

The population of Rodrigues aged under 15 years will initially fall by around 6% and then catch up again to attain the initial level in 40 years. The population aged 15-64 years will initially grow quite fast, roughly by around 2,000 persons every 5 years for the next 20 years and then by around 1,000 persons every 5 years. As in Mauritius, the elderly population of Rodrigues will more than treble in the next 40 years.

Chapter 3 - Family Planning and Fertility Management

3.1 Achievements in family planning

In the late 1950s and early 1960s, there was considerable concern about the population growth in Mauritius as it was projected that the population would increase from about 700,000 in 1962 to 2.7 million by year 2000. But, instead, the population of Mauritius stood at about 1.2 million in 2000, and the reproductive health indicators have improved markedly due to a strong family planning programme. Moreover, the family planning programme has shifted its focus from achieving demographic targets to improving the reproductive health of the population.

The total fertility rate dropped sharply from about six children per woman in the 1960's to about three in the 1970's and to about two in 2000, which is in line with the policy of the Government of Mauritius: to maintain replacement-level fertility (2.1 births per woman). Increase in age at marriage and in use of family planning services are two factors that contributed to this rapid decrease in fertility, especially in the late 1960's and early 1970's. Moreover, this sharp decline in fertility took place in the absence of massive economic development and was coincident with the concerted effort of the Government and the two Non-Governmental Organisations, namely, Mauritius Family Planning Association (MFPA) and Action Familiale to provide family planning services.

With the integration of the family planning services within the government maternal/child health care services since 1972, women have free and easy access to a wide range of short-term and long-term contraceptive methods through a network of government health service points.

The Contraceptive Prevalence Survey (CPS), which is an important tool for identifying the strengths and weaknesses of the overall family planning programme, reveals that the contraceptive prevalence rate among currently married women aged 15-44 years has increased from 74.7 % in 1991 to 78.5 % in 2002.

3.2 Trends in Family Planning

The results of the 2002 CPS reveal that the public sector is the major source of contraception in Mauritius. Overall, 58.1% of women in the reproductive age group 15-49 obtain their supplies/services from a government health facility, 24.2% from the private sector, 10.3% from Action Familiale and 7.4% from MFPA.

However, the proportion of currently married women in the age group 15-44 years who are obtaining their supplies from government health facilities has declined from 68.0% in 1991 to 58.3% in 2002, whilst, the proportion of currently married women in the age group 15-44 years who are obtaining their supplies from the private sector has increased from 9.3% in 1991 to 24.2% in 2002.

The results of the CPSs reveal that, overall, 34.5 % of women ever-in union aged 15-44 years had an unmet need for more effective family planning methods in

2002, compared with 20.4 % in 1991. Hence, paradoxically, despite an overall increase in the contraceptive prevalence rate, an increasingly proportion of contraceptive users are opting for traditional methods (such as calendar method and withdrawal method) rather than modern methods.

An indication of the degree to which couples are successfully controlling their fertility is also revealed in the CPS: the proportion of unplanned pregnancies among currently married women aged 15-44 years has increased from 20.3 % in 1991 to 21.7 % in 2002. Hence, the family planning programme should not only promote increase in use of contraceptive methods, but should also promote use of effective contraceptive methods so that women can be more successful in achieving their fertility goals.

To avert births, it is plausible that some women are relying on induced abortion. There is a dearth of information on induced abortion in Mauritius, since it is an illegal practice. In 2000, government hospitals registered 2,308 post-abortion complication cases, compared with 1,256 in 1990. However, these hospital records do not differentiate between induced and spontaneous abortions. Based on a survey, which was carried out in 1996 by the Mauritius Institute of Health, on the reported post-abortion complication cases in government hospitals, it was estimated that about 43 % of the post-abortion complication cases were induced.

The other available information on induced abortion is from the 2002 CPS: overall, 3.4 % of women in the reproductive age group reported having had at least one induced abortion. Like many other similar surveys around the world, especially where induced abortion is prohibited, the survey is liable to underreporting of induced abortion.

Moreover, many health experts believe that the number of complication cases due to induced abortion has declined since a large proportion of women are opting for a non-invasive, non-surgical way to terminate a pregnancy: they take a specified combination of pills in order to induce an abortion and prevent the likelihood of an infection.

3.3 Other Inter-Connected Issues

Family planning is a basic human right. Family planning helps save women's and children's lives and preserves their health by preventing unplanned and unwanted pregnancies. Worldwide, a significant proportion of young women do not have access to family planning and have unplanned pregnancies. Early pregnancy not only poses numerous health risks for adolescent women but also brings many social and economic consequences. For instance, a majority of pregnant adolescents become school dropouts and hence, forgo their own empowerment.

In Mauritius, most young women who begin childbearing during adolescence (15-19 years) are married. The 2002 CPS reveals that 10.9 % of adolescents aged 15-19 years are mothers or pregnant with their first child. Moreover, adolescents with lower level of education tend to start childbearing earlier.

Despite a decline of adolescent fertility in Mauritius, from 44.10 in 1990 to 37.7 per 1,000 live births in 2000, the rate is relatively high in comparison with industrialised countries. Surprisingly, the service statistics show that only 4 % of adolescents are current users at the government clinics in 2000. Since adolescents are at a greater risk of having unintended pregnancies and sexually transmitted infections including HIV/AIDS, more needs to be done to address the special reproductive health needs of adolescents.

Adolescents should be encouraged to join in the family planning programme as early family formation poses a threat to the lives of young mothers and their infants. At the moment, youth-friendly services have not been fully integrated in the family planning programme. Two youth-friendly services have already been setup, but there is a need for more youth-friendly services to be setup to enable adolescents to embrace a healthy lifestyle.

There is the assumption that family planning plays a vital role in the reduction of infant mortality. In Mauritius, the infant mortality rate has declined from 63.8 per 1,000 live births in 1972 to 25.6 in 1983 and to 19.9 in 1990. In 2000, the infant mortality rate was 15.8, which is relatively high in comparison to more developed regions where it is about 8. There is a need to reach the women in the reproductive age through aggressive campaign as short birth interval, young or old maternal age and high birth order are indicators of an elevated mortality risk for infants and children.

Notable efforts are being made to further reduce the infant mortality rate; but, it may not be possible to achieve a rate comparable to that of Europe, as the law in Mauritius does not allow a woman to have recourse to abortion in case of foetal malformation. Besides, the detection of embryonic and foetal abnormalities in early pregnancy is not readily available to the public.

3.4 Challenges

At the dawn of this new millennium, there are new emerging challenges. Despite a relatively high contraceptive prevalence rate in Mauritius, a shift in method mix is noted among women as they tend to favour the use of traditional methods over modern methods. It is imperative to revitalize the family planning programme in order to target women who are in need of more effective family planning methods, especially those at the extreme ends of the reproductive age spectrum. It is also imperative to tap the pool of non-users of contraceptives who are capable of conceiving, in order to reduce unplanned and unwanted pregnancies. In order to serve the adolescents better, there is a need to strengthen the information, education and communication activities. The family planning programme has so far been extremely successful; however, more efforts have to be done to ensure its continued success. The programme needs to be strengthened and expanded especially to the under-served groups including adolescents.

Glossary

SMAM	The SMAM measures the mean age at first marriage for those who ever marry
Crude birth rate	The number of live births registered in a year per 1,000 mid-year population
Total fertility rate	The average number of children born to an average woman assuming that she survives to the end of her child-bearing age and is subjected to a fixed schedule of age-specific fertility rates
Gross reproduction rate	The average number of daughters born to an average woman assuming that she survives to the end of her child-bearing age and is subjected to a fixed schedule of age-specific fertility rates
Net reproduction rate	The extent to which an average woman will replace herself assuming a fixed schedule of age-specific mortality and fertility rates to prevail through her reproductive span of life
Total marital fertility rate	The average number of children born to an average married woman assuming that she survives to the end of child-bearing age and is subjected to a fixed schedule of age-specific marital fertility rate