



FERTILITY AND NUPTIALITY

Thematic Report based on Census of Population and Housing 2012



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ACRONYMS

American Montessori Institute	AMI
American Montessori Society	AMS
Computer Applications Assistant	CAA
Early Childhood Care and Development	ECCD
Early Childhood Care Education	ECCE
Early Childhood Development Standards	ECDS
General Certificate in Education (Ordinary Level)	G.C.E.(O/L)
General Certificate in Education (Advanced Level)	G.C.E.(A/L)
Information Communication Technology	ICT
International Montessori Society	IMS
International Non-governmental Organization	INGO
Non-governmental organization	NGO
Plantation Human Development Trust	PHDT
United Nations Development Programme	UNDP
United Nations Educational, Scientific and Cultural Organization	UNESCO
United Nations Population Fund	UNFPA

MESSAGE FROM THE DIRECTOR GENERAL - DEPARTMENT OF CENSUS AND STATISTICS

DR. A. J. SATHARASINGHE



The Department of Census and Statistics (DCS), under the Ministry of National Policies and Economic Affairs, is the Central Government agency that collects, compiles and disseminates relevant, reliable and up-to-date statistical information required to plan and monitor progress of development and other socio-economic activities in the country. The DCS is entrusted with the duty of conducting all national censuses and surveys, and the facilitation of generating official statistics from administrative records. The Census of Population and Housing is one of the major censuses conducted decennially by the Department.

The DCS takes various steps to disseminate key findings of its censuses and surveys. This thematic publication is one such effort to disseminate findings of the Census on Population and Housing 2012, which was a landmark event, as it covered the entire country after 30 years. The report is the result of a collaboration between the DCS, UNFPA and the expertise of an external consultant.

This report is a comprehensive assessment of the levels and trends in fertility and nuptiality in Sri Lanka. It explores the factors that influence the changes in these trends, and the policy implications of such trends. The report further deals with specific issues pertaining to fertility and nuptiality such as teen fertility, and makes comprehensive recommendations for family and health policies.

I hope that this report will be used as a reference guide and tool by policy makers and decision makers involved in development planning and population analysis.

Dr. A. J. Satharasinghe

Director General

Department of Census and Statistics

MESSAGE FROM UNFPA REPRESENTATIVE IN SRI LANKA

MR. ALAIN SIBENALER



We at the United Nations Population Fund, UNFPA Sri Lanka, are pleased to have supported the Department of Census and Statistics in developing a series of comprehensive reports that have strived to make important analyses and policy recommendations on crucial aspects of Sri Lanka's population dynamics.

A new demographic trend has emerged in Sri Lanka; there is increasing fertility from below to well above the replacement level. However, it is important to note that the already increased fertility will result in various implications of the Sri Lankan population in coming years. Data from the Population and Housing Census 2012 suggests the marriage and fertility transition observed in Sri Lanka during recent years is significantly different compared to other countries in Asia, where the average age at marriage of both males and females has declined and fertility has increased. While Sri Lanka saw high levels of fertility in the late 20th century, the total fertility rate has declined since, and continues to decline.

The analyses in this report are based on the latest available information from the Population and Housing Census 2012, surveys, research, and administrative records. But as we go beyond data, we believe that it was

important, to show how the data brings emerging issues to the forefront of the nation's development agenda. We hope that the evidence-based policy directions outlined in this publication will serve as a reference guide for policy makers and planners for many years to come.

In this regard, policy makers and decision makers at all levels should incorporate population variables into development planning and necessary steps need to be taken in order to develop a suitable population and reproductive health policy for Sri Lanka for the next 20 to 25 years.

As Representative of UNFPA in Sri Lanka, I am proud to be part of Sri Lanka's journey as a newly emerging middle income country. We stand ready to provide continued assistance and commitment to the Government of Sri Lanka and all key stakeholders to link data to national development planning and budgeting.

Mr. Alain Sibenaler

UNFPA Representative in Sri Lanka

EXECUTIVE SUMMARY

KEY FINDINGS: NUPTIALITY

Seventy five percent (15.3 million) of the total population of 20.4 million enumerated in the 2012 Population and Housing Census of Sri Lanka, falls into the age category of 15 years and above. Between 1981 and 2012, the number of females aged 15 years and above, has increased from 4.7 to 8.0 million, while the corresponding increase among males was from 4.9 to 7.3 million. The increase in percentage points is significantly higher among females (70%) compared to their male (49%) counterparts.

In 2012, 30% of males and 22% of females of 15 years and above declared they were never married. Between 1981 and 2012, the proportion of never married declined significantly for males from 43% to 30% and for female from 32% to 22%. In contrast, the currently married proportion increased significantly over the same period for males from 55% to 68% and for females from 59% to 68%. In 2012, of those males and females who were currently married, around 4% were identified to be customary married and the proportion declined significantly over the past few decades.

In 2012, a significantly a higher proportion of females (9%) were widowed than males (1.3%). Among males and females about 1% fall into the divorce/separated category. Although marriage dissolution takes place with a rapidly increasing rate in Sri Lanka, the census enumeration usually does not capture the divorce/separated cases primarily due to remarriage. In fact, between 1946 and 2012, the divorce-marriage ratio in Sri Lanka has increased from 4.8 to 17.9 divorce persons per 1,000 married persons.

The proportion of female widowers that was 8% in 1981 increased to 9% by 2012. The incidence of females becoming widowers has been primarily due to the increase of female life expectancy compared to their male counterparts.

In each age group of the reproductive period (i.e. between 15-49 years of age), generally the proportion of never married is higher among males than females. The never

married proportion in the 15-19 age group in 2012 is 98% for males, while the corresponding figure for females is almost ten points lower than males. At the end of reproductive age (45-49 years) 6% and 5% of males and females are never married respectively.

No significant difference exists among never married proportions of the male population of 15-19 years by their sectors of residence. However the corresponding proportions vary among females of the same age group. Urban sector females reported the highest.

Sixty eight percent of urban females of 20-24 age group is never married, while the corresponding figure for estate sector is 47% only. At the end of the reproductive period (45-49 years), a higher proportion of urban males and females are found to be never married compared to their rural and estate counterparts.

Mean age at marriage

The postponement of marriage was a significant factor in Sri Lanka during the 20th Century. The mean age at marriage (SMAM) of female increased from 18.3 years in 1901 to 25.5 years in 1993. The mean age at marriage of males was around 24.6 years in 1901 which increased to 28.3 years in 1994. Since the increase in the age at marriage of males has been less rapid, the sex difference has dropped significantly during the past few years.

Females marrying on average at age 25.5 years observed in 1993 were the highest ever value recorded in Sri Lankan history. However, since then age at entry to the marriage of both males and females demonstrated a significant decline. Between 1993 and 2012, the mean age at marriage of females has declined from 25.5 to 23.4 years, while the figure for males has dropped from 28.3 to 27.2 years over the period 1994 and 2012.

The female mean age at marriage of 23.4 years in 2012 is nearly identical to the figure reported for 1971. Among the males too, the 2012 figure (27.2 years) is fairly matched with the figure reported in 1953.

A substantial decline in the mean age at marriage of males and females in Sri Lanka has hardly been observed in any of the other Asian country. However, among the South Asian countries, Sri Lanka still reports the highest age at marriage of both males and females. Yet the Sri Lankan females marry on average by 23.4 years, while the corresponding figure from Japan is 29.7 years.

Mean age at marriage: socio-economic differentials

Of the three sectors, in 2012 urban males (28.1 years) report the highest mean age at marriage, while the lowest figure is reported by the estate males. The same pattern of female mean age at marriage can be observed from the 2012 data too. The lowest gender difference in the mean age at marriage is observed in the urban sector of Sri Lanka, while the highest difference is found in the rural population.

Of the different ethnic groups in Sri Lanka, the highest mean age at marriage of females is observed from the Sri Lanka Tamil population (24.4 years) followed by the Sinhalese (23.4 years), while Sri Lanka Moors report the lowest (22.7 years). The lowest mean age at marriage of males is also attributed to the Sri Lanka Moor group (26.4 years), while the highest is from the Sri Lanka's Tamil population.

Jaffna district reported the highest mean age at marriage in 2012 for both males (28.8 years) and females (26.4 years) followed by the Colombo district, where, the age at marriage for males was 28 years and for females 24.9 years. The lowest mean age at marriage of males records from the Trincomalee district (25.6 years), while the lowest value of females was found from the Moneragala district (21.7 years).

The district variations in the mean age at marriage of females indicate about five years of difference between the highest (26.4 years in Jaffna) and the lowest (21.7 years in Moneragala). Among males the difference between the highest and lowest district values of mean age at marriage is noted to be only 3.2 years. The high

variation in mean age at marriage of females at the district level has contributed to a high variation in the level of fertility between districts.

As per 2012 census data, among the 15-49 age group females, about 30% were employed, while another 4% were unemployed. The remaining 66% is reported to be economically inactive. The lowest age at marriage is noted among the economically inactive group (22 years), which would have influenced their fertility more positively than the economically active women.

Factors contributing to the decline in the mean age at marriage

The relaxation of the marriage squeeze with a more balanced sex ratio at the turn of the present century and the decline in the male unemployment rate due to mass labour migration are key factors contributing to the decline of the mean age of marriage.

Increased male and female employment opportunities for local and foreign labour markets have allowed more youth to accumulate money for the dowry and other marriage related expenses at younger ages than their older cohorts.

Changing attitudes to late marriages, government's curbs on abortion services and high incidence of health problems among children born to parents in advanced ages too may have contributed to the decline in male and female mean age at marriage in Sri Lanka.

EXECUTIVE SUMMARY CONTD.

KEY FINDINGS: FERTILITY

Although Sri Lankan fertility was at a very high level with a total fertility rate (TFR) of 5.3 live births per woman in the 1950s and 1960s, by 1994 the TFR dropped to 2.1 indicating an achievement of replacement fertility. Demonstrating the continuation of the decline, the DHS 2000, reported a TFR of 1.9 for the period 1995-2000.

As per DHS 2006-07, the TFR had increased unexpectedly to 2.3 live births per woman. The 2012 census confirms the increasing trend of fertility in Sri Lanka and reported a TFR of 2.42 for the year 2011. Apart from TFR, a number of other direct and indirect measures of fertility also demonstrated an increase in fertility during the past 10-15 years in Sri Lanka. For instance, in 2001 there were 307 children under the age of 5 per 1,000 women in the 15-49 age group. However, by 2012 the corresponding figure has increased to 326.

The marriage and fertility transition observed in Sri Lanka during the recent past have been noted to be significantly different compared to all the other countries in Asia, where the average age at marriage of both males and females had declined and fertility has increased. Interestingly, the TFR levels of Bhutan and Bangladesh in 2012 stand even lower than the Sri Lankan level and India at 2.6, only slightly higher than Sri Lanka.

Although TFR had increased, the age group in which peak fertility occurred (age 25-29 years) had not changed, and the age pattern of fertility remained unchanged in Sri Lanka. During the period of 1995-2000 to 2011 age-specific fertility rates (AFSRs) of the age 15-19, 20-24,..... 45-49 years have increased significantly.

The teen fertility rate (age 15-19) of 36 live births per 1,000 females observed in year 2011 is significantly higher than the corresponding estimate of 28 live births reported from the DHS 2006-07. The present teen fertility of Sri Lanka is significantly higher than the most of the developing countries in Asia.

As of 2012 around 4% of ever married women in the ages of 40-49 years reported no single live birth in Sri Lanka.

Presumably these women would not have any birth in their subsequent life span. Although this percentage, includes both voluntary and involuntary childlessness, overwhelmingly a large proportion of childlessness among them would come under the category of involuntary (primary sterility).

Total fertility rate (TFR): socio-economic differentials

In 2011 the estate women reported the highest TFR (3.0 live births) while rural and urban women reported 2.5 and 2.1 TFRs respectively. Interestingly, only the urban women are at the replacement level compared to the national value of TFR 2.4. The estate women tend to marry earlier and their level of education is also at lower levels compared to their urban and rural counterparts. This environment has pushed them to enter into sexual practices at relatively young ages and to produce more children than the women from the urban or rural sectors.

Sri Lankan Moors reported the highest TFR (3.3 live births) followed by Indian Tamils (2.9), Sri Lankan Tamils (2.3) and Sinhalese (2.3) respectively. Compared to the fertility level of a Sri Lankan Moor woman a Sinhalese woman tend to have one child less in 2011. Among the minority ethnic groups, the Malay and Burger women reported a TFR of 2.7 and 2.2 live births respectively. Even though all major ethnic groups were party to the process of reducing fertility in the past, it was the total opposite during the past 10-15 years.

Women with a primary or secondary level of education reported the highest level of fertility. Excluding a small portion of women with no education, the reported fertility levels decrease with the increase of the level of education – higher the level of education lower the level of fertility. Women with primary, secondary and higher level of education reported TFR of 2.7, 2.7 and 2.2 respectively.

Women who do not participate in the labour force (largely house wives) tend to have the highest TFR value in the year 2011 – almost three children per woman. In contrast to them, the reported live births to women who are unemployed are fairly close to the replacement fertility

(TFR of 2.1). TFR of the women who are employed is observed to be in the middle path.

All districts which are least developed or districts in the plantation sector and in the dry zone, such as Nuwara Eliya, Anuradhapura, Ampara and Monaragala, reported relatively higher TFR values compared to the other districts in Sri Lanka. Women of the Trincomalee district reported the highest TFR value (3.02 live births) in 2011. The lowest mean age at marriage of men has been reported from the same district, while the mean age at marriage of females is also lower in Trincomalee than the national average.

All districts which are developed or educationally advanced such as Colombo, Jaffna and Gampaha reported TFR values below the replacement level in 2011. The highest mean age at marriage of females in Sri Lanka has been reported from the Jaffna district and primarily due to this marriage pattern their fertility is the lowest, excluding Colombo district. The shortage of men at marriageable ages at the Jaffna district is a serious issue – marriage squeeze. Due to the three decades long civil strife and heavy outbound migration of young men to other countries for permanent settlement have created this special situation in Jaffna.

Factors contributed to increase in fertility

The declining trend in the mean age at marriage of females during the past decade has contributed significantly to the recent increase in fertility from below replacement to well above the replacement in Sri Lanka. During the past few decades in Sri Lanka divorce and separation rates have increased significantly and the majority of their entry into the re-marriage has contributed to the fertility increase in Sri Lanka.

The level of contraceptive use among Sri Lankan women of reproductive age remains static at 70% between 2000 and 2007. Although the use of modern contraceptive methods has increased over the past few years, due to the significant drop in the acceptance of permanent contraceptive methods (LRT and Vasectomy), some

women would have experienced unwanted pregnancies, primarily due to user or method failure. Since the abortion services were hardly available during the past few years, most of the unwanted pregnancy would have ended-up as live births and this phenomenon might have partly contributed to the recent fertility increase.

Before 2006, despite the highly restricted abortion laws in Sri Lanka, a large proportion of women with unwanted pregnancies were able to terminate their pregnancy. However, by the beginning of the year 2006, the government launched a well-coordinated drive to bring to halt the abortion services provided in the country by (I) NGOs and some private facilities. As a result, almost all abortion service centres were closed down and therefore the majority of women, who had unwanted pregnancies in the recent past, did not have access to such services. Thus a sizable proportion of such unmarried and married women were forced to retain the pregnancy and deliver the child at the end of the gestation period. This new environment might have contributed to a certain extent to the increase of fertility.

During the past 15-20 years attitudes towards fertility in the Sri Lankan society has changed. Recent evidence that has surfaced highlighted a clear drop in the priority for the national family planning programme in the country. There were many pro-natal sympathizers who justify pro natal activities by arguing that the country needs more births – ‘small family is beautiful’ type slogans have disappeared from society and a large proportion of couples preferred to have two or three children. Having experienced natural (Tsunami) and man-made (civil strife) disasters, most couples in Sri Lanka has revised their fertility preferences towards higher side and the outcome is the increase of fertility.

EXECUTIVE SUMMARY CONTD.

POLICY IMPLICATIONS

Owing to a multiplicity of reasons, a new demographic trend has emerged in Sri Lanka, i.e. increasing fertility from below to well above the replacement level. Will this increase continue for a long period, or will it start to decline towards the replacement level again? Presumably, the increase in fertility observed will be short-lived – TFR would start declining again towards the replacement level. That particular point may be determined primarily by the degree to which pro natal views and practices are once again reversed by the State and the Sri Lankan community. However, the already increased fertility will result in various implications of the Sri Lankan population in coming years.

Apart from the increase in overall fertility, teen fertility has also increased significantly in Sri Lanka. If this increasing trend of teen fertility is not managed wisely it may lead to more mothers becoming single and the breakdown of families at young ages. Poor socio-economic status and social stigma attached to teen fertility may lead some of these young mothers to neglect their children and to expose their young children to various types of abuse at different ages. The incidence of live births among the teen aged in Sri Lanka highlights the fact that initiation of sexual activities at early ages and practice of living together (without entering into legal marriages), may lead to a vulnerable situation to the mother as well as to the child.

This environment has clearly demonstrated the requirement of developing and implementing a comprehensive sexual and reproductive health policy on school and out of school children without any further delay in order to minimize the undesirable sexual behaviour and high incidence of teen fertility. The sexual and reproductive health education programmes currently provided to the children at the State schools in Sri Lanka is grossly inadequate and ineffective.

Increasing incidence of divorces/separations, weakening of family solidarity and child abuse have been identified in many parts of the country, which demonstrate the

urgent need of formulating an appropriate family policy for the country to safeguard the well-being of the children and strengthen the family unit.

As per 2012 census data, serious level of disparities in fertility was noted among districts, sectors and ethnic categories. Therefore, unless appropriate policies and programmes are implemented to minimize the serious differences in the level of regional development, educational achievement and gender equality, the fertility variation at these levels could not be minimized.

Although a large proportion of Sri Lankan women are completing secondary and higher level education and their number are increasing, their labour force participation is significantly low. In 2012, among women of reproductive ages, two-thirds were reported to be economically inactive, while the balance one-third of the working age population was economically active. The economically inactive proportion of women in the working ages in Sri Lanka is significantly higher even when compared to many other Asian countries.

As of 2012, the lowest mean age at marriage and the highest TFR is reported by women who are economically inactive. The mean age at marriage of the employed women is higher than the national average and their fertility is significantly lower than the national value. Since the country is at the very latter part of the demographic dividend, appropriate policies need to be implemented immediately to enhance female participation in the labour force, in order to generate rapid economic development. If a sizable proportion of females are attracted to labour markets in the near future with appropriate policy changes, then that new trend itself would contribute to a fertility decline in Sri Lanka.

The unexpected increase in fertility has made it necessary to undertake urgent revision of the population projections for Sri Lanka. As per the most recent population projection of Sri Lanka, published by the UNFPA in 2015, the size of

the population of the country would increase significantly in coming decades – 25 million by 2042 and even beyond 26 million by 2060s. This is a significant departure from earlier projections that indicated country's reaching population stability by early 2030s with a population slightly below 22 million. This deviation is mainly due to the increase in fertility from below replacement to above replacement level in the past 10-15 years. However, if the fertility rate returns to the replacement level soon, then the future growth of the population may slow down slightly.

Ethnic differentials in fertility in Sri Lanka have been extremely significant over the past several decades and have contributed to different levels of population growth among ethnic groups. The Sri Lankan Moors had the highest rate of annual growth (1.9%) during 1981-2012 and this was almost double the national rate reported during the same period. The Sinhalese population over the same period recorded an annual growth rate of 1.1%. Meanwhile, Sri Lanka Tamils (0.6%) and Indian Tamils (0.1%) recorded low values of population growth. The present and future ethnic composition of the population and the relative numerical strengths and balances of each group during the process of demographic transition are important factors to be considered by policy planners for the well-being of the entire Sri Lankan population.

Along with the fertility increase, child population will increase from 5.1 million in 2012 to 5.3 million by 2017 and for the subsequent 10-20 years it would remain fairly static. Child dependency ratios reported in the latest projection are always higher than the figures reported in previous projections. Along with this new trend, the children as well as overall dependency ratios are significantly higher in the latest projection than the previous projections.

It is more likely that in another twenty-five years the country's population would reach 25 million mark by adding another 5 million to 2012 population base. Such a significant growth of the population would create

serious implications, including demand for housing, health, food production, education, energy, water, transportation and infrastructure facilities in the near future. Problems related to environmental degradation particularly, deforestation, landslides, soil erosion, water and air pollution, garbage disposal, etc. would also likely to emerge at serious levels in coming decades. All these issues are expected to impact implicitly and explicitly on the socio-economic progress of the nation.

Apart from the changes in consumption patterns of the population, the future Sri Lankan population would increase significantly, which may degrade our environment significantly unless appropriate policies and programmes are implemented by the policy makers. In this regard, policy makers at all levels should incorporate population variables into all levels of development planning and necessary steps have to be taken to develop a suitable population and reproductive health policy for Sri Lanka for next 20-25 years without further delay.

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

Sri Lanka is an outlier among the South Asian countries in many respects due to its comparatively advanced socio-economic achievements, resulted from several decades of welfare policies, particularly targeting education and health. Prevalence of a high level of literacy and health status equally among males and females, compared to almost all South Asian countries makes Sri Lanka different from other countries. A substantial change in the demographic components, particularly in the fertility behaviour, has been observed during the last two decades, which is of high relevance to policy formulation and implementation in Sri Lanka. This thematic report is an assessment of fertility and nuptiality changes together with an analysis of factors that have contributed to the overall change by utilizing data from 2012 Population and Housing Census and Demographic and Health Surveys of the country.

1.2 GROWTH OF THE POPULATION

Since 1871, censuses were held during the British period at regular intervals of 10 years until 1931. The census of 1881 showed a population of 2.8 million while it was about 3 million in the 1891 census (Table 1.1). As the British restricted the scope of administration, the census of 1931 was limited to a detailed enumeration of the City of Colombo and a head count only of the remainder of the island's population primarily due to world economic depression in the late 1920s and early 1930s (United Nations, 1976). The census that was scheduled for 1941 was not undertaken because of the involvement of the British in the World War II. However, the differed census was held in 1946 at which the population it was observed to have increased to 6.7 million.

After obtaining independence from the British, the first census of Sri Lanka was carried out in 1953, which recorded a population of 8.1 million. Since then censuses were conducted in 1963, 1971 and 1981. The enumerated population of the country in 1981 was reported as 14.8 million (Table 1.1). The census scheduled for 1991 was however not undertaken, primarily due to financial difficulties and civil disturbances, which prevailed in the country between 1987 and 1989.

Table 1.1: Population enumerated at the census and growth rate, 1871-2012

Census date	Enumerated population	Inter-censal growth		Average annual growth rate (%)
		Number	%	
1871 March 27	2,400,380	-	-	-
1881 February 17	2,759,738	359,358	15.0	1.41
1891 February 26	3,007,789	248,051	9.0	0.86
1901 March 01	3,565,954	558,165	18.6	1.70
1911 March 10	4,106,350	540,396	15.2	1.41
1921 March 18	4,498,605	392,255	9.6	0.91
1931 February 26	5,306,871	808,266	18.0	1.67
1946 March 19	6,657,339	1,350,468	25.4	1.51
1953 March 20	8,097,895	1,440,556	21.6	2.84
1963 July 08	10,582,064	2,484,169	30.7	2.63
1971 October 09	12,689,897	2,107,833	19.9	2.22
1981 March 17	14,846,750	2,156,853	17.0	1.67
2001 July 17	18,797,257	3,950,507	26.6	1.16
2012 March 20	20,359,439	1,562,182	8.3	0.74

Source: Various reports of the Department of Census and Statistics.

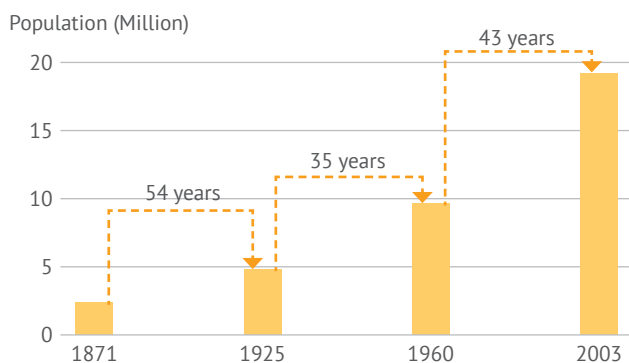
The 2001 census, which was conducted after 20 years since 1981, covered only 18 out of 25 districts in Sri Lanka. Of the balance seven districts, which are located in the Northern and Eastern Provinces of Sri Lanka, partial enumeration was effected in four districts of Mannar, Vavuniya, Batticaloa and Trincomalee and the other three districts of Jaffna, Mullaitivu and Killinochchi were not enumerated at all, primarily due to civil disturbances in that part of the country since 1983. The size of the population of the 18 districts, in which the complete enumeration was possible in 2001, was 16.8 million only. Of the remaining seven districts, the size of the population was estimated. Thus, the population for the entire country according to the 2001 census included the total of the estimated figures for the districts where the census was not conducted and the actual enumerated figures for the rest of the country (Department of Census and Statistics, 2006). The size of the total population of Sri Lanka in 2001 stood at 18.7 million.

A population census with national coverage was carried out in 2012, 31 years after the previous such census in 1981. The census of 2012 was the 14th census conducted in Sri Lanka and enumeration was based on the place of usual residence (de jure) method. The enumeration stage of this census was conducted from February 27 to March 19 of 2012 and final enumeration was made on March 20, of 2012, which was declared as the 'Census Day'. The enumerated population in the 2012 census was 20.4 million (Table 1.1).

During the inter-censal period of 1981-2001 with a duration of 20.3 years the number of people added to the Sri Lanka's population was almost 4 million. However, during the latest inter-censal period of 2001-2012 (10.7 years) the number added was only 1.6 million (Tables 1.1 and 1.2). This average trend indicates that the number added to the population each year had declined significantly over the past few decades, primarily due to heavy out bound migration.

Sri Lanka's population has grown almost nine times since the first national census of 1871, which recorded only 2.4 million people. The first doubling of the population took place in 54 years between 1871 and 1925 (Figure 1.1). It doubled again in 35 years between 1925 and 1960 (De Silva, 2015). This doubling within a short period indicates a relatively high rate of population growth (Table 1.1). Demographic estimates suggest that the size of the population would have reached 19.2 million by the year 2003, a doubling in 43 years.

Figure 1.1: Population growth and doubling time, 1871 to 2003



Source: Various reports of the Department of Census and Statistics.

INTRODUCTION CONTD.

1.3 GROWTH OF POPULATION

The growth of the Sri Lankan population during the 20th century had not been uniform. Until 1946, the average annual inter-censal rate of growth had never exceeded 2 per cent (Table 1.1). However, there had been a growth spurt in the post-war years. The rate shot up to 2.84 per cent in the period 1946-53, and remained more or less the same during the period 1953-63. During this period, the mortality rate had come down, while the birth rate remained high. As a reaction to the potential problems caused by such a rapid growth, policies and programmes to reduce fertility were initiated since late 1950. Consequent to such activities, after 1963 there was a clear decline in the rate of growth while at present it stands at below one per cent. The average annual growth rate during 1981 and 2001 was 1.16 per cent, while during the period 2001 and 2012 it was 0.74 per cent.

1.4 NATURAL INCREASE AND FERTILITY

Change of the size of a population in any country depends on three demographic components, viz. fertility (births), mortality (deaths) and migration. Natural increase of a population is defined as the excess of births over deaths during a particular period. The natural increase and net migration (difference between the number of immigrants and emigrants) determines the changes in size of the population of a country. The net migration refers to the difference between in-bound and out-bound volumes which increase or decrease the total size of the population, depending on whether the net flow is positive or negative.

It is observed from table 1.2 that the volume of births in each inter-censal period is significantly higher than the corresponding volume of deaths. For instance, during the inter-censal period 2001-2012 the volume of births was 3.9 million while the corresponding volume of deaths was 1.3 million only; thus the natural increase over this period was as high as 2.6 million. The rate of natural increase was relatively low until 1920s; however, since then there has been a rapid increase.

Table 1.2: Components of inter-censal population change, 1871-1881 to 2001-2012

Inter-censal period	Births	Deaths	Natural Increase	Population growth	Contribution of natural increase to population growth (%)
1871 -1881	708,150	588,358	119,792	359,358	33.3
1881- 1891	836,636	692,376	144,260	248,051	58.2
1891 -1901	1,122,041	896,635	225,406	558,165	40.4
1901 -1911	1,459,618	1,103,471	356,147	540,396	65.9
1911-1921	1,648,066	1,328,656	319,410	392,255	81.4
1921 -1931	1,946,115	1,289,165	656,950	808,266	81.3
1931 -1946	3,209,520	1,928,604	1,280,916	1,350,468	94.8
1946 -1953	2,053,420	700,814	1,352,606	1,440,556	93.9
1953 -1963	3,517,929	912,976	2,604,953	2,484,169	104.9
1963 -1971	3,066,461	777,835	2,266,626	2,107,833	107.5
1971 -1981	3,674,642	978,721	2,695,921	2,156,853	125.0
1981 -2001	7,329,642	2,125,815	5,203,826	3,950,507	131.7
2001-2012	3,930,031	1,289,072	2,640,959	1,562,182	169.1

Source: Various reports of the Department of Census and Statistics.

Even though the present rate of population growth is low at 0.74 per cent, the annual natural increase of the Sri Lankan population is about 250,000 persons. For instance, during the inter-censal period of 2001-2012 the natural increase per annum was 247,500 persons while it was estimated to be 256,000 persons during the period of 1981-2001.

The contribution of natural increase to the population growth during the latter part of the 19th Century was low and ranged between 33-58 per cent (Table 1.2). During this era of the Sri Lankan history, importation of Indian Tamil population by the British rulers was the main contributing factor to the population increase. The British brought a sizable population of South Indian labourers to work in the plantation sector, first in the coffee plantations and later in the tea plantations (Department of Census and Statistics, 1986). However, with the banning of Indian immigrants by legislation, the volume of migrants from India declined significantly. Thus, the contribution of migration to the population growth in Sri Lanka had declined to 6 percent by 1940s. During the same period, 94 per cent of the population growth was due to the natural increase (Table 1.2).

During the period of 1953-1963, the natural increase and population increase was very much similar in volume. This indicates that during this period the growth of the population was almost entirely due to the natural increase. However, since 1971 the volume of natural increase was significantly higher than the population increase. For instance during the period 2001-2012, the natural increase and population increase were 2.6 and 1.6 million respectively. This indicates that during this latest period, because of international migration, the country reported a net loss of one million persons. If the country had experienced this high volume of net negative migration during this period, then the growth rate of the population of the period 2001-2012 would have been significantly higher than the observed growth rate of population of 0.74 per cent (De Silva, 2015; De Silva and de Silva, 2015).

Although immediately after the World War II Sri Lankan fertility was at a very high level with a total fertility rate (TFR) of 5-6 live births per woman, by 1994 the TFR dropped to 2.1 live births per woman which indicated that the replacement fertility had reached. However, fertility change in the first few years of the new millennium in the arena of population dynamics in Sri Lanka is questionable and interesting. The Demographic and Health Survey 2006-07, reported that the level of fertility which was below replacement, had unexpectedly increased to 2.3 live births. The latest population census 2012 confirm the increasing trend of fertility. In the meantime during the past 15-20 years trends in nuptiality, contraception and induced abortion have changed significantly in Sri Lanka (De Silva, 2015).

1.5 PURPOSE OF THE THEMATIC REPORT

The overall objective of the thematic report is to assess the fertility and nuptiality changes in Sri Lanka and in particular to:

- assess the levels and trends of fertility behaviour
- examine fertility differentials by demographic and socio-economic characteristics
- assess the levels and trends of marriage behaviour
- identify the factors contributed to fertility and marriage change, and
- ascertain possible implications related to fertility change

In this thematic report, various measures and indicators of fertility and nuptiality have been utilized to examine the changes in these components in a more comprehensive manner.

CHAPTER 2

CONCEPTS, DEFINITIONS AND SOURCES OF DATA

2.1 INTRODUCTION

The nuptiality pattern of any given country influences the level of fertility significantly. Therefore in order to understand fertility as a component of population change, one needs to be familiarised not only with various concepts, definitions and measurements of fertility but also of the term nuptiality itself. The three main sources of data used to ascertain fertility and nuptiality change in Sri Lanka are population census, vital statistics and sample surveys. Of these sources, this thematic report on fertility and nuptiality is primarily based on the data collected in the 2012 Population and Housing Census, which covered the entire country 31 years after a such complete census in 1981.

2.2 CONCEPTS AND DEFINITIONS

Fertility is a key demographic component and there are several ways to measure levels and trends of fertility. Of the three components of population change, demographers have identified fertility¹ as the most crucial and problematic component for demographic research. That is because of consequences of fertility trends that are far more serious than those of the most likely trends in mortality or migration (Namboodiri, 1966).

One needs to be familiar with many fertility related concepts and measures such as live births, children ever born, birth cohort, natural fertility, marital fertility, cumulative fertility, crude birth rate, age-specific fertility rate, total fertility rate, parity progression ratio etc.,² to understand the fertility as the most dynamic demographic component.

As defined by the United Nations (2001), "Live birth is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, and after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered live-birth".

Fertility is normally measured in terms of women of childbearing age, who belong to the age group 15-49 years; although births to women outside this age range can, and do, occur. Fertility should not be confused with fecundity, which is the biological capacity of a population to bear children. Simply fertility means number of live births. Although a number of measures are available to demographers to assess fertility change, the total fertility rate (TFR) is used most commonly to measure fertility and to study various socio-economic differentials of fertility. The term TFR is defined as the average number of live births a woman would have by age 50 if she were subject, throughout her life, to the age-specific fertility rates observed in a given year (or period).

The term marital status or civil status refers to the state being unmarried, married, widowed, divorced or separated. The concept of marriage can be explained as the union of a man and a woman who make a permanent and exclusive commitment between each other which is eventually fulfilled by bearing and rearing children together.

A reduction in fertility is observed in developing countries and it has been strongly associated with a shift from early marriages to late marriages (Caldwell, 2005). The postponement of marriage contributes substantially towards a reduction in the level of fertility by shortening the total reproductive span of the female, which in turn, owing to a cumulative effect, influences the size of individual families as well as the population growth rate of a country.

Exposure to reproduction is commonly estimated by the mean age at first marriage of males and females in any society, which is technically defined as the singulate mean age at marriage (SMAM). The SMAM is defined as the average length of single life expressed in years among those who marry before the age of 50 years. It is calculated from the data on the proportion of never married by age and sex in a specific year of a given population.

¹The other two are mortality or migration.

²A detail definition of each measure is provided in De Silva (2015).

2.3 SOURCES OF DATA

Data from three key sources have been used in this analysis. Registrar General's department compiles data on births, deaths and marriages through the vital registration system, which was introduced over hundred years ago. Apart from this source, data for fertility analysis can be obtained from the national surveys such as Demographic and Health Surveys (DHS) in 1987, 1993, 2000, 2006-2007. Although Sri Lanka has had a history of undertaking national population censuses since 1871, the data that derived from the latest population and housing census of 2012, which was conducted by the Department of Census and Statistics, have been used as the prime data source for present thematic report.

2.3.1 Fertility data

Although censuses of 1981 and 2001 did not include any direct question on fertility, the 2012 census, which was the 14th census of the country, did include a number of questions on fertility (Department of Census and Statistics, 2014). For the examination of the fertility levels and patterns of the country birth related data were collected in the 2012 census by asking a number of questions from the ever married women born in February 1997 or before (15 years and over) on the date of interview. In the individual information section, three questions had been used for the purpose of collecting fertility data by asking the total number of children born alive (P27) and total number of living children (P28) by categorizing them into total number of sons and daughters who live with the respondent and, who live elsewhere. The balance between total number of children born alive and the total number living children generates numbers of persons who are dead. Information on last live birth was also collected by asking the question on date of birth (month and year) of the last live born child (P29). A response to this question was recorded in the census questionnaire by obtaining the year and month in which that event took place (occurred). Although a detailed birth history data were not collected through the 2012 census questionnaire, the responses obtained for these three questions provided a valuable set of information to analyse fertility changes in Sri Lanka comprehensively.

The 2006-07 DHS has demonstrated a significant increase in fertility compared to the DHS of the year 2000 in Sri Lanka, while data in 2012 population census on fertility has provided benchmark information to analyse and verify the change of fertility that took place in Sri Lanka during immediate past.

The latest DHS was conducted in 2006-07 covering the entire country, except the Northern province of the country, due to civil strife prevailed by that time. However, as per the 2012 census, Northern Province comprised with only five per cent of the total population of Sri Lanka and thus allows researchers to treat the 2006-07 DHS data as national level of data. In the DHS questionnaire, data on fertility have been collected in various ways. A sample of ever married women in reproductive age group (15-49 years) was asked several questions related to fertility within several areas. These include (a) the total number of live births they have had during their lifetime; (b) number of sons and daughters living with the respondent, the number living elsewhere, and the number who had died. A follow-up question was also asked to ascertain whether the total number of children stated by the respondent was correct, (c) obtaining more details by utilizing a complete birth history approach, in which information was collected for each live birth: i.e. birth order, whether the birth was single or multiple, sex, date of birth, survival status, current age, age at death (children who had survived), and whether the child was living with the respondent (in respect of surviving children).

In addition, at the end of the birth history section of the DHS questionnaire, a final check was carried out to ensure that the number of births in the birth history matched with the total live births recorded in the first procedure. The birth history information provides a rich set of data for fertility analysis. This information helps to calculate measures of current fertility and trends in fertility as well as cumulative measures of the number of children ever born.

CONCEPTS, DEFINITIONS AND SOURCES OF DATA CONTD.

2.3.2 Nuptiality data

Apart from questions related to fertility, the 2012 census include a question on nuptiality, i.e the concept of marital status used to identify the individual's marital category. All the males and females who are 15 years and above were asked about their marital status, which include categories such as never married, married (registered or customary), widowed, divorced, separated (legally) and separated (not legally – de facto). These data were used to derive marital status of each person aged 15 years and above and mean age at first marriage of males and females in Sri Lanka (Department of Census and Statistics, 2014).

Data on fertility as well as on marriage and divorce also obtained from the Registrar General's Department for many past years. Apart from the above stated sources, the information required to ascertain fertility changes, including determinants and consequences, various other published material has been used in this thematic report.

2.4 QUALITY OF DATA

In censuses, people generally require to provide their age as at their last birthday. However once people specify their ages, a common form of content error in age data occurs i.e. 'age heaping'. In many countries a sizable concentration of reported ages at certain digits, such as 0 and 5 are evident, which is defined as 'age heaping'. Evaluation of single age data from census of 1971 and 1981 indicate that, heaping occurs at below age 30, to a relatively smaller extent than at above age 30 for both sexes (Department of Census and Statistics, 1986). However, in Sri Lanka, age heaping has declined significantly from 1971 to 1981.

Examination of quality of age-sex data by various measures, such as Myer's index, UN age-sex accuracy index etc. demonstrates a significant improvement of accuracy of census data in Sri Lanka (United Nations, 1976). By taking the data from 2001 population census, Gunasekara (2005) demonstrated the improvement of the quality of data on age reporting over the period of 1981 and 2001. As of the 2012 census, the age-sex data have improved further primarily due to the improvement in level of education of the population in all sectors in the country (De Silva, 2015).

The latest survey to estimate the completeness in the registration of births and deaths in Sri Lanka was conducted in 1980, which covered the entire country. As per the report published by the Department of Census and Statistics (1984), the evaluation of completeness was based on the births and deaths which occurred during 1st July 1980 to 31st December 1980. The results show that birth registration in 1980 was 98.8 per cent complete with urban and rural sectors showing 98.6 and 99.2 per cent completeness respectively. However, the estate sector completeness of birth registration was at the lowest having only 93.6 per cent. Although there is no national survey results available, it is reasonable to assume that a further improvement of the completeness of birth registration in Sri Lanka during the recent past (De Silva, 2008; 2015).

Although information on marital status in Sri Lankan population censuses is obtained from each individual who is 10 years and above, data on marital status is usually published for the age group of 15 years and above. There are some issues pertaining to the age reporting at the time of marriage registration. In some instances, females or males (or both) when they are less than 18 years of age at the time of marriage, they register their marriage by providing false information. Also with the request of the different parties some of the marriage registrars include false age of either female or male into the marriage register. A significant number of registrars have been identified with this type of mal-practices by authorities who were imposed with fines. However due to the increase in awareness and also fear of legal consequences, such practices have declined significantly in recent times (Goonesekere and Amarasuriya, 2013).

Data on divorces and separation obtained from census and surveys also raise a number of issues in Sri Lanka. Firstly, divorces are not reported by some individuals in order to avoid social stigma and security threats. Secondly couples who are either separated legally or not legally also tend to under report such incidences. Thirdly, particularly, those who are not separated legally would not declare their present marital status genuinely. However, the latest population census of 2012 did include a separate category called, 'not legally separated' to avoid the under reporting incidents. Most of the divorces are not captured in the population census enumeration. This is primarily due to the fact that a sizable number of divorced persons tend to remarry within a few years of divorce and as a result, at the time of the next census, their marital status is reported as 'married' (De Silva, 2015).

Although there are few minor issues that could be identified in reference to the quality of data on fertility and nuptiality, the overall quality of data is satisfactory to assess the changes in fertility and nuptiality over the past few decades in Sri Lanka. Apart from the quality aspect, the latest population census of 2012, which successfully covered the entire country providing a very strong data base to assess the fertility and nuptiality changes not only at the national level but also by various socio-economic parameters.

CHAPTER 3

FERTILITY

3.1 INTRODUCTION

The size of a population of a country is mainly determined by demographic components of fertility, mortality and migration. Among them, fertility is the main factor of human reproduction and it is directly linked to the realisation of full potential of the population to reproduce its offspring. Reproduction could result in many forms of outcomes such as live births, stillbirths and spontaneous or induced abortions. In this chapter, various fertility estimates are presented at national and sub national level in order to ascertain recent fertility changes in Sri Lanka. Indices of fertility that have been used in this chapter include child-woman ratio (CWR), crude birth rate (CBR), average number of children ever born (CEB), total fertility rate (TFR), age-specific fertility rate (ASFR), parity/fertility (P/F) ratio etc.

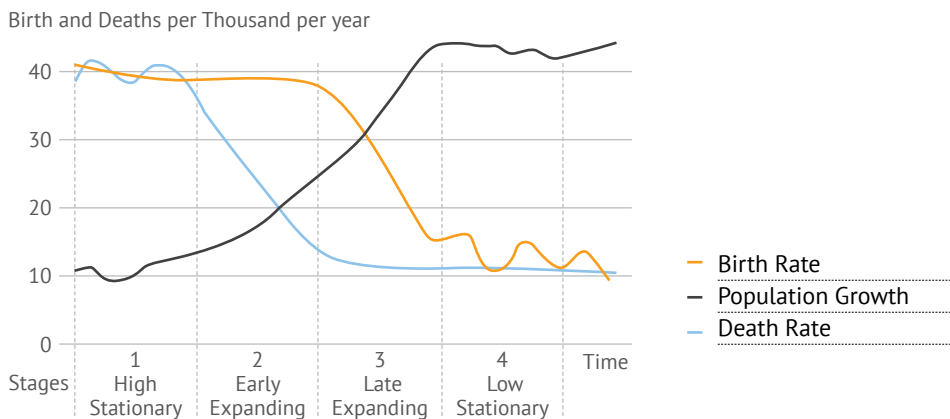
There are several demographic and socio-economic determinants of fertility relevant to women in a population such as age, marital status, ethnicity, religion, place of residence, level of education, employment status, income etc. This chapter aims to present briefly Sri Lanka's demographic transition, fertility differentials and fertility preferences. Apart from 2012 population census, data has been utilized from number of national surveys conducted by the Department of Census and Statistics and other organizations for the purpose.

3.2 THE DEMOGRAPHIC TRANSITION MODEL AND ITS APPLICABILITY TO SRI LANKA

The demographic transition model (DTM) is based on an interpretation of observed changes, or transitions on birth and death rates in industrialized societies over the past three hundred years. As per the explanation of Notestein (1945), improved lifestyle, increase of income, increase of sanitation facilities, modernization of the society, wide spread preventive and curative care services caused the decline of mortality levels. A different number of stages of the DTM are presented by various Demographers – e.g. three, four and five stages. However, most commonly used model includes four stages. Figure 3.1 shows these four stages of the DTM, which change from high stationary to low stationary stage.

When the demographic transition theory and Sri Lankan experience is considered, it is pertinent to raise a question, 'where does Sri Lanka stand on the demographic transition model' that is presented in figure 3.1.

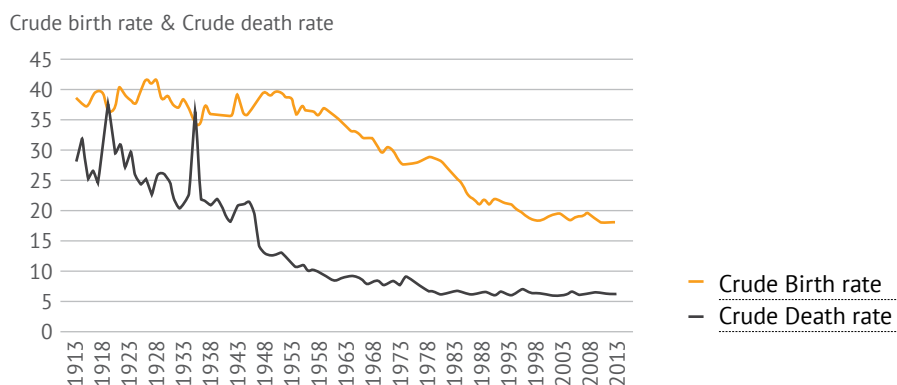
Figure 3.1: The Demographic Transition Model (DTM)



Source: <http://blackpoolsixthasgeography.pbworks.com/>

Until early 1920s, both crude birth rate and death rate were high in Sri Lanka which enabled the country to experience the pre transition stage (Figure 3.2). Therefore, the difference between the rates of births and deaths-the natural increase remained at a fairly low level. During this stage, at least in some particular years, the crude death rate (CDR) was higher than the level of the crude birth rate due to a large volume of deaths resulted from epidemics prevalent in the country. In this period of transition, i.e. before 1920s, CBR persisted around 40 per thousand persons with the death rates fluctuating around 25 per thousand persons.

Figure 3.2: Demographic transition of Sri Lanka, 1913-2013



Source: Various reports from the Department of Census and Statistics.

A slight decline in the CDR was observed after 1920s and Sri Lanka experienced entering into the stage two of the DTM. After the 1940s, the CDR dropped at an unprecedented annual average rate of about 1.5 deaths per thousand persons, reaching the level of 12 deaths per thousand persons by the middle of the twentieth century (United Nations, 1976; Caldwell, 1986). Sri Lanka reached stage three of the DTM by early 1960s, which is the phase of declining fertility. The steady decline in CBR, started around early 1960s that largely accounted for narrowing the gap between birth and death rates, which resulted in lowering the natural increase of population. This narrowing pattern of natural increase could be seen in the Sri Lankan population continuously with slight fluctuations.

The rapid increase in the annual rate of population growth in the post-war years in Sri Lanka was the result of a sharp decline in the death rate, while the birth rate remained at about 35-40 live births per 1,000 persons. At the latter part of the stage-two and early part of the stage-three of the transition, population explosion could be noticed – i. e. the annual rate of growth of the population was around 2.5 - 3.0 per cent. Since 1947, the death rate declined gradually to a very low level of about 6 per 1,000 persons. The expectation of life at birth in 2000-2002 was 68 and 77 years for males and females, respectively (De Silva, 2008). A gradual decline in the birth rate had begun in 1960 which further contributed to a reduction of the annual rate of growth. The birth rate, which stood at 37 per 1,000 persons in 1960, had declined to 18 per 1,000 by 2001 (De Silva, 2008).

The demographic transition of Sri Lanka that is taking place at present could be related to the latter part of stage-three (late expanding). As observed in figure 3.2, CBR is low, but demonstrates mild fluctuations. It could be noted that since the latter part of 1990s the CBR and CDR of the country show no significant change. Sri Lanka may not enter into the stage-four of the DTM in the near future, primarily due to the increase of fertility during the past many years. It may take a few more years to reach the last stages of the transition (Figures 3.1 and 3.2). It should be noted that, although,

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natural increase in Sri Lanka is relatively high (adding about 250,000 persons annually), the reported population growth remained as low as 0.74 per cent during the inter-censal period of 2001-2012 due to negative net international migration.

3.3 FERTILITY CHANGE

Trends in the live births

Monitoring of annual incidence of live births in any country is extremely useful as these primarily decide the future demand and supply of goods and services of that country. As shown in Table 3.1, the total number of registered live births of 343,224 in 1995 declined to 322,672 by 1998 in Sri Lanka. However since then the volume of live births has increased significantly and by 2007 it has reached the peak with a figure as high as 387,000. Beyond 2007 it again demonstrated a slight decline.

Table 3.1: Number of registered live births, Sri Lanka

Year	No. of live births (Total)	No. of live births (Average per annum)
1995	343,224	
1996	340,649	
1997	333,219	333,698
1998	322,672	
1999	328,725	
1995-1999	1,668,489	
2000	347,749	
2001	358,583	
2002	367,709	361,879
2003	370,643	
2004	364,711	
2000-2004	1,809,395	
2005	370,731	
2006	373,538	
2007	386,573	374,544
2008	373,575	
2009	368,304	
2005-2009	1,872,721	
2010	363,881	
2011*	363,415	
2012*	355,900	359,741
2013*	365,792	
2014*	349,715	
2010-2014	1,798,703	

Note: * Provisional.

Source: Registrar General's Department.

In order to explore the incidence of live births through another angle, an average annual volume of births for five year periods were computed. As reported in Table 3.1 the average values of live births increased significantly up to the period of 2005-2009 and thereafter demonstrate a marginal decline. The increase in the volume of fertility is even depicted in the estimate of total fertility rate derived from SLDHS 2006-2007, which was initially below replacement, had unexpectedly increased to above the replacement.

Of the total live births registered in Sri Lanka in 1970s only about 80 per cent occurred in a health facility. However, by 2010 the percentage has increased to 98 percent. Of the total births occurred in health facilities in recent periods, an increasing proportion has taken place in private facilities.

Sex ratio at birth

For many countries in the world sex ratio at birth has ranged from 104-105 male births to 100 female births. The period considered in Table 3.2 also confirm the same pattern: the sex ratio at birth in Sri Lanka too has ranged between 104-105. Confirming the common pattern of sex ratio at birth in the world, in all annual birth cohorts in Sri Lanka, it is possible to identify more males than females (Table 3.2).

However, the standard biological level of 104-106 sex ratio in birth cohorts is not observed in some of the Asian countries such as India, Korea and China. In those countries sex ratio at birth ranges from 108-120. For instance, in 2010 China reported the most male favoured sex ratio at birth of 120, followed by South Korea (110) and India (108) primarily due to son preference in these countries and sex selective abortions (Asian Meta Centre 2012). In these countries there is a strong preference for sons in society despite laws to prevent female feticide and schemes to encourage families to have a girl child. However in Sri Lankan society there is no such male preference prevailing (De Silva, 1993).

Table 3.2: Number of male and female live births and sex ratio at birth

Year	No. of live births			Sex ratio at birth (No. of males per 100 females)
	Male	Female	Total	
2005	189,327	181,404	370,731	104
2006	191,263	182,275	373,538	105
2007	198,018	188,555	386,573	105
2008	191,296	182,279	373,575	105
2009	192,097	184,746	376,843	104
2010	186,235	178,330	364,565	104
2011*	185,432	177,983	363,415	104
2012*	181,184	174,716	355,900	104
2013*	186,510	179,282	365,792	104
2014*	177,840	171,875	349,715	104

Notes: * Provisional.

Source: Registrar General's Department.

It should be noted that the sex ratio at birth (104) and sex ratio of the population (104) was exactly identical in 1981. Before 1981 the sex ratio of the population was more favourable to males. For instance, sex ratio was 112 and 108 in 1953 and 1963 respectively. However after 1981 the male favoured sex ratio has disappeared (De Silva, 2015). For instance in 2001 there were 99.7 males per every 100 females in the society, however the value has changed to 94.8 males by 2012.

FERTILITY CONTD.

3.4 FERTILITY INDICATORS

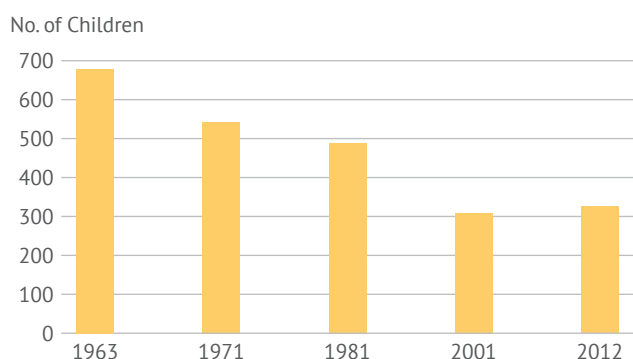
Various types of indicators can be used to present changes in fertility level of a given country. Except the child-woman ratio and crude birth rate, all other fertility indicators were derived from data collected from women aged 15-49 and 50 years and above group. Overwhelmingly large proportion of these indicators were derived and analysed by using 2012 population census data.

3.4.1 Child-woman ratio

The child-woman ratio (CWR) is computed from age-sex distribution of the population of 2012 census, which is the ratio of children less than 5 years of age to women in the reproductive ages of 15-49 years. These children are the surviving members of those who were born 5 years preceding to the 2012 census. Since in Sri Lanka infant and child mortality rates remain at very low level, the CWR reflects fertility performance within the last 5 years before the census.

The CWR in 2012 in Sri Lanka indicates that there were 326 children under the age of 5 per 1000 women in the 15-49 age group (Figure 3.3). The corresponding values of child-woman ratios of 680 and 489 were reported from 1963 and 1981 censuses respectively. Interestingly the CWR of 307 children per 1000 women of age 15-49 derived in 2001 population census is significantly lower than the corresponding value of 2012 population census (326). This indicates clearly that during the past few years the volume of children (0-4 years) has increased significantly in relation to the women (15-49), i.e. an apparent increase of fertility.

Figure 3.3: No. of children age 0-4 per 1,000 women of age 15-49 (CWR), 1963 to 2012



Source: Various Sources of Department and Census and Statistics.

3.4.2 Crude birth rate

The simplest and most common measure of fertility is the crude birth rate (CBR), which is defined as the number of live births for a given year per 1,000 population. Before 1960, fertility of the country remained at high level CBR in the range between 35-40 per 1,000 population with some fluctuations (United Nations, 1976). However, since early part of 1960s, CBR declined significantly and by the period of 1975-79 it reached the value of 28.2 per 1,000 population (Table 3.3). The CBR has declined significantly to 22.2 and 18 per 1,000 population by 1985-89 and 1995-99 respectively. Interestingly by 2000-04 the CBR has increased to 19 per 1,000 population and since then demonstrated only a marginal decline.

Table 3.3: Number of live births and average crude birth rate (CBR), 1975-79 to 2010-14

Year	No. of live births	Mid-year Population (000') (average)	CBR per 1,000 population (average)
1975 - 1979	1,968,898	13,967	28.2
1980 - 1984	2,047,247	15,195	26.9
1985 - 1989	1,816,579	16,353	22.2
1990 - 1994	1,758,431	17,449	20.2
1995 - 1999	1,668,489	18,577	18.0
2000 - 2004	1,809,395	19,086	19.0
2005 - 2009	1,872,721	20,052	18.7
2010 - 2014	1,798,703	20,664	17.4

Source: Various Sources of Department and Census and Statistics.

When the total number of live births in each quinquennial period is considered, the highest volume of live births was reported in the period 1980-1984, which is two million in volume. A figure close to this volume (1.9 million live births) has been reported in the fairly recent birth cohort of 2005-2009 as reported in table 3.3, the lowest volume of live births was reported in 1995-1999, which was only 1.67 million.

It should be noted that the CBR estimates reported in Sri Lanka, particularly after the year 2001, should be interpreted with caution. It is primarily due to the over estimation of mid-year population during the period of 2002 to 2011 (Appendix A: Table 1). For instance, although the mid-year population was estimated and reported as 20.9 million in 2011, by 2012 it had reduced to 20.4 million. It should be noted that an accurate mid-year population of the year 2012, was derived only after the 2012 census results were released by the Department of Census and Statistics in 2013. This demonstrates the issue of an over-estimation of mid-year population during the period 2002 to 2011, which has implications on the published CBR values of the same period. Thus the reported average CBR values for the periods 2005-2009 and 2010-2014 could be underestimated i.e. true CBR figures should be higher than the reported ones.

3.4.3 Mean number of children ever born

The age of women is a key factor in analysing fertility related status of a population. The level of lifetime fertility is based on information about the total number of children ever born. The average number of children ever born alive (mean parity) per woman is an important measure which shows that the ratio between the total number of children ever born alive to the total number of ever married women, 15 years and above or in a particular age group. Family building process is demonstrated through the adding live births to the family.

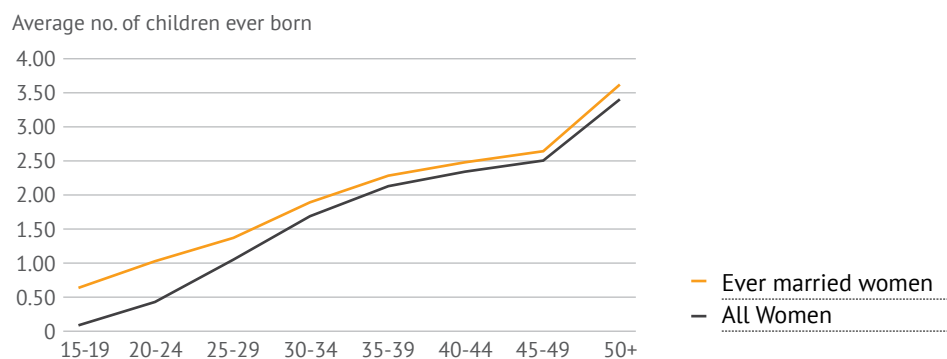
In the 2012 population census, ever married women aged 15 years and above were asked to report the number of children who were born alive to them during their lifetime. In general one would expect average parities (the average total number to co-resident, absent and dead children born to women) to increase steadily with age. The average number of children ever born to ever married women at end of their reproductive period, that is age 45-49, would represent a measure of completed fertility.

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An analysis of 2012 census data reveals that the mean number of children born to ever married women in Sri Lanka rises from 0.6 children in the age group 15-19 to 1.88 children in the age 30-34 (Figure 3.4). The completed fertility reported to be 2.66 number of children among the ever married women aged 45-49 years. The mean number of children born alive (parity) to women who are aged 50 years or more are significantly higher than the corresponding value of women aged 45-49 years.

It is important to note that once all women were taken to compute average number of children for the age group 45-49 years, the corresponding figure has declined to 2.52 number of children. As shown in figure 3.4 the average number of children born alive to ever married women at each age category is higher than corresponding values of the all women. A small proportion of the ever married women aged 45-49 did not report any single live birth to them.

Figure 3.4: Mean number of children born alive to ever married and all women by age, 2012



Source: Department of Census and Statistics

3.4.4 Women who are childless

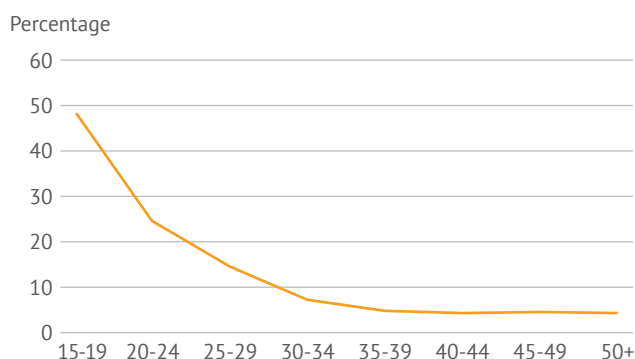
Ever married women in the reproductive age group of (15-49 years) and the age group of 50 years and above were questioned in 2012 population census about number of children they ever had. Those who have had no single live birth is usually defined as childless women. Childlessness¹ is the condition of being without children.

The percentage of childless ever married women at ages 40-44, 45-49 and 50 and above years is an indirect measure of the prevalence of infertility² in the Sri Lankan population.

As of 2012 in Sri Lanka around 4 per cent of ever married women in the ages 40-49 years reported no single live birth (Figure 3.5). Presumably these women would not have any birth in their subsequent life span. Since women in the age of 50 years and above also reported more-or-less the same percentage the above proposition could be acceptable.

¹Two distinguished types of childlessness are voluntary and involuntary. Voluntary childlessness is a consequence of having made a decision not to reproduce. To be childlessness not by choice is defined as involuntary childlessness.

²Primary infertility includes those who have successfully conceived but have failed to deliver a live birth - not having had a child by birth (Rutstein and Shah (2004). Secondary infertility defined as the inability to conceive for the second time, or, more accurately, the next time. Defined as having had a live birth.

Figure 3.5: Percentage of ever married childless (not had even single live birth) women, 2012

Source: Department of Census and Statistics.

3.4.5 Total Fertility Rate

In the most recent population census, which was conducted in 20th February 2012, ever married women born in February 1997 or before (15 years and over) were asked to report the date of birth of their last live born child (P 29 in the census questionnaire). The last birth, which occurred in calendar year 2011, was used to derive age-specific fertility rates (ASFRs) of females of 15-19, 20-24,..... 45-49 age groups. The total fertility rate (TFR) of 2011 is derived from these ASFRs. The TFR values of DHS surveys were derived from birth history information of ever married women of 15-49, particularly taking births that has taken place in the past three or five years preceding the survey.

The total fertility rate (TFR) is the measure heavily used by the demographers to understand the fertility change of a given country. The prime advantage of the TFR is that it produces a single summary measure from age specific fertility rates. This measure is very closely linked to the average family size.

The total fertility rate of 5.3 births per woman in 1963 declined to 3.4 in 1981, and then to 2.8 in 1982-1987 and further to 2.3 for the period 1988-1993 (Table 3.4). The average annual decline in TFR was only 1.4 per cent during 1963 and 1981, but the decline was over 6 per cent during 1981 and 1982-1987.

Table 3.4: Total fertility rate (per woman) in Sri Lanka, 1953 to 2011

Source	Year/Period (Reference)	TFR (No. of live births per woman)
Census & registration, 1953	1953	5.3
Census & registration, 1963	1963	5.3
Census & registration, 1971	1971	4.2
World Fertility Survey, 1975	1974	3.6
Census & registration, 1981	1981	3.4
Demographic & Health Survey, 1987	1982-87	2.8
Demographic & Health Survey, 1993	1988-93	2.3
Demographic & Health Survey, 2000	1995-2000	1.9
Demographic & Health Survey, 2006-07	2003-2006	2.3
Census, 2012	2011	2.4

Source: Department of Census and Statistics (2009 & 2014).

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About 20 years ago Sri Lanka experienced a transition in major demographic phenomenon i.e. below replacement fertility³. However, according to 2012 census, for which the data was analysed for the calendar year 2011, confirmed an increasing trend of fertility has been confirmed well above the replacement level.

High fertility to replacement fertility

The gradual decline of TFR from high to low, towards a replacement level is reflected in the rates calculated using data collected from the population censuses, the registration system and survey data for more recent times.

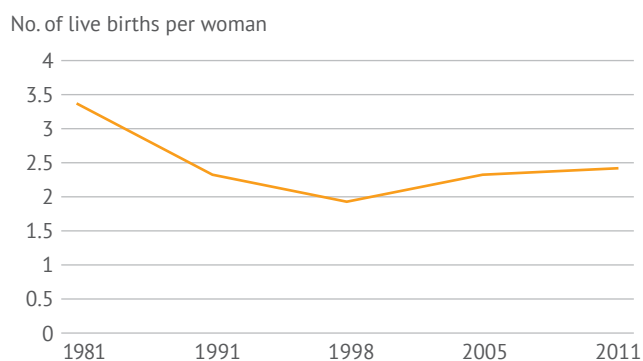
Based on the multiple sources of Demographic and Health Surveys (DHS) of 1987 and 1993, the census of 1981 and data of the Registrar General's Department, it is noted that TFR in Sri Lanka had declined to the replacement-level of fertility by the mid-1990s (De Silva, 1994). Data from 2000 DHS confirm the above hypothesis. The DHS survey data for the period 1995-2000 have measured TFR in Sri Lanka to be in the range of 1.9 children per woman, which was even below the replacement level of 2.1 (Table 3.4). Thus, based on the above sources, it should be noted that TFR of Sri Lanka had reached the replacement fertility level by 1994 at the latest. However, according to the 2006-07 DHS and 2012 census data, there is a sudden jump in fertility level in Sri Lanka (Figure 3.6).

Below replacement to above replacement

Indices related to fertility transition in Sri Lanka, particularly the TFR valued at 1.9 for the period 1995-2000 calculated from the DHS 2000, aroused the general expectation among the researchers that Sri Lankan fertility could remain stable or even go below the level reported by DHS (De Silva 1997a and 2007; Abeykoon, 1998). Nevertheless, at that juncture, it was not possible to predict the changes in Sri Lanka's policies and programmes, to deal with the fertility level equal to or even less than the replacement level.

The DHS 2006-07 indicated an unexpected increase in the TFR and the hypothesis of replacement level fertility or even below that level in Sri Lanka in the new millennium was therefore not realized. The expectations of the population planners were not fulfilled. The TFR calculated to be 1.9 during 1995-2000 which increased to 2.3 during the three years period of 2003-2006 according to DHS 2006-07 (Table 3.4).

Figure 3.6: Total fertility rate (no. of live births per woman) 1981 to 2011



Source: Department of Census and Statistics (2014).

³ The replacement fertility implies a total fertility rate usually between 2.1 and 2.2 children per woman, depending on a country's level of mortality. Since the infant mortality rate of Sri Lanka was at a very low level, of only 19 and 11 per thousand live births in 1990 and 2009 respectively, its replacement fertility is defined as an average of 2.1 children per woman.

The TFR value of 2.4 obtained from 2012 census data for the calendar year 2011 confirmed this increasing trend of fertility in Sri Lanka (Figure 3.6). This phenomenon has not been observed in any of the other Asian country so far, where fertility has an upturn from below to above replacement level.

An unexpected fertility trend appeared during the past 10-15 years. The achieved below-replacement-fertility increased to above replacement-level. Simply a reversed trend is marked in Sri Lankan fertility transition. It is important to note that the fertility level observed in 2011 (TFR 2.4) is even higher than the level observed in 1993 at DHS for the period 1988-1993 (Table 3.4).

3.4.6 P/F Ratio Technique

The TFR figures reported during the past 10-15 years in Sri Lanka demonstrate a significant increase in fertility. One may raise the question whether this increase is the true situation or it reflects some problems related to the data collection, or the length of the reference period or the estimation procedure. Brass (1968) states that Parity/Fertility (P/F) ratio method is a technique chosen for that kind of evaluation, because it incorporates a direct comparison of cohort fertility and period fertility which are the obvious units of a cohort-period analysis. More specifically, the relation between a cohort parity measure and a period fertility measure is instantly interpretable in terms of conventional demographic measures.

Most censuses and many household surveys especially demographic and health surveys include fertility questions on the number of children ever born to women and whether they had a birth in the year preceding the survey. The P/F ratio technique⁴ developed by Brass calculated fertility indirectly by using the average number of children ever born to women in 5-year age groups and age specific fertility derived from births in the year preceding the survey.

Findings of the analysis show that the reported total fertility rate of Sri Lanka in 2011 was 2.42 and adjusted total fertility per woman was 3.75 while general fertility rate was 0.75. As shown in table 3.5 there is a substantial difference between the reported total fertility rate (TFR) and the adjusted total fertility rate. The difference is 1.33 children per woman. As a root cause of these differences, under reporting of children ever-born and with memory lapse could cause the difference for older women. However, in view of several arguments in relation to Sri Lankan fertility level, these findings seem leading us towards the sudden increase of Sri Lankan TFR in 2011 as well as probable in future.

Table 3.5: Summary of the results based on P/F ratio technique, 2012 census

Index (i)	Age group	Reported-period fertility rate	Adjusted fertility rate*	Estimated births
1	15-19	0.0360	0.0452	37242
2	20-24	0.1070	0.0299	23367
3	25-29	0.1472	0.2649	218440
4	30-34	0.1179	0.2362	195594
5	35-39	0.0582	0.1306	93687
6	40-44	0.0156	0.0407	27952
7	45-49	0.0018	0.0028	1861
	TFR	2.4181	3.7521	0.7504

Note: *Adjustment factor of weighted average of P2/F2, P3/F3 and P4/F4 was selected.

Source: Compiled by the author.

⁴As a demographic technique, Parity/Fertility ratios reflect the consistency between information on lifetime fertility and current fertility across women's age groups. Lifetime fertility or average parity (P) is considered to be accurate among younger compared to older women, because they have fewer recall errors and omissions. By contrast births in a given reference period can be distorted due to date displacement, which is likely to occur to the same extent across age groups. By cumulating recent births, average parities can be calculated, but these parity equivalents (F) will be smaller than reported average parities if recent births are not completely recorded.

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3.4.7 Age Specific Fertility Rates (ASFRs)

The age pattern of fertility pinpoints the tempo of childbearing, the age at which women begin to reproduce, the age at which they cease childbearing and any changes in the pattern of childbearing during the reproductive life span. The DHS and other fertility surveys the main sources of data to examine trends in fertility for observing preferable through a time series data and for estimating. Apart from those surveys, national census data on fertility also provides an overall picture on fertility.

Recent changes in age specific fertility rates (ASFRs) in Sri Lanka prove that the fertility levels of Sri Lanka had been increasing during the period 1995-2000 to 2011. As shown in table 3.6 and figure 3.7, ASFRs in Sri Lanka increased in the early twenties, peaked in the age group 25-29 years, formed a slight plateau in the consequent years and had shown a gradual decline after reaching the age group of 30-34 with the declining of fecundity of women.

Over many decades, there had been no change in this age pattern of fertility. However, in 1975 and 1993, larger reduction of fertility had occurred among all age groups. It had further declined significantly between 1993 and 2000. As depicted in figure 3.7, not only the older women but also the younger ones experienced a remarkable decline in fertility during 1993 and 2000.

Table 3.6: Age-specific fertility rates, 1975 to 2012 (per 1000 women)

Age	WFS 1975 (1974)	DHS 1993 (1988-1993)	DHS 2000 (1995-2000)	DHS 2006-07 (2003-2006)	Census 2012 (2011)	Percentage change (1995- 2000 to 2011)
15-19	31	35	27	28	36	33.3
20-24	146	110	83	102	107	28.9
25-29	161	134	118	147	147	24.6
30-34	158	104	98	122	118	20.4
35-39	126	54	40	57	58	45.0
40-44	43	14	8	14	16	100.0
45-49	6	4	1	1	2	100.0
TFR	3.4	2.3	1.9	2.3	2.4	26.3

Note: Figures in parenthesis refer to time reference for fertility estimates.

Sources: Department of Census and Statistics (2014) and www.statistics.gov.lk/dhs

De Silva (1991) has examined the prevailing declining pattern of ASFR and concluded that 'women decided to limit the number of children at a relatively early age'. Until the year 2000, in Sri Lanka, no change in the declining pattern of fertility had been observed, among women from all age groups. However, with the dawn of the new century, the age pattern of fertility of all ages changed significantly, demonstrating a sudden and unexpected increase.

The ASFRs for 25-39 age group in the 2006-07 DHS were higher than the corresponding values reported in the DHS 1993 (Table 3.6). The percentage changes in ASFRs of 2000 and 2012 show that the largest percentage increase was among the 40-49 age group. However, the increase in absolute numbers are not quite significant.

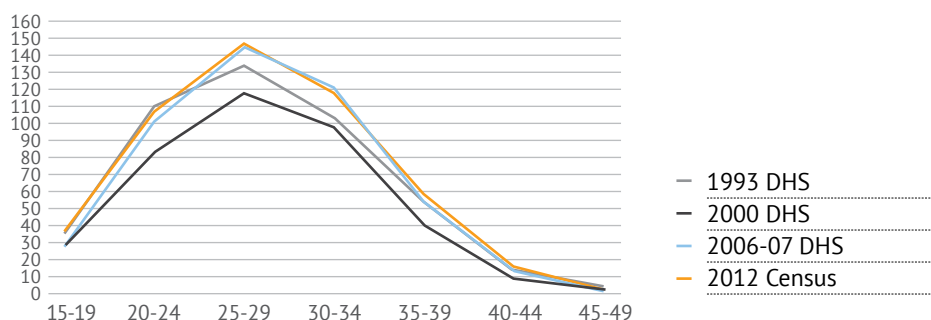
Apart from this older age group, the ASFRs of women in the 35-39 age group also reported a significant increase of 45 per cent over the same period. The fertility among the youth (15-19, 20-24 and 25-29 years) demonstrates an increase in their fertility between 25-33 per cent.

Although TFR had increased, the age group in which fertility peak occurred had not changed, and the age pattern of fertility remained unchanged (Figure 3.7). Interestingly, as indicated in table 3.6 the latest census data in 2012 show that the peak ASFR of 25-29 age group, calculated as 147 per thousand women of that age group, is only 14 points less than the peak value of 161 per thousand women reported in the 1975 wide World Fertility Survey.

The comparison of ASFRs of 2006-07 DHS and 2012 census highlights the continuation of fertility increase, except in age group of 30-34 years (Figure 3.7 and Table 3.6). Although in this age group the rate has declined by 3 per cent, rest of the age groups contributed to the increase in TFR from 2.3 to 2.4 over the same period.

Figure 3.7: Trends in age specific fertility rates, Sri Lanka, 1993 to 2012

Births per 1000 women



Sources: Various sources of the Department of Census and Statistics.

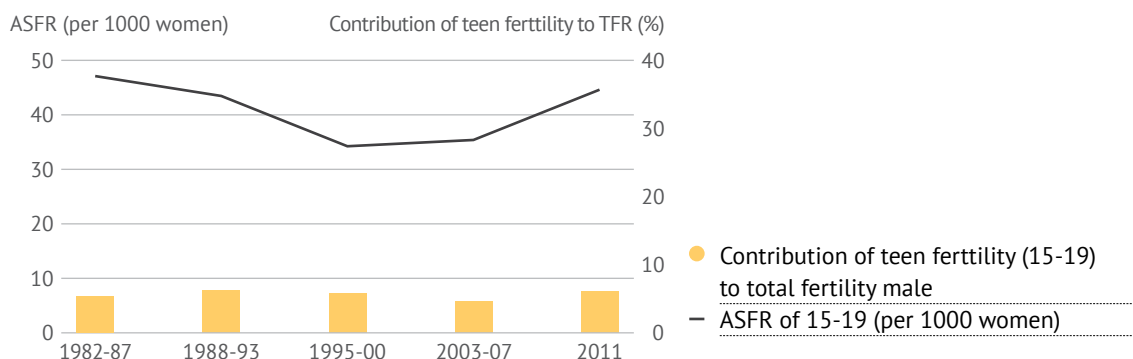
3.4.8 Teenage fertility

Teenagers are biologically mature to participate in sex and to be pregnant at early years of life, although they may not be psychologically mature to understand and assume responsibilities associated with a sexually active life. It is the period of life during which young boys and girls progress to adulthood. The knowledge, attitudes, practices and behaviour of Sri Lanka's teens on sexual and reproductive health greatly depended on values and beliefs that they had inherited through the socio cultural and religious norms of the society (De Silva, 2008).

The teen fertility rate of age group 15-19 of Sri Lanka had increased from 27 to 36 live births per 1000 females over the period 1995-2000 to 2011, and this increase is estimated to be 33 per cent (Table 3.6). In fact teen fertility of 2011, derived from 2012 census data is marginally lower than the corresponding value reported for the period 1982-87. It is important to note that both the lowest TFR and the lowest teen fertility (27 live births per 1,000 teens) was reported during 1995-2000 period. The contribution of teen fertility to the TFR was 6.7 per cent in 1982-87, however by 2011 the corresponding figure had increased to 7.4 per cent (Figure 3.8).

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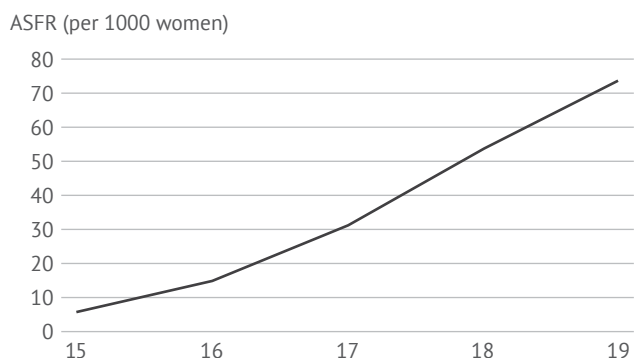
Figure 3.8: Teenage fertility (ASFR 15-19) per 1,000 women and their contribution to the TFR (%)



Source: Various sources of Department of Census and Statistics.

In most of the developing countries when the prevalence of fertility within the age group 15-19 is considered, it is significantly low before 17 years of age but increases rapidly during subsequent ages. In Sri Lanka too at age 16 years the age-specific fertility rate (ASFR) was only 15 live births per 1,000 females in that age, while by age 19 it has jumped to 74 live births. Although ASFR at age 15 is significantly low it demonstrates the risk of entering to early reproduction. (Figure 3.9).

Figure 3.9: Teenage fertility (age 15-19 years) by single years, 2011



Source: Department of Census and Statistics.

The general pattern of declining teenage fertility can be seen with the socio economic and health sector development of a country. Even though the teenage fertility had declined in most of the developing countries, Sri Lanka's fertility transition is in the opposite direction. As indicated in Table 3.7, during the period of 1995 to 2010, fertility of age group of 15-19 had increased only in Sri Lanka, while in all other Asian countries, teenage fertility had fallen significantly over the period of 1995-2010.

Although substantial declines in the teen fertility rate have occurred in Afghanistan, Bhutan and Nepal, relatively higher level of teen fertility existed in these countries throughout the period. Unlike in the rest of the South Asian countries the increase in teen fertility in Sri Lanka could well be related to the change of marriage.

Table 3.7: Teenage fertility rate by country in South Asia, 1995-2000 to 2005-2010

Country	ASFR of 15-19 (live birth per 1000 females)		
	1995-2000	2000-2005	2005-2010
Afghanistan	166.2	131.9	113.0
Bangladesh	151.5	149.2	124.5
Bhutan	73.2	50.9	36.8
India	99.5	68.9	61.8
Maldives	45.4	26.2	23.3
Nepal	127.2	122.2	114.6
Pakistan	68.8	22.0	35.6
Sri Lanka	27	28	28

Source: ESCAP (2008; 2012).

3.5 COMPARISON OF SRI LANKAN FERTILITY TRENDS WITH THE ASIAN REGION

In the context of the economic transition taking place in Sri Lanka, it is logical to compare the fertility decline that had taken place in the country with that of a Newly Industrialized Economy (NIE). Congruent patterns of fertility decline can be observed when analyse declining fertility levels and patterns of Sri Lanka. It has been compared with South of Korea, a newly industrialized economy.

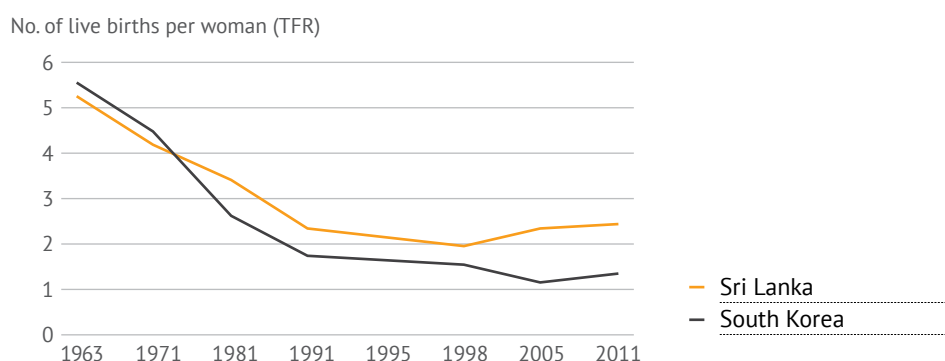
As shown in figure 3.10, similarities in fertility of both countries are clear. Both Sri Lanka and Korea show the same pattern of fertility decline. However, before the year 1973 Sri Lanka's fertility levels (TFR) have always remained lower than those of Korea. In 1963 when Sri Lankan woman recording a TFR value of 5.3 live births, the corresponding figure of Korea was 5.6, and even in 1971 also the same difference was maintained. However, since 1973 to-date Sri Lanka's fertility is at a higher level than the Korea.

The Korean TFR dropped from 2.7 in 1980 to a replacement level in 1985, i.e. within a period of just five years (KIHASA, 1992), whereas Sri Lanka took about eight years for TFR to drop from 2.7 in 1986 to the replacement level in 1994 (De Silva 1994, 2015). Korea had reduced fertility to below-replacement level (TFR of 1.7) during 1990-1995 period (Gubhaju, 2008) and subsequently by 2005 the Korean TFR reached a level of 1.1, which was substantially much below the corresponding fertility level of Sri Lanka. Since 2000, Korea maintain a TFR value in the range of 1.0 – 1.3 (Lee and Kim, 2013), one of the world's lowest-low fertility figures.

It is not only the below replacement fertility maintained by Korea during the last 30 years (1985-2015), it may also continue this low fertility experience unless there is emergence of strong pronatalistic attitudes from the Korean people (De Silva and de Silva, 2015). However, Sri Lanka, on the other hand, was able to maintain replacement fertility only for a short period and since the early part of the last decade, fertility has demonstrated an upturn movement (De Silva and others, 2010). Along with the increasing trend of fertility in Sri Lanka, by 2005 and 2011 the difference in TFR of Sri Lanka and Korea has reached a value of one child approximately.

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Figure 3.10: Change of TFR in Sri Lanka and South Korea, 1963 to 2011



Sources: Data for Republic of Korea obtained from www.prb.org

Data for Sri Lanka is derived from various sources of Department of Census and Statistics.

Consequent to this reversed trend, Sri Lanka's fertility is closely on par with the fertility levels of a number of South Asian countries (Table 3.8). In fact TFR values of Bhutan and Bangladesh in 2012, in the South Asian region, is only 2.3 and 2.2 respectively. Currently the TFR of Sri Lanka is the fourth lowest when compared with all the other South Asian countries. However, the matter of concern is that in all other South Asian countries TFR had been gradually declining during the period 1995 to 2012 (Table 3.8) whereas Sri Lanka is the only country which indicated an increasing trend in TFR from 1.9 to 2.4 during the period.

Table 3.8: Total fertility rate (no. of live births per woman) by country in South Asia

Country	TFR (live births per woman)				
	1990-1995	1995-2000	2000-2005	2007	2012
Afghanistan	8.0	8.0	7.6	7.1	6.0
Bangladesh	4.1	3.6	3.2	2.9	2.2
Bhutan	5.5	4.3	3.0	2.2	2.3
India	3.9	3.5	3.1	2.8	2.6
Maldives	5.6	4.1	2.9	2.6	1.7
Nepal	5.0	4.4	3.8	3.3	2.6
Pakistan	5.9	5.0	4.1	3.5	3.2
Sri Lanka	2.2	1.9	2.1	2.3	2.4

Source: ESCAP (2012); Department of Census and Statistics (2014).

Countries having the lowest-low fertility in the Asian region during 1970-2012 are presented in table 3.9. It is important to note that almost all the countries which ranked as lowest-low fertility in 2012, reported higher total fertility rates in 1970's. In other words, all of them were above the replacement level; i.e. TFR of above 2.1 in the seventh decade of the last century. However, after about four decades, all these countries have been able to show a tremendous decrease in fertility and to achieve below replacement level. By 2012, these lowest-low fertility countries viz. Japan, Singapore, South Korea, Taiwan and Hong Kong were well below the replacement fertility. If the present level of fertility in Sri Lanka is compared with these fertility values, it is interesting to note that, the TFR value of Sri Lanka in 2011, i.e. reported as 2.4 is even higher than the TFR value reported by Japan in 1970's.

Table 3.9: The lowest-low fertility countries in Asia, 1970 to 2012

Country	Total Fertility Rate(Per woman)			
	1970	2006	2008	2012
Japan	2.17	1.32	1.37	1.37*
Singapore	3.07	1.26	1.28	1.22*
South Korea	4.53	1.12	1.19	1.15*
Taiwan	3.93	1.12	1.05	1.03*
HongKong	**	0.9	1.06	1.28**

Note: *The Japanese Journal of Population, Vol.10, No.1 (March 2012).

**<http://www.gov.hk/en/about/about/hk/factsheets/docs/population.pdf>

Source: De Silva, 2010 & <http://www.unescap.org/stat/data/syb2012/country-profiles>

3.6 SOCIO-ECONOMIC DIFFERENTIALS

Developed and developing countries experience different stages of fertility transition. As a developing country, Sri Lanka is experiencing a different pattern of fertility transition compared to the other developing countries, where fertility demonstrates a significant upturn during the past 15 years.

There are several differentials in human fertility viz. biological, socio economic or cultural. Mainly, place of residence, ethnicity, religion and education play major roles in determining fertility (Abeykoon, 1987; Puvanarajan and De Silva, 2001; Fernando, 2014; De Silva, 2015). In addition, income/wealth, employment status of women, migration and some other background characteristics of a woman are also very important determinants of fertility. The upturn in fertility observed in Sri Lanka could be related to specific socio-economic characteristics of females in the country. Therefore selected socio-economic differentials in fertility are presented by using child-woman ratio, average number of children born alive and the total fertility rate.

3.6.1 Place of residence (Sector)

Of the total population enumerated in 2012 population census, 18.2 per cent reside in the urban sector, while majority, that is 77.4 per cent reside in the rural sector. The balance 4.4 per cent lives in the estate sector. However the level of urbanization reported in 2012 census is an underestimate⁵. On the other hand it can be argued that the urban sector, which includes only Municipal Councils (MC) and Urban Councils (UCs) in the 2012 census, represents only highly urban localities of the country.

However, the degree of urbanization is considered as an indicator of economic development of a country and living status of the people. It is expected that the level of fertility in a urban area is usually lower than the rest of the sectors in the country. By using selected fertility indicators in following sections an attempt has been made to ascertain the fertility level of women in different sectors (urban, rural and estate) in Sri Lanka.

⁵ In both 1971 and 1981 censuses the level of urbanization was reported to be around 22 per cent. This indicates that slightly more than one-fifth of the population in Sri Lanka lived in urban localities such as MCs, UCs and TCs. However in the 2012 census, the level of urbanization is estimated to be 18.2 per cent only. It should be noted that these census estimates on urbanization are not comparable, primarily due to the change in the classification of urban areas. The level of urbanization, derived for Sri Lanka from the 2012 census is an underestimate primarily due to classification issue of urban localities. It should be noted that in 1981 the percentage living in urban areas were 22 per cent. If the above stated classification issues were resolved before the 2012 census, the urbanization level in Sri Lanka would have been much higher than 18.2 per cent.

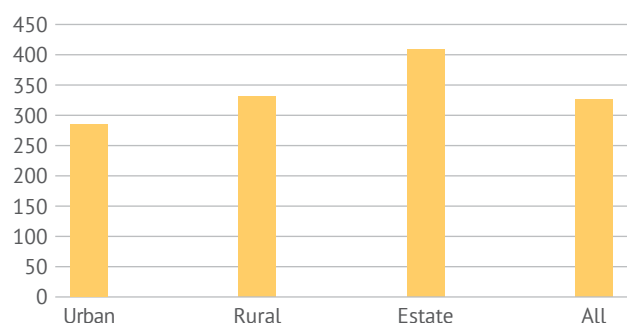
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Child-woman ratio (CWR)

When the place of residence of women is considered for the 2012 census, the CWR for estate sector is 409 children per 1000 women i.e. the highest number of children under 5 for 1,000 women of 15-49. The lowest value of CWR is observed from the urban sector (284 children), which is significantly lower than the estate sector and even lower than the national average (Figure 3.11). The CWR of each sector demonstrate fertility performance within the latest five years before the census 2012.

Figure 3.11: No. of children age 0-4 per 1,000 women of age 15-49 (CWR) by sector, 2012

No. of children age 0-4 years per 1,000 women in age 15-49 years



Source: Department of Census and Statistics.

Current pregnancy

Although the information on percentage of currently pregnant women among the 15-49 age category was not collected at the 2012 census, such information was available from the 2006-07 DHS. Among the three sectors of residence in Sri Lanka, the highest percentage of women with current pregnancy was identified in the estate sector, while the lowest rate was from the urban sector.

Table 3.10: Percentage of women currently pregnant, mean number of children ever born and TFR by selected variables, 2006-07 DHS

Background characteristic	Total fertility rate (live births per woman)	Percentage of all women age 15-49 currently pregnant	Mean number of children ever born to all women age 40-49
Residence			
Urban	2.2	3.2	2.3
Rural	2.3	4.3	2.6
Estate	2.5	5.1	2.8
Districts			
Colombo	2.2	3.3	2.1
Gampaha	2.2	3.7	2.2
Kalutara	2.2	3.8	2.2
Kandy	2.4	4.4	2.6
Matale	*	3.4	2.6
Nuwara Eliya	(2.6)	5.1	2.8

Background characteristic	Total fertility rate (live births per woman)	Percentage of all women age 15-49 currently pregnant	Mean number of children ever born to all women age 40-49
Galle	2.1	3.1	2.7
Matara	(2.4)	5.1	2.9
Hambantota	(2.3)	6	3.1
Batticaloa	(2.8)	3.5	3.1
Ampara	(2.9)	5.3	3.5
Trincomalee	(2.9)	6.2	3.8
Kurunegala	2.5	4.1	2.5
Puttalam	2.0	4.1	2.9
Anuradhapura	(2.3)	4.3	2.8
Polonnaruwa	(2.5)	3.8	2.7
Badulla	2.4	5	2.7
Moneragala	(2.5)	5.7	3.5
Ratnapura	2.4	3.6	2.6
Kegalle	(2.5)	5.5	2.2
Education			
No education	1.9	1.8	3.0
Primary (1-5 years)	2.8	2.4	3.2
Secondary (6-10 years)	2.6	4.6	2.6
Passed G.C.E. (O/L) or equalent	2.5	5.5	2.2
Higher (G.C.E. (A/L) or above)	2.3	5.1	1.9

Note: Figures in parenthesis based on relatively few cases.

Source: Department of Census and Statistics (2009).

Mean number of children ever born (CEB)

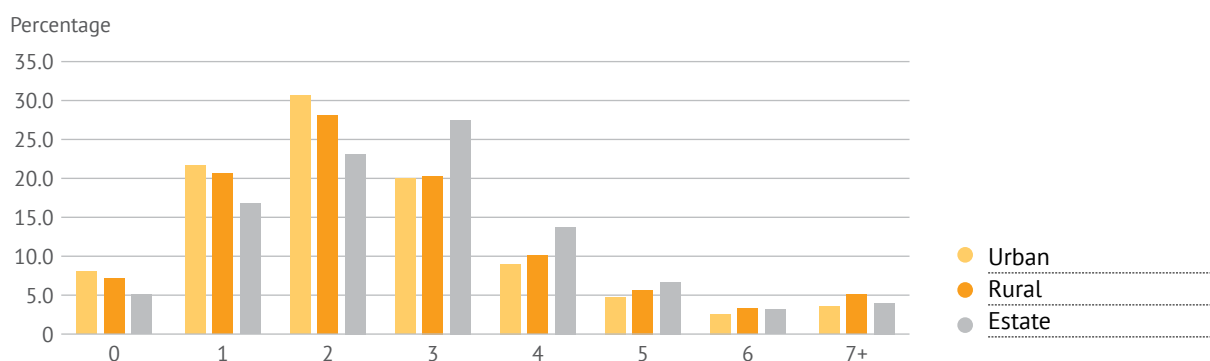
Of the three different residential sectors, the highest percentage of estate women (27.5 per cent) had three live births while the highest percentage of urban women (30.7 per cent) had two children. Moreover, as depicted in figure 3.12, the higher percentage of urban women tend to have lesser number of children (up to two children), while estate women are prominent in the higher parities, they have had three and above live births during their lifetime. However, this general pattern is not seen in the parity 6 and 7+ categories - undoubtedly older women in rural areas reported of having more live births than their urban and estate counterparts.

As demonstrated in figure 3.13, ever married rural women age of 50 and above reported the highest fertility (3.8) compared to their urban and estate counterparts. However of the women in the reproductive ages (15-49 years), the estate women reported the highest fertility (3.6). As expected in both groups of ever married in the urban sector reported the least number of mean parities.

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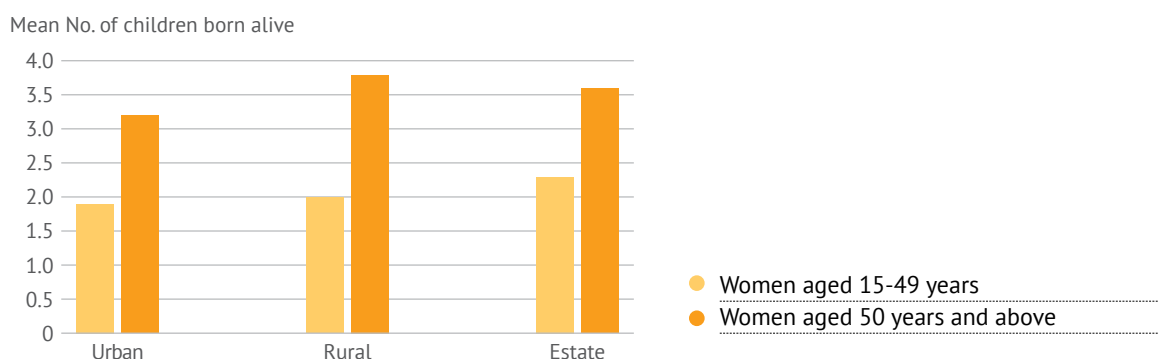
The prevalence of childlessness could also be investigated from figure 3.12. Nearly 7 per cent of the ever married women of aged 15 and above reported that they have had no live births. This pattern is prominent in the urban sector. However, it should be noted that a significant proportion of young ever married women would move into the parity one and subsequent parities later in their lives.

Figure 3.12 : Percentage distribution of ever married female population (aged 15+ years) by number of children ever born alive and sector, 2012



Source: Department of Census and Statistics.

Figure 3.13: Mean number of children born alive to ever married women by sector and age, 2012



Source: Department of Census and Statistics.

The place of residence is a very important socio-economic factor to determine the fertility. There are clear differentials of fertility between urban, rural and estate sectors of Sri Lanka. According to DHS 2006-07, women who live in the estate sector reported relatively a higher fertility level than rural and urban women (Table 3.10). Furthermore, estate women have reported both the highest percentage of women currently pregnant and mean number of children ever born, while urban women have the lowest levels for both indicators (Department of Census and Statistics, 2009).

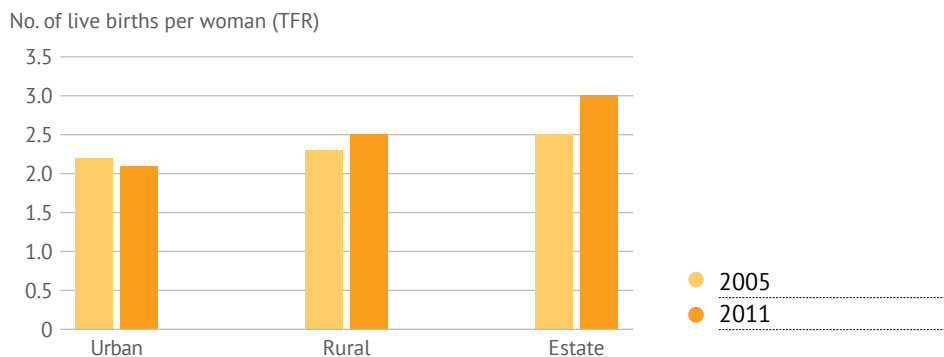
Total fertility rate (TFR)

As per 2012 census data, TFR value estimated was 2.4 live births per woman. The place of residence shows major differences in fertility. The estate sector women reported the highest TFR (3.0) while rural and urban women reported 2.5 and 2.1 respectively (Figure 3.14). Interestingly, only the urban women are at the replacement level compared to national value of 2.4.

As shown in figure 3.14, once the changes in total fertility rates of different place of residences are analysed from 2005 to 2011, the estate sector shows the highest increase on average, a half child increase. At the same time, although the TFR value of the rural women increased (2.3 to 2.5) over the period, the increase is not significant compared to women in the estate sector. Among the urban women during the same period there is a marginal decline of TFR values from 2.2 to 2.1.

The urban sector of the 2006-07 DHS and 2012 census represents a highly urbanized localities of the country due to the specific definition (Urban sector= Municipal Councils and Urban Councils) used. The population residing in this sector, as of 2012 census, equated only to 18 per cent. Although there was a decline in fertility in the urban sector this decline was not strong enough to off-set the overall increase in the TFR of the country, which has increased to TFR of 2.42 live births.

Figure 3.14: Changes in total fertility rate by sector, 2005 (DHS 2006-07) and 2011



Source: Department of census and statistics (2014).

3.6.2 Ethnicity

Sri Lankan society is diverse, as it is composed of a multi-racial, multi-religious and multi-linguistic population. Sinhalese, as the majority group, predominate. Tamil and Moor communities form the other major ethnic groups. Malays and Burghers form insignificant proportions. The majority of Sinhalese are Buddhists, while the majority of Tamils are Hindus. However, Christianity prevails among Sinhalese, Tamil and Burgher ethnic groups, while the Moors are followers of Islam.

In the census 2012, Sinhalese were 74.9 per cent of the total population while Sri Lanka Tamils were 11.2 per cent. Sri Lanka Moor (9.7 per cent) and Indian Tamil (4.1 per cent) ranked in the 3rd and 4th position in the population. During the period of 1981 and 2012 the proportions of population in all ethnic groups show a slight decline, except for Sinhalese and Sri Lanka Moors (Appendix A: Table 2). Sinhalese' proportion has increased by 0.9 percentage points while Sri Lanka Moors increased their share by 2.3 points. Meanwhile, the proportion of Sri Lanka Tamils has decreased by 1.4 percentage points over the same period.

The ethno-religious composition of the population and the relative numerical strengths and balances of each group during the process of demographic transition are important factors (Puvanarajan and De Silva, 2001). These factors merit consideration when investigating fertility levels and patterns of selected ethnic groups as they will have differential effect on fertility performance.

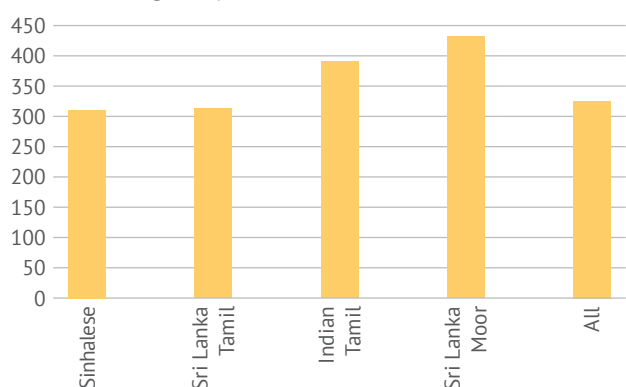
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Child-woman ratio (CWR)

An ethnic variation in fertility behaviour was examined by using the data collected in the 2012 census, which has the complete coverage of the entire country. As noted from figure 3.15 the CWR was the highest among the Sri Lankan Moors (432 children) followed by Indian Tamil community (392). Sinhalese women of aged 15-49 years reported the lowest number of children of under five years of age (311), while Sri Lanka Tamils are only marginally higher than them. This pattern clearly demonstrates the fertility performance within the last five years in Sri Lanka.

Figure 3.15: No. of children age 0-4 per 1,000 women of age 15-49 (CWR) by ethnicity, 2012

No. of children age 0-4 years



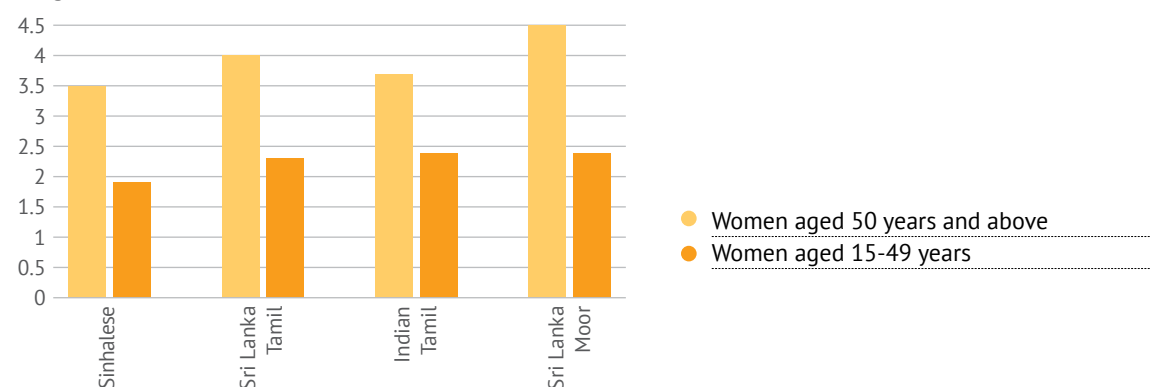
Source: Department of Census and Statistics.

Mean number of children ever born (CEB)

The comparison of average number of children ever born to ever married women aged 50 years and above and aged 15-49 years by ethnic groups demonstrate the past and present fertility patterns by ethnicity (Figure 3.16). The number of children ever born alive to ever married women of 50 years and above is significantly higher than the women aged 15-49 in each ethnic group. This indicates that the incidence of fertility was significantly high among the older women of each ethnic group compared to their young counterparts.

Figure 3.16: Mean number of children ever born to ever married women by ethnicity, 2012

Average number of children ever born alive



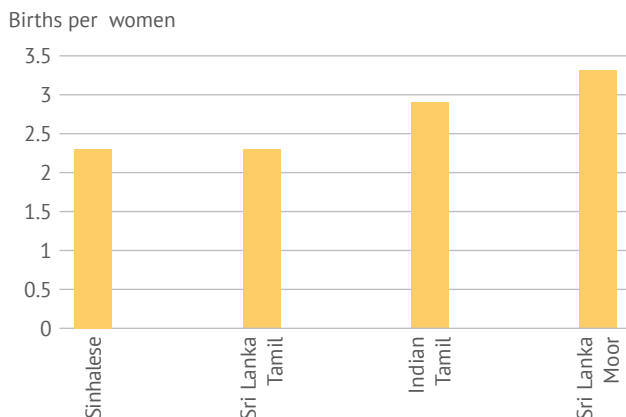
Source: Department of Census and Statistics.

The number of children ever born (CEB) among the ever married women, Sri Lanka Moors represent the highest fertility (2.4 and 4.5 live births) for both categories of age. Compared to Sri Lanka Moor women of reproductive age (15-49 years) in 2012, Indian Tamils also report the identical fertility level, which is 2.4 live births per woman. Among all four ethnic groups ever married Sinhalese women reported the least number of live births for both age groups of 15-49 and 50 years and above categories.

Total Fertility rate (TFR)

As identified from the latest census, ethnic differentials of fertility are also significant in 2011. Figure 3.17 shows that, Sri Lankan Moors report the highest fertility (TFR=3.3) in 2011 followed by Indian Tamils (2.9), Sri Lankan Tamils (2.3) and Sinhalese (2.3) respectively. These findings interestingly show that, the TFR value of Indian Tamils (2.9) is only lower to the corresponding value of the Sri Lanka Moors. Findings of various studies (Puvanarajan and De Silva, 2001; Fernando, 2014) also reveal that higher fertility prevails among Moor women than other communities in Sri Lanka.

Figure 3.17: Total fertility rate (live births per woman) by ethnicity, 2011



Source: Department of Census and Statistics.

Apart from the four major ethnic groups presented in figure 3.17, Sri Lankan population consists of a few minor ethnic groups namely Burger (0.2 per cent of the population), Malay (0.2 per cent), Sri Lanka Chetty (0.03 per cent) etc. Although their percentage to total population is small, women in the age group of 15-49 of these ethnic groups are sufficient enough to compute TFR estimates for the year 2011 (Table 3.11).

Among these small ethnic groups Malay and Burger women reported a TFR of 2.7 and 2.2 respectively in year 2011. Once the contribution of teens to the TFR is considered, among the major ethnic groups, Indian Tamils (8.0 per cent) contributed the highest. Although TFR is highest among the Sri Lanka Moor women, contribution from the teens of Sri Lanka Moor community to the TFR is even lower than the Sinhalese and Sri Lanka Tamils. This clearly indicates the fact that a large proportion of Sri Lanka Moor women progress to higher parities than other ethnic groups, thus Moor teens' contribution to the TFR is low. It is interesting to know that among all ethnic groups teens from Burger community contributed the lowest (5.3 per cent) to the total fertility in 2011.

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Table 3.11: Total Fertility Rate (TFR) and contribution of teen fertility to TFR by ethnicity (2011)

Ethnicity	TFR (2011)	Contribution of teen fertility (age 15-19) to TFR (2011)
Sinhalese	2.3	7.4
Sri Lanka Tamil	2.3	7.7
Indian Tamil	2.9	8
Sri Lanka Moor	3.3	6.8
Malay	2.7	7.1
Burger	2.2	5.3
Sri Lankan Chetty	1.8	7.9
Sri Lanka	2.4	7.4

Source: Department of Census and Statistics.

It should be noted that if the observed variations in ethnic fertility continuous for few more decades then the ethnic composition of the country's population could alter significantly. However, the change in ethnic composition of the country in the future would also be altered by the significant ethnic variations in future trends in international migration.

3.6.3 Education

Women's education is another factor that has a strong relationship with fertility. Educated women have more opportunities in the labour market and their participation is higher in young ages. Also in their engagement in employment is higher than the average housewives. Generally, a clear inverse relationship can be seen between the education level of women and fertility differences.

Current pregnancy

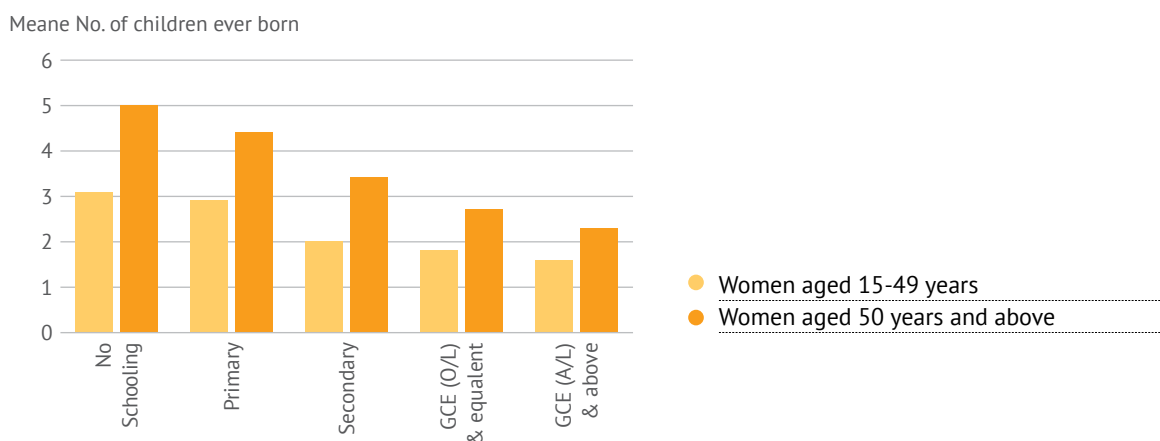
As indicated in Table 3.10, fertility differences across educational categories also vary. The percentage of women currently pregnant is the lowest for women with no education. It should be noted that percentages of pregnant women are increasing as the women's level of education increases, except within the higher education category. It can be seen that fertility in Sri Lanka seems to decline with increasing levels of education, the category with no schooling being the exception, having a low level of fertility. However, it must be noted that the number of women without schooling is smaller compared to the other categories, thus the estimates may not be as precise as in the other groups.

Mean number of children ever born

Educational variations in the average number of children ever born to women age 40-49 years of the 2006-07 DHS indicate the opposite pattern with the current pregnancy (Table 3.10). The highest number of live births was reported by the ever married women aged 40-49 with no education and primary education. This indicates the fact that in Sri Lanka in the past i.e. during the past two to three decades women with no education or primary education would have had higher level of fertility than more educated women.

In almost all countries education is known to have a significant impact on reproduction. The higher the level of education usually the fewer the children ever born. The analysis of 2012 census data on children ever born to ever married women of 15-49 and 50 and above groups are presented by cross-classifying with level of education (Figure 3.18). The least number of children was reported by the highly educated women while women with no education or with primary education demonstrate a high level of fertility. On average among the more educated women aged 15-49 and 50 and above group in 2012 reported 1.6 and 2.3 live births respectively.

Figure 3.18: Mean number of children ever born to ever married women by education, 2012



Source: Department of Census and Statistics.

Total fertility rate (TFR)

After independence, free education laid a path for manpower development and it provided equal opportunities for women. Better educated mothers aspire to provide better education for their children and also attempt to upgrade the overall quality of life of their children. Proving this, 2012 census data revealed that, of the five educational categories, the highest TFR is reported by the women with primary or secondary level education, while the least TFR is reported by women with no schooling (Figure 3.19). Data from the DHS 2006-07 for the year 2005 indicate that, the highest fertility rate (TFR = 2.8 live births) which is well above the replacement level of fertility is reported from women with primary education.

Further, a comparison of total fertility rates of 2005 and 2011 shows that fertility has increased from 2.6 to 2.7 among the women with secondary level of education during the period, which is an interesting finding, which is in contrast to the relatively highly educated categories (Figure 3.19). Women with no education reported fertility levels below replacement in 2005 and 2011. No adequate research has been undertaken to explore this phenomenon.

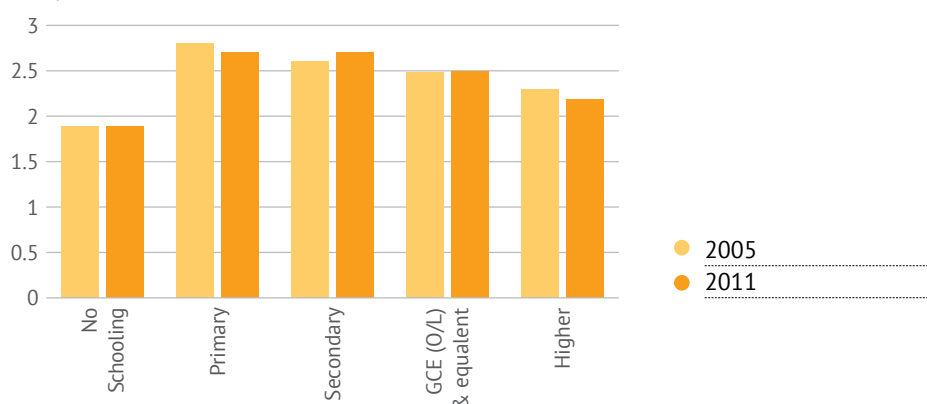
Why is the TFR lowest among the women with no education? Presumably, a significant proportion of women (or their husbands) with no education accepted sterilization (LRT or Vasectomy) some time in their life⁶. Sterilization programmes were quite popular in 1980s, however, since early part of 1990s only a very small proportion of men and women accepted sterilization in Sri Lanka. Thus relatively a small proportion of non-sterilized women with no education would have had live births in the years 2005 and 2011. Therefore the reported fertility during 2005 and 2011 was lowest among these women (Figure 3.19). However, it should be noted that mean number of children ever born (lifetime fertility) to women with no education was significantly higher than women from all other educational categories (figure 3.18).

⁶ Cash benefits of Rupees 500 and leave benefits of the sterilization package offered by the Government initiated in 1979. Few years later cash incentive was increased to Rupees 1000 and higher proportion of non educated or less educated women accepted sterilization the educated women (De Silva, 1992).

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Figure 3.19: Changes in total fertility rate by level of education of females, 2005 and 2011

Births per woman



Source: Department of Census and Statistics (2014).

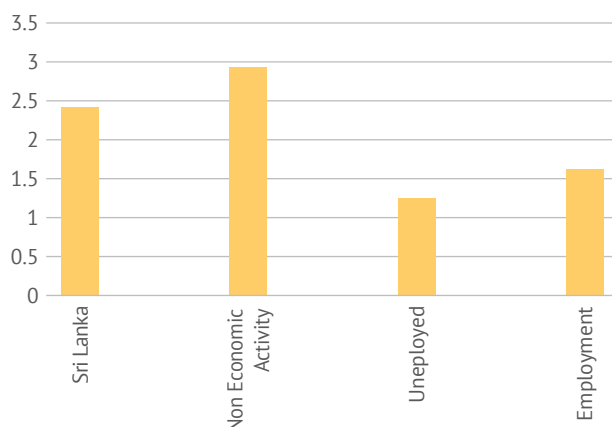
3.6.4 Economic activity

Although in developed countries fertility and female labour participation are inversely related, in contrast, the data from developing countries reveal inconsistencies. The figure 3.20 provide evidence on the relationship between female economic activity and fertility level in Sri Lanka based on the 2012 census data.

All women between age 15-49 years in 2012 census are grouped into three categories; employed (29.6 per cent), unemployed (4.6 per cent) and not in the labour force (65.8 per cent). Of the three categories of women the highest TFR is reported by the women who are economically not active (women not in the labour force), while the lowest TFR was observed from the unemployed group. Since unemployed women expect to find employment soon they usually limit the number of children, while economically not active women with a TFR of 2.93 clearly indicate the fact that if women keep away from the labour force participation their fertility tend to be significantly higher than the others (Figure 3.20). Presumably, unemployed women not only have the least TFR, they on average tend to postpone their marriage significantly compared to other two groups.

Figure 3.20: Total fertility rate by economic activity of woman, 2011

No. of live births (per woman)



Source: Department of Census and Statistics.

3.6.5 District variations

Geographical, political and administrative distributions can also generate fertility differentials. Generally women who live in the districts or regions, which are less developed, tend to marry at relatively young age and produce more children than the rest of the women. On the other hand districts or regions which are educationally advanced, tend to have low level of fertility compared to the rest of the districts.

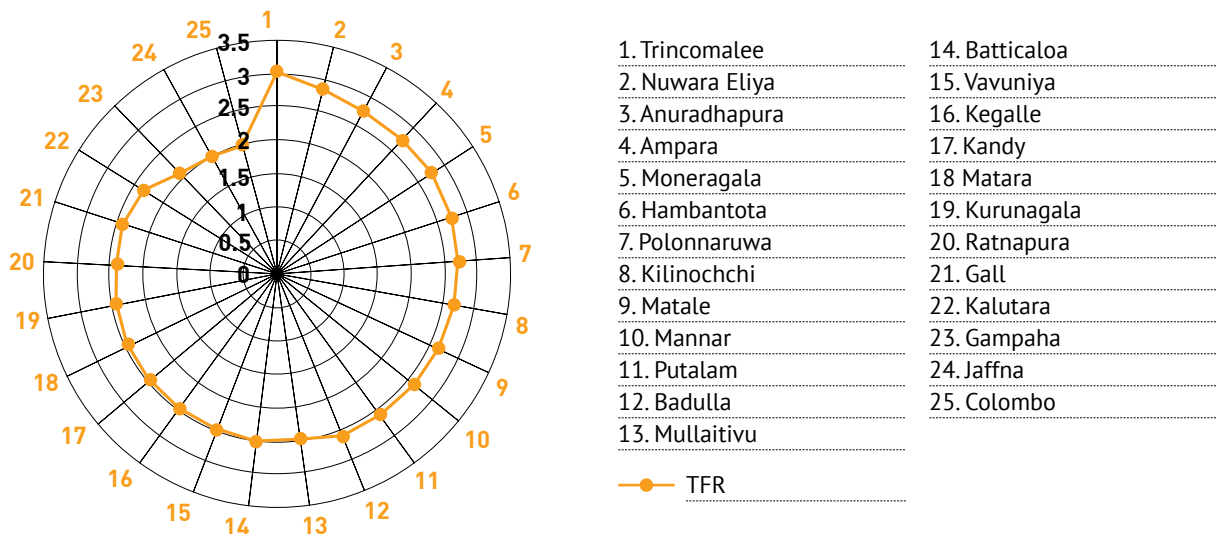
Current pregnancy

When the district variation in current pregnancy is examined from the 2006-07 DHS data, 6.2 per cent of women in the Trincomalee district rank the highest followed by districts of Hambantota and Mannar (Table 3.10). The least percentage of pregnancies is reported from the district of Colombo and in fact rest of the districts in the Western province also demonstrate significantly low proportion of pregnancies.

Total fertility rate

District level variations of fertility in Sri Lanka are also significant in 2011 and results are presented in figure 3.21. In general, the districts which are least developed or districts in the plantation sector and in the dry zone, such as Nuwara Eliya, Anuradhapura, Ampara and Monaragala, all reported relatively higher TFR values than the other districts in Sri Lanka. Remarkably, women of Trincomalee district reported the highest TFR values (3.02) in 2011. The lowest mean age at marriage of men has been reported from the same district, while mean age at marriage for women is significantly lower in Trincomalee than the national average. In contrast, the districts which are developed or economically advanced such as Colombo, Jaffna and Gampaha reported TFR values below replacement level (TFR of 2.1) in 2011 (Figure 3.21).

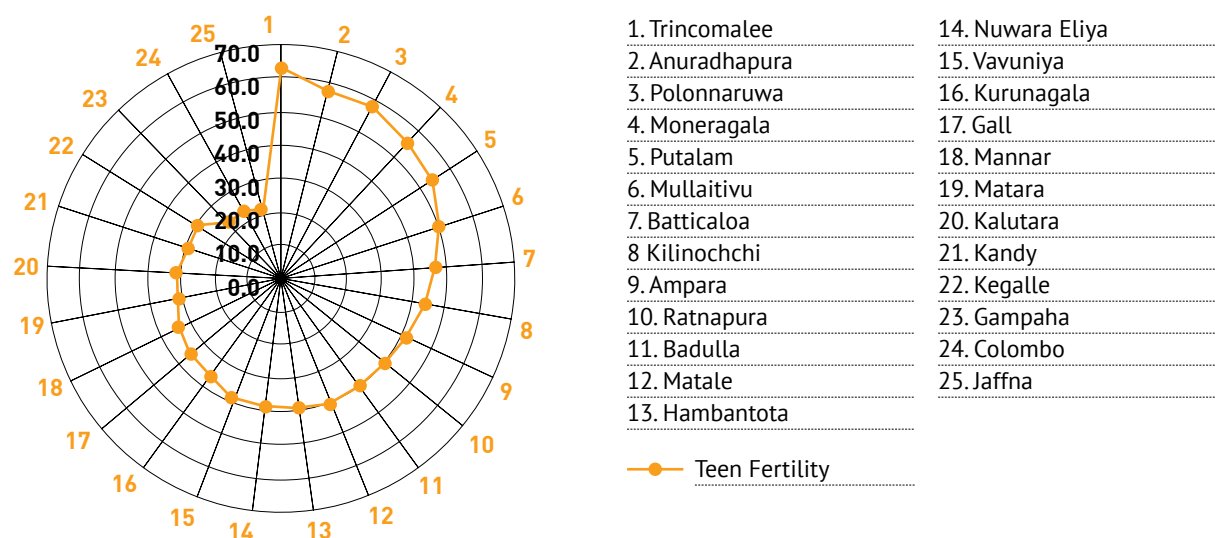
Figure 3.21: Total fertility rate (live births per woman) by district, 2011



Source: Department of census and statistics (2014).

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Figure 3.22: Teen fertility rate (live births per 1,000 women) by district, 2011



Source: Department of census and statistics (2014).

The teen fertility rate (age group 15-19) in each district is computed and results are presented in figure 3.22. Excluding Colombo, Jaffna district, reported the lowest TFR as well as teen fertility where out of 1,000 teens only 21 delivered a child in the year 2011. Apart from Jaffna, educationally extremely advanced districts in Sri Lanka, such as Colombo, Gampaha, and Kandy, reported very low level of teen fertility compared to the rest of the districts.

Interestingly, the Trincomalee district reported the highest teen fertility as well as TFR (Figure 3.21 and 3.22). Apart from the Trincomalee, districts such as Anuradhapura, Polonnaruwa, Moneragala, which belong to poor socio-economic strata, also reported very high incidence of teen fertility compared to the rest of the districts in Sri Lanka. Once a comparison is made with the national figure of teen fertility (36 live births per 1,000 women), it is possible to note a significant variation in the district level fertility performance of the teens in Sri Lanka.

As per the latest census data, the contribution of teen fertility to each district's overall fertility (TFR) is presented in the table 3.12. The least contribution of teen fertility to the overall fertility could be noticed from the Colombo district, which is only 4.9 per cent. In another dimension, 95 percent of the overall fertility in the district of Colombo had occurred to women aged 20-49 years. A high socio-economic environment prevail in the district, particularly a very large proportion of teens attending (engaging) in educational activities, prevented them entering into early marriage. Simply in this district women marry at advance ages and even within the marriage also they tend to produce a fewer number of children – TFR of the Colombo district was even below the replacement. Interestingly, districts such as Jaffna, Gampaha, Kalutara, and Kegalle, all made a lower contribution of teen fertility to the TFR of the corresponding district, than the national average of 7.4 per cent.

Table 3.12 Teen fertility (age 15-19 years) and contribution of teen fertility to the TFR by district, 2011

District	ASFR (15-19) (Teen fertility)	TFR	Contribution of teen fertility to TFR (%)	Contribution of teen fertility to TFR
Trincomalee	62.2	3.02	10.5	High
Anuradhapura	57.7	2.78	10.3	
Polonnaruwa	57.6	2.68	10.5	
Moneragala	55.5	2.73	10.4	
Puttalam	53.8	2.62	10.4	
Mullaitivu	49.7	2.53	10.0	
Batticaloa	46.5	2.52	9.4	Moderate
Kilinochchi	43.7	2.64	8.7	
Ampara	41.7	2.73	7.7	
Ratnapura	40.4	2.39	8.4	
Badulla	40.2	2.60	8.0	
Matale	40.0	2.63	7.6	
Hambantota	39.0	2.71	7.2	
Nuwara Eliya	38.7	2.83	7.1	
Vavuniya	38.3	2.51	7.7	
Kurunegala	35.9	2.43	7.4	
Galle	35.6	2.39	7.4	
Mannar	33.9	2.62	6.8	
Matara	31.7	2.47	6.4	Low
Kalutara	31.3	2.34	6.6	
Kandy	29.3	2.47	5.8	
Kegalle	29.2	2.49	5.6	
Gampaha	22.9	2.07	5.4	
Colombo	22.7	2.00	4.9	
Jaffna	20.9	2.00	5.2	
Sri Lanka	36.3	2.42	7.4	

Note: Districts are arranged in descending order as per teen fertility (ASFR 15-19).

Source: Department of census and statistics (2014).

The highest contribution of teen fertility to the TFR is observed from the Trincomalee district, which is close to 11 per cent. Teens also in the districts such as, Moneragala, Polonnaruwa, Anuradhapura, Puttalam and Mullaitivu all demonstrate over 10 per cent of contribution of teens to the overall fertility.

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3.7 FERTILITY PREFERENCES

Understanding trends and patterns of current and total fertility are essential to monitor population growth to develop policies and programs and also to alter the growth of the population. Fertility preferences of a couple shows the family sizes and family planning programs with an understanding of the potential 'demand' for fertility control in a population. Son-preference is shown in the agrarian societies and in some of the Asian countries due to cultural reasons. In the developing countries, especially in the rural areas and among the couples of lower socio economic background, the emphasis is usually on a desire for sons. De Silva (1991 and 1993) claimed that, in Sri Lanka son-preference find expression more through reproductive intentions than through actual fertility behaviour.

Although fertility preferences were not collected in the 2012 population census, such data was collected in all the DHS surveys conducted in Sri Lanka. As shown in Table 3.13, the data for a mean ideal number of children collected in the 2006-07 DHS by asking the question of "If you could choose exactly the number of children to have in your whole life, how many would that be?" This question was asked from all the women regardless of the marital status of the women (Department of Census and Statistics, 2009).

Table 3.13: Mean ideal number of children by number of living children, DHS 2006-07

Ever married/ currently married women	Number of living children							Total
	0	1	2	3	4	5	6+	
Mean ideal number of children for all ever married women	2.2	2.2	2.5	3	3.6	3.9	4.5	2.7
Mean ideal number of children for currently married women	2.3	2.3	2.5	3	3.6	3.9	4.6	2.7

Source: Department of Census and Statistics, 2009.

As per the DHS 2006-07, the mean ideal number of children for ever-married women are 2.7. A few micro studies conducted in Sri Lanka during the past couple of years indicated that most of the young couples would prefer to have two to three children in their families. In fact a sizable proportion of women indicated an upturn of fertility preferences in Sri Lanka.

As observed from 2006-07 DHS data, almost fifty per cent of women prefer to have two children, and nearly 30 per cent prefer three children. Generally, the positive relationship between the ideal family size and the actual number of living children can be seen. There may be several factors of this positive relationship. Mainly, to the extent that women implement their fertility preferences such as those who prefer to have larger families that would tend to achieve larger families. Then, married women might attempt to bring upward their ideal size of the family as the actual number of children increases such as rationalization by reporting their actual number of children as their ideal number (Department of census and Statistics, 2009).

Table 3.14: Percentage of currently married women by desire for more children and number of living children, DHS 2000 and 2006-07

Desire for more children	DHS (2006-07) Number of living children ¹							Total
	0	1	2	3	4	5	6+	
Have another soon ²	76.7	26.1	6.1	1.7	1.3	0.9	1.7	15.2
Have another later ³	9.7	44.2	12.2	3.1	2.6	2.0	2.1	17.4
Have another, undecided when	1.1	2.5	1.1	0.2	0.5	0.2	0.4	1.2
Undecided	3.3	5.4	5.0	1.5	1.1	1.8	2.1	3.9
Want no more	3.6	19.2	63.6	51.4	44.2	46.5	51.7	43.2
Permanent method ⁴	0.6	1.0	9.9	40.1	48.3	46.2	38.7	17.0
Declared infecund	4.7	1.4	2.0	1.7	2.0	1.9	2.8	2.0
Not stated	0.3	0.2	0.1	0.2	0.0	0.6	0.5	0.2
Total	100	100	100	100	100	100	100	100

Desire for more children	DHS 2000 Number of living children ¹							Total
	0	1	2	3	4	5	6+	
Have another definitely	88.9	64.0	20.7	5.0	1.7	0.0	0.1	29.2
Have another not sure	0.0	2.1	2.6	0.5	0.5	0.0	0.1	1.6
Undecided	0.0	14.6	5.5	1.0	1.1	1.1	0.8	6.0
Want no more Definitely	3.1	15.3	50.4	42.1	42.4	35.0	46.2	35.8
Want no more Not sure	0.0	2.7	5.0	2.4	0.4	2.2	0.1	2.9
Sterilized ⁴	0	0.9	15.2	48.1	53.5	61.5	49.9	23.6
Declared infecund	0.0	0.3	0.3	0.7	0.4	0.0	0.0	0.4
Not stated	8.0	0.1	0.3	0.2	0.0	0.0	3.0	0.6
Total	100	100	100	100	100	100	100	100

Note: 1, 2, 3 Includes current pregnancy; 4 Includes both male and female sterilization.

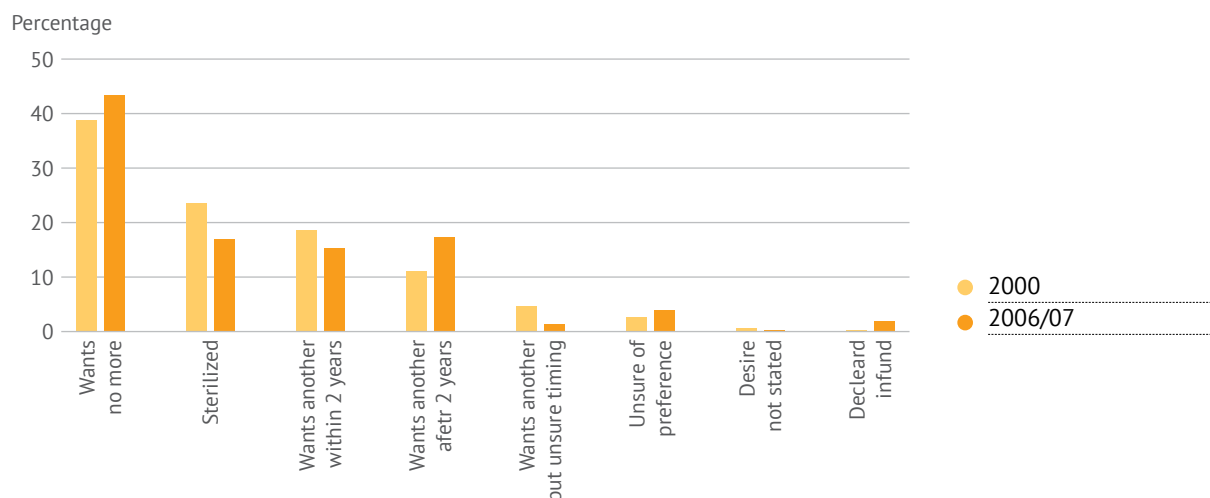
Source: Department of Census and Statistics (2002 and 2009).

Table 3.14 shows fertility intentions of women, according to the number of children they have. It is seen that there is a marked interest in controlling the number of births with the second child. Although, 60 per cent (43.2 + 17.0) of women in the DHS 2006-07 did not want any more children, only 28 per cent of them were having a permanent method. This is in contrast to the findings of DHS 2000, where 38 per cent of women who wanted no more children had undergone a permanent method of family planning.

The above findings suggest either deliberate avoidance of permanent methods or non-availability or non-accessibility of these methods by women. If there is a reluctance on the part of women to use a permanent method, alternatively, a safe convenient long term temporary methods need to be included and promoted. However, anecdotal evidence from the community also suggests constraints in obtaining permanent methods at client convenience

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Figure 3.23: Fertility preferences among currently married women aged 15-49, DHS 2000 and 2006-07



Source: Department of Census and Statistics (2002 and 2009).

Figure 3.23 shows that fertility preferences among all currently married women in the age group 15-49 in 2000 and 2006-07. Among the currently married women desire with no more children has increased in 2006-07 compared to the year 2000. However, there is a significant drop in the proportion of sterilized women from the 2000 to 2006-07. At the same time women who expressed their desire to have a child after two year period has increased significantly over the period of 2000 to 2006-07.

During the past 15-20 years the attitudes towards fertility in the Sri Lankan society has changed. There were many pronatalistic sympathizers who justify pronatalistic activities by arguing that the country needs more births – 'smaller family is beautiful' type slogans have disappeared from the society and a large proportion of couples preferred to have two or three children. Having experienced large scale natural (Tsunami) and manmade (civil strife) disasters, most of the couples in Sri Lanka have revised their fertility preferences upwards and outcome is the increase of fertility. In this environment even unmarried young people would have revised their preferences on age of entry into the marriage.

CHAPTER 4

NUPTIALITY

4.1 INTRODUCTION

In any society age at marriage, duration of marriage, divorce and widowhood all determine the woman's exposure to child bearing and therefore the level of fertility. A reduction in fertility is observed in almost all developing countries and it has been strongly associated with a shift from early marriage to late marriage. The postponement of marriage contributes substantially towards a reduction in the level of fertility by shortening the total reproductive span of the female, which in turn, owing to a cumulative effect, influences the size of individual families as well as the population growth rate of a country.

Apart from the impact of the changing nuptiality having on the fertility, the investigation of nuptiality itself has received wide range of attraction from social scientists including demographers. Changes in socio-economic and cultural environment also directly influence the trends of nuptiality of any society. In Sri Lanka, marriage has been of religious, legal and social significance (De Silva, 1997b; 2014). The term marital status or civil status refers to the state being unmarried, married, widowed, divorced or separated. This chapter, primarily using data from 2012 population census data, describes changes in marital status in Sri Lanka, particularly changes in age at marriage of females and factors that contributed for such changes.

4.2 LEGAL ASPECTS OF MARRIAGE

Registration of marriages

The concept of marriage can be explained as the union of a man and a woman who make a permanent and exclusive commitment between each other which is eventually fulfilled by bearing and rearing children together. The concept of 'marital status' is used to identify the individual's marital category.

There are several types of registration of marriages in Sri Lanka such as General, Kandyan and marriages by a Christian Minister. Registrar General's Department (RGD) is the institute responsible for handling marriage registration. According to requirements of the RGD, two parties which enter into marriage must meet the following conditions. The first requirement is to submit marriage notices, which include, the notification of the location of the residence of parties, in the relevant division within 10 days preceding to the submission of the marriage notice or in different divisions within 10 days preceding to the submission of the marriage notice. If one party was not living in Sri Lanka within 10 days preceding to the submission of the marriage notice, residence of the other party in Sri Lanka for 10 days; and, if none of the parties had not been living in Sri Lanka within 10 days preceding to the submission of the marriage notice, residence of one party for 04 days in Sri Lanka is sufficient. The second requirement is the completion of 18 years of age by both parties as at their previous birth day¹. The third requirement is that both parties should not have any kind of relationship prohibited in law; and, the fourth one is that no party should have entered into any legal marriage which is valid at the time. The law relating to general registration of marriages and divorce in Sri Lanka came into force in the early 19th century for the coastal districts. For Kandyan districts, a separate law was passed in 1859 and was subsequently amended in 1897. Muslim marriage registration was made compulsory in 1937.

¹ According to Law prevailing in Sri Lanka a person is entitled to consent if he or she is over 16 years of age. If a male and female consented to marry they cannot do so due to this legal provision. As such there is an issue with regard to legal age for marriage in practical life.

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Age of marriage

During the early British period, under the General Law² the minimum age of marriage was 12 and 14 years for girls and 16 for boys and under the Kandyan Law³, it was 12 years for girls and 16 years for boys. Under the current legal provisions, i.e as per the amendment of No. 3,19 of 1995 to the General Marriages Ordinance⁴, Section 66 says that the "lawful age of marriage" in relation to the male party and the female party is eighteen years of age. As per Section 15 of Marriage Registration Ordinance, "No marriage contracted after the coming into force of this section shall be valid unless both parties to the marriage have completed eighteen years of age. However, in reference to the Muslim community, there is no minimum age of marriage (Goonesekere and Amarasuriya, 2013). There seems to be a legal issue when considering Section 23 of Muslim Marriage and Divorce Act⁵ which accepts a marriage of a girl under the age of 12; while section 363 (e) of the Penal Code⁶ regards the same as statutory rape. However, practically, there has been no case reported yet.

Divorces

The divorce in Sri Lankan legal system is governed by two acts of Parliament, first, Marriage Registration Ordinance of 1907 and second, the Civil Procedure Code of 1889 as amended by Act no, 20 of 1977. A divorce can only be obtained, according to the present law of Sri Lanka, by proving a matrimonial fault. These matrimonial faults confine to three specific faults i.e adultery subsequent to marriage, malicious desertions and incurable impotency at the time of such marriage. However, when many divorce cases in Sri Lanka are analyzed, facts of those cases testify that direct or indirect reasons for divorce, under both general and Kandyan laws, have a direct relationship with domestic violence.

4.3 MARITAL STATUS

Sex and marital status

Information on marital status or conjugal condition was collected at the first national census held on 1871. However, as noted by Ranasingha (1946), in Sri Lanka, in most of the censuses, enumerators had a practice of entering persons with unregistered marriages as 'unmarried' and as a result data was subject to deficiencies. In order to rectify this situation, the 1946 census made a distinction between registered marriages and customary marriages. The subsequent censuses, including the latest in 2012, maintained this distinction.

Marital status of the person is considered as the current status at the time of the census. There are several types of marital status in Sri Lankan society. Population and housing census data in 2012 presents the latest information on this aspect.

A significant difference could be observed between the two sexes, aged 15 years and above in relation to marital status over the period 1981 and 2012 (Table 4.1). During this period the volume of females, who are 15 years and above, have increased from 4.7 to 8 million, while the corresponding increase among the males was 4.9 to 7.3 million. The increase in percentage points is significantly higher among females (69 per cent) compared to their male (48 per cent) counterparts. Rapid increase in female life expectancy than male life expectancy over the past few decades has contributed to a significant increase in the female population of age group of 15 years and above in Sri Lanka (De Silva, 2008).

² General Marriage Ordinance, 1907 Sec. 15

³ Kandyan Marriage Act 1952 Sec. 66

⁴ 19/1907

⁵ 1951/13

⁶ as amendment by Act No 22 of 1995

Table 4.1: Distribution of population (15 years and above) by sex and marital status, 1981 and 2012

Marital Status	1981				2012			
	Male	%	Female	%	Male	%	Female	%
Never Married	2,085,222	42.5	1,525,309	32.4	2,179,099	30.0	1,748,503	22.0
Married	2,709,283	55.2	2,782,228	59.0	4,921,044	67.7	5,401,061	67.9
Widowed	90,516	1.9	377,199	8.0	97,532	1.3	695,415	8.7
Divorced	11,546	0.2	17,658	0.4	14,847	0.2	26,328	0.3
Separated (Legally)	9,163	0.2	12,028	0.3	11,135	0.2	19,778	0.2
Separated (Not Legally)	-	-	-	-	42,577	0.6	70,454	0.9
All	4,905,730	100.0	4,714,422	100.0	7,266,234	100.0	7,961,539	100.0

Source: Department of Census and Statistics.

During the period 1981 and 2012 the proportion of never married among both sexes has declined significantly. In contrast to the never married, the currently married percentage has increased remarkably. For instance, although the currently married females were only 2.8 million in 1981 by 2012 it has increased to 5.4 million – almost doubled. In terms of the proportion the currently married was 59 per cent of the total female population of 15 years and above in 1981, while by 2012, the corresponding value has increased to 68 per cent.

It is important to note that as per 2012 census data, among the currently married 15 years and above population there was an excess of over 480,000 (5,401,061 – 4,921,044) females in Sri Lanka. The excess of females within the currently married population could primarily be due to a number of reasons. Firstly, a sizable number of husbands of these currently married women are working in foreign countries at the time of 2012 census. Secondly it is the mismatch in the reality and reporting - presumably some of these women who reported as currently married may not live with their husbands, or already divorced/separated but would have not provided true information due to social stigma and due to security reasons. Thirdly, women whose husbands are missing/disappeared, due to civil strife or unknown reason, would have reported as married. Finally, presumably some minor proportion of previously married women would have reported as 'married' in the 2012 census due to ambiguity of the marital status of them.

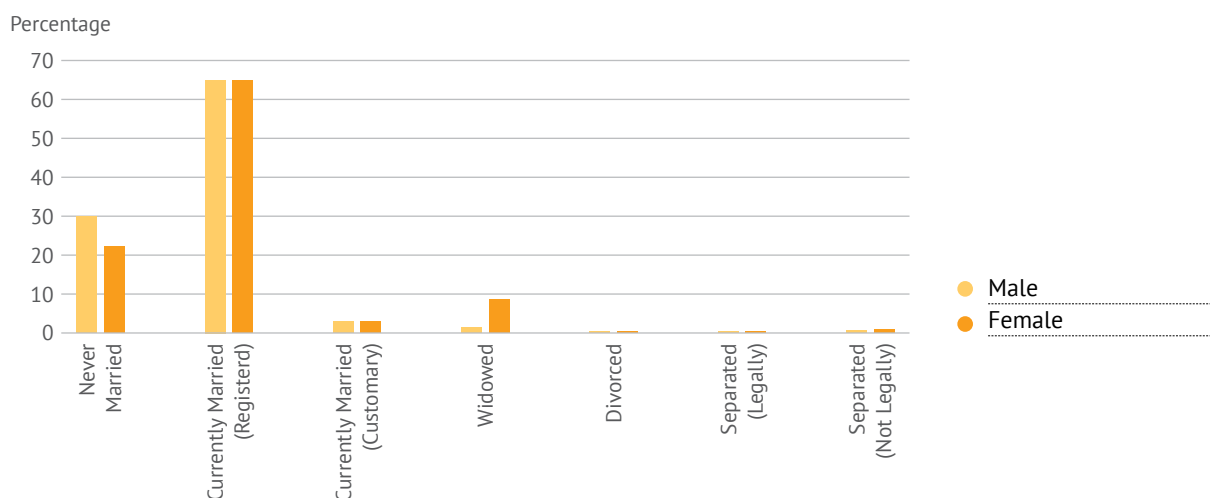
As of 2012 census, among the female population of age 15 years and above, 22 per cent were never married; while 30 per cent of males were never married (Table 4.1 and Figure 4.1). Of the percentages of currently married, both under the registered and customary marriages, females are almost same as males. For instance, as presented in figure 4.1, only 2.7 per cent males and 2.8 per cent females are only customarily married. The customary married proportion within the currently married population has declined significant over the past few decades.

Remarkably, in 2012, the percentage of widowed females (8.7 per cent) is much higher than widowed males, which is only 1.3 per cent. The proportion of female widowers has increased marginally over the period of 1981 to 2012 primarily due to the increase of female life expectancy compared to their male counterparts⁷ (De Silva, 2008; De Silva and Boyagoda, 2010).

⁷ Over the period of 1980-1982 and 2000-2002 male life expectancy increased very marginally (0.4 years) while the corresponding achievement of female life expectancy was significant (4.5 years). It is worth to note that during 2000-2002 a female achieved 8.5 years of longevity than a male. However, the corresponding difference in the period of 1980-1982 was only 4.4 years.

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Figure 4.1: Percentage distribution of population aged 15 years and above by sex and marital status, 2012



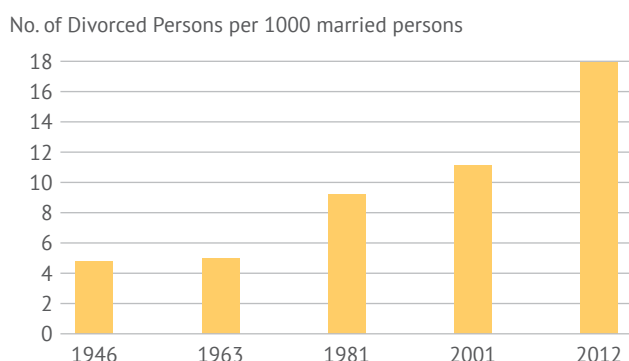
Source: Department of Census and Statistics, (2014).

Divorce and separation

The divorced and separated population as reported in 2012 census is small in magnitude; it is likely to be under reported. The majority of couples who live separately due to various family disputes may not declare their status to census enumerators particularly when they have children (De Silva, 2005). Some of them may be planning to file divorce cases or in the process of obtaining divorces from the courts. As well, persons who obtained divorces and remarried before the 2012 census would not have been captured as persons divorced.

In Sri Lanka, however, the number of divorced cases submitted to the courts have increased significantly. In 2012 there were about 25,000 divorce cases being processed in the courts, while corresponding figures in 1980s were significantly lower. Even compared with the divorced population with the married population from various censuses, the same trend could be noticed. The divorce-marriage ratio has increased from 4.8 persons in 1946 to 17.9 persons in 2012 respectively, vide Figure 4.2. In other words, there were only 5 divorced persons per 1,000 married persons in 1946 while the corresponding ratio in 2012 has increased to 18 persons.

Primarily due to labour migration to Middle-East and other countries and internal migration many couples tend to have family disputes at present in Sri Lanka and such disputes in many instances lead to separation or divorce even though they have young children (De Silva, 2005). However, a sizable proportion of them, particularly females, would not provide information on separation/divorce to the census enumerators due to social stigma attached to the issue (De Silva, 2005). A significantly large proportion of men tend to re-marry within a short period and as such the pattern among females is not frequently compared to their male counterparts.

Figure 4.2: Trends in divorce-marriage ratio, 1946-2012

Source: Department of Census and Statistics, (2014).

4.4 TRENDS IN MARRIAGE

The postponement of marriage contributes substantially to the reduction of the level of fertility by limiting women's total reproductive lifespan, the cumulative effect of which influences the size of individual families and the population growth rate of the country. However, a decrease in the age at marriage could affect the level of fertility and family size conversely (Jones, 2007). In Sri Lanka, during the past century, the female age at marriage increased by almost seven years before it demonstrated a gradual decline (De Silva, 2014).

Since there was no direct question on age at first marriage of the ever married population in the 2012 and previous population censuses, the singulate mean age at marriage was estimated by using proportion never married in ages 15-19, 20-24,50-54 years. The singulate mean age at marriage is defined as the average length of single life expressed in years among those who marry before the age 50 (Rowland, 2003).

Proportion never married

Universal and early marriage of females is common in most South Asian countries. In Sri Lanka, where marriage occurred very late and was not universal, was an exception to this convention in the region. Since 1993, in general, proportion never married in Sri Lanka has declined significantly over the period of 1993-2012 (Table 4.2). For instance, the proportion of never married females in 1993 in the age group 25-29 was 34 per cent. However, by 2012 it has declined to 24 per cent. An upward movement of the proportions of 'never married' in the age group 40-44 had been the conspicuous general trend until 1993 and thereafter demonstrated a continuous decline and by 2012 reached 5.7 per cent.

It is also interesting to note that among females aged 15-49 years, as a whole, over 38 per cent of 'never married' category in 1993 had continuously declined to 31 per cent by 2006-07 and to 29.7 per cent in 2012. In almost every age group, the proportion of 'never married' had declined since 1993. The decline in the proportion of never married females in the reproductive ages (15-49 years) during the period of 2006-07 and 2012 was the most significant period compared to rest of the periods.

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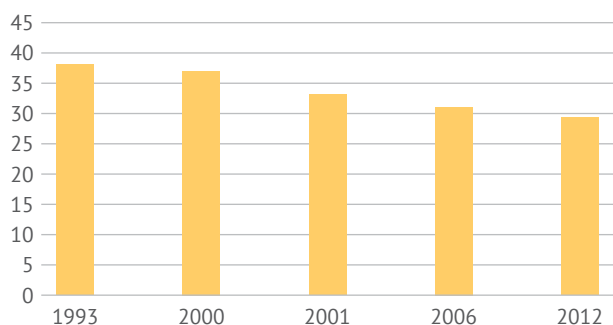
Table 4.2: Percentage of never married females by age, 1971 - 2012

Age	1971	1975	1981	1987	1993	2000	2001	2006-07	2012
	Census	WFS	Census	DHS	DHS	DHS	Census	DHS	Census
15-19	89.5	93.2	90.1	92.7	92.9	91.4	87.8	90.8	89.4
20-24	53.1	60.6	55.3	57.1	61.2	62.9	56.5	56.9	56.8
25-29	24.6	31.9	30.4	30	33.7	33.3	27	25.9	24.4
30-34	10.9	13.7	15.8	14.2	17.7	15.8	12.8	10.8	10.2
35-39	5.6	5.8	8.9	9.1	11.1	10.8	7.9	6.4	6.7
40-44	4.3	4.6	5.9	6.2	9.2	7.6	6.6	6.2	5.7
45-49	3.6	2.1	4.5	3.5	5.2	6.6	6.2	5.7	5.4
Total	-	-	-	37.5	38.2	37.2	33.1	31.1	29.7

Sources: United Nations (1976); Fernando (1985) and Department of Census and Statistics (2014).

Figure 4.3: Percentage of never married females in the 15-49 age group, 1993 to 2012

Never Married Female (%)



Source: Department of Census and Statistics

Sector and district

No significant difference is shown among never married percentages of male population of age 15-19 years by their residence. Among both males and females, the percentage of never married in each age group is significantly higher in the urban sector while the estate sector shows the lowest as shown in table 4.3. Around 68 per cent of urban females of 20-24 age group is never married, while the corresponding figure for estate sector is 47 per cent only. At the end of the reproductive period of 45-49 years, a higher percentage of urban males and females are found as never married compared to their rural and estate counterparts. In other words the incidence of celibacy even beyond age 50 in Sri Lanka is expected to be significantly higher in the urban sector compared to other sectors.

Table 4.3: Percentage of never married population by age, sex and sector, 2012

Age	Place of residence					
	Urban		Rural		Estate	
	Male	Female	Male	Female	Male	Female
15-19	98.0	92.9	97.6	88.7	97.2	88.1
20-24	86.5	68.5	80.2	54.2	74.4	47.5
25-29	55.7	33.3	46.4	22.5	39.2	20.0
30-34	24.5	14.0	19.6	9.4	15.8	9.2
35-39	11.7	8.8	9.1	6.2	6.8	5.9
40-44	8.5	7.7	6.4	5.3	4.7	4.8
45-49	7.4	7.2	5.6	5.1	4.0	4.5

Source: Department of Census and Statistics.

4.5 SINGULATE MEAN AGE AT MARRIAGE

As Davy (1983) observed, in the nineteenth century Sri Lanka, “old bachelors and old maids” were rarely seen among the Sinhalese; almost every man married, and married young, and the wife was not of his own choice but that of his father. However, there was no evidence of any pattern of child marriage as was common in the neighboring Indian sub-continent. According to the 1975 World Fertility Survey, the mean age at marriage of Sri Lankan females in 1901 was 18.3 years, which is a level higher than that was found in Bangladesh and Nepal, which was only slightly below that recorded in Indonesia and Pakistan (Smith, 1980).

The postponement of formal family formation in Sri Lanka is reflected in the behavior of entry into marriage of females, which had increased by almost seven years, from 18.3 years in 1901 to 25.1 years in 1975 as shown in table 4.4. There was a slight decline of mean age at marriage during the period 1975 to 1981, and since then, the average age at marriage in Sri Lanka had continued to increase until 1993. Once again it has shown a continuous downward trend from 1993 onwards.

On average, by 1993, females were marrying at the age of 25.5 years⁸. During early 1990s the female age at marriage was one of the highest in Asia (De Silva, 1997). Nevertheless, the average age at marriage of females in Sri Lanka displayed a gradual decline from the middle of the last decade of the twentieth century.

Data presented in table 4.4 indicate that the mean age at marriage of males was around 24.6 years in 1901 which increased to 28.2 years in 1975. Since the increase in the age at marriage of males has been less rapid, the sex difference has dropped from 6.3 to 3.1 years from 1901 to 1975. It is to be noted that although data is not available from the 1987 and 1993 DHS surveys to compute the mean age at marriage of males, the 1994 Demographic Survey, which covered almost 100,000 households, provided benchmark information to make an assessment regarding the matter. Male age at marriage peaked in 1994 with a value of 28.3 years while females peaked in 1993 with a value of 25.5 years.

There is a strong likelihood that, along with the female age at marriage, the male age at marriage too, would have declined during the recent past (Figure 4.4). According to the census of 2001 and 2012, the mean age at marriage of males has declined from 27.6 years to 27.2 years. Also when 2001 and 2012 census figures are compared, the sex differential in mean age at marriage has declined slightly from 3.9 to 3.8 years.

⁸ Marriage postponement of females was responsible for about 60 per cent of the fertility decline in Sri Lanka up to 1970 (Smith, 1980).

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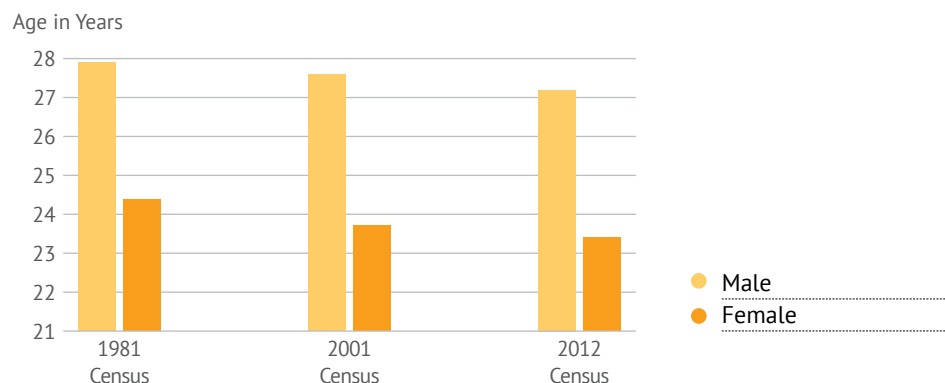
Interestingly, the estimated mean age at marriage of 23.4 years among females in 2012 is very much identical to the figure derived in 1971. Among the males too, the 2012 figure on mean age at marriage (27.2 years) is fairly matched with the figure reported in 1953. The significant decline noticed in mean age at marriage, particularly in the case of females could raise a pertinent question 'Why does the latest mean age at marriage demonstrates more-or-less the same value that was observed in 1950/1960s in the country?'

Table 4.4: Trends in singulate mean age at marriage by sex, 1901 to 2012

Year	Source	Male (years)	Female (years)	Difference between males and females (years)
1901	(Census)	24.6	18.3	6.3
1911	(Census)	26.5	20.8	5.7
1921	(Census)	27.0	21.4	5.6
1946	(Census)	27.0	20.7	6.3
1953	(Census)	27.2	20.9	6.3
1963	(Census)	27.9	22.1	5.8
1971	(Census)	28.0	23.5	4.5
1975	(WFS)	28.2	25.1	3.1
1981	(Census)	27.9	24.4	3.5
1987	(DHS)	-	24.8	-
1993	(DHS)	-	25.5	-
1994	(Demographic Survey)	28.3	24.7	3.6
2000	(DHS)	-	24.6	-
2001	(Census)	27.6	23.7	3.9
2006-07	(DHS)	-	23.6	-
2012	(Census)	27.2	23.4	3.8

Sources: United Nations (1976); Fernando (1985) and Department of Census and Statistics (2014).

Figure 4.4: Singulate mean age at marriage by sex, 1981, 2001 and 2012



Source: Department of Census and Statistics.

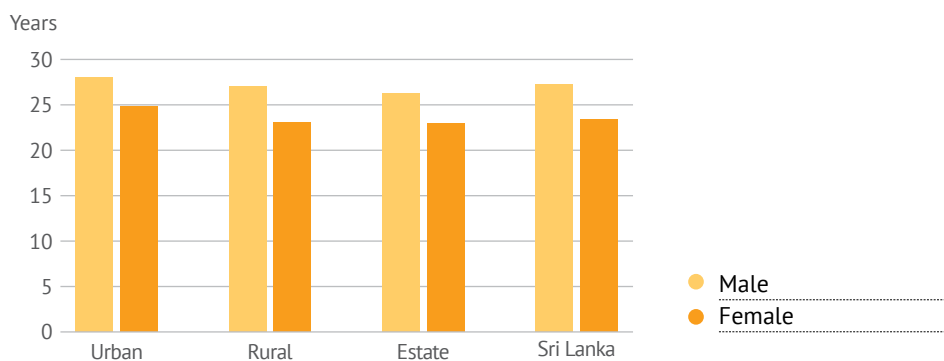
4.6 DIFFERENTIALS IN SINGULATE MEAN AGE AT MARRIAGE

Differentials of mean age at marriage could be noticed from each and every country in the world. As per statistics for 2012, depicted in table 4.4, husband is, on average 3.8 years older than his spouse at the time of the marriage. However in 1940s and 1950s the gender difference in the mean age at marriage was well over six years. Apart from the sex differences, the mean age at marriage of females tend to differ significantly with respect to their socio-economic conditions, such as place of residence (sector), ethnicity, economic activity, district etc.

Sector

As highlighted in figure 4.5, urban males report the highest (28.1 years) mean age at marriage while the lowest age of 26.2 years is reported from the estate sector males in Sri Lanka. The same pattern of female mean age at marriage can be observed from the 2012 census data. For instance, an urban female, on average tends to marry at 24.8 years while the estate sector female tends to marry at the age of 22.8 years – females in the estate sector tend to marry on average two years earlier than their urban counterparts.

Figure 4.5: Singulate mean age at marriage by sex and sector, 2012



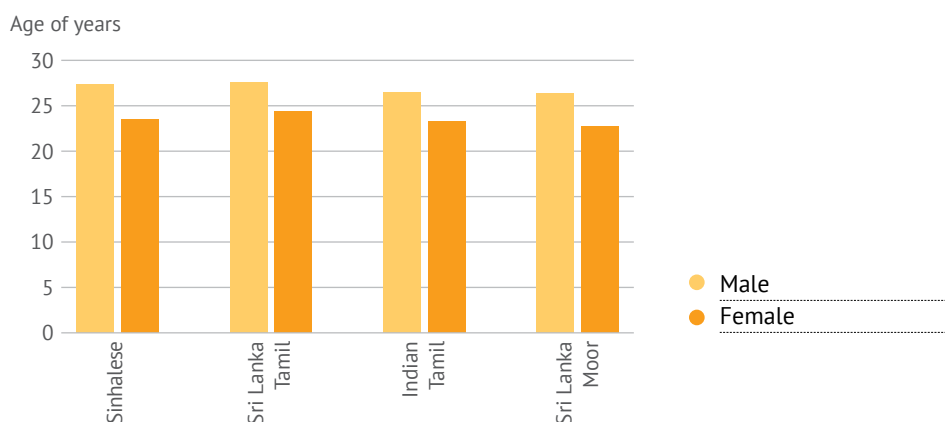
Source: Department of Census and Statistics, 2014.

Ethnicity

An ethnic differential of the mean age at marriage could also lead to determine the fertility levels. As shown in figure 4.6, of the four major ethnic groups in Sri Lanka, Sri Lanka Tamil females show the highest mean age of 24.4 years at marriage followed by the Sinhalese of 23.4 years in 2012. Moreover, both Sri Lanka Moor males and females reported the lowest mean age at marriage reporting the 26.4 and 22.7 years respectively. The Sri Lankan Moor females tend to marry approximately 2 years earlier than their Sri Lanka Tamil counterparts.

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Figure 4.6: Singulate mean age at marriage by sex and ethnicity, 2012



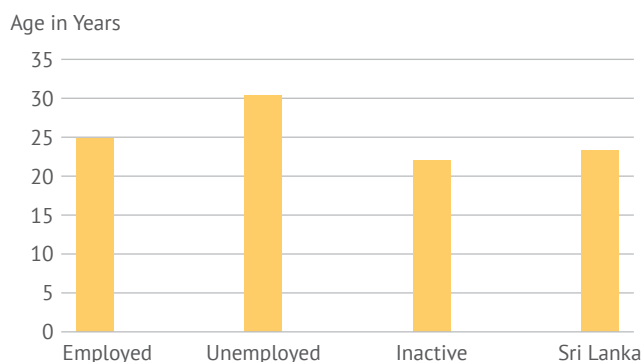
Source: Department of Census and Statistics, 2014.

Economic activity

In the 2012 population census men and women who are 15 years and above were questioned to gather information on their main economic activity. Women were grouped into three categories viz, employed, unemployed and inactive (not in the labour force). As per the data, among the 15-49 females about 30 per cent were employed, while 4 per cent were unemployed. The highest proportion of women in the reproductive ages in Sri Lanka is economically inactive (66 per cent).

Interestingly women who are economically inactive reported the lowest mean age at marriage, which is only 22 years, while the highest by the unemployed (Figure 4.7). Presumably, majority of the women who are in the inactive category achieved a low level of education compared to the employed and unemployed women. The relatively low age at marriage among the economically inactive group could also influence their fertility more positively than the rest of the women.

Figure 4.7: Singulate mean age at marriage of females by their main economic activity, 2012



Source: Department of Census and Statistics, 2014.

District

Regional level differentials in mean age at marriage helps to determine the special fertility variations. As shown in table 4.5, of the twenty five districts in Sri Lanka, Jaffna district reported the highest mean age at marriage in 2012 for both males (28.8 years) and females (26.4 years) followed by the Colombo district, with the age at marriage for males 28 years and for females 24.9 years. In 2012 the lowest mean age at marriage of males is recorded from the Trincomalee district, while the lowest value of the females was observed in the Moneragala district.

The district variations in mean age at marriage of females indicate about five years of difference between the highest (26.4 years - Jaffna) and the lowest (21.7 years - Moneragala) values. Among males the difference between the highest and lowest district values of mean age at marriage is noted to be only 3.2 years. The high variation in mean age at marriage of females at the district level could also lead to a high variation in the level of fertility between districts.

As per 2012 census data the sex difference in the mean age at marriage is the lowest in Jaffna, where on average husband is nearly 2.4 years older than the wife. In 1981 the lowest sex difference (2.5 years) in mean age at marriage was reported in the Matara district (Table 4.6).

It is interesting to note that although in 1981, the highest mean age at marriage of males (29.2 years) and females (26.7 years) were reported from the Matara district, by 2012 that position was shifted to the Jaffna district. Presumably, shortage of men at marriageable ages (marriage squeeze) in the Jaffna district, primarily due to out-bound migration and deaths related to civil strife over past decades, were the contributory factors to this increased age at marriage in the district.

Table 4.5: Singulate mean age at marriage by sex and district, 2012

District	Male	Female	District	Male	Female
Jaffna	28.8	26.4	Matale	27.0	22.5
Colombo	28.0	24.9	Hambantota	26.9	22.6
Kandy	27.8	23.9	Kurunegala	26.9	22.9
Matara	27.6	23.5	Ampara	26.7	23.0
Vavuniya	27.6	24.5	Moneragala	26.4	21.7
Gampaha	27.5	24.3	Kilinochchi	26.3	23.1
Kegalle	27.5	23.6	Batticaloa	26.2	23.0
Galle	27.3	23.5	Anuradhapura	26.1	21.9
Ratnapura	27.2	22.9	Polonnaruwa	25.9	21.8
Mannar	27.2	24.1	Mullaitivu	25.8	22.7
Kalutara	27.2	23.7	Puttalam	25.8	22.2
Nuwara Eliya	27.2	23.2	Trincomalee	25.6	22.3
Badulla	27.2	22.7	Sri Lanka	27.2	23.4

Note: Districts are arranged in descending order by taking values of singulate mean age at marriage of men.

Source: Department of Census and Statistics.

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Table 4.6: Singulate mean age at marriage by sex and district, 1981 and 2012

District	2012			1981		
	Male	Female	Difference	Male	Female	Difference
Colombo	28.0	24.9	3.1	28.9	25.4	3.5
Gampaha	27.5	24.3	3.2	28.3	25.0	3.3
Kalutara	27.2	23.7	3.5	28.8	25.4	3.4
Kandy	27.8	23.9	3.9	28.6	25.4	3.2
Matale	27.0	22.5	4.5	27.7	24.0	3.7
Nuwara Eliya	27.2	23.2	4.0	27.8	24.3	3.5
Galle	27.3	23.5	3.8	28.9	26.1	2.8
Matara	27.6	23.5	4.1	29.2	26.7	2.5
Hambantota	26.9	22.6	4.3	28.1	24.8	3.3
Jaffna	28.8	26.4	2.4	28.1	24.9	3.2
Mannar	27.2	24.1	3.1	25.4	21.9	3.5
Vavuniya	27.6	24.5	3.1	26.7	22.3	4.4
Mullaitivu	25.8	22.7	3.1	26.2	21.9	4.3
Kilinochchi	26.3	23.1	3.2			
Batticaloa	26.2	23.0	3.2	25.8	21.1	4.7
Ampara	26.7	23.0	3.7	26.7	21.8	4.9
Trincomalee	25.6	22.3	3.3	26.1	21.3	4.8
Kurunegala	26.9	22.9	4.0	27.0	24.0	3.0
Puttalam	25.8	22.2	3.6	25.5	22.2	3.3
Anuradhapura	26.1	21.9	4.2	26.2	22.2	4.0
Polonnaruwa	25.9	21.8	4.1	27.4	22.3	5.1
Badulla	27.2	22.7	4.5	27.6	24.3	3.3
Moneragala	26.4	21.7	4.7	27.2	22.4	4.8
Ratnapura	27.2	22.9	4.3	28.0	24.3	3.7
Kegalle	27.5	23.6	3.9	28.4	25.5	2.9
Sri Lanka	27.2	23.4	3.8	27.9	24.4	3.5

Source: Department of Census and Statistics (1986 and 2015).

4.7 COMPARISON OF SRI LANKAN MARRIAGE PATTERN WITH SELECTED COUNTRIES FROM ASIA

Sri Lanka has always occupied a special place in South Asian marriage patterns (De Silva, 1992; 1997b; 2014). A century ago, it was characterized by universal marriage, as elsewhere in South Asia. However, the delay in marriage and its impact on fertility, led Kirk (1969) to refer to Sri Lanka as “the Ireland of Asia”. Caldwell et al (1989) identified Sri Lanka as the leader in the Third World Asia to experience a changing pattern in the age at marriage.

By the mid-1970s, Sri Lankan females were marrying not at puberty but a decade later. The increase continued, the mean age at marriage for females rose from 23.5 years in 1971 to 25.5 years in 1993. This was vastly different from the rest of South Asia, which was characterized by very early marriages. Nevertheless, from the middle of the last decade of the twentieth century, the average age of females at marriage in Sri Lanka displayed a gradual decline. It is noteworthy that the latest mean age at marriage of 23.4 years among females, reported in the 2012 census is very much comparable with the corresponding figure in 1971 (Department of Census and Statistics, 2014). A substantial decline in mean age at marriage of males and females as observed in Sri Lanka has not been observed in any of the other Asian country.

Among the South Asian countries Sri Lanka still reports the highest age at marriage of both males and females vide table 4.7. Interestingly, Sri Lanka has joined with two other Asian countries, viz, Indonesia and Vietnam, in reversing the earlier near-universal rise in age at marriage. The lowest age at marriage of females in South Asia is reported from Bangladesh followed by Nepal. In Asia the highest age at marriage is reported in Japan in which a female on average gets married at the age of 29.7 and a male by 31.2 years.

Table 4.7: Singulate mean age at first marriage of selected countries in Asia, 2010 -2012

Country	Age at first marriage (years)		Difference (M-F)
	Male	Female	
Bangladesh	22.2	18.6	3.6
Bhutan	25.4	22.8	2.6
India	23.2	20.2	3.0
Maldives	26.4	22.4	4.0
Nepal	23.7	19.3	4.4
Pakistan	26.4	22.7	3.7
China	26.5	24.7	1.8
Japan	31.2	29.7	1.5
Sri Lanka	27.2	23.4	3.8

Source: Various country reports have been used.

In Sri Lanka, procreation is almost entirely within the marriage. In contemporary Sri Lankan society, age at marriage demonstrates a declining trend and this new trend has implications on procreation. It is logical to assume that decreasing mean age at marriage of males and females since 1993 would cause a rise in fertility. Such implications could be explored by using the latest data from the population census, Demographic and Health Surveys and other sources. In all cases, there is a need to explore reasons for the “why the age at marriage has declined” and “why the fertility level has increased significantly” in Sri Lanka over the past 15-20 years.

CHAPTER 5

DETERMINANTS OF DECLINING AGE AT MARRIAGE AND INCREASING FERTILITY

5.1 INTRODUCTION

The postponement of marriage contributes substantially to the reduction in the level of fertility by shortening the total reproductive span of the female, which in turn, due to a cumulative effect, influences the population growth rate of a country. Many developing countries experienced falls in fertility during the past few decades. Reductions in proportions married particularly among females have often linked with the fertility decline during the initial periods. In Sri Lanka also had experienced the increase in age at marriage of both males and females until mid of 1990s, however since then it demonstrates a decline. In the meantime, the fertility of the country is showing a clear upturn since the beginning of the new millennium. In other words the country is experiencing a decline of the mean age at marriage of both sexes for the last 20 years and an increase of fertility over the past 15 years. Thus the pertinent question that could be raised with regard to country's demographic environment is, 'What are the determinants of declining age at marriage and increasing fertility in Sri Lanka?' This chapter primarily examines the demographic and socio-economic determinants of the unexpected changes in these two demographic components.

5.2 DETERMINANTS OF DECLINE IN AGE AT MARRIAGE

Two explanations could be put forward for the decline of age at marriage in Sri Lanka: a relaxation of 'marriage squeeze' and socio-economic change. The 'marriage squeeze' explanation is based on the fact that, under certain conditions, the numbers of marriageable males and females will not be equal. Numerical imbalance between males and females of marriageable age can reduce the chances of marriage for the more numerous group (Caldwell, 2005). This classic situation has been observed in countries where a war has decimated the male population which makes up the armies, as happened in some European countries after the World War II. It should be noted that numerical imbalance between marriageable men and women could occur even under conditions of balanced overall sex ratios. Changes in socio-economic and cultural environment as well, directly influence the nuptiality trends of any society. In Sri Lanka too the age at marriage has been influenced by changes in socio-economic environment over the past few decades including employment, remittances, education, abortion practices etc.

5.2.1 Relaxation of marriage squeeze

If women are expected to marry men older than themselves, in a growing population there can be more women in a cohort than the men they are considered eligible to marry. For an instance, a cohort five years older than themselves. For example, in Sri Lanka, most males aged 25-29 years would choose their partners from females aged 20-24 (De Silva, 2014). Since the age structure of the population is pyramidal, the number of males aged 25-29 would, in general, be smaller than the number of females aged 20-24. This would give rise to a surplus of marriageable females in relation to marriageable males in the corresponding ages. Even with a growing population, a marriage squeeze on women would not occur if there exists a higher female mortality, a higher proportion of female widow re-marriage, a female-dominated sex-selective international out-migration and polyandry ¹.

In Sri Lanka, most females marry for the first time between the ages of 15 and 29, and most males between the ages of 20 and 34. When late first marriages are also taken into account, two other age groups, namely females 15-39 and males 20-44, may be used for comparison. Thus, ratios of $M(20-34)/F(15-29)$ and $M(20-44)/F(15-39)$ may be used to examine the marriage squeeze. Fernando (1975; 1985), argued that a marriage squeeze has been the principal factor contributing to increase female age at marriage in 1970s and 1980s.

Table 5.1 indicates that by 1971, there was a strong sex imbalance; for every 100 females in the age group 15-29 only 84.2 males were available in the age group 20-34. However, between 1971 and 1981, the squeeze relaxed, with an increase in the ratio to 90.2 by 1981.

¹ A woman having more than one husband simultaneously.

Table 5.1: Ratio of males per hundred females by various age groups, 1971 to 2012

Sex and age	1971 Census	1981 Census	1987 DHS	1993 DHS	2001 Census	2012 Census
M(20-24)/F(15-19)	95.3	96.9	95.3	90.5	98.3	90.1
M(25-29)/F(20-24)	75.9	83.8	83.1	80.7	83.3	94.0
M(30-34)/F(25-29)	79.5	89.4	82.6	86.6	93.6	98.5
M(35-39)/F(30-34)	104.2	75.9	84.5	80.1	95.3	81.4
M(40-44)/F(35-39)	87.7	86.2	82.4	90.5	91.9	91.5
M(20-34)/F(15-29)	84.2	90.2	87.6	85.8	91.7	94.2
M(20-44)/F(15-39)	87.5	87.1	86.5	85.1	92.4	91.0

Source: De Silva (2014).

The 1981 ratio of 90.2 for the broad age group of M (20-34)/F (15-29) was the highest recorded between 1971 and 1993. After 1981, the marriage squeeze re-emerged. Both the 1987 and 1993 estimates of broader age groups clearly indicate a worsening trend. More importantly, between 1981 and 1993 for the youngest age groups, M(20-24)/F(15-19) and M(25-29)/F(20-24), the squeeze seems to have worsened. However, entering the 21st century, the marriage squeeze has more-or-less disappeared.

The 2001 census shows a perfect balance, particularly at the youngest marriageable age cohort M(20-24)/F(15-19). The ratios of 91.7 and 92.4 for the two broader age groups, reported in 2001, were the highest figures observed during the last three decades as demonstrated in table 5.1. Over the period of 2001 – 2012, the marriage squeeze has relaxed. For instance in the age group M(25-29)/F(20-24), it has increased from 83.3 in 2001 to 94.0 in 2012. In other words, for every 100 females in the 20-24 age group, there were 94 men in 2012 while there were only 83 men in 2001.

Sex ratios computed in table 5.1 are based on all males and all females and thus do not provide a comparison of marriageable persons. Therefore, in such comparisons, it is necessary to consider the ratios of never-married males in a particular age group to those of the never-married females in the younger age group.

Up to 1987, the ratio of never-married males to never-married females, as shown in table 5.2, were even smaller, indicating that the shortage of males was even more serious than suggested by the overall sex ratios. In 1981 there were only 82.1 single males per 100 single females in the broad age group of M(20-44)/F(15-39). This shortage of single men could be related to a number of factors².

However, over the period between 1981 and 2001, the squeeze relaxed slightly, indicating higher availability of never-married males in the present century (Table 5.2). In 2001, particularly among the youngest age group M(20-24)/F(15-19), for every 100 never-married females, 91.5 potential male marriage partners were available. The 2012 census data indicates the continuation of this trend, particularly, the never married females of 20-24 and 25-29 age groups experience having more marriageable males in their age groups.

² First, this could be related to the emigration of single men to the Middle-East in the late 1970s than single women for employment. Second, be related to the male-dominant repatriation of Indian Tamils to India under the Sirima-Shastri Pact of 1964. Although it was not very successful that arrangement involved of repatriating 313,000 Indian Tamils, mostly labourers in the plantation sector.

DETERMINANTS OF DECLINING AGE AT MARRIAGE AND INCREASING FERTILITY CONTD.

Table 5.2: Ratio of never-married males per hundred never-married females by various age groups

Sex and age	1971 Census	1981 Census	1987 DHS	2001 Census	2012 Census
M(20-24)/F(15-19)	92.3	89.7	88.2	91.5	81.8
M(25-29)/F(20-24)	76.0	78.1	73.6	73.0	79.3
M(30-34)/F(25-29)	82.6	73.3	68.9	79.8	81.9
M(35-39)/F(30-34)	128.2	60.2	52.6	89.8	75.7
M(40-44)/F(35-39)	138.7	80.4	58.9	94.9	92.4
M(20-44)/F(15-39)	88.5	82.1	78.6	84.5	81.1

Source: De Silva (2014).

At the turn of the present century, presumably, the significant improvement in the sex balance in the marriageable ages contributed to the observed decline in the age at marriage of both sexes in Sri Lanka. Since the demographic constraint (sex imbalance) is likely to be marginal in the near future, marriage trends are likely to be more dependent on socio-economic changes. Such changes in the socio-economic arena might already have contributed to the decline in age at marriage of both males and females.

5.2.2 Increased labour migration and remittances

According to the Central Bank of Sri Lanka (2010), it was estimated that about 1.8 million Sri Lankans work in the Middle-Eastern and other parts of the world under contract employment agreements. The annual labour out-migration rose from 16,456 in 1986 to 172,489 persons in 1995 (Sri Lanka Bureau of Foreign Employment, 2012). The total number of out bound migration for foreign employment in 2014 is over 300,000.³ Although in the past annual labour migration in Sri Lanka was dominated by females, currently males are the majority. For instance the male migrants have increased to 60 per cent of the total migrants in 2014. An overwhelmingly large proportion of female migrants are married at the time of migration, while among males it is the opposite.

Foreign remittances not only play a major role as a source of earning revenue and foreign exchange for the Sri Lankan government but also contribute to the wellbeing of their respective families. The remittances rose from US\$ 140 million in 1980 to US\$ 2,500 million in 2008 (Central Bank of Sri Lanka, 2010). Indicating the importance of international labour migration to the economy of Sri Lanka, its remittances have increased to 7.3 per cent of the GDP and 50 per cent of the total foreign earnings by 2010. In 2014, the Sri Lankan government has received remittances of over US\$ 6,000 million.

Remittances, if used appropriately, have undoubtedly had a positive impact on certain aspects of the lives of members in their families; higher rates of income results in higher living standards. Remittances of labour migrants undoubtedly generated an adequate wealth in their families in Sri Lanka which then allow young males and females to get marry at relatively young ages rather than postponing the marriage to an advanced age (Prabal and Ratha, 2012).

Another stream of migration which started from the aftermath of civil strife in 1983 is the mass scale out migration of Sri Lankan Tamils to countries such as Canada, Australia, UK, Switzerland, France, Germany and Norway. This "Tamil Diaspora" is considered to have been supporting the country's economy immensely by remitting large sums of foreign currency to their relatives in the country, during the civil strife. It is estimated that 200,000-300,000 Tamils are living in the countries listed above (Institute of Policy Studies, 2013).

³ During the past many years, the receiving countries of Sri Lanka's foreign labour were in the Middle East - 90 per cent of the total labour migrants. However, a significant number of Sri Lankan labour migrants enter into the labour markets in East Asia, particularly countries such as South Korea, Taiwan and so on, where migrants could receive higher salary packages than in the Middle-Eastern countries.

Remittances would also have removed financial barriers of many migrant families in general and would have allowed unmarried members of their own families and even of their immediately related families to enter into marriage as they wish. Since about 10 per cent of Sri Lankan families have at least one migrant member, their financial and moral influences might have brought about a lowering of the age at marriage of both males and females in Sri Lanka.

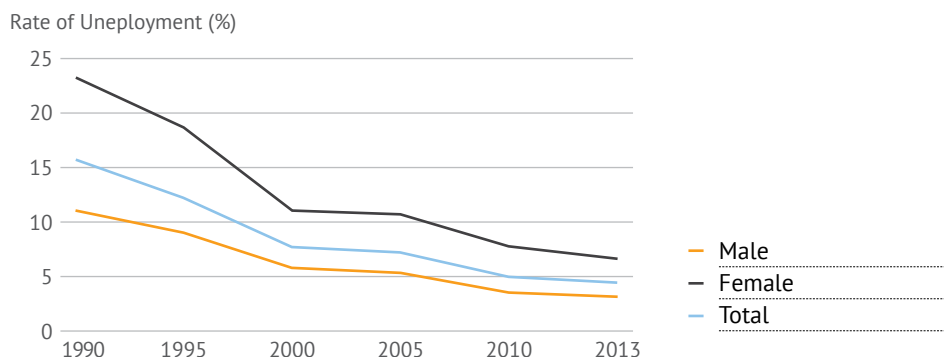
In addition to the revenue earnings of the migrant households, which largely remove the financial barriers for marriage, emigration of workers has eased unemployment at home thus allowing young people, particularly males, to find employment relatively at a younger age than in the past.

5.2.3 Unemployment

In Sri Lanka, the patriarchal joint family system is not the favored model of marriage: young couples tend to establish separate households usually after an initial residence with the family of one of the spouses. This is quite possible if young people, particularly young males, receive a regular income (De Silva, 2005). In a situation where youth unemployment is low, this could be a factor lowering the age at marriage in society. Marriage ability of men in Sri Lanka is largely related to their employment status; first, whether or not a man has a job, and, second, the status of the job, particularly whether or not it is with a regular income.

With the introduction of the open economic policy in 1977, the rate of unemployment decreased sharply from about 24 per cent in 1973 to about 12 per cent in 1995. Also during the recent past, Sri Lanka has succeeded in managing the rate of unemployment at a single digit throughout the past 15 years (Figure 5.1).

Figure 5.1: Unemployment rate (age 15 and above) by sex, 1990 to 2013



Source: Various sources of Department of Census and Statistics

Men are unlikely to marry until they find employment to earn a sufficient income to support a family (Caldwell et al., 1989). Thus, a high level of prolonged unemployment could lead to postponement of marriage among young men. This in turn could create a shortage of eligible marriage partners for women of corresponding ages. And that is exactly what has happened in Sri Lanka. Apart from the demographic constraint, a significant proportion of males aged 20-24 and 25-29 were unemployed in Sri Lanka until the beginning of the new Millennium.

During the period, 1995-2010, the highest rate of youth unemployment of age 15-24 years was recorded in 1995. In that year, of the total youth labour force, over one-third was unemployed (Table 5.3). However, youth unemployment rate declined to 26.4 per cent and 19.1 per cent by 2005 and 2013 respectively.

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Although female youth unemployment had declined during 1995-2010, through-out the period, the female unemployment rate was significantly higher than the male unemployment rate. However, a higher chance for employment opportunities by a female youth has also undoubtedly increased her chances for marriage. It could be argued that the dowry, to a greater extent, would have been replaced by regular income of female youth in the Sri Lankan marriage market (De Silva, 2014).

Table 5.3: Youth unemployment rate (age 15-24 years) by Sex, 1995 to 2013

Year	Youth unemployment (per cent)		
	Male	Female	Total
1995	28.4	46.5	35.2
2000	19.9	30.8	23.6
2005	20.4	37.0	26.4
2006	17.5	28.2	21.6
2007	17.1	28.1	21.2
2008	14.2	25.3	18.5
2009	17.1	27.9	21.3
2010	16.3	24.7	19.4
2011	12.9	24.8	17.2
2012	14.0	23.5	17.3
2013	15.6	25.0	19.1

Source: Various sources of Department of Census and Statistics

One of the most crucial factors which influences male youth entering into marriage is employment. Male unemployment rate has declined almost by 50 per cent during 1995 to 2013 from 28 to 16 per cent. Once a youth, particularly a male, finds employment with a regular income, one of the main barriers for marriage will disappear. Thus, along with the increase of employment among youth, both locally and in foreign labour markets during the past few years, their marriage prospects have also increased significantly and the average age at marriage of both sexes has declined (De Silva, 2014).

5.2.4 Education

Attendance at an educational institution can influence female age at marriage in a number of ways. First, attendance at school or a higher educational institution such as a university, can delay the marriage, because a girl generally does not marry while she is studying at such an institution. Second, literacy and education can influence attitudes and norms regarding expectations concerning marriage and the choice of a partner, which can also lead to a delay in contracting a marriage (Caldwell et al., 1989; De Silva, 1997b; 2014).

As a result of civil strife, during the period of 1987-90 in Sri Lanka, all the higher educational institutions were affected severely and education in those institutions came to a standstill or took longer time to complete programmes. This situation created a backlog of several years in the higher education system.

Due to the civil strife in many parts of the country and student strikes at higher educational institutions, from 1987 to 1990 students at state universities have had to spend about seven to eight years in university before getting their degrees, instead of three to four years as would be the case under normal circumstances. Not only does the longer period

of education delay the search for a job, but also the highly educated graduates seek jobs which are more difficult to get. The average age at which men are employed has risen, because education now is much longer in duration than it was previously. In this situation, a significant proportion of male and female graduates and other higher educated persons were unable to find employment in the latter part of the twentieth century, unlike the previous cohorts. Consequent to this trend, they had no option other than postponement of their marriage (De Silva, 1997b).

As a result of this long delay in entering higher education and the limited intake to state higher educational (national) institutes, a significant number of private sector institutions have emerged since the last decade of the twentieth century. As a result, a sizable number of students who successfully completed GCE (A/L) examination entered universities abroad.

The backlog of students was cleared by the state universities and other higher educational institutes through enrolling double batches during the period between 1995 and 2005 or shortening the academic programmes. Also, students attached to local branches of foreign universities and students abroad were able to complete their study programmes on time. This situation, allowed them to find employment at a relatively young age and that avoided the need to postpone their marriage, as experienced by previous cohorts.

5.2.5 Other contributory factors of declining age at marriage

Apart from the already stated factors, there are many minor factors which might have influenced the decline of age at marriage in contemporary Sri Lanka. Almost all of them are related to sexual and reproductive health aspects of the mother or her offspring. These factors include teen pregnancy and abortion, infertility, maternal mortality and morbidity, and birth of children with disorders such as Down syndrome, autism etc. Although in Sri Lanka hardly any data is available to provide factual information related to some of these areas, anecdotal evidence, however enabled to identify the impact of such factors which have caused the recent decline in age at marriage in the country (De Silva, 2014).

Even though, induced abortion is illegal in Sri Lanka since 1883, during the latter part of the 20th Century a large number of abortion service providers in many parts of the country provided such service for those who demanded. Even indictments for criminal abortion hardly occurred and offenders were rarely persecuted for the abortion which is a crime punishable under law. In that environment a sizable number of pregnant women, including teenagers, were able to get abortion services from various providers, located many parts of the country, to terminate their unwanted pregnancies.

In the past, when an unmarried woman became pregnant there were basically two options available to her – either to terminate her pregnancy or to marry the male partner involved with the pregnancy. Due to many pressures, an overwhelmingly large proportion of unmarried pregnant women have elected to abort the pregnancy (De Silva et al., 2006). However, the majority of those who did not abort, under pressure from their parents and relatives, married the male partner responsible for the pregnancy. The marriage timing of the members of the group who aborted their pregnancy was likely to be delayed significantly compared to those who did not abort the pregnancy (Ban et al., 2002).

However, since 2006, the Sri Lankan government initiated vigorous persecution of abortion centers. The abortion service providers were compelled to closedown such centers in many parts of the country due to strict enforcement of law. Therefore, since then, when an unmarried young woman encounters an unwanted pregnancy, it is difficult for the woman to terminate the pregnancy. Although minor proportion of young unmarried females could terminate their unwanted pregnancy by undergoing medical abortion (taking pharmaceuticals such as 'Misoprostol'), the majority are forced to enter into marital union due to pressure from their family members. This new environment might have contributed to a certain extent to the decline in the age at marriage of both sexes, particularly in the case of females.

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On the other hand when the mean age at marriage increased to over 25 years as noted in the early 1990s in Sri Lanka, a sizable proportion of females would have entered into marriage during age 30-34 or even beyond the age 35. There is a high possibility that a female who is marrying at an advanced age will encounter a number of reproductive health problems including primary or secondary sterility (Allen et al. 2009). Apart from marrying at an advanced age, her being exposed to a number of induced abortions, also might have affected her reproductive capacity.

In fact about 25 per cent of the abortion seekers interviewed in Sri Lanka during 1998-1999 had reported that they had undergone two or more abortions (Rajapakse and De Silva, 2000), which might have aggravated their primary or secondary sterility. Health experts, by noticing these trends in Sri Lanka, would have provided a word of advice to young females, their parents or to any of the relatives of unmarried females, not to delay their marriage to advanced ages.

A sizeable proportion of women who married between the ages 25-29 would have continued their reproductive activities even beyond 35 years of age. There is a common agreement in medical literature that women, who conceive after the age 30 or particularly after the age of 35 compared to younger women, carry a higher risk of ending up their conceptions in miscarriages or encountering still births. Advanced maternal age, compared with younger age, is associated with significantly higher rates of preterm delivery, caesarean delivery, and the occurrence of one or more ante-partum complications (Fathalla et al., 1990; De Silva, 1999).

As a woman gets older, her risk to have a pregnancy with a chromosome abnormality increases. It has been reported in many countries that women who conceive later in life are at higher risk of having babies with Down syndrome⁴ and other chromosomal abnormality than younger women (Hook and Lindsjo, 1978; Allen et al. 2009). For instance, in the United States, for a woman who delivers a child at the age of 39, the chances of having that child diagnosed with Down Syndrome is about 1.0 per cent, but for a woman at the age of 29, the corresponding value is only 0.1 per cent (Egan et al., 2004). Even though no such information is available for Sri Lanka, studies from India also show the relationship between maternal age and Down syndrome, as found in the West (Ghosh et al., 2010).

Presumably in Sri Lanka too, children suffering from Down syndrome, autism and other forms of disorders are large in numbers, which might have been noticed by health professionals and even by the general masses (Perera, 2008). One of the main factors for such disorders is the advanced maternal as well as paternal age. Also the advanced maternal age is related with still births, sterility and maternal mortality and morbidity (De Silva, 1997c).

At least some of these factors might have convinced young unmarried people not to delay their marriage. Young unmarried females particularly would have received information related to repercussions of late marriage through health professionals, parents, relatives, and friends and even from the media. Attitudes related to benefits of marrying at advanced age have changed to some extent in Sri Lanka (De Silva, 2014). Once barriers for marriage, such as marriage squeeze and unemployment are relaxed, unmarried young people might not want to take a risk with their offspring. Therefore during the past 15-20 years, age at marriage of females started to decline from significantly high levels in Sri Lanka. This trend is noted to be unusual compared to the general marriage pattern observed in developed countries.

⁴ Down Syndrome is the most frequent recognizable form of mental retardation among the human populations across the globe.

5.3 DETERMINANTS OF INCREASE IN FERTILITY

Fertility, a naturally complex process is also affected by several socio-economic and biological variables. Additionally, decrease or increase of the fertility level in any given country, is largely determined by three non genetic factors such as changes in the age at marriage, use of contraception, and the practice of induced abortion. However the impact of these changing agents on fertility also varies. For instance an increase in the average age at marriage of females could have a negative impact on fertility, while a decrease in the age at marriage could affect the level of fertility in an opposite way (Jones, 2007).

5.3.1 Trends in marriage timing

The decrease in mean age at marriage contributes substantially towards an increase in the level of fertility by expanding the total reproductive lifespan of the female, the cumulative effect of which influences the size of the individual families and the population growth rate of the country. In Sri Lanka, during the past two decades both male and female age at marriage decreased significantly. On average, by 1993, females were marrying at the age of 25.5 years, however, by 2012 the corresponding figures have declined to 23.4 years and demonstrated an over two years of decline between 1993 and 2012. Along with the decline in mean age at marriage of females, males also demonstrated the same trend. In fact among the females of age 15-19 years the proportion never married has declined significantly, during the past 10-15 years, and this trend contributed to the increase in teen fertility in Sri Lanka.

In Sri Lanka the exposure to conception is closely related with the marital union. Therefore the decreasing trend in the female mean age at marriage during the recent past would have contributed significantly to the recent increase in fertility from below replacement to well above the replacement in Sri Lanka.

Apart from the decline in mean age at marriage, in Sri Lanka the re-marriage rate of women had increased in the recent past. Since the early part of 1980s, as a result of the civil war, more young wives with small kids lost their husbands. The young widows who needed a father for their kids and a partner, to go ahead in their lives, resort to re-marry (De Silva, 2014). During the past few decades in Sri Lanka divorce and separation rates have increased significantly (see Figure 4.2).

In the meantime, there may have been attitudinal changes on re-marriage and unlike in the past, an increased number of females would have opted for remarriage, they themselves, taking a decision on their lives. After re-marriage most of such families would be keen on having babies. Therefore, the increasing trend in re-marriage would have partly contributed to an increase in the level of fertility.

5.3.2 Trends in contraceptive use

High and effective prevalence of contraceptive methods is an important non genetic determinant of the declining fertility level in a community. Therefore it is useful to examine the trends in the use of contraception in Sri Lanka and the recent changes in the prevalence rates if any, to elucidate the causes of recent fertility increase in the country.

The level of contraceptive use among Sri Lankan women increased rapidly in the period following 1970. There was increasing awareness of contraception not only for the purpose of ceasing childbearing but also for the spacing of births. The level of contraceptive use increased from 34 per cent in 1975 to 62 per cent in 1987 and further to 70 per cent in 2000 (Table 5.4). However the 2006-07 DHS also reported the contraceptive prevalence rate (CPR) that is identical to the figure of year 2000. Although the CPR was the same at the 2000 and 2006-07 DHS Surveys, the question could be raised in relation to the change of methods (method mix) by the users over the past few years.

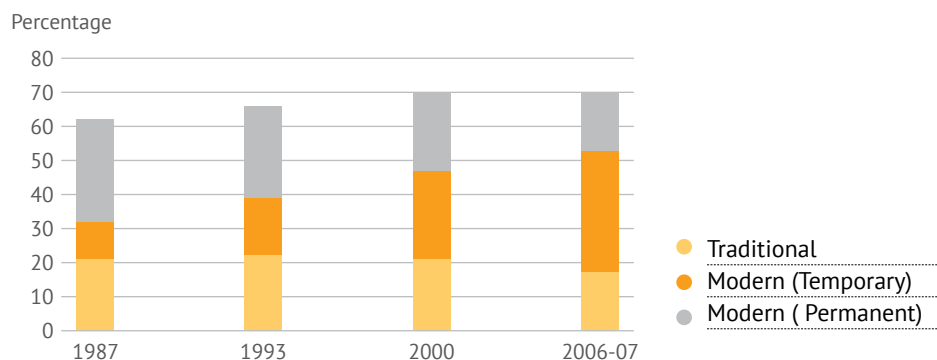
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Table 5.4: Contraceptive use among currently married women (aged 15-49) by method, 1987 to 2007-07

Contraceptive method	Per cent currently using		
	DHS 1987	DHS 2000	DHS 2006-07
Pill	4.1	6.7	8.4
IUD	2.1	5.1	6.9
Injection	2.7	10.8	14.3
Condom	1.9	3.7	6.0
Female sterilization	24.9	21.0	16.4
Male sterilization	4.9	2.1	0.7
Implant	0.0	0.1	0.4
Other (modern)	-	-	0.1
All modern methods	40.6	49.5	53.1
Rhythm	14.9	11.9	10.8
Withdrawal	3.4	7.1	6.1
Other method	2.8	1.5	0.1
All traditional methods	21.1	20.5	17.0
All methods	61.7	70.0	70.2

Sources: Department of Census and Statistics (2002; 2009).

Figure 5.2: Distribution of current users by type of method, 1987 to 2006-07



Sources: Department of Census and Statistics (2002; 2009).

The acceptance of modern contraception in Sri Lanka is a relatively recent development. According to the 1975 World Fertility Survey (WFS), 59 per cent of the current users of contraception were relying on modern methods, and the 1987 DHS, estimated that the proportion of modern method users had increased to 66 per cent (Figure 5.2). The 2006-07 DHS indicated that the corresponding proportion had further increased to 76 per cent. However even at the 2006-07, among the current users, about one-quarter rely on traditional methods (Figure 5.2 and Table 5.4). This clearly implies that, a substantial proportion of contraceptive users in Sri Lanka still rely on traditional methods and a large proportion of traditional method users are educated than the users of modern methods (De Silva, 2015).

However, a significant change has taken place recently, concerning the preferred methods within the category of modern methods. Although modern temporary methods show a continuous increase, the same is not observed with regard to permanent methods of contraception. The DHS 2006-07 shows that the proportions that use the most effective methods, identified as male (Vasectomy) and female sterilization (LRT), had declined remarkably. For instance, of the current users in 1987, almost one-half relied on permanent methods, however, by 2006-07 the corresponding figure had dropped to 24 per cent (Figure 5.2). Although the acceptance of permanent methods were significantly lower among the males than the females, over the past many decades the percentage relied on Vasectomy has declined at a rapid rate compared to LRT (Table 5.4).

Why is the preference for permanent methods on the decline? Research findings indicate number of possible reasons. First, perceived side effects of the LRT and second the withdrawal of cash benefits to persons accepting permanent methods. Third is the non-reversible nature of the procedure; during the recent past, some of the sterilized couples obtained reversal operations due to remarriage or death of young children (after the occurrence of Tsunami in 2004), however the success rates were very limited (De Silva, 2015). Fourth, some of the family planning service providers are not keen to provide sterilization services to the clients although demand exists.

One of the important reasons for drop in the proportion of women relying in permanent methods is the family issues in Sri Lanka. During the past many years, the stability of Sri Lankan family had deteriorated (De Silva, 2005). Consequently many married men and women would not have opted for permanent methods to plan their families as there was the possibility of changing marital partners during the life cycle of their marriages. This was further aggravated with the Tsunami incident, where sterilized men and women who lost their children, had no chance of replacing them.

Although modern temporary methods have increased over the past few years, due to the significant drop in the acceptance of permanent contraceptive methods, some of the women would have experienced unwanted pregnancies, primarily due to user or method failure. Since the abortion services were hardly available during the past few years most of the unwanted pregnancies would have ended-up as live births and this phenomenon might have partly contributed to the recent fertility increase.

DETERMINANTS OF DECLINING AGE AT MARRIAGE AND INCREASING FERTILITY CONTD.

5.3.3 Practice of induced abortion

The practice of induced abortion⁵ had emerged as one of the important determinants, curtailing fertility in Sri Lanka particularly during 1990s. Researchers tend to believe that, prevalence of abortion in Sri Lanka is a legally unrecognized fertility control method (Caldwell et al., 1987; De Silva, 1994).

However, precise national estimates are not available on the number of abortions undergone by Sri Lankan women because of its illegality⁶. There is evidence to suggest that about 150,000 to 225,000 induced abortions were performed annually in Sri Lanka during the 1990s (De Silva et al., 2006). A community survey conducted in 1999 with a total population of over 100,000 gathered abortion experiences during the preceding three years. The study adopting the Randomized Response Technique (RRT), reported that on an average, the induced abortion rate of married women of reproductive ages amounted to 11 per 1000 married women (Rajapakse and De Silva, 2000).

Undoubtedly the abortion services provided by (I)NGOs and other service deliverers might have contributed significantly for the achievement of replacement fertility in Sri Lanka. The general agreement among the researchers on marital status of the abortion seekers were that about 90-95 per cent of clients were married women (Ban et al. 2002; De Silva et al. 2006; Rajapakse and De Silva, 2000; Kaluarachchi et al., 2015). Overwhelmingly a large proportion of these married women reported that they 'have enough children' or 'pregnancy soon after the last live birth' as the main reason for termination of current pregnancies.

Restrictions on abortion services

As reported by Caldwell and others (1987), the majority of those against induced abortion held adverse views on the practice, on the grounds that it was dangerous rather than the immorality associated with the act. However, during 1990s and early 2000s, the abortion services have become increasingly therapeutic. With the availability of a large number of abortion service centers, which provide western treatment, the practice of induced abortion in Sri Lanka has become, clinically safer. Thus, serious post abortion complications and deaths have rarely been reported. Therefore this particular environment in Sri Lanka has been identified by De Silva and others (2006) as 'safe abortions in the illegal context'.

Before the year 2006 despite the highly restricted abortion law in Sri Lanka, indictments for criminal abortion hardly occurred and offenders were rarely persecuted for the abortion crime. Therefore, in the past, the law-enforcing agencies were unconcerned about the practice of induced abortion, and this presumably led to an increase in the demand for termination of unwanted pregnancies since many people believed induced abortion to be an accepted legal procedure (Ban et al., 2002).

However, in recent years, the Sri Lankan government has initiated vigorous persecution of abortion centers. By the beginning of the year 2006, the government launched a well co-ordinated drive to bring to a halt, the abortion services provided in the country by (I)NGOs and some private facilities. As a result, almost all abortion service centers were closed down and legal actions have been taken against the service providers. There has been no public reaction or rallies by the 'Women's Rights' groups against the government raids on abortion service centers, presumably due to the prevailing strong pro-natal views in the country.

⁵ The term abortion, is defined as the loss of an embryo or fetus either spontaneously (miscarriage) or induced (when a pregnancy is terminated on purpose) before the fetus is viable, which in developed countries is considered to be 20 weeks (WHO, 2003). Thus abortions could either be spontaneous or induced which means occurring on its own or induced.

⁶ Section 303 of the Penal Code provides that anyone voluntarily causing a woman with child to miscarry is subject up to three years imprisonment and/or payment of a fine, unless the miscarriage was caused in good faith in order to save the life of the mother. A woman who induces her own miscarriage is subject to the same penalties.

Although no official statistics are available from abortion providers, researchers and service providers reported that all over the country, since the year 2006, there was a significant drop in the caseload of abortion seekers as obtained through personal communication with some of the service providers and researchers. However, a sizable number of women in the country now depend on the abortifacient substances in order to terminate their unwanted pregnancies (Dalvie et al., 2012; Kaluarachchi et al., 2015). The abortion practice in Sri Lanka is now slowly turning towards products smuggled from developing countries (medical abortion) at low cost and made available to those demanding these through many outlets.

In the present environment, even if a married woman encounters an unwanted pregnancy, it is difficult for her to terminate the pregnancy. A sizable proportion of unmarried and married women are forced to keep the pregnancy and deliver the birth at the end of the gestation period. This new environment might have contributed to a certain extent to the increase of fertility in Sri Lanka during past few years.

5.3.4 Other contributory factors of fertility increase

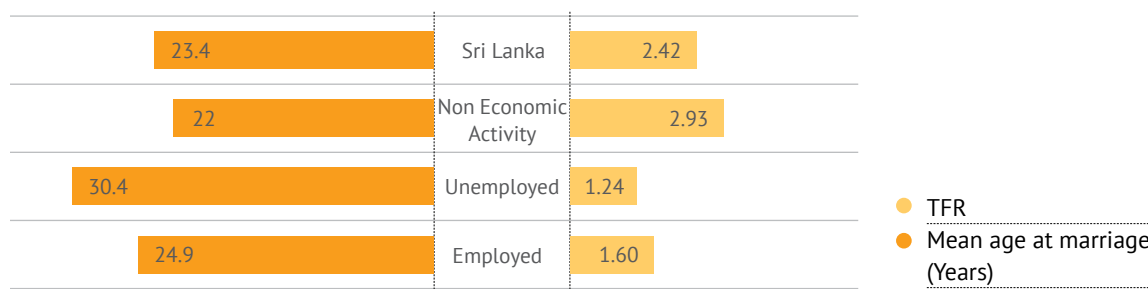
Generally, in many countries in the world female labour participation is lower than that of male participation. However, the gap between these two has been narrowing with economic development. In Sri Lanka, of the total labour force 65 per cent is represented by the males and the balance 35 per cent is represented by the females. Although the female labour participation was high as 37 per cent of the female population in 1990 by 2010 it has declined to 33 per cent (De Silva and Siriwardhane, 2012).

Even though more and more women receive good education (more females are enrolled to the higher education institutes) in Sri Lanka their labour force participation is not improving; a large segment of women keep away from the labour force. As it has been demonstrated in Chapter three, the level of fertility in Sri Lanka is noted to be significantly higher among the 'economically non active women' compared to 'economically active women'. Although a number of reasons could be presented to argue 'why the female labour participation is low and not increasing in Sri Lanka', the reality is significantly correlated with their high fertility. Two propositions are possible – High fertility among them is due to economically non participation or because of high fertility they may not in a position to enter into the labor force. However, the low and even declining female labour force participation has impacted on the recent increase in fertility in Sri Lanka to some extent.

When females of age 15-49 years in 2012 are classified by their economic activity, age at marriage and fertility an interesting picture has emerged. The lowest mean age at marriage and the highest TFR is reported by the women who are economically inactive (Figure 5.3). The mean age at marriage of the employed women is higher than the national average and their fertility is significantly lower than the national value. If a sizable proportion of females are attracted to the labour markets in near future, with an appropriate policy changes, then that new trend it-self would contribute for the fertility decline in Sri Lanka.

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Figure 5.3: Economic activity of females (15-49 yrs.) by their TFR and Mean age at marriage



Sources: Department of Census and Statistics.

Some of the government initiatives on safe motherhood and incentives granted to specific segments of the working population during the recent past would have also contributed to the upturn of fertility in Sri Lanka. The government issued a circular⁷ on maternity leave for public sector females in 2004 and under this circular, a female can get a significantly long period of maternity leave. Accordingly, a government female officer who gave birth to a living infant can get 84 days (working days) of full-pay leave, 84 days of half-pay leave and another 84 days of no-pay leave. Apart from this such mothers are also granted with a two hour feeding time per every working day until the baby complete 12 months of life. These benefits are granted only to the first two babies.

The main obstacle to have more babies for a working woman is the problem of caring for her kids in their very early stage of life. The above stated initiatives also would have minimized such obstacles and working mothers too may have partly contributed to the increase of fertility. Further the policy of granting financial remuneration to particular groups of state sector workers for child birth during the past couple of years would also partly have influenced the fertility increase in Sri Lanka.

As per to the medical experts in Sri Lanka the treatment for infertility (primary and secondary sterility) has increased significantly during the recent past along with the application of new technologies. Many women who were not able to have a single child or those who want to have additional children were treated in many centers around the country or even received treatment from foreign countries. Although the success rates were 30-40 per cent, there is a contribution coming from these women to the increase of fertility during the recent past.

⁷ Public Administration Circular No/3/2004.

Apart from the declining average age at marriage, conceptualization and dissemination of pronatalistic views, among the majority of couples, would have caused the overall contraceptive use to stagnate. Due to the pronatalistic views disseminated by different groups (such as religious/ethnic, political, medical, Para medical and civil movements etc.), directly and indirectly, the demand for contraceptive commodities and service delivery would have been effected. After achieving replacement level and subsequent below replacement fertility, most of the family planning activities of the state, private sector and NGO sector would have slowed down. Allocation and utilization of finances and distribution of contraceptives, particularly to rural and estate sectors, would have got disturbed during the recent past.

According to recent evidence that has surfaced, there has been a clear drop in the priority for the national family planning programme in the country. For example, the 'Population Division' in the Ministry of Health, which had contributed significantly to enhance the knowledge on population issues including population growth, demographic dividend, ageing, reproductive health, contraceptives etc. among general public, received low priority within the ministry during the past many years and was abolished by the government in 2006 (De Silva, et al., 2010).

Consequent to the achievement of below replacement fertility the authorities might have slowed down their population planning activities due to the remarkable achievement of a fertility level, which was even below the targeted level and in a lesser time span than planned. Similarly the propaganda for smaller families such as the slogan 'small family is golden' which was very successfully operated during the late 1970s and 1980s have reduced significantly or totally disappeared from Sri Lanka. Furthermore the focus of the family planning programmes has now shifted from 'quantity to quality' which would indirectly affect the distribution and use of contraceptives.

The other determining factors would have been that within the Sri Lankan society, there were many pronatalistic sympathizers who justify pronatalistic activities by arguing that the country needs more births to replace the dead during the 30 year long civil strife and 2004 Tsunami (De Silva, 2015). Primarily due to pronatalistic views disseminated during the past many years all major ethnic groups in the country (Sinhalese, Sri Lanka Tamil, Indian Tamil and Sri Lanka Moor) all party to the process of fertility increase. Presumably much of the pronatalistic propaganda was heavily targeted on the ethnic share (percentage) in the total population; the pronatalistic view were promoted by targeting to get increase their individual share in the population.

Thus the overall conclusion is that during the past few years overwhelmingly a large proportion of couples expected (preferred) to have two or three children. Relatively a small proportion wishes to have only one child. Thus these reproductive preferences would have impacted on the increase in fertility during the past 10-15 years in Sri Lanka. As observed already, once the fertility is increased well above the replacement level, what implications we could expect in the Sri Lankan demographic and socio-economic environment of the coming decades.

CHAPTER 6

CONCLUSIONS AND POLICY IMPLICATIONS

6.1 CONCLUSIONS

For a long time up until early 1990s, the mean age of entry into marriage in Sri Lanka had been more than 25 years and 28 years for females and males, respectively. However, Population Census of 2001 and DHS 2006-07 demonstrated a declining trend in the mean age at marriage. The population census of 2012 confirmed the declining trend and the estimated mean age at marriage was 23.4 and 27.2 years for females and males respectively. Owing to a multiplicity of reasons, including relaxation of marriage squeeze, increased local and foreign employment, withdrawal of abortion services, attitudinal changes etc., a new trend has emerged among young Sri Lankan men and women to marry at an earlier age compared to their older cohorts.

In the 1950s and 1960s, fertility in Sri Lanka remained at a very high level - on average a Sri Lankan woman had 5.3 live births during her lifetime. By 1994, the replacement fertility reached as TFR decreased to 2.1 children per woman, and the decline continued. The DHS 2000 reported a TFR of 1.9 children per woman, confirming that Sri Lanka was the first country in South Asia to reach a below replacement level fertility during 1995-2000, even when the country's per capita GDP amounted to only \$1,990.

Undoubtedly the Sri Lankan record in curtailing fertility had been impressive until the latter part of the last century. The DHS 2006-2007 reported that the level of fertility, which was initially below replacement, had unexpectedly increased to 2.3 children per woman. This was contrary to what population experts had projected.

The TFR value of 2.4 obtained from 2012 census data for the calendar year 2011 confirmed this increasing trend of fertility in Sri Lanka. This phenomenon has not been observed in any other Asian country so far, where fertility has an upturn from below to well above replacement level.

An unexpected trend in fertility appeared in Sri Lanka during the past 10-15 years - the already achieved below-replacement-fertility increased to above replacement-level. Simply a reversed trend is marked in Sri Lankan fertility transition. It is important to note that the fertility level observed in 2011 (TFR 2.42) is even higher than the level observed in 1993 at DHS for the period 1988-1993.

The fertility transition observed in Sri Lanka during the recent past is significantly different compared to all the countries in Asia, where fertility has increased and the average age at marriage of both males and females had declined. The TFR levels of Bhutan and Bangladesh in 2012 stand even lower than the Sri Lankan level and India at 2.6, only slightly higher than Sri Lanka.

Although TFR had increased, the age group in which a fertility peak occurred (age 25-29 years) had not changed, and the age pattern of fertility remained unchanged. The teen fertility rate (age 15-19) of 36 live births per 1,000 females observed in year 2011 is significantly higher than the corresponding estimates of previous surveys. The present teen fertility of Sri Lanka is significantly higher than most of the developing countries in Asia. If this increasing trend of teen fertility is not handled carefully it may lead to more single mothers and breakdown of families at young ages.

In Sri Lanka, the key factors contributed to the fertility decline at levels even below replacement include delay in age at marriage, that have curtails the reproductive age span, particularly for females, high reliance on contraception and induced abortion. Even when fertility increased well above the replacement level, the same key factors had been at play, yet the trend was ultimately reversed.

Apart from the declining average age at marriage, conceptualization and dissemination of pronatalistic views among the majority of couples in Sri Lanka would have caused overall contraceptive use to remain at a static level of 70 per cent with a significant drop in the use of permanent methods. Owing to the pronatalist views disseminated by politicians, policymakers, medical and paramedical groups, directly and indirectly, the demand for contraceptive commodities and service delivery would have declined. After achievement of the replacement level and subsequently below replacement fertility, most of the family planning activities of the State, private sector and NGO sector slowed down. Along with the deterioration of contraceptive method-mix, a sizable number of unexpected conceptions would have occurred in females of reproductive ages.

In general, both causation regarding the increase in unexpected conceptions and fertility in Sri Lanka are complex and multiple. In recent years, the Government has intensified its pressure on abortion centres, initiating vigorous persecution. By the beginning of the year 2006, the Government launched a well-coordinated drive to bring a halt to abortion services in the country by international and local NGOs and some private facilities. As a result, by 2007 almost all abortion service centres were closed down and therefore majority of women with unwanted pregnancies in the recent past did not have access to such services. Thus a sizable proportion of such unmarried and married women forced to retain the pregnancy and deliver the child at the end of the gestation period. This new environment might have contributed to a certain extent to the increase of fertility.

Following the achievement of below replacement fertility within a remarkably short time span, population planning activities have largely slowed down throughout the country. Also nationwide campaigns, such as those promoting the benefits of smaller families ("Small family is golden"), which were carried out successfully during the late 1970s and 1980s, also disappeared during the past 10-15 years primarily due to the strong presence of pronatalistic views in the society. This attitudinal change also might have contributed to the recent fertility increase.

6.2 POLICY IMPLICATIONS

As discussed in detail in the previous sections, the fertility level of the country has increased significantly during the past 10-15 years. Therefore a number of pertinent questions could be raised in relation to this unexpected demographic environment; "what could be the impact of this new trend in fertility on the future population of Sri Lanka" and "to what extent past population projections have underestimated the future size of the country's population primarily due to the unforeseen increase in fertility"? Answers to these questions could be provided only by carefully examining the results of the existing population projections.

Since 1990s several population projections for Sri Lanka have been produced by local forecasters and the United Nations in order to understand the future trends in total population and its age-sex structure. These population projections had been an important input for policy makers for policy formulation, programme implementation and monitoring. Generally, it becomes a part of policy formation and further it relates to the decision-making process.

The latest population projection which was published by UNFPA in December 2015, shows continuous increase of Sri Lankan population from 2012 by adding another 5 million people reaching to about 25 million in 2042 (De Silva and de Silva, 2015). This trend significantly deviates from findings of previous population projections. Therefore, the following sections intend to compare recent projections, evaluate fertility schedules and suggest scenarios based on early and late achievements of replacement level and selected implications due to population change.

CONCLUSIONS AND POLICY IMPLICATIONS CONTD.

6.2.1 Comparison of population projection results

At the very outset the comparison of the projected population of year 2012 with the enumerated population of 2012 census is made to ascertain the accuracy of the projections¹. As it could be noticed from figure 6.1, the enumerated size of the 2012 census (20.4 million) is much closer to De Silva's (2007) projection than the one published by the United Nations (2007).

As reported in the population projection of De Silva (2007), the size of the Sri Lanka's population would increase to 21.9 million by 2032 and remain at more-or-less same level (stable) until year 2036, however beyond that the size is expected to decline and by 2061, it is projected to be 20.1 million.

The United Nations (2007) projection results for Sri Lanka also follows similar pattern as De Silva (2007), however the projected size of the population by the United Nations (UN) is always lower than the projection of De Silva (2007). For instance, as per UN projected data, the peak size of the population would be 20.3 million by 2025, however, De Silva's (2007) figures on the peak size is significantly higher at 21.9 million by 2031 (Figure 6.1).

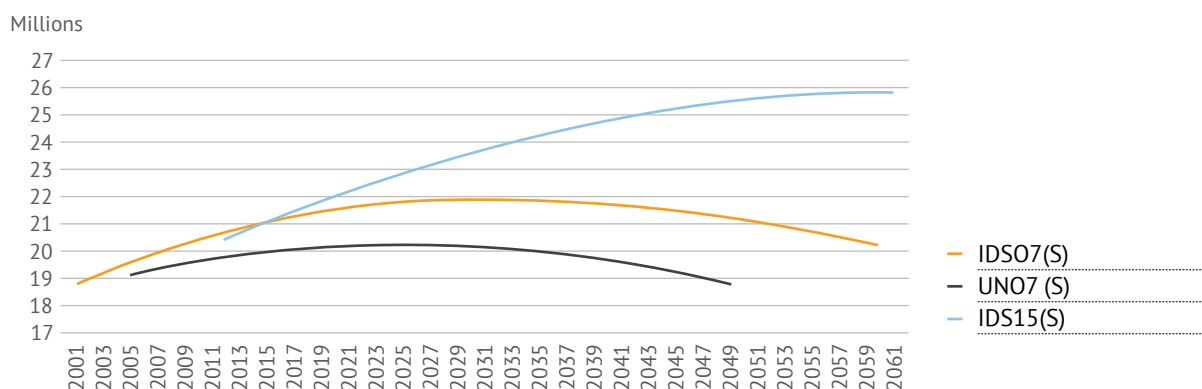
The latest projection by De Silva and de Silva (2015) shows continuous increase of population during the entire time horizon from 2012 to 2062; by 2062 the size of the population would reach 25.8 million mark. When the results of the latest projection, are compared with the previous projections a marked difference could be noted. When the projected population reaches 25 million in 2042 on the latest projection, the projected population of De Silva (2007) and UN (2007) reached only 21.5 and 19.5 million respectively (Figure 6.1). Simply, the projected population of 2015 is significantly higher than the corresponding projected populations of the 2007 projection.

A comparison of projected population figures of the 2007 (De Silva), and 2015 (De Silva and de Silva) is also presented in table 6.1. Compared with the enumerated population of 2012, the projected population of 20.7 million for the year 2012 by De Silva (2007) deviates by -1.4 per cent only. By 2022, difference in absolute numbers is 0.6 million only – the latest projection result is only 2.8 per cent higher than the corresponding estimate of the 2007 projection. However, the percentage deviations in the subsequent periods are very significant. The 2015 projection results are significantly higher than the corresponding results of the 2007 projection. For instance, by 2032 and 2042 the deviations are 8.7 and 14.8 per cent respectively (Table 6.1).

Why the latest projection (2015) results, compared with the 2007 projection results, indicates a significant increase in the total size of the population of Sri Lanka in coming decades? This increase has occurred primarily due to the increase in fertility over the past 10-15 years and slower (mild) declining trend assumed for future fertility assumptions of the 2015 projection.

¹ The reliability of existing population projections has been examined for Sri Lanka mainly for the common objective of establishing the importance of developing accurate projections. The base years of the De Silva (2007) and UN (2007) projections are 2001 and 2005 respectively; therefore, comparison of base year population figures of two projections is not possible. It should be noted that the latest projection by De Silva and de Silva (2015) was published in 2015, and thus used the enumerated population of 2012 census data.

Figure 6.1: Comparison of projected (standard variant) population figures



Note: Base year of the three projections: De Silva (2007) = 2001; UN (2007) = 2005; De Silva & de Silva (2015) = 2012.

Sources: De Silva and de Silva (2015), De Silva (2007) & UN (2007).

Table 6.1: Comparison of projected populations of 2007 and 2015 publications and deviations

Year	Projected Population (millions)		Difference in absolute No's (millions)	Difference (%)
	De Silva & de Silva (2015)	De Silva (2007)		
2012	20.4*	20.7	-0.3	-1.45
2017	21.3	21.3	0.0	0.00
2022	22.2	21.6	0.6	2.78
2027	23.0	21.8	1.2	5.50
2032	23.8	21.9	1.9	8.68
2037	24.4	21.8	2.6	11.93
2042	24.9	21.7	3.2	14.75
2047	25.3	21.4	3.9	18.22
2052	25.6	21.0	4.6	21.90
2057	25.7	20.5	5.2	25.37
2062	25.8	20.0	5.8	29.00

Note: *- Observed population in 2012 census.

Figures in De Silva's (2007) projection are interpolated.

Percentage calculation is based on the deviation from the 2015 (De Silva de Silva) and 2007 (De Silva) projections.

CONCLUSIONS AND POLICY IMPLICATIONS CONTD.

Assumed fertility schedules of projections

Historically and theoretically, it has been proven that changes of fertility schedules have given much more impact on projected population² than other two components. Assumed TFR for De Silva's (2007) standard projection begins with TFR of 1.98 and it decreases to 1.62 for the period 2041-46 and shows a slight increase and ends up with 1.73 in 2056-61 (Table 6.2). However, returning to the replacement fertility (TFR of 2.1) is not expected at all during the entire projection period. In contrary to the 2007 projection, the fertility schedule used in the latest projection by De Silva and de Silva (2015) starts with TFR of 2.40 in 2012-2017 and shows a gradual decline to 1.78 in 2057-62 period. As assumed it only reaches replacement fertility during the mid of the 2020s presumably by another 8-10 year time.

Table 6.2: Comparison of TFR schedules used for projections made in 2007 and 2015

Time periods used for 2007 projection	Assumed TFR for standard variance		Time periods used for 2015 projection
	2007 projection	2015 projection	
1995-2000	1.96 ^a		
2001-2006	1.98		
2006-2011	1.88	2.42 ^b	
2011-2016	1.77	2.40	2012-2017
2016-2021	1.60	2.29	2017-2022
2021-2026	1.53	2.19	2022-2027
2026-2031	1.49	2.10	2027-2032
2031-2036	1.50	2.01	2032-2037
2036-2041	1.56	1.92	2037-2042
2041-2046	1.62	1.85	2042-2047
2046-2051	1.66	1.80	2047-2052
2051-2056	1.70	1.78	2052-2057
2056-2061	1.73	1.78	2057-2062

Note: a – TFR observed for the period 1995-2000 is based on the DHS 2000 data.

b – TFR observed for the year 2011 is based on 2012 census data.

Source: De Silva (2007); De Silva and de Silva (2015).

In general, assumed TFR values of the latest projection (De Silva and de Silva, 2015) are always higher than corresponding values of the previous projection (De Silva, 2007). Even the TFR value for last two period of the latest projection (De Silva & de Silva 2015) is higher than the value used for the period of 2011-16 in the previous projection.

Since mortality and migration assumptions made in 2007 (De Silva) and 2015 (De Silva and de Silva) projections do not vary significantly, the projected increase in the future population is due mainly to the recent fertility increase. Therefore, unless vigorous programmes implemented to curb the higher level of fertility currently prevailed in the population, the addition of another 5 million to the observed population of 20.4 million in 2012 is unavoidable. Apart from the addition of 5 million more people, future dynamics of the Sri Lanka's population could create many more challenges but few opportunities.

² Any given population growth is driven by three components: fertility, mortality and migration. The most critical component in making population projections has consistently been the fertility.

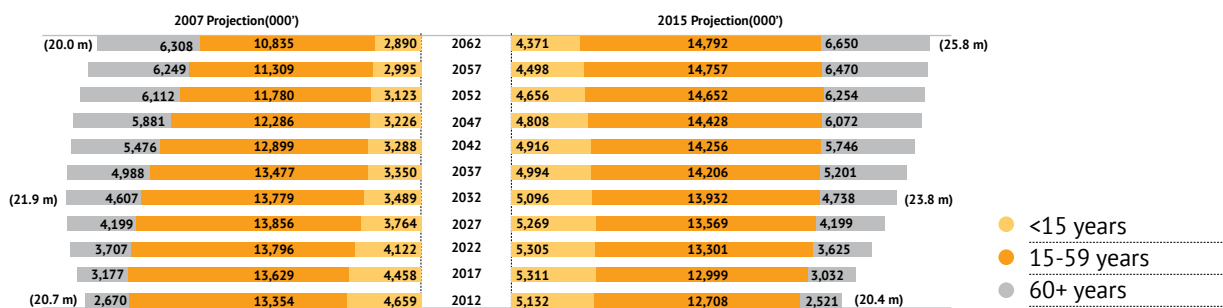
Impact of the fertility increase on population dynamics

Implications of the fertility increase on population dynamics such as age-structure, dependency ratios and demographic dividend will be discussed in subsequent sections. Although the growth of the population to 25 million level could create massive demand on housing and infrastructure, and that demand in turn lead to various environmental issues such as deforestation, landslides, water and air pollution, etc., in this chapter those implications are not discussed due to complex nature of the matter.

Changing age-structure

Although the percentage distributions of three broad age groups (<15, 15-59 and 60+ yrs.) in both the projections (2007 and 2015) seem to be similar, a sizable differences could be noticed in absolute numbers. Although the projected child population in 2012 by De Silva (2007) is 4.6 million the observed figure in the 2012 census is 5.1 million. Thus there is a half a million difference between the enumerated and the projected figure of 2012 (Figure 6.2). Even though the total population of 2012 projected by De Silva (2007) is higher than the enumerated population in 2012, interestingly the absolute size of the projected child population is significantly lower than the observed one.

Figure 6.2: Population age structures: Projections of De Silva (2007) and De Silva & de Silva (2015)



Source: Interpolated values from De Silva (2007); De Silva and de Silva (2015).

Child population in 2015 projection is always higher than the corresponding figures of 2007 projection. In fact the highest difference of 1.64 million (4.99 – 3.35) is expected in the year 2037. Even in the latter part of the projected years the difference is around 1.5 million.

Projected working age population (age 15-59 years) is numerically lower during 2012 to 2027 in the 2015 projection compared with the corresponding figures of 2007 projection results, however beyond 2027 an opposite trend is expected. In summary, the projected age structures of 2007 and 2015 projections deviate from each other significantly over the period 2012 and 2062. How these changes impacted on the future dependency ratios of Sri Lanka?

Change in dependency ratios

The age structure changes of a population determine the change in the level of demographic dependency. Changes in the different components in age structure have major implications on the country's socio-economic and development activities. Thus, the economic effect of the changes in the functional age groups, namely children (0-14 years), adults of working age (15-59 years) and the elderly (60+ years) can be presented by a summary measure known as the dependency ratio³.

³ The dependency ratio is defined as the number of dependents to every hundred persons between 15-59 (working age population) years.

CONCLUSIONS AND POLICY IMPLICATIONS CONTD.

Three dependency ratios, comprising the child dependency, old age dependency and, the sum of these two fractions known as the total dependency, are presented in table 6.3.

Child dependency ratios obtained from the 2015 projection are always higher than the corresponding figures of 2007 projection for the period of 2012-2062. The main reason for this pattern would be a higher number of child population expected in future due to the high TFR values assumed in respect of the 2015 projection compared to the 2007 projection.

Table 6.3: Comparison of dependency ratios reported in 2007 and 2015 projections

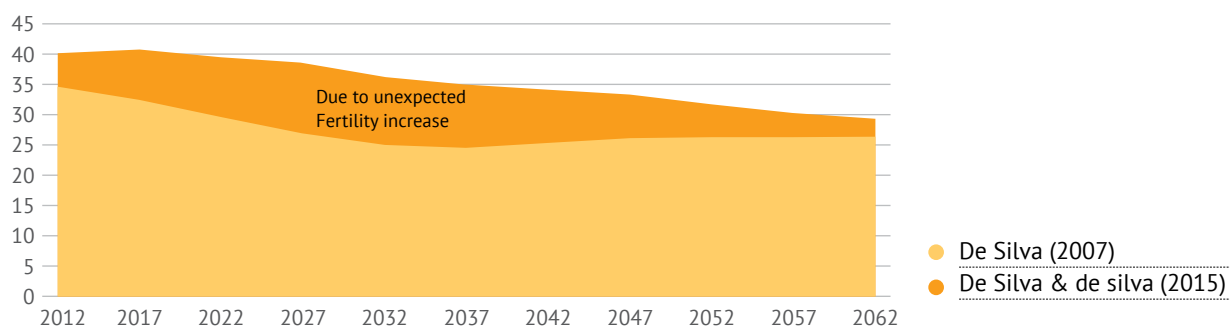
Year	Child Dependency		Old Age Dependency		Overall Dependency	
	De Silva (2007)	De Silva & de Silva (2015)	De Silva (2007)	De Silva & de Silva (2015)	De Silva (2007)	De Silva & de Silva (2015)
2012	34.9	40.4*	20.0	19.8*	54.9	60.2*
2017	32.7	40.9	23.3	23.3	56.0	64.2
2022	29.9	39.9	26.9	27.3	56.7	67.1
2027	27.2	38.8	30.3	30.9	57.5	69.8
2032	25.3	36.6	33.4	34.0	58.8	70.6
2037	24.9	35.2	37.0	36.6	61.9	71.8
2042	25.5	34.5	42.4	40.3	67.9	74.8
2047	26.3	33.3	47.9	42.1	74.1	75.4
2052	26.5	31.8	51.9	42.7	78.4	74.5
2057	26.5	30.5	55.3	43.8	81.7	74.3
2062	26.7	29.6	58.2	45.0	84.9	74.5

Source: Interpolated values from De Silva (2007); De Silva and de Silva (2015).

Note: * Figures are calculated from the 2012 census data. It should be noted that child dependency figures reported by De Silva and de Silva (2015) for the year 2012 (40.4 children per 100 working age population) is based on the enumerated census data. While the figure of 34.9 children per 100 working age population reported by De Silva (2007) is a projected value.

Figure 6.3: Comparison of child dependency ratios reported in 2007 and 2015 projections

No. of child dependents per 100 working age population



Source: Interpolated values from De Silva (2007) & De Silva and de Silva (2015).

As a result of the fertility increase during past 10-15 years the enumerated child dependency (40.4) of 2012 census is significantly higher than the projected figure (34.9). Interestingly, child dependency ratios presented by De Silva and de Silva (2015) for the subsequent periods is declining (Figure 6.3), however each figure is higher than the corresponding child dependency ratios reported by De Silva (2007).

Although fertility is assumed to be declining marginally (reaching the replacement fertility by mid of 2020s – TFR of 2.1), the already observed fertility increase would generate an echo effect, consequently dependency will remain more-or-less at the same level during 2012 to 2027. However beyond 2027 a sizable decline in child dependency could be observed.

Old age dependency ratios projected by De Silva (2007) and De Silva and de Silva (2015) do not vary significantly until the year 2037, however beyond that the projected ratios of the latest projection are lower compared to the corresponding ratios of the 2007 projection (Table 6.3).

Although the overall dependency ratio derived from the 2012 census data stand as high as at 60.2 dependents per 100 working age population, the projected corresponding figure by De Silva (2007) is 54.9 only (Table 6.3). As per the latest projection the overall dependency ratios during 2017 to 2047 are significantly higher than the corresponding ratios of 2007 projection. The increase in fertility over the past 10-15 years and assumed slow decline in fertility for coming years has contributed to the increase in dependency of the Sri Lankan population.

Once the size of the total population and its age-sex structure of a country changes significantly, then that have clear implications on the basic services such as education, health, energy, transportation etc. Unless appropriate policies and programmes are implemented the increase of the population will have serious implications on the environmental degradation of the country – deforestation, water pollution, air pollution, garbage disposal etc. However, if the present favourable demographic environment of Sri Lanka, which is conducive for rapid economic development, is utilized in an productive manner then a sustainable growth could be achieved.

Demographic dividend

The demographic dividend⁴ is the potential accruable gain by the society during the period of demographic transition in which there is a high ratio of individuals in the working age, in relation to the old and young segments in the dependent age categories (children below age 15 and elders above 60 or 65 years). However, the mere existence of a favourable demographic dividend would not be effective without a proper environment for economic acceleration. Nevertheless in a congenial environment of political stability, adequate savings, investment potential including the ability to draw FDI, development of human capital, productivity and knowledge-based economy, the optimum utilization of the demographic dividend to gain economic acceleration would materialize (De Silva, 2012).

The age structure transition, covering the period of 1991 to 2034, has produced a demographic dividend, which is conducive for an economic take-off in the country (first diagram of Figure 6.4). During the period of demographic dividend, the proportion of the people in the working ages (aged 15-64) is noted to be significantly larger than the proportion in the dependent age categories (aged less than 15 and 65 and above). Nevertheless if the working age is defined as 15-59 years, the most lucrative part of the population dividend would fade away by 2019. Thus the remaining period of the dividend will be as short as only three years (second diagram of Figure 6.4).

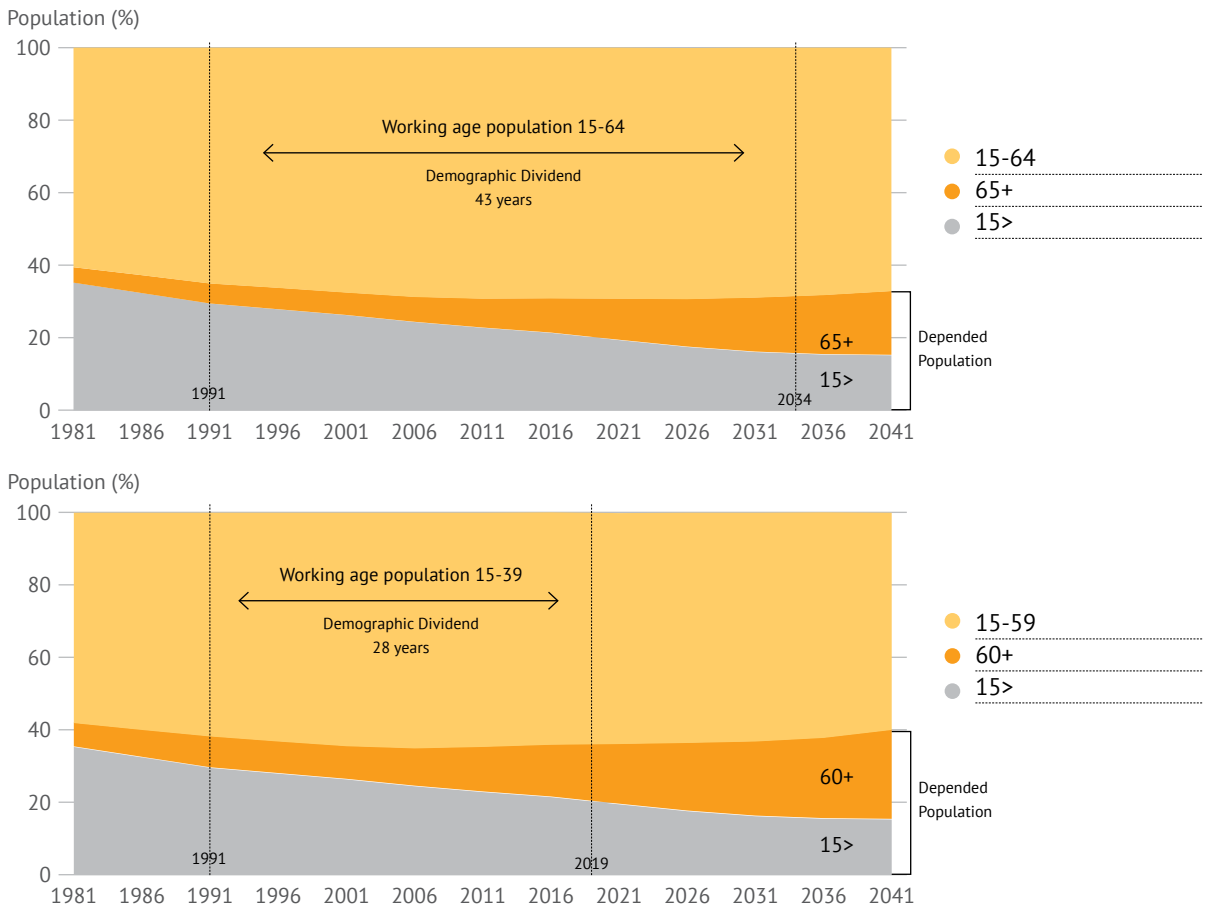
⁴ The United Nations Population Department has defined the period of demographic dividend as a transitional time, an interval when the proportion of children and youth under 15 years falls below 30 per cent of the population and the proportion of people 65 years and older below 15 per cent. As in many developing countries, Sri Lanka also has considered the people aged 60 years and above as elderly. Therefore, apart from the UN definition (dependents: <15 years and 65+ years), an alternative definition (dependents: <15 years and 60+ years) can also be used to identify the period in which Sri Lanka could experience a favourable demographic dividend.

CONCLUSIONS AND POLICY IMPLICATIONS CONTD.

It is important to note that either 15-59 or 15-64 years of the population considered as the working age category, the least dependency ratio is noticeable around the year 2001 and beyond 2001 the ratio has been increasing significantly. Apart from rapid ageing process the increase of child population, due to fertility up turn, has contributed for this demographic environment. (Appendix A - Table 3). This highlights the fact that Sri Lanka has already missed the best era of the demographic dividend. In other words although according to the UN definition the dividend would be available for another 18 years, the remaining period is relatively not attractive to the period that we have already consumed.

In a situation where the expected improvements in the socio-economic environment are not introduced, the existence of a window of opportunity alone will not be productive, thus along with a rapid ageing process, Sri Lanka will enter into a period of demographic turbulence. With the onset of demographic turbulence, population and labour supply will begin to decline and the dependency burden will increase significantly along with population ageing.

Figure 6.4: Age structure transition and prevalence of demographic dividend



Source: De Silva (2015).

Demographic dividend in Asia: Implications to Sri Lanka

In almost all countries in Southeast Asia, the demographic dividend had a positive impact on economic growth. The general observation about these countries is that the period offering a demographic dividend or a window of opportunity was parallel with a phase of accelerated economic growth.

With the significant reduction in fertility during the past three decades, the proportion of India's child population (< 15 years) has recently declined to below 30 per cent level. Thus, India in South Asia, which will be the most populous country in the world by few decades time, has already experienced the onset of the demographic dividend in the year 2015. The dividend of India would continue up to the middle of the present century, depending on how India's demographic dynamics changed during coming few decades. Due to the diversity of India, the overall dividend is expected to spread thinly over a long period of time.

With the onset of demographic dividend, India would face a significant challenge in providing suitable employment opportunities to its enormously expanding its' working age population. The dividend would not be realized without a massive effort to create new jobs, especially those that could put illiterate and semi-skilled labour force to work. It will be extremely difficult to generate a large volume of employment opportunities in a short period of time and significant numbers will search suitable employment opportunities in the foreign countries including Sri Lanka. If this proposition realised in coming years then Sri Lankans would face a serious challenge in local and foreign labour markets to secure suitable employment opportunities.

Remarks to the Policy Planners

With the recent increase in fertility observed in Sri Lanka, the child dependency ratio is likely to increase in the near future together with the ageing of the population. A future demographic scenario for Sri Lanka indicates a difficult outlook at both ends of the population pyramid. In other words, a contradictory situation is emerging in which the ageing of the population would continue along with an increase in child dependency, thus increasing the dependency burden for the working population at both ends of the population pyramid.

The current global economic crisis further compounds the situation. With increased child dependency over the coming years, the Government is expected to spend more on the younger population, and this may drain the resources required for the development of the country. Thus, reducing the fertility from above replacement to replacement level could again appear as an appropriate solution for many of the socio-economic problems facing the country.

Presumably, the increase in fertility observed during the early part of the new millennium will be short-lived. There may be a time in the near future when fertility would start declining again towards the replacement level. That particular point may be determined primarily by the degree to which pronatalist views and practices are once again reversed by the State and the Sri Lankan community.

CONCLUSIONS AND POLICY IMPLICATIONS CONTD.

Apart from the increase in overall fertility, the teen fertility has also increased significantly in Sri Lanka. The incidence of live births in the teen ages in Sri Lanka highlights the fact that initiation of sexual activities at early age and practice of living together (without entering in to legal marriage), which may lead to vulnerable situation to the mother as well as to the child. This environment has clearly demonstrated the requirement of developing and implementing a comprehensive sexual and reproductive health policy on school and out of school children without any further delay in order to minimize the undesirable sexual behaviour and high incidence of teen fertility in Sri Lanka.

Sri Lankan population has increased by 18 million within the past 141 years - 2.4 million in 1871 to 20.4 million in 2012. As per the most recent population projection of Sri Lanka, published by the UNFPA in 2015, the size of the population of the country would increase significantly in coming decades – 25 million by 2042 and even beyond 26 million by 2060s. Apart from the changes in consumption patterns of the population, the future Sri Lankan population would increase significantly, which may degrade our environment significantly unless appropriate policies and programmes are implemented by the policy makers.

In this environment necessary steps have to be taken to develop a suitable population and reproductive health policy for Sri Lanka for next 10-15 years without further delay.

APPENDIX

APPENDIX A

Table 1: Births, Deaths and mid-year population, 1975-2014

Year	No. of Live births	No. of deaths	CBR	CDR	Mid-year Population ('000)
1975	375,857	115,108	27.8	8.5	13,496
1976	380,702	106,506	27.8	7.8	13,717
1977	389,522	103,284	27.9	7.4	13,942
1978	404,831	93,971	28.5	6.6	14,190
1979	417,986	94,244	28.9	6.5	14,492
1980	418,373	91,020	28.4	6.2	14,747
1981	423,793	88,481	28.2	5.9	15,011
1982	408,895	92,244	26.9	6.1	15,195
1983	405,122	95,174	26.3	6.2	15,417
1984	391,064	100,725	25.1	6.5	15,603
1985	389,599	98,089	24.6	6.2	15,842
1986	361,735	96,145	22.4	6.0	16,127
1987	357,723	99,756	21.8	6.0	16,373
1988	344,179	95,934	20.7	5.8	16,599
1989	363,343	105,239	21.6	6.3	16,825
1990	338,218	97,716	19.9	5.7	17,015
1991	356,593	95,574	20.7	5.5	17,267
1992	356,842	98,380	20.5	5.6	17,426
1993	350,707	96,179	19.9	5.5	17,646
1994	356,071	100,394	19.9	5.6	17,891
1995	343,224	104,707	18.9	5.8	18,136
1996	340,649	122,161	18.6	6.7	18,336
1997	333,219	114,591	17.9	6.2	18,568
1998	322,672	112,653	17.2	6.0	18,787
1999	328,725	115,330	17.3	6.1	19,056
2000	347,749	116,200	18.2	6.1	19,102
2001	358,583	112,858	19.1	6.0	18,797
2002	367,709	111,863	19.4	5.9	18,921
2003	370,643	115,495	19.3	6.0	19,173

APPENDIX CONTD.

Year	No. of Live births	No. of deaths	CBR	CDR	Mid-year Population ('000)
2004	364,711	114,915	18.8	5.9	19,435
2005	370,731	132,097	18.9	6.7	19,644
2006	373,538	117,467	18.8	5.9	19,858
2007	386,573	118,998	19.3	5.9	20,039
2008	373,575	123,814	18.5	6.1	20,246
2009	368,304	127,776	18.0	6.2	20,475
2010	363,881	130,337	17.6	6.3	20,675
2011*	363,415	123,261	17.4	5.9	20,869
2012*	355,900	122,063	17.5	6.0	20,424
2013*	365,792	127,124	17.9	6.2	20,579
2014*	349,715	127,758	16.9	6.2	20,771

Note: * Provisional

Source: Dept. of Census and Statistics.

Table 2: Change of ethnic and religious structures, 1981 and 2012

Ethnicity	Ethnicity		
	Population		Average annual growth rate (1981-2012)
	1981	2012	
	%	%	%
Sinhalese	74.0	74.9	1.1
Sri Lanka Tamil	12.7	11.2	0.6
Indian Tamil	5.5	4.1	0.1
Sri Lanka Moor	7.0	9.3	1.9
Other	0.8	0.5	-0.4
Total	100.0	100.0	1.1

Religion	Religion		
	Population		Average annual growth rate (1981-2012)
	1981	2012	
	%	%	%
Buddhist	69.3	70.1	1.1
Hindu	15.5	12.6	0.4
Islam	7.5	9.7	1.8
Christian	7.5	7.6	1.0
Other	0.1	0.0	-
Total	100.0	100.0	1.1

Sources: Department of Census and Statistics (1986; 2014)

Table 3: Child, old and total dependency ratios, 1971 to 2062

Year	Working age (15-59 yrs.)			Working age (15-64 yrs.)		
	Child Dependency (<15 yrs.)	Old Age Dependency (60+ yrs.)	Total Dependency	Child Dependency (<15 yrs.)	Old Age Dependency (65+ yrs.)	Total Dependency
1971	71.3	11.6	82.9	68.6	7.5	76.1
1981	60.5	11.4	71.9	58.2	7.1	65.4
2001	40.8	14.3	55.1	39.0	9.4	48.3
2012	40.4	19.8	60.2	37.7	11.8	49.4
2017*	40.9	23.3	64.2	37.9	14.4	52.3
2022*	39.9	27.3	67.1	36.7	17.2	54.0
2027*	38.8	30.9	69.8	35.7	20.4	56.1
2032*	36.6	34.0	70.6	33.5	22.9	56.4
2037*	35.2	36.6	71.8	32.2	25.2	57.4
2042*	34.5	40.3	74.8	31.2	27.0	58.2
2047*	33.3	42.1	75.4	30.4	29.7	60.1
2052*	31.8	42.7	74.5	29.2	30.9	60.1
2057*	30.5	43.8	74.3	27.8	31.3	59.2
2062*	29.6	45.0	74.5	27.0	32.3	59.2

Note: *Projected figures.

Source: De Silva and de Silva (2015); Dept. of Census and Statistics.

REFERENCES

- Abeykoon, A.T.P.L. (1998). Demographic projections for Sri Lanka, Research Paper Series No. 9, Population Division, Ministry of Health and Indigenous Medicine, Colombo.
- Abeykoon, A.T.P.L. (1987). Differentials in fertility and contraceptive behavior in Sri Lanka: the ethno religious factor, Ph.D. Dissertation, University of Michigan, Ann Arbor, U.S.A.
- Allen E.G., Freeman, S.B., Druschel, C., Hobbs, C.A., O'Leary, L.A., Romitti, P.A., Royle, M.H., Torfs, C.P. and Sherman, S.L. (2009). Maternal age risk for trisomy 21 assessed by the origin of chromosome nondisjunction: a report from the Atlanta and National Down Syndrome Projects, *Human Genetics*, 125: 41-52.
- Asian Meta Centre (2012). Asian demographic and human capital – data sheet 2012, National University of Singapore, Singapore.
- Ban, D. J., Kim, J. and De Silva, W.I. (2002). Induced abortion in Sri Lanka: who goes to providers for pregnancy termination? *Journal of Biosocial Science*, 34: 303-315.
- Brass, W. (1968). Methods of analysis and estimation, in *Demography of tropical Africa*, W. Brass and others (eds.), Princeton University, Princeton.
- Caldwell, B.K. (2005). Factors affecting female age at marriage in South Asia: contrasts between Sri Lanka and Bangladesh, *Asian Population Studies*, 1(3): 283-301.
- Caldwell, J.C. (1986). Routs to low mortality in poor countries, *Population and Development Review*, 12 (2): 171-220.
- Caldwell, J.C., Gajanayke, I., Caldwell, B. and Caldwell, P. (1989). Is marriage delay a multiphasic response to pressure for fertility decline? The case of Sri Lanka, *Journal of Marriage and Family*, 51: 337-351.
- Caldwell, J.C., Gaminiratne, K.H.W., Caldwell, P., De Silva, S., Caldwell, B., Weeraratne, N. and Silva, P. (1987). The role of traditional fertility regulation in Sri Lanka, *Studies in Family Planning*, 18(1): 1-21.
- Central Bank of Sri Lanka (2010). Annual report - 2010, Colombo.
- Davy, J. (1983). An account of the interior of Ceylon: and of its inhabitants with travels in that island, Tisaro Prakasakayo, Colombo.
- Department of Census and Statistics (2015). Census of population and housing of Sri Lanka, 2001 (in Sinhala), Colombo.
- Department of Census and Statistics (2014). Census of population and housing 2012: key findings, Colombo.
- Department of Census and Statistics (2009). Sri Lanka demographic and health survey - 2006-07, Colombo. [Online] Available at: www.statistics.gov.lk/dhs
- Department of Census and Statistics (2006). Census of population and housing of Sri Lanka, 2001: population and housing information, Colombo.
- Department of Census and Statistics (2002). Demographic and health survey, Sri Lanka 2000, Colombo.
- Department of Census and Statistics (1986). Census of population and housing of Sri Lanka - 1981, general report, Colombo.

- Department of Census and Statistics (1984). A survey to estimate the completeness in the registration of births and deaths in Sri Lanka-1980, Colombo.
- De Silva, W. I. (2015). Sri Lanka: paradigm shifts in population, National Center for Advanced Studies in Humanities and Social Sciences, Colombo.
- De Silva, W.I. (2014). Still the “Ireland of Asia”? Declining female age at marriage in Sri Lanka, *Journal of Family Studies*, 35(12):1605-1623.
- De Silva, W.I. (2012). The age structure transition and the demographic dividend: an opportunity for rapid economic take-off in Sri Lanka, *Sri Lanka Journal of Advanced Studies in Humanities and Social Sciences*, 2(1): 3-46.
- De Silva W.I. (2008). Construction and analysis of national and district life tables of Sri Lanka 2000-2002, Ministry of Healthcare and Nutrition, Colombo.
- De Silva, W.I. (2007). A population projection of Sri Lanka for the new millenium, 2001-2101: trends and Implications, Institute for Health Policy, Colombo.
- De Silva W.I. (2005). Family transition in South Asia: provision of social services and social protection, *Asia-Pacific Population Journal*, 20(2): 13-46.
- De Silva W.I. (1999). Puerperal morbidity: a neglected area of maternal health in Sri Lanka. *Social Biology*, 45 (3-4): 223-245.
- De Silva W.I. (1997a). Population projection for Sri Lanka: 1991-2041, Institute of Policy Studies, Colombo.
- De Silva, W. I. (1997b). Ireland of Asia: trends in marriage timing in Sri Lanka, *Asia-Pacific Population Journal*, 12(2):3-24.
- De Silva, W.I. (1997c). Maternal health in Sri Lanka, Takemi Research Paper Series, No. 136, Harvard School of Public Health, Boston.
- De Silva W.I. (1994). Ahead of target: achievement of replacement level fertility in Sri Lanka before the year 2000, *Asia-Pacific Population Journal*, 9(4): 3-22.
- De Silva, W.I. (1993). Influence of son preference on the contraceptive use and fertility of Sri Lankan women, *Journal of Biosocial Science*, 25(3): 319-331.
- De Silva W.I. (1992). Relationships of desire for no more children and socio-economic and demographic factors in Sri Lankan women, *Journal of Bio Social Science*, 24(2):185-200.
- De Silva W.I. (1991). Consistency between reproductive preferences and behaviour: the Sri Lankan experience, *Studies in Family Planning*, 22(3):188-197.
- De Silva, W.I. (1990). Reproduction preferences and subsequent behaviour: the Sri Lankan experience, Ph.D. thesis, Australian National University, Canberra.

REFERENCES CONTD.

- De Silva, W.I. and de Silva, R. (2015). Sri Lanka: 25 million people and implications - population and housing projections, 2012-2062, United Nations Population Fund, Colombo.
- De Silva, W.I. and Boyagoda, K. (2010). The changing scenario in mortality: a widening gender gap in life expectancy in Sri Lanka, *University of Colombo Review*, 2 (2): 60-72.
- De Silva, W.I., Perera, B.N. and Anuranga, K.C. (2010). Below replacement to above replacement: dramatic increase of fertility and its determinants in Sri Lanka, *Asia-Pacific Population Journal*, 25(2):27-52.
- De Silva W.I., Dayananda, R.A. and Perera, N.W.P.D.B. N., (2006). Contraceptive behaviour of abortion seekers in Sri Lanka, *Asian Population Studies*, 2(1): 3-18.
- Egan, G.F., Benn, P.A., Zelop, C.M., Bolnick, A., Gianferrari, E. and Borgida, A.F. (2004). Down Syndrome births in the United States from 1989 to 2001, *American Journal of Obstetrics and Gynecology*, 191(3):1044-8.
- ESCAP (2012). ESCAP population data sheet, 2012 Bangkok.
- ESCAP (2008). ESCAP population data sheet, 2008, Bangkok.
- Fathalla, M.F., Rosenfield, A., Indriso, C., Sen, D. K. and Ratnam, S.S. (1990). *Reproductive health: global issues*, vol. 3, The Parthenon Publishing Group, New Jersey.
- Fernando, D.N.P. (2014). Demographic, socio-economic and cultural factors affecting fertility differentials among Muslims in Sri Lanka, *Sri Lanka Journal of Population Studies*, 14(1), 131-144.
- Fernando, D.F.S. (1985). Changing nuptiality patterns in Sri Lanka between the censuses of 1971 and 1981, In *International Population Conference, Florence, 1985*, 3: 285-292, International Union for the Scientific Study of Population, Liege.
- Ghosh, S., Bhaumik, P., Ghosh, P. and Dey, S.K. (2010). Chromosome 21 non-disjunction and Down Syndrome birth in an Indian cohort: analysis of incidence and aetiology from family linkage data, *Genetic Research*, 92(3): 189-197.
- Goonesekere, S. and Amarasuriya, H. (2013). *Emerging concerns and case studies on child marriage in Sri Lanka*, UNICEF, Colombo.
- Gunasekara, H.R. (2005). *Preliminary evaluation of age.....sex data of census of population and housing – 2001*, Department of Census and Statistics, Colombo.
- Hook, E.B. and Lindsjo, A. (1978). Down's syndrome by live births in a single year maternal age interval in a Swedish study: comparison with results from a New York study, *American Journal of Human Genetics*, 30: 19-27.
- Institute of Policy Studies (2013). *Migration profile – Sri Lanka*, Colombo.
- Jones, G.W. (2007). Fertility decline in Asia: the role of marriage change, *Asia-Pacific Population Journal*, 22(2): 13-32.
- Kaluarachchi, A., Perera, S., Tissera, S. and Jayatillake, A. (2015). Multi country study on types of abortion and severity of symptoms- Sri Lanka experience, *Family Planning Association of Sri Lanka*, Colombo.


- Lee, S.L. and Kim, D.S. (2013). Korean population at 22 glances, Statistics Korea, Seoul.
- Nanboordiri, K. (1996). A primer of population dynamics, Plenum Press, New York.
- Notestein, F.W. (1945). Population: the long view, Theodore Schultz (ed.), Food for the world, pp. 36-57, University of Chicago Press, Chicago.
- Perera, H. (2008). Autism – the hidden epidemic, Sri Lanka Journal of Child Health, 37: 72-75.
- Prabal, K. De and Ratha, D. (2012). Impact of remittances on household income, asset and human capital: evidence from Sri Lanka, Migration and Development, 1(1): 163-179.
- Puvanarajan, P. and De Silva, W.I. (2001). Fertility decline in Sri Lanka: are all ethnic groups party to the process, Asia-Pacific Population Journal, 16 (2): 45-62.
- Raja I. R. (1955). Sinhalese population growth 1911-1946, Monograph No 7, Department of Census and Statistics, Colombo.
- Rajapakse, L. and De Silva W.I. (2000). Profile of women seeking abortion, Faculty of Medicine, University of Colombo, Colombo.
- Ranasinghe, A.G. (1946). Census of Ceylon, 1946: General report. vol. I, Part II, Colombo.
- Rutstein, S. O. and Shah, I. H. (2004). Infecundity, infertility, and childlessness in developing countries, DHS Comparative Reports No. 9, ORC Macro and the World Health Organization, Calverton.
- Smith, J. (1980), Illustrative analysis: age at marriage in Sri Lanka and Thailand, World Fertility Survey Scientific Report No.17, International Statistical Institute, Voorburg.
- Sri Lanka Bureau of Foreign Employment (2012). Annual statistical report. Sri Lanka Bureau of Foreign Employment, Colombo.
- United Nations (2007). World Population prospects: sex and age distribution of the world population- the 2006 revision, vol. II, New York.
- United Nations (2001). Principles and recommendations for vital statistics systems, Revision 2, New York. <http://unstats.un.org/unsd/demographic/standmeth/principles/default.htm>
- United Nations (1976). Population of Sri Lanka: country monograph series No. 4, Bangkok.
- United Nations (1955). Principles for a vital statistics system. Statistical papers series, M (19).<http://www.unescap.org/stat/data/syb2012/country-profiles/SYB2012-Countryprofiles.pdf>
- WHO - World Health Organization (2003). Safe abortion: technical and policy guidance for health systems, World Health Organization, Geneva.

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