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and
MANPOWER RESOURCES
of
SRI LANKA

A.T.P.L. Abeykoon



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Population and Manpower Resources
of
Sri Lanka

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FOREWORD

This manuscript has been written by one who has had the experience of population studies for many years. He could be considered an authority on this subject. His work is comprehensive.

His focus on the change in the age pyramid warrants attention on a number of aspects.

In the first instance, there is a case for the need to look after the health and social welfare of the elderly, with a longer expectancy of life and the problems that ensue - their care including adequate accommodation and the special problems that will follow such as osteoporosis, falls and fractures, inevitable cardiac disorders such as hypertension and heart failure and malignancy, not least, depression in those lonely ages.

The health care system has up to now had a focus on Maternity and Child Health. With the reduction of important indicators such as Infant and Maternal mortality, problems of the middle ages will now need attention. It is not an indication for less surveillance of Maternal and Child Health. These will require zealous perseverance to further possible improvement. However, there should be a shift of priority to newborn care and maternal nutrition to tackle the immense problem of low birth weight in this country. It is the foundation for a major problem in Sri Lanka viz. that of undernutrition and poor growth potential. There is further need to reduce neonatal mortality and morbidity with survival after resuscitation procedures.

With the increasing number of women in the reproductive years, contraceptive approaches require rethinking. Traditional methods still contribute a proportion of the popular approaches. These may not be reliable enough to maintain the emphasis on further slowing of the population growth rate and the high risks of childbearing with high priority. Even the reproductive ages require a further contraction although the age of marriage has gone up with much advantage.

Cultural practices that affect sexual behaviour need greater research and reflection, including information for the adolescent for further improvement of the prevention of STD and unsafe abortions. It is also important to include more samples of men in demographic and health surveys.

Occupational health and hazards of accidents require special mention. These require consideration in sex differential analysis of both mortality and morbidity.

There is no selection of sex at conception yet, though ultrasound examination in pregnancy is an increasingly popular investigation. Lack of legal backing for free abortion is in this situation a safe deterrent to prevent imbalances of sex distribution at birth.

In assessing the female labour force, there are yet no efforts to estimate women working at household level in agricultural pursuits such as home gardening and household appropriate technologies.

Food security estimation has to be accurate for pricing policies etc. addressed to improving general nutritional status in Sri Lanka.

Preschool facilities may be assessed in later demographic surveys in pursuing stimulating activities in child development.

Health systems analysis would be a useful exercise for refreshing health policy changes. In summary, this work provides a good background for research activities and policy changes. It is recommended for critical and good reading.

Prof. Priyani E. Soysa

Director General

Natural Resources, Energy and Science Authority

July 1997

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1. Introduction

Sri Lanka with a land area of about 66,000 square kilometres has a population of about 18.5 million in 1997. The size and growth of the country's population as well as its age-sex structure determine the supply of labour, an essential factor in the production of all goods and services. Therefore, the study of the growth, structure and distribution of the population and labour force in Sri Lanka and their likely changes in the future provides a useful guide to the supply and demand of population and manpower resources for national development.

In this monograph an attempt is made to review and analyse the historical, current and likely changes in the future with regard to population and manpower resources of Sri Lanka with a view to bringing into focus some of the challenges and emerging issues in the field of human resource development.

2. Sources of Data

In the study of population and manpower resources of Sri Lanka, the principal sources of data on population and manpower are the decennial Censuses of Population, Vital Registration Statistics, Demographic and Labour Force Sample Surveys. The data from the Department of Immigration and Emigration on international migration and other socio-economic data collected by the Department of Census and Statistics and the Central Bank of Sri Lanka also provide useful information on population and labour force.

Sri Lanka has a long history of collecting and compiling reliable data on population and vital statistics. The first census of population was conducted in 1871 and the registration of vital events commenced in 1867. Although in the early years the degree of under-enumeration of the population was quite high and the reporting of vital events to a considerable extent incomplete, marked improvements have taken place over time. It was estimated that in the 1871 census, the population was under-enumerated by 15 per cent. However, the degree of under enumeration of the population in the census of population conducted in 1953 was only 0.7 per cent. Similarly, a survey carried out in 1980 revealed that birth and death registrations were complete to the extent of 98.8 per cent and 94.0 per cent respectively. The first household survey in Sri Lanka was conducted in Sri Lanka in the 1930s. Since then reliable household sample surveys have been conducted to collect demographic, health, labour force and socio-economic data.

Thus compared with other developing countries, Sri Lanka is in the fortunate and unique position of having almost complete and statistically reliable demographic and manpower data.

3. Population growth and its Components

3.1 Population Growth

Since the first census of population undertaken in 1871 when the population was enumerated to be 2.4 million, the population of the country has doubled almost three times. It can be seen from Table 1 that the average annual rate of growth of population during intercensal periods between 1871 and 1946 have remained below 2 per cent, and for the period as a whole averaged around 1.4 per cent. However, during the period 1946 to 1963, the growth rate averaged around 2.8 per cent. In the subsequent periods, the rate of growth of population has gradually declined. With the growth of the absolute size of population by more than 7 times between 1871 and 1991, the density of population has also increased accordingly from 37 persons per square kilometre to 267 during the same period.

It is evident from Table 2 that over the years, the growth of Sri Lanka's population has been influenced by natural increase (excess of births over deaths) and net migration (difference between immigrants and emigrants). The relative importance of these two components has varied over the period 1871 to 1991. It is evident that net migration has contributed to a greater extent to the increase in population between 1871 and 1901. Thereafter, its contribution has gradually declined while the contribution of natural increase has been increasing. Since 1953, migration has had a negative effect on the growth of population.

The provinces and districts of the country also experienced different rates of population growth between 1871 and 1981. These differing rates of growth have contributed to population redistribution within the country. Table 3 gives the average annual rates of population growth in the various provinces and districts for three periods namely, 1901 to 1946, 1946 to 1981 and 1981 to 1995.

During the period 1901 to 1946, in seven districts namely, Colombo, Kalutara, Trincomalee, Kurunegala, Badulla, Ratnapura and Kegalle the average annual rates of population growth were higher than the national average of 1.4 per cent. All other districts had lower rates and in the five districts of Hambantota, Jaffna, Mannar, Vavuniya and Batticaloa, the rates averaged less than one per cent.

TABLE 1: Population Growth and Density, 1871-1991

Year	Population (000)	Average Annual Growth Rate (%)	Density (Per Sq. Km.)
1871	2,400	-	37
1881	2,760	1.4	43
1891	3,008	0.9	46
1901	3,566	1.7	55
1911	4,106	1.4	63
1921	4,498	0.9	69
1931	5,307	1.7	82
1946	6,657	1.5	103
1953	8,098	2.8	125
1963	10,582	2.7	164
1971	12,690	2.2	196
1981	14,847	1.7	230
1991 ^o	17,247	1.5	267

Sources : Reports of Census of Population; Population Division, Ministry of Health.

^o Estimated

Substantial growth of population has occurred in the districts of Trincomalee and Ratnapura. The growth of population in the Trincomalee district can be attributed largely to internal migration. A large inflow of population into the district occurred during the years of the Second World War, when the natural harbour of Trincomalee served as a base for naval operations. The population of Ratnapura district grew by steady natural increase and by migration from other districts and immigration to plantations from India.

TABLE 2: Intercensal Increase, Natural Increase and Migration Increase, 1871-1991

Period	Total Increase (000) (1)	Natural Increase (000) (2)	Migration Increase (000) (3)	(2)x100 (1) (4)	(3)x100 (1) (5)
1871-1881	360	120	240	33.3	66.7
1881-1891	248	144	104	58.1	41.9
1891-1901	558	225	333	40.3	59.7
1901-1911	540	356	184	65.9	34.1
1911-1921	392	319	73	81.4	18.6
1921-1931	809	657	152	81.2	18.8
1931-1946	1350	1281	69	94.9	5.1
1946-1953	1441	1363	78	94.6	5.4
1953-1963	2484	2513	-29	101.2	-1.2
1963-1971	2108	2208	-100	104.7	-4.7
1971-1981	2157	2888	-731	133.9	-33.9
1981-1991	2400	2778	-378	115.8	-15.8

Source: Reports of Census of Population; Registrar General's Department.

The pattern of population growth by districts during the 35 year period 1946-1981 has been different from the pattern observed during 1901 to 1946. Except in Kandy and Kegalle districts, all other districts recorded an increase in the growth rate. In twelve districts, the average annual growth rate of population doubled. Much of the rapid growth has taken place in the dry zone districts (districts with annual rainfall of less than 50 inches). It can be seen from Table 4 that the dry zone districts, except the district of Jaffna had higher growth rates of population than the national average. It is evident that this increase had occurred as a result of movement of population from the densely populated wet zone districts.

During the period 1981 to 1995 the rates of population growth declined due to the decrease in natural increase and acceleration of out migration. There has been a substantial narrowing of the gap between the national rate of growth of

population and that of the dry zone districts during this period. However, districts of Matale, Puttalam, Hambantota, Mannar, Trincomalee and Batticaloa continue to have higher rates among the dry zone districts (Table 3).

TABLE 3: Average Annual Rates of Population Growth by Province and District, 1901 to 1995

Province/District	(per cent)		
	1901-1946	1946-1981	1981-1995
Sri Lanka	1.4	2.3	1.4
Western Province	1.6	2.1	1.5
Colombo	1.6	2.2	1.5
Kalutara	1.5	1.7	1.1
Gampaha	-	-	1.7
Central Province	1.3	1.7	1.3
Kandy	1.4	1.1	1.4
Matale	1.2	2.4	1.5
Nuwara Eliya	1.3	2.2	1.0
Southern Province	1.2	1.9	1.5
Galle	1.3	1.7	1.4
Matara	1.2	1.8	1.4
Hambantota	0.8	3.0	1.7
Northern Province	0.8	2.4	1.2
Jaffna	0.8	1.9	1.1
Mannar	0.5	3.5	1.7
Vavuniya	0.6	5.9	1.3
Mullaitivu	-	-	1.4
Eastern Province	1.1	3.6	1.7
Batticaloa	0.8	3.7	1.8
Trincomalee	2.2	3.5	1.5
Ampara	-	-	1.6
North Western Province	1.4	2.7	1.4
Kurunegala	1.5	2.6	1.2
Puttalam	1.3	2.9	1.7
North Central Province	1.3	5.3	1.5
Anuradhapura	1.3	5.3	1.3
Polonnaruwa	-	-	2.0
Uva Province	1.5	2.6	1.7
Badulla	1.5	2.6	1.4
Moneragala	-	-	2.4
Sabaragamuwa Province	1.9	2.0	1.2
Ratnapura	2.1	2.4	1.3
Kegalle	1.7	1.5	1.0

Note: Computed from census data of relevant censuses and estimated population for 1995 on the basis of the Demographic Survey of 1994.

TABLE 4: Population Change in Wet Zone and Dry Zone Districts, 1946-1981

District	Percentage Increase	Percentage Difference Between National and District Annual Growth Rate
All Districts	123.0	
Wet Zone		
Kandy	77.0	-52.2
Kegalle	70.4	-34.8
Kalutara	81.6	-26.1
Galle	77.2	-26.1
Matara	83.0	-26.1
Nuwara Eliya	125.4	-4.3
Colombo	117.6	-4.3
Ratnapura	131.7	+4.3
Dry Zone		
Jaffna	95.5	-17.3
Matale	128.9	+4.3
Kurunegala	149.9	+13.0
Badulla	145.7	+13.0
Puttalam	169.4	+26.1
Hambantota	182.7	+30.4
Mannar	231.3	+52.2
Trincomalee	236.8	+52.2
Batticaloa	254.2	+60.9
Anuradhapura	506.4	+130.4
Vavuniya	647.8	+156.5

Note: Computed from the respective census data.

An important factor responsible for the increase in population growth rates in the dry zone districts between 1946 and 1981 has been the successful eradication of Malaria during the late 1940s. Except for Jaffna, other districts in the dry zone had been endemic or hyper-endemic to Malaria. The districts in the wet zone were either free from Malaria or moderately endemic. Thus the eradication of Malaria stimulated the growth of population in the dry zone by reducing mortality and increasing in-migration and fertility.

Until about 1946 the crude death rates in the dry zone districts were much higher, and the crude birth rates generally lower than in the districts of the wet zone. Since 1946, the mortality rates in almost all dry zone districts registered much sharper declines compared with the rates of the wet zone districts. On the other hand the birth rates of the dry zone districts showed an increase (Table 5).

TABLE 5: Average Crude Death Rate and Crude Birth Rate in Wet Zone and Dry Zone Districts 1930-1945 and 1946-1960

	Crude Death Rate		Crude Birth Rate	
	1930-45	1946-60	1930-45	1946-60
Wet Zone				
Kandy	21.4	12.6	39.6	39.5
Kegalle	18.5	10.0	36.6	35.6
Kalutara	16.0	10.0	31.9	31.6
Galle	19.3	11.8	36.1	34.4
Matara	20.6	10.2	38.5	39.0
Nuwara Eliya	21.2	12.6	43.3	39.4
Colombo	19.0	12.3	29.8	35.4
Ratnapura	20.0	11.9	38.4	39.4
Dry Zone				
Jaffna	22.8	11.8	32.3	34.2
Matale	27.0	13.5	41.3	43.7
Kurunegala	28.2	11.3	39.5	41.3
Badulla	23.6	12.1	43.5	41.8
Puttalam	32.7	11.9	33.7	43.9
Hambantota	35.8	11.5	39.4	45.9
Mannar	31.8	13.1	33.0	36.5
Trincomalee	26.4	11.9	34.4	40.7
Batticaloa	29.7	14.5	40.6	43.7
Anuradhapura	34.2	11.0	36.7	44.2
Vavuniya	32.5	11.6	33.6	47.0

Source: ESCAP, *Population of Sri Lanka, 1976, op.cit.*

3.2 Mortality

The mortality levels in Sri Lanka remained high until the beginning of the second decade of this century. The crude death rate fluctuated around 28 per thousand of the population during the period 1881 to 1920 (Table 6). The high level of mortality that prevailed at that time was due to the epidemics, endemic diseases, inadequate preventive and curative services, low standards of living and literacy among the mass of the population. A definite declining trend in the death rate was observed since 1921. Between 1941 to 1945 the crude death rate declined to an average of about 20 per thousand of the population. This decline was followed by a sharp decline during 1946 to 1950 which coincided with the initiation of the intensive campaign to eradicate Malaria and the expansion of

TABLE 6: Crude Death Rate, Infant Mortality and Maternal Mortality Rate, 1881-1995

Period	Crude Death Rate (per 1000 population)	Infant Mortality Rate (per 1000 live births)	Maternal Mortality Ratio
1881-1885	23.5	158.0	-
1886-1890	25.1	158.4	-
1891-1895	28.3	168.6	-
1896-1900	27.0	168.4	-
1901-1905	26.7	171.4	-
1906-1910	30.8	189.0	-
1911-1915	30.7	201.2	-
1916-1920	30.1	190.2	-
1921-1925	27.8	190.0	20.1
1926-1930	25.1	174.6	19.4
1931-1935	24.6	182.6	21.0
1936-1940	21.4	160.0	19.2
1941-1945	19.9	131.2	14.6
1946-1950	14.4	100.6	9.3
1951-1955	11.4	74.8	5.0
1956-1960	9.5	62.8	3.6
1961-1965	8.4	54.2	2.6
1966-1970	7.9	50.6	1.7
1971-1975	8.2	46.6	1.4
1976-1980	6.9	39.1	0.8
1981-1985	6.2	28.0	0.4
1986-1990	6.0	20.4	0.4
1991-1995	5.6	-	-

Note: Computed from data of the Registrar General's Department.

health services particularly in the dry zone. It resulted in almost eliminating the geographic differentials in mortality by early 1960s. Further reductions in the death rate that followed the rapid decline and sustained through the subsequent decades is the result of the growth and spread of the country's health care system, improved production and distribution of food, improvements in personal hygiene, environmental sanitation and educational attainment.

The health care services are provided to the entire population through a well organized health care system. The government of Sri Lanka has been subsidizing basic food such as rice, wheat flour and sugar for more than four decades. Food subsidies to the extent that they have reached the poorest people in the country have contributed to the reduction of mortality, particularly infant and maternal mortality. The improvements in health care facilities and nutrition have no doubt played an important role in the increase of life expectancy at birth from 44 years for males and 42 years for females in 1946 to 68.8 and 73.5 years respectively in 1988 (Table 7). It can be seen from Table 8 that life expectancy at birth in the districts have increased over time and thereby considerably narrowed district differentials in mortality. Substantial gains in life expectancy during 1970-72 to 1980-82 periods have been observed in the districts of Nuwara Eliya, Batticaloa, Matale, Vavuniya and Mullaitivu.

TABLE 7: Expectation of Life at Birth By Sex 1953-1988

	(years)				
	1953	1962	1971	1981	1988 ^c
Total	58.2	61.7	65.5	69.9	71.2
Male	58.8	61.9	64.2	67.7	68.8
Female	57.5	61.4	66.7	72.1	73.5

Source : Department of Census and Statistics.

^c Estimated by the Population Division, Ministry of Health.

3.3 Fertility

The fertility transition in Sri Lanka commenced in the mid 1950s. Prior to that time, fertility levels remained relatively high. During the early period i.e. 1871 to 1895, the crude birth rate remained relatively low mainly due to under-registration of births. However, the rates indicated a rising trend. Between 1896 to 1955 the birth rate fluctuated around 37 to 40 per thousand of the population (Table 9). The high birth rates during this period was an insurance against high

death rates. Thus the influence of community and family pressures favoured high fertility and social values and institutions were geared to encourage large families. The birth rates during this period however, fluctuated to a considerable degree due to the outbreak of epidemics. Poor health conditions had direct and indirect effects on fertility. The direct effects resulted from lowered vitality and miscarriages and indirect effects were exerted through delayed marriages.

TABLE 8: Expectation of Life at Birth By District 1970-72 and 1980-82

(years)

District	1970-72		1980-82	
	Male	Female	Male	Female
Colombo	62.5 ^a	67.9 ^a	60.1	66.0
Gampaha	-	-	71.6	76.2
Kalutara	67.6	70.8	71.0	74.5
Kandy	60.6	62.2	62.7	67.9
Matale	63.4	64.1	68.2	71.9
Nuwara Eliya	56.6	55.1	68.0	69.1
Galle	67.3	70.7	69.3	73.5
Matara	68.3	71.4	70.2	75.5
Hambantota	67.1	69.3	73.2	76.8
Jaffna	66.0	67.1	70.0	75.1
Mannar	63.7	63.2	69.0	71.8
Vavuniya	64.9	66.0	71.6 ^b	74.9 ^b
Batticaloa	59.5	60.4	69.5	68.8
Ampara	63.8	66.6	69.9	72.9
Trincomalee	65.1	65.4	69.7	72.6
Kurunegala	66.4	69.2	68.4	73.6
Puttalam	64.2	68.3	68.7	73.9
Anuradhapura	65.2	68.8	69.8	73.5
Polonnaruwa	67.0	69.1	72.0	77.8
Badulla	61.2	61.9	65.7	68.7
Moneragala	68.0	69.4	74.7	75.5
Ratnapura	63.8	63.4	68.4	70.4
Kegalle	66.8	69.0	70.1	74.6
Sri Lanka	64.2	66.7	67.7	72.1

a - Includes Gampaha District, b - Includes Mullaitivu district

Source: Department of Census and Statistics.

TABLE 9: Crude Birth Rate, 1871-1990

Period	Rate	Period	Rate
1871-1875	28.6	1931-1935	36.9
1876-1880	26.3	1936-1940	35.9
1881-1885	28.6	1941-1945	36.6
1886-1890	30.2	1946-1950	38.9
1891-1895	31.7	1951-1955	38.1
1896-1900	37.1	1956-1960	36.5
1901-1905	38.6	1961-1965	34.3
1906-1910	37.5	1966-1970	31.1
1911-1915	37.0	1971-1975	28.7
1916-1920	38.2	1976-1980	28.1
1921-1925	39.2	1981-1985	26.2
1926-1930	40.4	1986-1990	21.2

Note: Computed from Data of the Registrar General's Department.

TABLE 10: Crude Birth Rate and Total Fertility Rate, 1952-1993

Period	Crude Birth	Total Fertility Rate
1952-1954	37.7	5.3
1962-1964	34.3	5.0
1970-1972	29.7	4.1
1980-1982	27.8	3.4
1982-1987	24.0	2.8
1988-1993	20.6	2.3

Sources: Department of Census & Statistics, Registrar General's Department. The total fertility rates for 1982-87 and 1988-93 periods exclude the Northern and Eastern Provinces.

As stated earlier, there was a definite downward trend in fertility since the mid 1950s (Table 10). The initial fertility decline was mainly due to the rise in the age at marriage of females which increased from 20.9 years in 1953 to 22.1 in 1963 and subsequently to 25.5 years in 1993 (Table 11). Since the 1970s, an increasing proportion of the fertility decline has been due to the fall

in marital fertility and less to changes in nuptiality (Table 12). This has been mainly due to the rise in contraceptive use where the contraceptive prevalence rate increased from 32 per cent in 1975 to 66 per cent in 1993. As a result, fertility decline has been rapid in the 1980s as evident from the changes in the age specific fertility rates (Table 13). District fertility pattern shows significant differentials though the rates have narrowed over time. Substantial declines in fertility have been observed during the 1970-72 to 1980-82 periods in the districts of Matale, Nuwara Eliya, Hambantota, Kurunegala, Anuradhapura and Badulla (Table 14).

TABLE 11: Singulate Mean Age at Marriage by Sex, 1953-1993

Year	(years)	
	Male	Female
1953	27.2	20.9
1963	27.9	22.1
1971	28.0	23.5
1981	27.9	24.4
1987	-	24.8
1993	-	25.5

Sources: Census of Population, General Report 1981; Demographic and Health Surveys 1987 and 1993. Data for 1987 and 1993 exclude the Northern and Eastern Provinces.

TABLE 12: Changes in the Components of Fertility Rate 1953-1981

Component	1953-1963	1963-1971	1971-1981
Nuptiality	0.29 (96.7)	0.48 (53.3)	0.15 (21.4)
Marital Fertility	0.01 (3.3)	0.42 (46.7)	0.55 (78.6)
Total	0.30 (100.0)	0.90 (100.0)	0.70 (100.0)

Note: The figures within parentheses indicate relative contributions.

TABLE 13: Age Specific Fertility Rates, 1970-1993

Age Group	1970-1972	%	1980-1982	%	1985-1987	%	1988-1993	%
15-19	40	4.9	38	5.6	35	6.7	35	7.7
20-24	179	21.7	173	25.6	137	26.1	109	24.2
25-29	227	27.5	197	29.2	150	28.5	134	29.7
30-34	200	24.3	149	22.0	113	21.5	104	23.0
35-39	131	15.9	89	13.2	66	12.6	54	11.9
40-44	41	5.0	26	3.8	21	4.0	14	3.1
45-49	06	0.7	04	0.6	03	0.6	02	0.4
TFR/								
Total	4.1	100.0	3.4	100.0	2.6	100.0	2.3	100.0

Sources : ESCAP, *Levels and Trends of Fertility in Sri Lanka : A District Level Analysis, 1986; Demographic and Health Surveys, 1987 and 1993. Department of Census and Statistics. The rates for the Period 1985-87 and 1988-93 exclude the Northern and Eastern Provinces.*

Undoubtedly there has been in operation in Sri Lanka a host of socio-economic factors which have facilitated the development of the social environment in which reduced fertility has emerged as an important demographic trend. Among the many elements which contributed to this development is the expansion of education, particularly education of women beyond the primary level. It has increased the average level of awareness of social and economic costs and benefits of excessive child bearing. There is no doubt that educational expansion has been an important factor operating behind the scenes affecting fertility attitudes and behaviour in Sri Lanka. While the initial impetus for fertility decline has come about through rising aspirations of females resulting from the expansion of educational opportunities and attainment, in the more recent period, the upward social mobility of females brought about by the wider availability of economic opportunities and participation in the modern economic sectors have also contributed to higher contraceptive use and fertility decline in Sri Lanka (Table 15).

TABLE 14: Total Fertility Rates by District 1970-72 and 1980-82

Districts	1970-72	1980-82	Percentage Change
Colombo	3.7	3.4	8.1
Gampaha	-	2.3	-
Kalutara	3.6	3.2	11.1
Kandy	4.1	3.9	4.9
Matale	4.6	3.5	23.9
Nuwara Eliya	3.7	2.2	40.5
Galle	3.7	3.1	16.2
Matara	4.5	3.8	15.6
Hambantota	4.8	3.7	22.9
Jaffna	4.2	3.8	9.5
Mannar	5.3	4.5	15.1
Vavuniya	5.7	4.8	15.8
Mullaitivu	-	3.8	-
Batticaloa	5.4	4.9	9.3
Ampara	-	3.5	-
Trincomalee	5.5	5.0	9.1
Kurunegala	4.0	2.9	27.5
Puttalam	4.3	3.6	16.3
Anuradhapura	5.3	4.0	24.5
Polonnaruwa	-	3.5	-
Badulla	4.8	3.5	27.1
Moneragala	-	5.0	-
Ratnapura	4.1	3.7	9.8
Kegalle	3.2	2.7	15.6
Sri Lanka	4.1	3.4	17.1

Source: ESCAP, *Levels and Trends of Fertility in Sri Lanka: A District Level Analysis, 1986, op. cit.*

TABLE 15: Mean Number of Children Ever Born to Currently Married Women, 1982 and 1993

Educational Status	Mean Number of Children	
	1982	1993
No Schooling	4.6	3.4
Primary	3.9	3.3
Secondary	2.6	2.4
Higher	1.9	2.0
Total	3.4	2.6

Sources : *Contraceptive Prevalence Survey 1982; Demographic and Health Survey 1993.*

3.4 International Migration

Immigration to Sri Lanka on a large scale began in the early 1830s with the development of the coffee plantations in the hill-country areas. Subsequent migrations were the result of the development and expansion of tea and rubber plantations. The flow of migrant labour into the country was largely determined by the prosperity of the plantation industry. During the period 1871 to 1901, migration has contributed about 56 per cent to the total population increase (see Table 2). During the subsequent period, the contribution of migration has gradually declined and since 1951 has had a continuous negative effect on the growth of population (Table 16). The decline in immigration was mainly due to the gradual enforcement of the Immigrants and Emigrants Act of 1948 and the subsequent Citizenship Act of 1948 and Indian and Pakistan Residents Act of 1949.

The enforcement of the Indian and Pakistan Residents Act of 1949, and the Sirima-Shasthri Pact of 1964 to repatriate stateless Indian Estate labour to India resulted in migration contributing negatively to population growth since 1953. The acceleration of emigration since 1971 has been due to the outflow of people to the Gulf States for employment.

TABLE 16: Migration Trends, 1871-1990

Period	Migration	Migration Rate
1871-1880	23,862	9.2
1881-1890	10,398	3.6
1891-1900	34,070	10.3
1901-1910	17,735	4.6
1911-1920	9,225	2.1
1921-1930	14,880	3.0
1931-1940	8,925	1.6
1941-1950	19,332	2.7
1951-1960	-13,327	-1.5
1961-1970	-9,020	-0.8
1971-1980	-46,539	-3.4
1981-1990	-43,031	-2.4

Note : Computed from data of the Registrar General's Department. Migration for period is the average annual for that period

4. Population Density and Distribution

Sri Lanka is one of the most densely populated countries in Asia. The density of population which was 37 persons per square kilometre in 1871 has increased by seven fold in 1991 (see Table 1). When compared with population densities of some selected countries of Asia which have much larger populations, the density of population in Sri Lanka is relatively high. India which has a population of about 52 times that of Sri Lanka has about the same density of population (Table 17).

Population density by district shows that the districts of the Northern Province have relatively low densities while districts in the Western Province have high densities (Table 18). In 1995, Vavuniya district had the lowest density with 43 persons per square kilometre while the density of Colombo district was about 75 times higher than that of Vavuniya. In 1871 the districts of Colombo and Galle had relatively high densities. However, between 1871 and 1995, while the density of Colombo district increased by about 16 times the density of Galle district increased by only five fold. It can be seen from Table 19 that the Western, Central and Southern Provinces which constitute only 23 per cent of the total land area of the country, comprise about 53 per cent of the total population. However, with the availability of land in the dry zone for settlement as a result of Malaria eradication and land development, there has been a movement of people from the densely populated districts in the wet zone to sparsely populated districts in the dry zone. Thus since 1946, there has been a gradual improvement in the distribution pattern of the population. The lifetime migration pattern of the population as at 1981 census could be seen from Figure 1. Population movements during the lifetime have been confined to the south western coastal districts, the hill country and the settlement areas of Anuradhapura and Polonnaruwa districts. Very little movement has taken place to and from the districts in the East and Northern Provinces.

TABLE 17: Density in Selected Countries, 1995

Country	Density Sq. Km.
Bangladesh	836
China	127
India	285
Indonesia	103
Japan	332
Nepal	156
Pakistan	176
Phillipines	225
Republic of Korea	453
Sri Lanka	280
Thailand	116
Vietnam	225

Source : 1995 ESCAP Population Data Sheet.

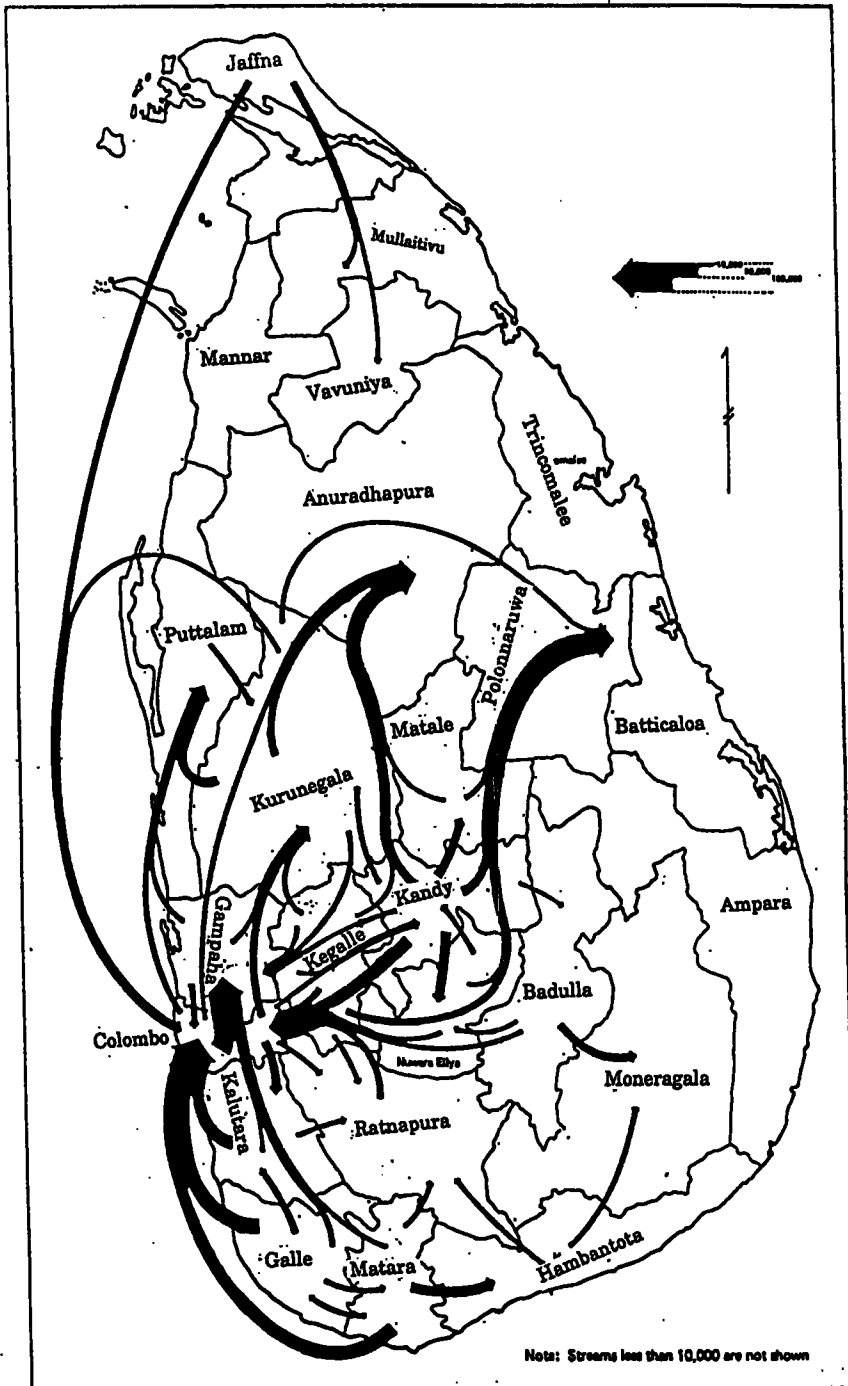


Figure 1: Life Time Migration Streams, 1981

Source: Department of Census and Statistics, *Census of Population and Housing 1981, March 1986, op.cit.*

TABLE 18: Density of Population Per Square Kilometre by Province and District 1871-1995

Province/District	Land Area Sq. Km.	1871	1946	1981	1995
Sri Lanka	64,651.83	37	103	230	280
Western Province	3,651.84	157	513	1072	1324
Colombo	652.42	205	687	2605	3213
Kalutara	1,398.85	-	-	994	1265
Gampaha	1,606.57	91	286	516	609
Central Province	5,585.24	65	203	360	432
Kandy	1,890.76	99	304	486	672
Matale	1,988.59	32	68	180	221
Nuwara Eliya	1,705.85	48	221	354	410
Southern Province	5,513.83	72	174	341	421
Galle	1,673.91	116	275	487	594
Matara	1,246.56	116	286	516	631
Hambantota	2,593.36	23	58	164	209
Northern Province	8,685.53	32	55	128	150
Jaffna	2,072.25	96	166	401	465
Mannar	2,002.06	08	13	53	67
Vavuniya	2,645.16	04	06	36	43
Mullaitivu	1,966.06	-	-	39	48
Eastern Province	9,622.07	12	29	101	128
Batticaloa	2,464.63	13	25	134	172
Ampara	4,539.22	-	-	86	108
Trincomalee	2,618.22	07	28	98	121
North Western Province	7,749.76	36	86	220	266
Kurunegala	4,772.83	44	103	254	301
Puttalam	2,976.93	23	18	165	210
North Central Province	10,532.97	06	13	81	99
Anuradhapura	7,129.21	06	13	82	99
Polonnaruwa	3,403.76	-	-	77	101
Uva Province	8,405.04	15	44	109	138
Badulla	2,818.17	15	44	227	277
Moneragala	5,586.87	-	-	49	68
Sabaragamuwa Province	4,901.55	40	152	302	356
Ratnapura	3,238.78	25	107	246	296
Kegalle	1,662.77	64	245	412	475

Note: Computed from census data.

TABLE 19: Distribution of Population by District, 1871-1995

Province/District	(per cent)			
	1871	1946	1981	1995
Sri Lanka	100.0	100.0	100.0	100.0
Western Province	24.0	28.2	26.4	26.7
Colombo	17.9	21.3	11.5	11.6
Gampaha	-	-	9.4	9.8
Kalutara	6.1	6.9	5.6	5.4
Central Province	15.2	17.0	13.5	13.3
Kandy	9.7	10.7	7.1	7.0
Matale	3.1	2.3	2.4	2.4
Nuwara Eliya	2.4	4.0	4.1	3.9
Southern Province	16.6	14.4	12.7	12.8
Galle	8.1	6.9	5.5	5.4
Matara	6.0	5.3	4.3	4.3
Hambantota	2.5	2.2	2.9	3.0
Northern Province	11.7	7.2	7.5	7.2
Jaffna	10.3	6.4	5.6	5.3
Mannar	0.8	0.5	0.7	0.7
Vavuniya	0.6	0.3	0.6	0.6
Mullaitivu	-	-	0.5	0.5
Eastern Province	4.7	4.2	6.6	6.8
Batticaloa	3.9	3.1	2.2	2.3
Ampara	-	-	2.6	2.7
Trincomalee	0.8	1.1	1.7	1.7
North Western Province	11.5	10.0	11.5	11.4
Kurunegala	8.7	7.3	8.2	7.9
Puttalam	2.8	2.6	3.3	3.4
North Central Province	2.7	2.1	5.7	5.8
Anuradhapura	2.7	2.1	4.0	3.9
Polonnaruwa	-	-	1.8	1.8
Uva Province	5.4	5.6	6.2	6.4
Badulla	5.4	5.6	4.3	4.3
Moneragala	-	-	1.8	2.1
Sabaragamuwa Province	8.2	11.2	10.0	9.6
Ratnapura	3.8	5.2	5.4	5.3
Kegalle	4.4	6.0	4.6	4.4

Note: Computed from census data and for 1995 estimated by Population Division, Ministry of Health.

4.1 Rural-Urban Distribution

The percentage of population living in urban areas has increased from about 11 per cent in 1871 to 25 per cent in 1995. The pace of urbanization has been rather slow during the past four decades. It can be seen from Table 20 that during 1971 to 1981 the rate of growth of the urban population has been slower than the rate of growth of the total population. The urban population as a percentage of the total population did not show much change until the 1950s. The changes in the proportionate share of the urban population that occurred subsequently were due to reclassification and upgrading of areas as well as to natural increase and migration. The growth of urban population during 1953 to 1971 was mainly due to the reclassification and up-grading of areas as the number of urban areas increased from 43 in 1953 to 135 in 1971. During 1971 to 1981, however, the urban growth was mainly due to natural increase and migration as there was no increase in the number of urban places. The estimated urban population for 1995 shows that the urban population has grown at a much faster pace during 1981 to 1995.

TABLE 20: Growth of Urban Population, 1871-1994

Year	Urban Population (000)	Per cent Urban	Total Urban Areas	Average Annual Growth Rate (%)	
				Total Population	Urban Population
1871	260	10.8	19	-	-
1881	281	10.2	20	1.4	0.8
1891	321	10.7	20	0.9	1.4
1901	414	11.6	28	1.7	2.6
1911	543	13.2	37	1.4	2.7
1921	638	14.2	42	0.9	1.6
1931	737	13.9	42	1.7	1.5
1946	1023	15.4	42	1.5	2.2
1953	1239	15.3	43	2.8	2.8
1963	2016	19.1	99	2.7	4.9
1971	2848	22.4	135	2.2	4.2
1981	3192	21.5	134	1.7	1.2
1995 ^a	4532	25.0	-	1.4	2.5

Source : Census of Population; Demographic Survey 1994.

^a Estimated

The overall slow pace of urbanization in Sri Lanka is due to a number of factors. One important factor has been the absence of a sharp urban-rural dichotomy. The terms of trade have been more favourable to the rural sector due to the strong emphasis given to the development of the social infrastructure in the rural areas in all government policies and plans since independence in 1948. Producer subsidies and guaranteed prices for farmers and a nation wide network of roads and medical and educational facilities considerably narrowed the disparities in facilities and levels of living in urban and rural areas. The smallness of the country and subsidized transport services have resulted in a mobility of the population that does not result in permanent migration. The government programmes of land settlement in the dry zone also relieved population pressures in the densely populated districts through rural to rural migration.

The pattern of urbanization that took place in the more developed countries where an increasing share of the labour force was transferred from agriculture to industry and subsequently to the service sector is unlikely to occur in the same manner in Sri Lanka. It is possible that there will be a faster growth of the service sector resulting in the development and growth of small and medium size towns.

The pace of urbanization in the future is likely to be rapid. What is expected to take place is a pattern of "decentralized urbanization", where there will be a rapid growth of small and medium towns both in number and size as a result of the decentralized development policies and programmes that are being pursued. It can be seen from Table 21 that the share of urban population to the total population is expected to increase from 24.9 per cent in 1991 to nearly 40 per cent by 2021.

TABLE 21: Growth of Urban Population, 1991-2021

	1991	1996	2001	2006	2011	2016	2021
Urban Population (000)	4,315	4,638	5,102	5,760	6,659	7,834	9,092
Per cent Urban	24.9	25.3	26.4	28.3	31.3	35.4	39.8
Average Annual Growth Rate of Urban Population (%)	-	1.5	1.9	2.4	2.9	3.2	3.0

Source : A.T.P.L. Abeykoon, "Demographic Implications of Small and Medium Town Development in a Regional Context" 1993, *op. cit.*

4.2 Age - Sex Distribution

The sex structure of the population is determined by the sex ratio at birth, sex differences in mortality and sex selective migration. The age structure of the population is determined by the levels of fertility, mortality and migration.

It can be seen from Table 22 that the overall sex ratio (number of males per 100 females) of the population has declined from 114 in 1871 to 104 in 1981. The gradual decline in the sex ratio of the population could be due to the interaction of several factors such as male favoured sex ratio at birth, higher female mortality, male predominated immigration and likely under-enumeration of females at the censuses.

TABLE 22: Population by Sex and Sex Ratio 1871-1991

Census Year	Male	Female	Sex Ratio
1871	1,280,129	1,120,251	114.3
1881	1,469,533	1,290,185	113.9
1891	1,593,376	1,414,413	112.7
1901	1,896,212	1,669,742	113.6
1911	2,175,030	1,931,320	112.6
1921	2,381,812	2,116,793	112.5
1946	3,532,218	3,125,121	113.0
1953	4,268,730	3,829,165	111.5
1963	5,498,674	5,083,390	108.2
1971	6,531,361	6,158,536	106.1
1981	7,568,253	7,278,497	104.0
1991*	8,739,000	8,523,000	102.5

Sources: Reports of Census of Population Division, Ministry of Health.

* Estimated

Historical data from more developed countries have demonstrated that sex ratio at birth is around 105. It is evident from Table 23 that the sex ratio at birth in Sri Lanka which was around 110 during the latter decades of the last century has stabilized around 104 since the 1920s. The decline in the sex ratio at birth is attributed to the more complete registration of female births (ESCAP, 1976). The sex ratios at birth could also be influenced by sex-selective abortions. In

countries where induced abortion is legal the increasing use of pre-natal ultrasound and amniocentesis procedures, which make selective abortion possible by revealing the sex of the foetus could contribute to high sex ratios at birth. In Sri Lanka, prenatal sex determination is not done on a large scale since induced abortions for foetal reasons is illegal. Although induced abortions in Sri Lanka are reported to be on the increase, sex ratios by parity do not indicate any prevalence of sex-selective abortions (Table 24).

TABLE 23: Sex Ratio at Birth, 1870-1985

Year	Ratio	Year	Ratio
1870	107.4	1930	103.5
1875	108.9	1935	103.9
1880	110.6	1940	103.5
1885	110.1	1945	103.6
1890	109.7	1950	104.0
1895	109.6	1955	103.6
1900	106.0	1960	103.3
1905	104.5	1965	103.3
1910	104.6	1970	104.0
1915	105.4	1975	103.6
1920	104.2	1980	104.3
1925	104.4	1985	104.3

Note: Computed from data of the Registrar General's Department.

Since age-specific mortality rates are usually greater among males than among females at every age, the sex ratios tend to gradually reduce with age, eventually falling below 100. Deviation from this pattern is usually caused by higher female mortality or large scale selective migration.

In Sri Lanka higher female mortality at most ages until around the mid 1960s, resulted in higher overall sex ratio of the population (see Table 22). With the decline of maternal mortality, female mortality became lower than male mortality in almost all ages by the early 1970s (Table 25). As a result, the shift to higher female life expectancy which is consistent with low mortality populations, took place between 1962 and 1971 (see Table 7).

TABLE 24: Ratio at Birth by Parity 1985-1988

Parity	1985	1986	1987	1988
1	104.7	104.9	104.8	105.5
2	104.7	104.2	104.8	105.2
3	103.6	104.4	105.3	104.6
4	103.7	104.2	105.1	106.8
5	104.4	101.6	105.5	104.5
6	106.6	104.4	104.1	102.9
7	104.3	102.3	106.3	105.0
Total	104.3	104.3	104.9	105.2

Note: Computed from data of the Registrar General's Department.

TABLE 25: Age Specific Death Rates: Ratio of Male Rate to Female Rate 1952-1972

Age	1952-54	1962-64	1970-72
0	1.24	1.20	1.21
1-4	0.83	0.85	0.85
5-9	0.84	0.90	0.93
10-14	0.94	1.06	1.08
15-19	0.74	0.99	1.08
20-24	0.59	0.72	1.18
25-29	0.56	0.75	1.06
30-34	0.59	0.74	1.05
35-39	0.72	0.86	1.23
40-44	0.92	1.04	1.52
45-54	1.09	1.15	1.55
55-64	1.17	1.19	1.46
65-74	1.01	1.05	1.19
75+	0.92	0.93	1.06

Source : Nadarajah, "The Transition from Female to Higher Male in Sri Lanka", 1983, *op.cit.*

The high sex ratios observed in Sri Lanka particularly during the period 1871 to 1953 may be partly attributed to the male-predominant immigration. The immigrant population to Sri Lanka during this period belonged to distinct ethnic groups namely, Indian Tamils, Indian Moors, Europeans and "Others". The sex ratios of "Immigrant" ethnic groups have always been higher (Table 26). It is also evident from Table 26 that there has been a gradual decline in the sex ratio of the immigrant population. Sarkar (1957) has observed that while in the early periods, migrants consisted largely of males, with improvement in transport facilities the migration of females also commenced. This could be the possible reason for the gradual decline of the sex ratio of the migrant population.

TABLE 26: Sex Ratios by Ethnic Group, 1911 - 1971

Ethnic Group	1911	1946	1971
Indigenous Races	108.5	109.9	105.9
Low-Country Sinhalese	108.7	109.1	105.1
Kandyan Sinhalese	111.1	111.3	106.1
Sri Lankan Tamils	103.6	109.1	108.0
Sri Lankan Moors	109.2	112.7	106.4
Burghers and Eurasians	100.1	100.1	98.0
Malays	110.5	111.5	106.7
Veddahs	109.9	114.1	-
Immigrant Races	141.1	136.3	107.7
Indian Tamils	131.3	122.8	106.9
Indian Moors	407.2	640.6	137.0
Europeans	157.6	125.7	-
All Ethnic Groups	112.6	113.0	106.1

Source: ESCAP, *Population of Sri Lanka, 1976, op. cit.*

While it is clear from the foregoing discussion that the sex structure of Sri Lanka's population has been largely determined by biological and socio-economic factors such as sex ratio at birth, sex differentials in mortality and migration, one cannot however, rule out the possibility of under-enumeration of females also affecting the sex structure of the population. Although there is no clear evidence to this effect in all censuses, in the 1921 census of population, the Superintendent of Census in his report has investigated this question and has observed that "the first explanation of the high excess of males, which would occur to one, is that the census of females contains a considerable error or understatement due to careless enumeration or unwillingness of the indigenous races to have their women enumerated" (Turner, 1923).

The age structure of a population is a living record of the population's biological history. When the age and sex composition of the population is graphically displayed (commonly referred to as the population pyramid), it gives a picture of the cross section of past history with regard to fertility, mortality and migration.

The population pyramids depicted in Figure 2 show a pattern that indicates high mortality and fertility and migration and possible under-enumeration. Since 1946, however, with the reduction of immigration and rapid expansion of population due to the sharp decline in mortality, the population pyramids have become more broad based. However, since 1971 the pyramids show a narrowing at the base due to the decline in fertility.

The changes in the age structure of the population can also be observed by examining the proportionate distribution of the population in broad age groups. It can be seen from Table 27 that the proportion of population under 15 years of age has been gradually declining to about 37 per cent by 1946 and thereafter increased to 41.5 per cent in 1963. The decline in the proportionate share of population under 15 years of age prior to 1946 is largely attributed to the increase of migrants in the working ages, and the increase between 1946 and 1963 due to the rapid increase in population resulting from the sharp decline in mortality. Since then, the proportion of population below age 15 has gradually declined reaching 31 per cent in 1991. This is largely due to the decline in fertility during that period.

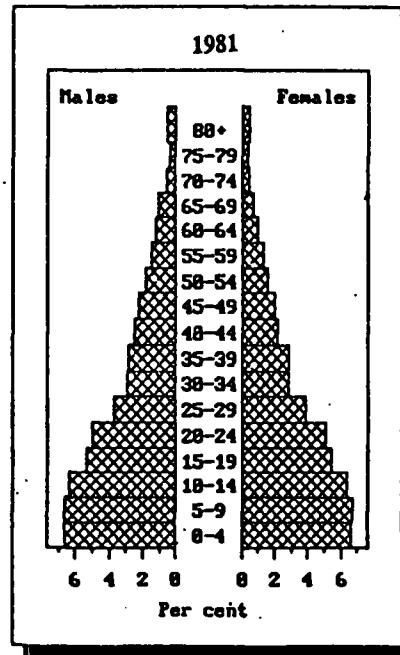
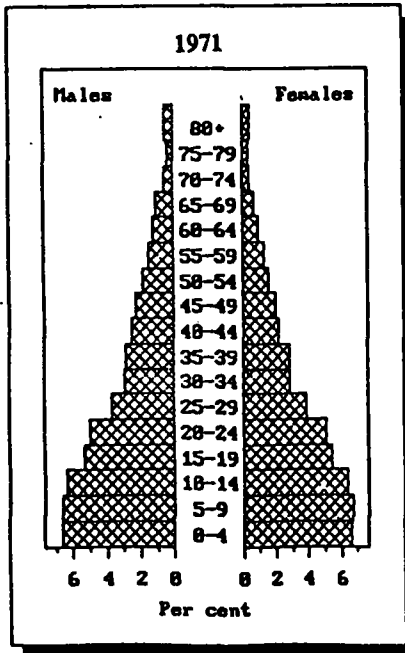
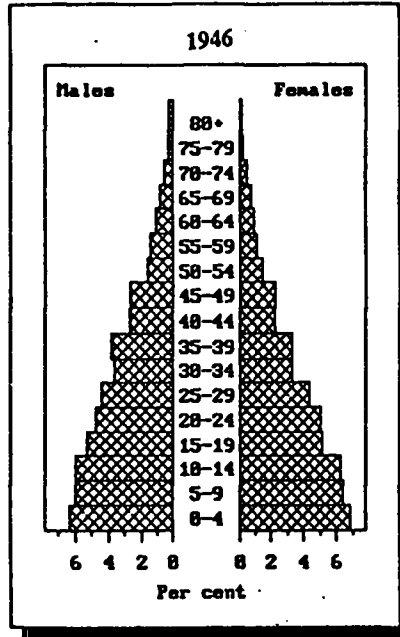
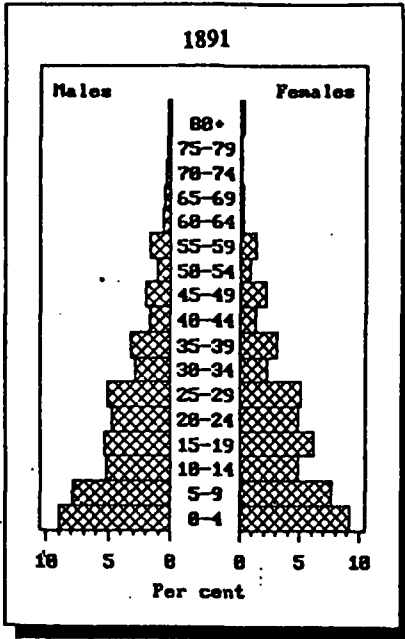


Figure 2: Sri Lanka Population Pyramids, 1891-1981

Source: Department of Census and Statistics, Reports of Censuses of Population

TABLE 27: Percentage Distribution of the Total Population by Broad Age Groups, 1881-1991

(per cent)

Census Year	0-14	15-64	65+	All Ages
1881	43.7	54.1	2.2	100.0
1891	43.5	54.4	2.1	100.0
1901	42.4	56.4	1.4	100.0
1911	40.9	56.8	2.3	100.0
1921	39.7	57.9	2.4	100.0
1946	37.2	59.3	3.5	100.0
1953	39.7	56.8	3.5	100.0
1963	41.5	54.9	3.6	100.0
1971	39.0	56.8	4.2	100.0
1981	35.2	60.5	4.3	100.0
1991	31.2	63.4	5.4	100.0

Sources : *Censuses of Population; Population Division, Ministry of Health.*

5. Population Projections

Although there has not been a census of population conducted since 1981, the availability of reliable age-sex population structure of 1981 census and vital registration and demographic survey data enable us to carry forward the 1981 population structure to 1995 taking into account the demographic changes that have taken place during that period. The projections of population for the period 1995 to 2030 have been made on the basis of fertility, mortality and migration assumptions given in Table 28. The projection of the population for a period of about 35 years was undertaken to illustrate the changes in the population composition and structure as the growth rate declines. In the short term, the projections provide reliable estimates of population required for planning and administration.

It can be seen from Table 29 that the total population will increase from 18.1 million in 1995 to 22.9 million by the year 2030. It means an increase of 4.8 million or by about 27 per cent over a period of 35 years. The average annual rate of growth of population is expected to decline from 1.1 per cent during 1995-2000 to 0.3 per cent during 2025-2030. Age and sex projection of the population show that population in absolute numbers will decline in the younger ages while those in the working ages and eventually those in the old age will increase during the period 1995 to 2030 (Table 30). Figure 3 displays the changing population structure in the future where a gradual shift from a pyramid to a pillar shaped structure is evident.

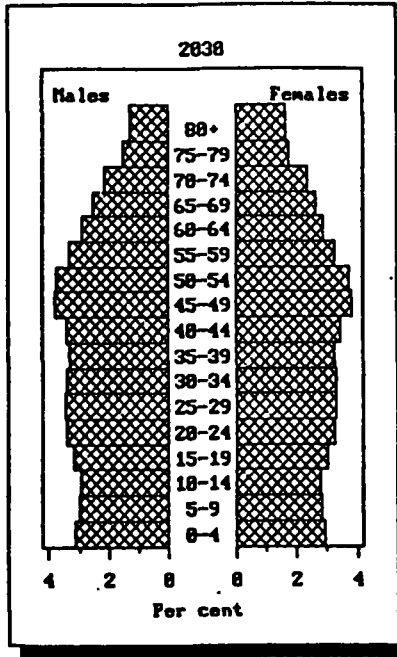
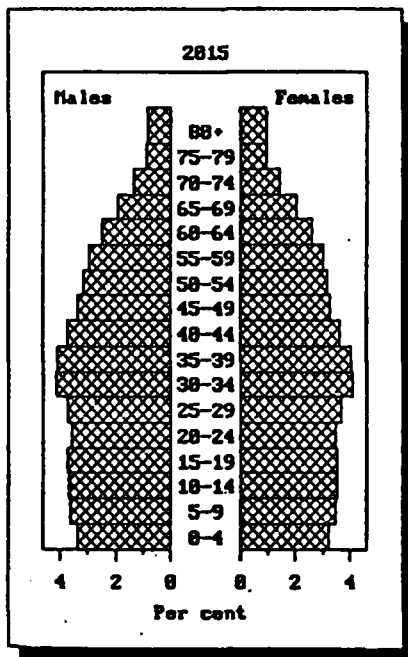
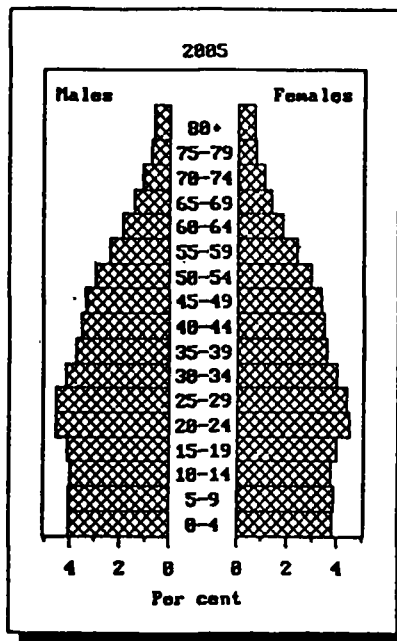
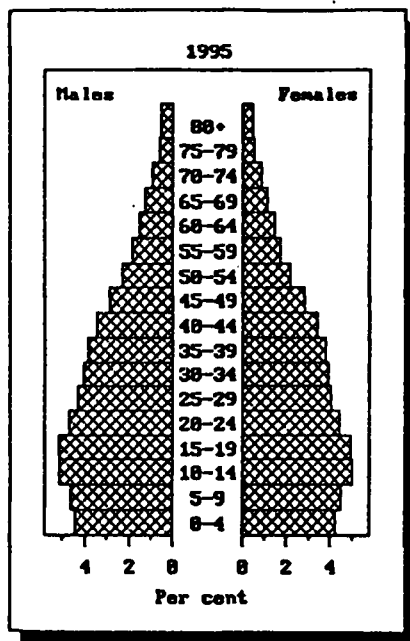


Figure 3: Sri Lanka Population Pyramids, 1995-2030

Source: A.T.P.L. Abeykoon, *Demographic Projections for Sri Lanka 1997*, op.cit.

TABLE 28: Assumptions Regarding Population Projections, 1995 - 2030

Period	Total Fertility Rate	Life Expectancy at Birth		Migration Rate (per 1000)	Population Growth Rate (%)
		Male	Female		
1995-2000	2.10	71.1	75.8	-1.9	1.13
2000-2005	1.95	71.6	76.3	-1.3	0.99
2005-2010	1.85	72.0	76.8	-0.7	0.85
2010-2015	1.75	72.4	77.3	-0.7	0.64
2015-2020	1.70	72.8	77.8	-0.3	0.45
2020-2025	1.75	73.3	78.3	-0.3	0.35
2025-2030	1.85	73.7	78.8	*	0.30

Source: A.T.P.L. Abeykoon, *Demographic Projections for Sri Lanka, 1997, op. cit.*

* Negligible

TABLE 29: Population Projections, 1995 - 2030

(Thousands)

Year	Male	Female	Total	Year	Male	Female	Total
1995	9,153	8,974	18,127	2013	10,715	10,726	21,441
1996	9,253	9,084	18,337	2014	10,777	10,798	21,575
1997	9,353	9,194	18,547	2015	10,837	10,869	21,706
1998	9,454	9,304	18,758	2016	10,877	10,922	21,799
1999	9,554	9,414	18,968	2017	10,919	10,976	21,895
2000	9,653	9,524	19,177	2018	10,963	11,031	21,994
2001	9,743	9,627	19,370	2019	11,008	11,086	22,094
2002	9,835	9,729	19,564	2020	11,053	11,142	22,195
2003	9,927	9,832	19,759	2021	11,079	11,181	22,260
2004	10,020	9,934	19,954	2022	11,109	11,223	22,332
2005	10,114	10,037	20,151	2023	11,143	11,268	22,411
2006	10,192	10,125	20,317	2024	11,181	11,316	22,497
2007	10,271	10,216	20,487	2025	11,220	11,365	22,585
2008	10,354	10,309	20,663	2026	11,239	11,395	22,634
2009	10,439	10,405	20,844	2027	11,263	11,430	22,693
2010	10,526	10,502	21,028	2028	11,292	11,469	22,761
2011	10,590	10,578	21,168	2029	11,327	11,512	22,839
2012	10,653	10,653	21,306	2030	11,365	11,559	22,924

Source: A.T.P.L. Abeykoon, *Demographic Projections for Sri Lanka, 1997, op. cit.*

TABLE 30: Population Projections by Age and Sex 1995 - 2030

(Thousands)

Age Group	1995		2000		2010		2020		2030	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
0-4	794	764	808	777	784	754	672	646	706	678
5-9	821	810	788	760	795	767	722	697	672	648
10-14	921	912	818	809	800	773	777	750	667	644
15-19	925	898	913	907	779	757	788	765	717	695
20-24	839	806	912	890	802	802	788	769	769	749
25-29	765	734	829	802	893	898	764	750	777	762
30-34	723	713	756	729	893	882	788	795	776	764
35-39	691	691	714	708	810	792	876	890	750	746
40-44	613	616	680	685	737	720	873	872	772	788
45-49	509	507	602	609	693	696	788	780	854	878
50-54	402	396	495	498	652	667	708	703	841	853
55-59	320	313	386	386	564	584	652	670	745	754
60-64	266	260	301	300	450	468	595	630	650	667
65-69	216	211	241	243	332	348	488	531	568	614
70-74	160	156	185	187	236	251	355	396	475	539
75-79	101	100	123	126	160	176	224	257	335	400
80+	87	87	102	108	146	169	195	241	291	380
Total	9153	8974	9653	9524	10526	10502	11053	11142	11365	11559

Source: A.T.P.L. Abeykoon, *Demographic Projections for Sri Lanka, 1997, op. cit.*

5.1 Pre-School Age Population

The pre-school age population (aged 0-4 years) will reach the maximum numerical increase by the end of the decade and thereafter will decline in absolute number (Table 31). It is also evident that the proportionate distribution of the population aged 0-4 years will decline steadily from 8.6 per cent in 1995 to 6.0 per cent in 2030. This decline has important implications for services required for this age group such as infant and child health services, pre-school facilities and infant foods and other services. As more resources may not be required to expand these services as a result of quantitative growth as in the past, more resources could be available to improve qualitative aspects. With the decline in the pre-school population, targeting services according to the distribution of this population would become very important to avoid the waste of resources that could result from low utilization of services.

TABLE 31: Pre- School Age Population (0-4 years), 1995 - 2030

Year	Number (000)			Percentage to Total Population (%)		
	Male	Female	Total	Male	Female	Total
1995	794	764	1558	8.7	8.5	8.6
2000	808	777	1585	8.4	8.2	8.3
2005	800	770	1570	7.9	7.7	7.8
2010	784	754	1538	7.4	7.2	7.3
2015	725	698	1423	6.7	6.4	6.6
2020	672	646	1318	6.1	5.8	5.9
2025	675	649	1324	6.0	5.7	5.9
2030	706	678	1384	6.2	5.9	6.0

Source: A.T.P.L. Abeykoon, *Demographic Projections for Sri Lanka, 1997, op. cit.*

5.2 School-Age Population

The school-age population is generally regarded as those in the age category 5-14 years. The school-age population which was 1.6 million in 1946 more than doubled in 1995 to 3.5 million over a period of five decades. The increase in absolute size of the school age population put tremendous pressure on the educational system for quantitative expansion. It can be seen from Table 32 that the school age population is expected to decline from 3.5 million in 1995 to 2.6 million in 2030 or by about 26 per cent over the next three and a half decades. As a result, the proportionate share of the school age population will decline from 19.1 per cent to 11.5 per cent during the same period. This would enable qualitative improvements in the primary and secondary education levels.

5.3 Youth Population

The Youth population (aged 15-24 years) represents the most dynamic element in any society. In Sri Lanka youth constitute nearly one fifth of the total population. The youth population which is estimated at 3.5 million in 1995 is expected to increase slightly during 1995 to 2000 and thereafter decline in absolute terms to 2.9 million by the year 2030. The proportion of the youth population to the total population is also expected to decline from 19.1 per cent to 12.8 per cent during the same period (Table 33).

TABLE 32: School Age Population (5-14 years), 1995-2030

Year	Number (000)			Percentage to Total Population (%)		
	Male	Female	Total	Male	Female	Total
1995	1742	1722	3464	19.0	19.2	19.1
2000	1606	1568	3174	16.6	16.5	16.6
2005	1587	1533	3120	15.7	15.3	15.5
2010	1595	1540	3135	15.2	14.7	14.9
2015	1572	1518	3090	14.5	14.0	14.2
2020	1499	1448	2947	13.6	13.0	13.3
2025	1388	1341	2729	12.4	11.8	12.1
2030	1339	1293	2632	11.8	11.2	11.5

Source: A.T.P.L. Abeykoon, *Demographic Projections for Sri Lanka, 1997, op. cit.*

TABLE 33: Youth Population (15-24 years), 1995-2030

Year	Number (000)			Percentage to Total Population (%)		
	Male	Female	Total	Male	Female	Total
1995	1764	1704	3468	19.3	19.0	19.1
2000	1825	1797	3622	18.9	18.9	18.9
2005	1713	1706	3419	16.9	17.0	17.0
2010	1582	1558	3140	15.0	14.8	14.9
2015	1566	1524	3090	14.5	14.0	14.2
2020	1576	1534	3110	14.3	13.8	14.0
2025	1555	1513	3068	13.9	13.3	13.6
2030	1486	1444	2930	13.1	12.5	12.8

Source: A.T.P.L. Abeykoon, *Demographic Projections for Sri Lanka, 1997, op. cit.*

The demographic revolution that took place in Sri Lanka in the 1950s was accompanied by far reaching changes in the social field such as expansion of education, provision of better health and nutrition etc. The result is that youth of today are more educated, more healthy and their aspirations are quite different to the youth of the earlier decades. Therefore, the social and economic institutions need to be sufficiently modified to meet the needs and aspirations of youth in the coming decades.

5.4 Working-Age Population

The working age population (aged 15-59 years) is an important segment of the population from which is supplied the labour for economic activity. It comprises about 63 per cent of the total population. The population of this group will increase from about 11.5 million in 1995 to 14.1 in 2025 and thereafter will decline in absolute size (Table 34). The current population age structure is conducive to economic growth with a large proportion in the working ages, and relatively smaller proportion of those under 15 years of age resulting in a low dependency ratio. Therefore, every effort should be made to take advantage of this situation by creating productive employment through investments in the important sectors of the economy.

TABLE 34: Working Age Population (15-59 years), 1995-2030

Year	Number (000)			Percentage to Total Population (%)		
	Male	Female	Total	Male	Female	Total
1995	5787	5674	11461	63.2	63.2	63.2
2000	6288	6212	12500	65.1	65.2	65.2
2005	6616	6576	13192	65.2	65.5	65.5
2010	6824	6797	13621	64.8	64.7	64.8
2015	6960	6929	13889	64.2	63.8	63.9
2020	7025	6995	14020	63.6	62.8	63.2
2025	7054	7026	14080	62.9	61.8	62.3
2030	7002	6987	13989	61.6	60.4	61.0

Source: A.T.P.L. Abeykoon, Demographic Projections for Sri Lanka, 1997, op. cit.

5.5 Old-Age Population

The old-age population (60 years and over) is expected to increase from 1.6 million in 1995 to 4.9 million in 2030. Likewise, the proportion of the old-age population to total population would increase from 9.1 per cent in 1995 to 21.5 per cent in 2030 (Table 35). The absolute and the proportionate share of the elderly female population will increase at a faster pace due to their higher life expectancy. The expansion of the elderly population will result in increasing the demand for health care for common diseases of this age group such as cardiovascular, neurological, cancer and rheumatological diseases and other physical and mental problems. Thus timely action is required to plan out the necessary services to meet this emerging health issue (Abeykoon, 1996).

TABLE 35: Old Age Population (Age 60+), 1995-2030

Year	Number (000)			Percentage to Total Population (%)		
	Male	Female	Total	Male	Female	Total
1995	830	814	1644	9.1	9.1	9.1
2000	952	964	1916	9.9	10.1	10.0
2005	1111	1157	2268	11.0	11.5	11.3
2010	1325	1412	2737	12.6	13.4	13.0
2015	1583	1724	3307	14.6	15.9	15.2
2020	1857	2055	3912	16.8	18.4	17.6
2025	2103	2351	4454	18.7	20.7	19.7
2030	2319	2600	4919	20.4	22.5	21.5

Source: A.T.P.L. Abeykoon, *Demographic Projections for Sri Lanka, 1997, op. cit.*

6. Labour Supply

The labour force or the economically active population is that part of the population which contributes or is willing to contribute its labour for the production of economic goods and services.

The labour supply therefore, is determined by a complex of demographic, economic and socio cultural factors. The intensity of these varies over time and often draws quite different responses from different segments of the population.

It can be seen from Table 36 that the total labour force has grown rapidly from 2.6 million in 1946 to nearly 7 million in 1990. The proportion of population supplying its labour has gradually increased to about 48 per cent of the total population in 1992. The growth of female labour force is also significant which has increased from about 18 per cent of the population in 1946 to 32 per cent in 1990.

TABLE 36: Growth of Labour Force 1946 - 1992

Title of Survey	Labour Force (000)			Crude Participation Rate (%)		
	Total	Male	Female	Total	Male	Female
Census of Population 1946	2611	2041	570	39.2	57.8	18.2
Census of Population 1953	2993	2268	724	37.0	53.1	18.9
Census of Population 1963	3464	2742	722	32.7	49.8	14.2
Labour Force Survey 1968	4150	3156	984	34.6	50.7	17.2
Socio-Economic Survey 1969/70	4169	3124	1045	38.6	57.3	19.5
Census of Population 1971	4488	3312	1176	35.4	50.7	19.1
Survey of Labour Force Participation Rates 1973	4560	3267	1293	34.4	48.5	20.2
Land & Labour Utilization Survey 1975	4957	3490	1467	36.5	50.2	22.1
Consumer Finances & Socio- Economic Survey 1978/79	5521	3712	1809	38.0	30.4	26.2
Socio-Economic Survey 1980/81	5715	4109	1606	37.3	53.1	21.2
Census of Population 1981	5015	3767	1248	33.8	49.8	17.1
Consumer Finances & Socio- Economic Survey 1981/82	5282	3843	1439	34.3	49.7	19.4
Labour Force & Socio- Economic Survey 1985/86*	5961	4037	1924	38.5	52.5	24.7
Labour Force Survey 1990	6968	4374	2594	43.2	54.4	32.1
Labour Force Survey 1992*	5757	3880	1877	47.7	64.3	31.1

Sources : Respective census and survey reports

* Excludes the Northern and Eastern Districts.

6.1 Quality of Labour Supply

The quality of labour supply depends on the educational and skill levels of the labour force. The distribution of the labour force by educational attainment for 1971 and 1990 is given in Table 37. It is significant to note that the labour force with no schooling and primary education has declined over time and correspondingly, those with secondary and higher educational attainments have increased.

The data therefore indicate that improvements have taken place in the quality of labour supply through higher educational attainments during the period 1971 to 1990. The expansion of secondary and tertiary education has raised the educational level of the labour force. However, it is also evident that a significant proportion of this educated population remains unemployed resulting in the under utilization of qualified manpower.

TABLE 37: Distribution of the Labour Force by Educational Attainment 1971-1990

Educational Attainment	(per cent)					
	1971			1990		
	Total	Male	Female	Total	Male	Female
No Schooling	21.0	16.2	34.4	7.9	5.1	12.5
Passed Grade 1-5	34.4	38.1	24.0	22.3	24.1	19.5
Passed Grade 6-10	35.8	38.2	29.2	43.4	47.0	37.4
Passed GCE (O/L)	6.4	5.5	8.8	18.6	17.2	21.0
Passed GCE (A/L)	1.7	1.3	2.7	6.1	5.2	7.6
Passed Degree or Higher Level	0.7	0.7	0.9	1.7	1.4	2.0
All Attainments	100.0	100.0	100.0	100.0	100.0	100.0

Sources: *Census of Population 1971 and Labour Force Survey 1990.*

6.2 Unemployment

The problem of employment creation to absorb the rapidly growing labour force and the mismatch between employment opportunities and expectations among the educated youth has been the concern of successive governments since the early 1960s. The demographic expansion that occurred in the 1950s was

TABLE 38: Unemployment Estimates, 1959/60-1992

Title of Survey	Sample	Estimated Unemployed			Unemployment Rate (%)
		Male	Female	Both Sexes	
Survey of Employment, Unemployment, Under employment 1959/60	10,000 Households	250,000	90,000	340,000	10.5
Census of Population 1963	Total Enumeration	199,450	63,480	264,970	7.7
Survey of Consumer Finance 1963	4,984 Households	-	-	457,700	13.8
Labour Force Survey 1968	13,000 Households	312,00	152,200	464,200	13.4
Socio-Economic Survey 1969/70	9,684 Households	349,000	209,600	558,600	14.3
Census of Population 1971	Total Enumeration	474,065	365,199	839,264	18.7
Adjusted 1971 Census	-	474,065	197,917	671,982	15.6
Determinants of Labour Force Participation Rates, Survey 1973	2,500 Households	446,929	346,071	793,000	18.3
Survey of Consumer Finances 1973	5,000 Households	na	na	1,073,000	24.0
Land & Labour Utilization Survey 1975	5,000 Households	499,500	484,800	984,300	19.7
Consumer Finances & Socio-Economic Survey 1978-79	5,000 Households	na	na	874,000	14.8
Labour Force & Socio-Economic Survey 1980/81	10,000 Households	503,207	553,207	857,168	15.3
Census of Population 1981	Total Enumeration	487,74	409,509	897,168	17.9
Consumer Finance and Social Economic Survey 1981-82	8,000 Households	297,729	321,337	609,266	11.7
Labour Force & Socio-Economic Survey 1985/86*	25,000 Households	394,781	391,395	786,170	13.2
Labour Force Survey 1990	2,500 Households	398,100	607,000	1,005,100	14.1
Labour Force Survey 1992*	20,000 Households	415,043	417,354	832,397	14.5

Sources: Respective census and survey reports.

*Excludes the Northern and Eastern Districts.

initially absorbed by the expanding educational system and subsequently resulted in the rapid growth of the educated youth in the 1970s and 1980s. However, the economy did not grow at the required pace to absorb the increasing numbers to the labour force. Thus the expansion of the working age population and the slow growth in the demand for labour has contributed to rising unemployment rates. It can be seen from Table 38 that the unemployed population has increased from about 340,000 during 1959/60 to over one million in 1973 then dropped to about 600,000 during 1981/82, and increased again to over a million in 1990. In 1992 the unemployment rate remained at about 15 per cent of the labour force. Unemployment rates by districts for 1992 show that in the Western and Southern Provinces and in the Kegalle district the unemployment rates are relatively high (Table 39). Also evident is the relatively high unemployment rates of females.

TABLE 39: Unemployment Rate by District and Sex, 1992

District	Unemployment Rate (%)		
	Total	Male	Female
Total	14.4	10.7	22.2
Colombo	16.3	14.6	20.3
Gampaha	14.5	12.6	18.9
Kalutara	16.6	12.4	25.3
Kandy	15.3	9.5	26.7
Matale	12.2	7.5	21.6
Nuwara Eliya	11.2	8.7	14.4
Galle	18.1	13.4	27.6
Matara	21.9	16.2	32.5
Hambantota	14.7	8.8	26.0
Kurunegala	11.1	7.8	19.1
Puttalam	11.2	8.9	17.0
Anuradhapura	8.8	5.2	15.0
Polonnaruwa	8.2	3.7	25.4
Badulla	11.1	8.2	16.0
Moneragala	11.8	7.3	22.6
Ratnapura	13.7	7.9	25.5
Kegalle	18.9	14.1	28.9

Source : *Labour Force Survey, 1992.*

7. Labour Demand

During the period 1963 to 1993 while the labour force increased at an average annual rate of 2.7 per cent, employment increased only at an average rate of 2.3 per cent resulting in high unemployment rates and discouraging the potential job seekers in the peak working ages. The slow growth of employment has been mainly due to the overall relatively slow pace of economic transformation and structural change as evident from data in Table 40 where it is seen that over a period of nearly four decades, the proportion of those employed in the primary

TABLE 40: Growth of Employment by Major Industrial Sectors, 1953-1992

Period	(Thousands)			
	Primary	Secondary	Tertiary	Total
Census 1953	1,597.9 (53.4)	349.2 (11.7)	1,046.2 (34.9)	2,993.3 (100.0)
Census 1963	1,691.3 (52.9)	385.2 (12.1)	1,118.6 (35.0)	3,195.1 (100.0)
Census 1971	1,842.0 (50.5)	452.6 (12.4)	1,354.3 (37.1)	3,648.9 (100.0)
Labour Force Survey 1980/81	2,356.7 (48.6)	807.3 (16.6)	1,687.3 (34.8)	4,851.3 (100.0)
Census 1981	1,902.4 (46.2)	556.8 (13.5)	1,660.1 (40.3)	4,119.3 (100.0)
Labour Force Survey 1985/86*	2,596.6 (50.6)	892.9 (17.4)	1,642.1 (32.0)	5,131.7 (100.0)
Labour Force Survey 1990	3,011.6 (50.5)	1,061.6 (17.8)	1,890.5 (31.7)	5,963.7 (100.0)
Labour Force Survey 1992*	2,156.8 (43.8)	915.9 (18.6)	1,851.5 (37.6)	4,924.2 (100.0)

Note: Computed from respective census and survey data.
Figures within parentheses are percentages

* Excludes the Northern and Eastern Districts

sector has declined only from 53 per cent to about 44 per cent. In the secondary sector (manufacturing & processing) employment has increased by only about 600,000 over the four decades. The tertiary or the service sector which employs about 1.9 million has increased its share marginally from about 35 per cent in 1953 to 38 per cent in 1992. The employed population classified by major occupational sectors shows a similarity to that classified by the industrial sector in that agricultural workers comprise the largest segment followed by Blue Collar Workers (production and processing). It is also interesting to note that nearly one fifth of the workers are in white collar occupations (Table 41). Thus, the trend in the major occupational sectors also indicates that there has not been a significant structural change in the economy to bring about changes in the employment pattern in the country.

TABLE 41: Growth of Employment by Major Occupational Sectors, 1953-1992

Period	(Thousands)				
	White Collar	Blue Collar	Agricultural Workers	Service Workers	Total
Census 1953	466.9 (15.6)	488.3 (16.3)	1,536.1 (51.3)	502.0 (16.8)	2,993.3 (100.0)
Census 1963	504.9 (15.8)	738.0 (23.1)	1,651.9 (51.7)	300.3 (9.4)	3,195.1 (100.0)
Census 1971	651.0 (17.8)	926.4 (25.4)	1,782.1 (48.8)	289.4 (8.0)	3,648.9 (100.0)
Labour Force Survey 1980/81	964.7 (19.9)	1,415.4 (29.2)	2,191.2 (45.2)	280.0 (5.7)	4,851.3 (100.0)
Labour Force Survey 1985/86*	1,021.8 (19.9)	1,420.9 (27.7)	2,438.3 (47.5)	250.7 (4.9)	5,131.7 (100.0)
Labour Force Survey 1992 *	889.9 (18.1)	1,002.6 (20.4)	2,574.2 (52.3)	457.5 (9.2)	4,924.2 (100.0)

Note : Computed from respective census and survey data.
Figures within parentheses are percentages.

* Excludes the Northern and Eastern Districts

8. Projected Labour Supply

The future supply of labour is determined by demographic and socio-economic factors. The size and age-sex structure of the population are important demographic factors influencing labour supply. On the other hand, changes in the labour force participation rates are brought about by a whole range of economic and social factors, such as the number and type of employment created by economic activities, school enrolment rates, place of residence, and for women in particular, marital status, number of children and educational level etc. Examination of the trends in age-sex labour force participation rates provides a useful guide to the likely changes in the future.

8.1 Male Participation Rates

The age specific male labour force participation rates from different surveys are presented in Table 42. It is evident that in the age group 10-14 years, participation rates have declined from 14.1 per cent in 1946 to 5.3 per cent in 1990. The age group 15-19 also shows a decline though to a lesser extent. Increased retention in education is one of the main factors for the decline in participation in these age groups. On the other hand, an increase in the activity rate is observed for the age group 20-24 years. In the age groups between 25 to 55 years, the participation rates display a general pattern at high levels, with slight variations from one survey to the other. A declining trend in participation is observed for ages above 55 years with a steady downward trend after age 65 years.

8.2 Female Participation Rates

The female labour force participation rates from various surveys are shown in Table 43. As in the case of males, the female participation in the age group 10-14 years has declined. The participation in the age group 15-19 years has not changed much during the period 1946 to 1990. The activity rate appears to reach a peak in the age group 20-24 years in 1990. In the age groups between 25 to 49 years the participation rates show a continuous increase and then as expected a decline in the ages over 60 years.

TABLE 42: Male Labour Force Participation Rates, 1946-1990

(per cent)

Age Group	Census 1946	Census 1953	Census 1963	Census 1971	LF&SES 1980/81	LF&SES 1985/86*	LFS 1990
10-14	14.1	10.3	8.1	6.3	5.5	6.3	5.3
15-19	59.2	46.5	52.2	48.6	41.9	42.9	36.2
20-24	83.3	81.4	87.2	89.2	86.8	87.7	84.9
25-29	95.0	94.5	96.2	96.9	90.0	96.5	96.4
30-34	99.3	95.1	98.4	97.8	96.4	97.3	97.8
35-39	98.4	95.9	98.7	97.3	97.0	97.4	96.7
40-44	99.0	95.3	98.2	96.8	96.2	96.1	97.9
45-49	97.5	95.4	98.0	95.7	95.3	95.2	95.8
50-54	90.7	93.8	96.2	92.3	90.1	90.3	94.6
55-59		91.2	87.8	80.9	79.1	81.7	73.9
60-64		84.2	76.7	65.6	65.4	66.8	
65+	88.4	67.2	54.5	40.7	41.7	44.1	49.0

Note : Computed from the respective census and survey data.

LF&SES = Labour Force and Socio-Economic Survey.

LFS = Labour Force Survey

* Excludes the Northern and Eastern Districts

8.3 Labour Force Projections

The total labour force is expected to increase from about 8.1 million in 1995 to 10.1 million in 2010 to 11.1 million in 2030 (Table 44). The rate of growth of labour force will gradually decline from 1.95 per cent during 1995-2000 to 0.21 per cent during 2025-2030 (Table 45). However, the labour force will grow at a faster rate than population until the year 2020. It is evident from Table 46 that the labour force in the peak working ages will continue to increase in absolute number up to the year 2020 and thereafter decline. Thus the challenge of employment creation for the growing labour force will continue for another two decades.

TABLE 43: Female Labour Force Participation Rates, 1946-1990

Age Group	(per cent)						
	Census 1946	Census 1953	Census 1963	Census 1971	LF&SES 1980/81	LF&SES 1985/86 ^a	LFS 1990
10-14	11.8	9.8	4.1	4.1	3.1	3.5	4.6
15-19	24.3	27.8	24.2	26.4	20.6	22.5	26.9
20-24	23.8	28.7	31.4	42.2	39.0	47.0	64.0
25-29	26.3	28.5	30.1	39.3	36.8	45.5	58.3
30-34	28.8	30.2	27.4	34.8	33.9	43.6	62.3
35-39	31.1	32.2	28.1	32.6	35.8	45.1	55.6
40-44	33.7	34.6	28.5	30.9	36.1	42.9	51.8
45-49	33.4	35.6	29.3	29.8	33.6	42.2	47.9
50-54	30.1	35.9	28.1	24.5	28.3	33.9	34.5
55-59		34.1	17.5	16.7	21.1	26.3	31.3
60-64	26.0	30.1	11.4	10.5	13.8	22.0	13.3
65+		23.2	8.9	5.1	5.8	10.3	

Note : Computed from the respective census and survey data.

LF&SES = Labour Force and Socio-Economic Survey

LFS = Labour Force Survey.

^a Excludes the Northern and Eastern Districts.

9. Manpower Projections

The manpower projections for the future are largely influenced by the economic growth rate and the changes in productivity of different sectors of the economy. The demand for labour is directly related to economic growth and the type of technology employed. Thus the rates of growth of sectoral output and productivity will determine the future demand for labour. The growth rates of output for different sectors of the economy are presented in Table 47. In the more recent periods, output has grown at a relatively high rate in the manufacturing, utilities and the banking sectors of the economy. There has been a significant drop in output in the mining and quarrying sector. Productivity measured in terms of output per worker shows negative growth in the manufacturing, agriculture and service sectors. Nevertheless, relatively high rates of productivity growth have been observed in the utilities and banking sectors (Table 48).

TABLE 44: Labour Force Projection, 1995-2030

(Thousands)

Year	Male	Female	Total	Year	Male	Female	Total
1995	5387	2695	8082	2013	6796	3529	10325
1996	5483	2757	8240	2014	6845	3553	10398
1997	5582	2821	8403	2015	6894	3578	10472
1998	5682	2886	8568	2016	6925	3606	10532
1999	5784	2952	8736	2017	6957	3635	10592
2000	5888	3020	8908	2018	6988	3664	10652
2001	5976	3063	9040	2019	7020	3693	10713
2002	6066	3108	9174	2020	7052	3723	10775
2003	6157	3152	9309	2021	7076	3736	10812
2004	6249	3198	9447	2022	7100	3749	10849
2005	6343	3244	9587	2023	7124	3763	10887
2006	6404	3285	9689	2024	7148	3776	10924
2007	6465	3327	9792	2025	7172	3790	10962
2008	6526	3370	9896	2026	7178	3807	10985
2009	6588	3413	10001	2027	7184	3825	11009
2010	6651	3457	10108	2028	7190	3842	11032
2011	6699	3481	10179	2029	7195	3861	11056
2012	6747	3505	10252	2030	7201	3878	11079

Source: A.T.P.L. Abeykoon, *Demographic Projections for Sri Lanka, 1997, op. cit.*

TABLE 45: Average Annual Rates of Growth of Labour Force, 1995-2030

(per cent)

Period	Total	Male	Female
1995-2000	1.95	1.78	2.27
2000-2005	1.47	1.49	1.43
2005-2010	1.06	0.95	1.27
2010-2015	0.71	0.72	0.69
2015-2020	0.57	0.45	0.79
2020-2025	0.34	0.34	0.36
2025-2030	0.21	0.08	0.46

Source: A.T.P.L. Abeykoon, *Demographic Projections for Sri Lanka, 1997, op. cit.*

TABLE 46: Labour Force Projections by Age and Sex 1995-2030

(Thousands)

Age Group	1995		2000		2010		2020		2030	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
10-14	46	36	41	32	32	31	31	23	20	19
15-19	370	233	347	245	288	220	284	237	251	229
20-24	722	451	793	507	714	473	709	469	700	472
25-29	734	367	796	409	866	467	749	398	761	411
30-34	709	392	741	408	875	503	772	461	760	451
35-39	677	346	700	361	795	412	858	472	736	403
40-44	601	296	667	336	722	360	856	445	757	409
45-49	489	228	578	280	672	327	764	374	837	430
50-54	374	139	460	179	613	247	666	267	799	333
55-59	256	97	305	124	440	193	502	228	566	264
60-64	173	55	193	66	284	112	369	164	397	187
65+	237	55	267	73	350	113	492	185	618	271
Total	5387	2695	5888	3020	6651	3457	7052	3723	7201	3878

Source: A.T.P.L. Abeykoon, *Demographic Projections for Sri Lanka, 1997, op. cit.*

In projecting the rate of growth of output and productivity it is useful to consider the rates in the more recent periods as they represent the current levels of technology. It can be seen from Table 49 that the economic growth rate during the next ten years has to grow at an average rate of 6.6 per cent with a productivity growth rate of 4.4 per cent to enable substantial growth of employment and the reduction of the unemployment rate to about 7 per cent of the labour force by the year 2005. It is evident from Table 50 that the total employed would increase from 7.28 million in 1995 to 8.92 million by 2005 or increase at an average rate of 2.1 per cent per annum. The manufacturing, wholesale and retail trade, and the service sectors are expected to create over a million jobs during 1995 to 2005. The occupational structure is not expected to undergo major changes in the next ten years. However, there is likely to be a gradual shift from agricultural work to production and transport related employment. Table 51 presents the projected occupational pattern of the employed population over the period 1995 to 2005.

TABLE 47: Average Annual Growth Rates of Gross Domestic Product by Major Industrial Sectors, 1963 - 1995

(per cent)

Industrial Sector	1963-71	1971-77	1977-81	1980-89	1990-95
1. Agriculture, Forestry and Fishing	1.9	2.8	4.4	1.3	2.3
2. Mining and Quarrying	10.7	13.2	8.5	16.1	0.8
3. Manufacturing	6.2	0.6	4.6	4.2	8.8
4. Construction	9.2	-2.2	13.7	3.3	5.7
5. Electricity, Gas, Water and Sanitary Services	26.1	6.5	15.6	6.6	8.9
6. Transport, Storage and Communication	5.7	3.5	6.9	3.6	5.5
7. Wholesale and Retail Trade	5.2	3.4	7.7	6.3	6.3
8. Banking, Insurance and Real Estate	8.4	10.0	11.9	9.5	8.2
9. Services	5.9	5.1	6.9	2.8	3.0
Total	4.4	3.3	6.5	4.1	5.4

Note: Computed from data of the Central Bank of Sri Lanka.

TABLE 48: Average Annual Growth Rates of Productivity by Major Industrial Sectors 1963 - 1990

Industrial Sector	(per cent)		
	1963-71	1971-80	1980-90
1. Agriculture, Forestry and Fishing	0.8	1.0	- 1.1
2. Mining and Quarrying	6.3	4.3	4.4
3. Manufacturing	4.2	-3.8	-0.5
4. Construction	6.6	-4.2	5.0
5. Electricity, Gas, Water and Sanitary Services	9.4	2.3	10.4
6. Transport, Storage and Communication	2.3	3.5	1.3
7. Wholesale and Retail Trade	5.4	1.0	5.5
8. Banking, Insurance and Real Estate	2.2	1.5	9.7
9. Services	4.5	2.3	-1.8
Total	2.6	1.5	1.6

Note: Computed from Data of the Central Bank of Sri Lanka.

TABLE 49: Projected Growth of Output and Productivity - Major Industrial Sectors, 1995-2005

Industrial Sector	(per cent)	
	Output	Productivity
1. Agriculture, Forestry and Fishing	3.0	2.0
2. Mining and Quarrying	5.0	4.0
3. Manufacturing	10.0	6.0
4. Construction	6.0	5.0
5. Electricity, Gas, Water and Sanitary Services	10.0	4.0
6. Transport, Storage and Communication	6.0	2.0
7. Wholesale and Retail Trade	6.0	3.0
8. Banking, Insurance and Real Estate	10.0	3.0
9. Services	4.0	2.0
Total	6.6	4.4

TABLE 50: Projected Employment by Major Industrial Sectors, 1995 - 2005

Industrial Sector	(Thousands)										
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1. Agriculture, Forestry and Fishing	3343	3376	3409	3442	3476	3510	3544	3579	3614	3650	3685
2. Mining and Quarrying	186	188	190	191	193	195	197	199	201	202	205
3. Manufacturing	1194	1239	1286	1334	1384	1437	1491	1547	1605	1666	1729
4. Construction	223	225	227	229	232	234	236	238	241	243	245
5. Electricity, Gas, Water and Sanitary Services	18	19	20	21	23	24	25	27	28	30	32
6. Transport, Storage and Communication	313	325	388	351	365	379	394	410	426	442	460
7. Wholesale and Retail Trade	689	709	730	751	773	795	818	842	867	892	918
8. Banking, Insurance and Real Estate	69	74	79	84	90	96	102	109	117	125	133
9. Services	1247	1271	1296	1322	1348	1374	1401	1429	1457	1486	1514
Total	7282	7426	7575	7725	7884	8044	8208	8380	8556	8736	8921

TABLE 51: Projected Employment by Major Groups, 1995 - 2005

Occupational Group	(Thousands)										
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1. Professional, Technical and Related Workers	510	520	530	541	552	563	575	587	599	612	624
2. Administrative and Managerial Workers	73	74	76	77	79	80	82	84	86	87	89
3. Clerical and Related Workers,	364	371	379	386	394	402	410	419	428	437	446
4. Sales Workers	728	743	758	773	788	804	821	838	856	874	892
5. Service Workers	437	446	455	464	473	483	492	503	513	524	535
6. Agricultural, Forestry and Fishery Workers	2985	3007	3030	3051	3075	3098	3119	3143	3166	3188	3212
7. Production and Related Workers, Transport Equipment Workers	2185	2265	2347	2433	2523	2614	2709	2806	2908	3014	3123
Total	7282	7426	7575	7725	7884	8044	8208	8380	8556	8736	8921

10. Implications for the Social Welfare Sectors

During the past five decades Sri Lanka has pursued economic and social policies to secure maximum welfare to its population. The programmes that have been implemented as a result, have contributed towards a better distribution of income, substantial improvements in literacy and educational attainment, better health and nutrition and higher life expectancy. These welfare measures have been by and large, maintained despite the rising costs due to increases in population. While the rate of social advancement is remarkable, the necessary transformation of the economy to sustain the welfare measures has not taken place at the same pace. This has led to a situation where social welfare reform could no longer be adequately sustained by the economy. Accordingly, the economic and social policies pursued in the past have been redesigned to facilitate the co-ordination of economic growth with desired social objectives.

10.1 Food Requirements

The growth of population can have a serious impact on the food situation. During the past few decades Sri Lanka has made considerable progress in increasing the production of food both by expanding the area under cultivation as well as by increasing the average yields. For instance, paddy production increased from about 300,000 metric tons in 1950 to 2.8 million metric tons in 1995. A nine fold increase over a period of 45 years. However, Sri Lanka has not yet reached self sufficiency in rice as during 1950 to 1995 more than 10 million people have been added to the population.

Despite the improvements that have been achieved in increasing food production, there is still a deficiency with regard to nutrition. With the continued increase in population and with the likely increase in per capita consumption, a substantial increase in both output and the nutritional value of food is necessary if a deterioration in food and nutritional intake is to be prevented. Table 52 presents the food requirements of specified food items for the period 1995 to 2005 on the basis of population increase and changes in per capita food supplies.

TABLE 52: Projected Per Capita Supplies and Total Requirements of Specified Food Items 1995 - 2005

Commodity	(kilogram)									
	Per Capita Supplies				1995 (000)		2000 (000)		2005 (000)	
	1992	1995	2000	2005	A	B	A	B	A	B
Cereals	132.0	138.6	145.5	152.8	2393	2512	2531	2790	2660	3079
Sugar	24.5	25.7	26.3	27.6	444	466	470	504	494	556
Pulses and Nuts	5.4	5.7	6.0	6.3	98	103	104	115	109	127
Vegetables	37.3	39.2	41.2	43.3	676	711	715	790	752	873
Meat	2.8	2.9	3.0	3.2	51	53	54	58	56	64
Eggs	2.6	2.7	2.8	2.9	47	49	50	54	52	58
Fresh Fish	7.0	7.4	7.8	8.2	127	134	134	150	141	165
Fresh Milk	12.6	13.2	13.9	14.6	228	239	242	267	254	294
Fruits	2.9	3.0	3.2	3.4	53	54	56	61	58	69
Oil and Fats (including coconut)	33.7	35.4	37.2	39.1	611	642	646	713	679	788

Note : Per Capita Supplies for 1992 are from the Food Balance Sheets of the Department of the Census and Statistics.

A : Assumes the 1992 per capita supply levels to remain constant.

B : Assumes the 1992 per capita supply levels to increase by 5 percent between 1992-1995, 1995-2000 and 2000-2005.

10.2 Housing Requirements

The changes in housing stock in relation to population growth between 1971 and 1981 are shown in Table 53. It is seen that the growth of housing stock has outpaced population growth. While the total population increased by 17.0 per cent the occupied housing units increased by nearly 27 per cent. As a result, the occupancy ratio or the average number of occupants per housing unit has fallen from 5.6 in 1971 to 5.2 in 1981. Urban housing has the highest occupancy of 5.9 persons compared to 5.1 in the rural sector and 4.4 in the estate sector. In each sector, the average number of persons in a housing unit has declined during the period 1971-81. In order to project the housing stock for the period 1995 to 2005, it was assumed that the decline in the occupancy rate observed during 1971-81 period would continue in the future. It can be seen from Table 54 that during the next ten years the housing stock needs to increase by about 325,000, out of which about 100,000 would have to be in the urban sector.

TABLE 53: Population Growth and Housing Development by Sector 1971 - 1981

	(Thousands)		
	1971	1981	Percentage Increase (%) 1971-1981
Sri Lanka			
Population	12690	14847	17.0
Housing Units	2217	2814	26.9
Occupancy Rate	5.6	5.2	-7.1
Urban Sector			
Population	2848	3192	12.1
Housing Units	421	512	21.6
Occupancy Rate	6.2	5.9	-4.8
Rural Sector			
Population	8707	10721	23.1
Housing Units	1559	2085	33.7
Occupancy Rate	5.6	5.1	-8.9
Estate Sector			
Population	1134	933	-17.7
Housing Units	238	217	-8.8
Occupancy Rate	4.8	4.4	-8.3

Source: Census of Population and Housing, General Report 1986.

TABLE 54: Housing Requirements by Sector 1995 - 2005

Sector	(Thousands)				
	1995	2000	2005	Increase	
				1995-2000	2000-2005
Total	3947	4270	4600	323	330
Urban	827	922	1021	95	90
Rural	2884	3092	3302	208	210
Estate	236	256	277	20	21

10.3 Educational Services

With the introduction of free education in 1945 and the development of the educational system after independence, school enrolments have increased from 867,309 in 1945 to 4,258,697 in 1992 or by nearly five fold over a period of four and a half decades. Rapid increase of population in the 1950s and 1960s and the increasing participation rates have contributed to the expansion of the school going population in Sri Lanka. Since the participation rates at different levels of education are relatively high, the future growth of the school going population will largely determine the growth of the school age population. It can be seen from Table 55 that the school enrolment for both males and females will decline in absolute terms at primary, secondary and collegiate levels in the future.

10.4 Health Services

The changing pattern of population age structure in the future will have important implications for health care services. With fertility expected to decline continuously, the absolute number of births and children under five years of age will decline while women in reproductive ages will increase. On the one hand, it will reduce pressure on maternal and child health care services while on the other with the increase in number of sexually active population there would be an increasing demand for family planning and reproductive health care services. As the population in the reproductive ages also comprises both the youth and the most productive segment of the labour force, emotional and behavioural problems of youth such as suicides, violence, alcoholism and delinquency which are emerging health problems need to be given attention.

Also with the increasing number of the work force and the changing industrial pattern, more attention would be required on occupational diseases and enforcement of safety measures at work places. It is to be noted that hospital morbidity and mortality cases per 100,000 population resulting from injury and poisoning have increased from 1,815 in 1970 to 2,162 in 1994..

TABLE 55: Projected Pupil Population by Gender and School Years 1995-2005

(Thousands)

School Years	1995		2000		2005	
	Male	Female	Male	Female	Male	Female
Primary (Year 1-5)	759	704	728	660	741	673
Secondary (Year 6-11)	906	953	820	863	776	803
Collegiate (Year 12-13)	90	126	89	128	79	113
Total	1755	1783	1637	1651	1596	1589

As was evident from Table 21 the proportion of urban population is expected to reach about 40 per cent by the beginning of the third decade of the next century. Thus with the increase in the pace of urbanization there are likely to be greater environmental pollution, increased population density, shifts in occupational patterns and changes in consumption and life styles. Therefore, it is essential to adopt preventive strategies to minimize the negative effects of urbanization on the health of the population.

As was evident from Table 35 the population aged 60 years and over will grow at a faster rate during the next three decades. Therefore, early action should be taken to plan and develop appropriate health care services to meet the health care needs of the elderly population. This would entail a higher proportion of financial resources for health care. In addition to financial resources, population ageing is likely to demand a great deal of human resources to cope with the fast increase in the number of elderly patients who need intensive human care.

11. Family Health and Family Planning Services

Since family planning became a national programme in 1965 and integrated with the maternal and child health services, considerable progress has been made in increasing the level of awareness and practice of family planning. The dissemination of information through MCH workers and provision of services through the MCH network resulted in a wider acceptance of family planning by the target population. In 1994, there were 837 family planning clinic centres which provide contraceptive services such as IUDs, injectables, oral pills and condoms. In addition, there were 123 medical institutions equipped with facilities for sterilization. Oral pills and condoms are also distributed by approximately 5000 public health personnel in the field. In addition, certain non governmental organizations market oral pills and condoms through a social marketing programme. Some NGOs also conduct outreach mobile sterilization programmes. The knowledge of family planning among married women in the reproductive ages is universal with about 99 per cent knowing at least one modern method in 1993. The contraceptive prevalence rate has increased from 32 per cent in 1975 to 66 per cent in 1993 (Table 56). Similarly, the maternal mortality rate has declined from 1.5 per thousand live births in 1970 to 0.3 in 1990 and the infant mortality rate has dropped from 47.5 to 19.3 during the same period (see Table 6).

In order to reach a stable population size of about 24 million by the middle of the next century, it is necessary to reach replacement level fertility at least by the end of this decade. In terms of family planning, it means that the contraceptive prevalence rate should increase to about 72 per cent. The contraceptive commodity requirements to meet this objective and sustain it over the next decade is presented in Table 57. It is seen that the demand for condoms will increase from 11.7 million units in 1995 to 23.5 million units in 2005. Likewise the demand for female sterilizations will increase marginally from 45,000 to 47,000. The injectable will increase from 524,000 to 692,000, IUDs from about 31,000 to 45,000 and oral pills from 2.067 million to 2.786 million during the same period. It is therefore, essential to ensure that the demand for these services are met by planning and implementing the logistics of contraceptives as well as improving the availability and accessibility of quality family planning services.

TABLE 56: Percentage of Currently Married Women Who Used Contraception in the Years 1975-1993, by Method

	(per cent)			
Contraceptive Method	1975	1982	1987	1993
Modern Methods				
Vasectomy	0.7	3.7	4.9	3.7
Tubectomy	9.2	17.0	24.9	23.5
IUCD	4.7	2.5	2.1	3.0
Pill	1.5	2.6	4.1	5.5
Injection	0.4	1.4	2.7	4.6
Condom	2.3	3.2	1.9	3.3
Norplant	-	-	-	0.1
Total	18.3	30.4	40.6	43.7
Traditional Methods				
Rhythm	8.0	13.0	14.9	15.2
Withdrawal	1.5	4.7	3.4	5.0
Others	3.7	6.8	2.8	2.2
Total	13.2	24.5	21.1	22.4
All Methods	32.0	54.9	61.7	66.1

Sources: *World Fertility Survey Report 1975, Contraceptive Survey Report 1983, and Demographic and Health Survey Reports 1988 and 1993.*

Data for 1987 and 1993 exclude the Northern and Eastern Provinces.

TABLE 57: Contraceptive Commodity Requirements by Method, 1995 - 2000

Year	Condom (million Units)	Sterilizations (000)		Injectable (000) Vials	IUD (000) Units	Pill (000) Cycles
		Male	Female			
1995	11.7	4.6	45.1	523.8	30.6	2067.0
1996	12.8	4.5	46.0	543.0	32.1	2147.4
1997	14.0	4.4	46.6	562.0	33.6	2227.8
1998	15.1	4.3	46.7	580.9	35.1	2307.4
1999	16.3	4.1	46.9	599.1	36.6	2384.6
2000	17.5	3.9	46.6	616.6	38.0	2459.5
2001	18.7	3.7	46.4	633.1	39.3	2530.4
2002	19.9	3.5	46.5	648.8	40.7	2598.0
2003	21.1	3.4	46.5	663.8	42.0	2663.2
2004	22.3	3.3	46.9	678.0	43.3	2725.5
2005	23.5	3.2	46.1	691.9	44.7	2786.4

Source: A.T.P.L. Abeykoon, *Demographic Projections for Sri Lanka, 1997, op. cit.*

12. Summary and Conclusions

Continued investments in social development in Sri Lanka by successive governments since independence have produced manpower resources of relatively high quality. Thus by early 1990s the country had impressive indicators such as a life expectancy of 72 years, a population growth rate of 1.4 per cent, a total fertility rate of 2.3 and a literacy rate of 85 per cent. Nevertheless, Sri Lanka is confronted with issues such as relatively high unemployment rates, lack of adequate trained manpower, and implications for social welfare sectors due to the changing population age structure resulting in increased expenditure for health care and other related services.

Sri Lanka has over the past four decades successfully moved into the final phase of the demographic transition by effectively increasing life expectancy and lowering the fertility rate. The rate of growth of population which was 2.8 per cent in the 1950s has been reduced to 1.4 per cent by 1995. However, Sri Lanka is one of the most densely populated countries in Asia with a density of 280 persons per square kilometre in 1995. About 53 per cent of the total population live in 23 per cent of the land area of the country. The pace of urbanization has

been relatively slow in Sri Lanka. One important factor contributing to it has been the absence of a sharp urban-rural dichotomy.

The population projection shows that the total population will increase from 18.1 million in 1995 to 22.9 million by the year 2030. The average annual rate of growth of population is expected to decline from 1.1 per cent during 1995-2000 to 0.3 per cent during 2025-2030. Age and sex projections show that the population will decline in absolute number in the younger ages while those in the working ages and eventually those in the old age will increase during the period 1995 to 2030.

While the rate of growth of population has declined to 1.4 per cent, the labour force grows at a faster rate of 2.0 per cent due to the high fertility rates experienced in the 1960s and 1970s. However, during the period 1971 to 1990 the quality of the labour force measured by the level of education shows that those with no schooling and primary education have declined and correspondingly those with secondary and higher educational attainments have increased. The total labour force is expected to increase from about 8.1 million in 1995 to 10.1 million in 2010 to 11.1 million in 2030. The rate of growth of labour force will gradually decline from 1.95 per cent during 1995-2000 to 0.21 per cent during 2025-2035. However, the labour force will grow at a faster rate than population until the year 2020. The labour force in the peak working ages will continue to increase in absolute number up to the year 2020 and decline thereafter. Thus the challenge of employment creation for the growing labour force will continue for another two decades.

The manpower demand for the future depends largely on the economic growth rate and the changes in productivity in the different sectors of the economy. Thus the rates of growth of sectoral output and productivity will determine the future demand for labour. The economic growth rate will have to increase an average annual rate of 6.6 per cent with an overall productivity rate of 4.4 per cent to enable substantial growth of employment and to reduce the unemployment rate to about 7 per cent of the labour force by the year 2005. Under these assumptions total employment is expected to increase from 7.28 million in 1995 to 8.92 million by 2005 or increase at an average annual rate of 2.1 per cent.

While the rate of social advancement in Sri Lanka has been remarkable during the past four decades, the necessary transformation of the economy to sustain the welfare measures has not taken place at the same pace.

The government has been subsidizing food for over three decades and the extent to which it has improved the health of the population is seen in the rise in life expectancy over this period. Despite the improvements that have been made, there is still a deficiency with regard to nutrition. With continued increase in population and with the likely increase in per capita consumption, substantial increase in both output and nutritional value of food would be necessary if a deterioration in food and nutritional intake is to be prevented.

The changing pattern of population age structure in the future will have important implications for health care services. With fertility expected to decline continuously, the absolute number of births and children under five years of age will decline while women in the reproductive ages will increase. On the one hand, it will reduce pressure on maternal and child health care services while on the other, with the increase in number of sexually active population there would be an increasing demand for family planning and reproductive health care services. As the population in the reproductive ages also comprises the youth, emotional and behavioural problems of youth such as suicides, violence, alcoholism and delinquency which are emerging health problems will need to be given special attention. The population aged 60 years and over will grow at a faster rate during the next three decades. Early action will have to be taken to develop appropriate health care services to meet the health care needs of the growing elderly population. This would entail a higher proportion of financial resources for health care. In addition to financial resources, population ageing is likely to demand a great deal of human resources to cope with the fast increase in the number of elderly patients who need intensive human care. Also with the increase in the pace of urbanization in the future, there is likely to be greater environmental pollution, increased population density, shifts in occupational patterns and changes in consumption and life styles. It is essential therefore, to adopt preventive strategies to minimize the negative effects of urbanization on the health of the population.

Thus while continued thrust in social development in the future is desirable, it is necessary to meet the emerging challenges in the field of human resource development by diverting more resources to directly productive economic sectors so that investments made in human development could be effectively harnessed.

Although substantial achievements have been made over the past three decades, there is still a great deal to be done in the area of population, manpower and human resource development. Studies need to be undertaken to achieve a satisfactory state of knowledge in the field that will help in providing solutions to current and emerging issues.

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