

Structural Changes in the Population Composition of Sri Lanka during the Period 1871-2012

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Abstract—The main objective of this study is to ascertain the structural changes that have taken place in the composition of the population during the last one and a half centuries in Sri Lanka. Secondary data were adopted for the study, and tables, graphs and descriptive statistical techniques were adopted for the data analysis. According to the analysis, it could be concluded that profound structural changes have taken place in the population composition. A special feature that was revealed by the study was that the age structure of the Sri Lankan population is undergoing irreversible changes and as a result, the elderly population in the country is increasing rapidly. These changes that are taking place in the age structure will cause many repercussions in the forthcoming decades. The age structure of the population that was pyramid shaped in 1981 will slowly morph into a barrel shape. This will definitely create a number of political, social and economic problems. However, Sri Lanka gifted itself a demographic dividend around 1991, the benefits of which she will continue to reap up to about 2030. During this period, the proportion of the labour force will show a greater increase than the proportion of children. Therefore, if the demographic bonus is optimally utilized for the purpose of accelerating the economic advancement of the country, it could better compensate for the problems created by the growth of an ageing population.

Index Terms—Population, population composition, ageing, structural changes.

I. INTRODUCTION

Managing the population in a country is the biggest job of a government as it is comprised of a massive number of people belonging to different categories in respect of age, sex, language, religion, attitudes, expectations, education and occupation, etc. These differences can cause conflicts among the various groups constituting the population. The problems confronted by the populations of various countries may differ in many respects. The main reason for these differences is caused by the demographic transition that usually takes place in several stages. Today the major regions of the world are at different stages of demographic transition [1]. In certain countries the process of demographic transition has been completed or is nearing completion. In such countries, the value of the demographic transition index $\{(population\ 60+ / population\ <14) \times 100\}$ is one or close to one [2]. Similarly, the demographic processes that take place within diverse types of population also appear to be different from each other. Due to these reasons the population policies aimed at resolving population problems too can vary from country to country.

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Consequently, it is clear that conducting studies on the population composition of a country and its characteristics become an important factor in order to understand the demographic changes in the country and to predict their future effects.

Although Sri Lanka is a country with a low per capita income, there had been brief periods in the recent past when a more mature and desirable type of demographic transition was observed [3]. A positive demographic transition in Sri Lanka started rather early in comparison to other low-income countries [4]. Implementation of free health care facilities reduced the death rate by one-third in the mid-1940s. Further, legalization of family planning programs in the early 1970s led to a significant decline in the birth rate. In addition, expansion of educational facilities and other social development achievements also influenced the rapid demographic transition. Fertility is the key factor determining age structure in any country. The fertility rate in Sri Lanka started to decline after 1963 [5]. A dramatic decline in mortality is another important factor in the demographic transition process, and this has been experienced by Sri Lanka in the post-World War II period [6].

During the period 1871-2012, there had been noticeable transformations in the economic, social and political spheres. Therefore, the main objective of this study is to examine the structural changes in the population composition of Sri Lanka over a period of one and a half centuries from 1871 to 2012, and to analyze and quantify those changes. Further, special attention was paid to ascertain the factors that had influenced changes in the population size and its growth, age structure, sex ratio, ethnic composition and population density etc.

II. DATA AND METHODOLOGY

Secondary data were adopted mainly to conduct the study about the structural changes to the population composition in Sri Lanka. Secondary data were gathered from the Census reports of the Department of Census and Statistics, specially including Census data collected during the period 1871-2012. The Census of Population and Housing (2012) was the 14th census conducted in Sri Lanka. This census was very important as it was a complete enumeration and conducted in Sri Lanka after an interval of 30 years. In addition to this, annual reports of the Central Bank of Sri Lanka and literature reviews related to the study topic were used. In the course of data analysis, statistical techniques such as tables, graphs, relative frequencies and percentages were used.

III. CHANGES IN POPULATION SIZE AND GROWTH

Population growth and density figures in Sri Lanka as recorded from the first Census carried out in 1871 up to the 14th Census conducted in 2012 are presented in Table I.

TABLE I: POPULATION GROWTH AND DENSITY IN SRI LANKA: 1871-2012

Year	Population ('000)	Annual Average Growth Rate (%)	Population Density (Per sq km.)
1871 → 2.4 million	2,400	-	37
1881	2,760	1.4	43
1891	3,008	0.9	47
1901	3,566	0.7	55
1911	4,106	1.4	63
1921	4,498	0.9	70
1925 → 4.8 million			
1931	5,307	1.7	82
1946	6,657	1.5	103
1953	8,098	2.8	125
1960 → 9.6 million			
1963	10,582	2.7	165
1971	12,690	2.2	196
1981	14,847	1.7	230
2001	18,755	1.2	300
2003 → 19.2 million	19,925	1.0	307
2012	20,359	0.9	324

Source: De Silva, 2013; Department of Census and Statistics.

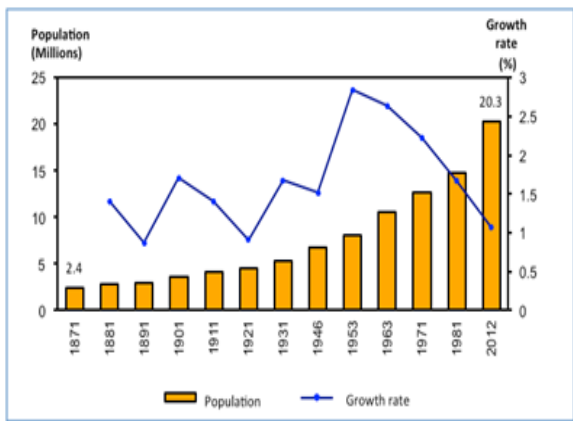


Fig. 1. Population Size and Growth in Sri Lanka, 1871-2012.

According to Table 1, it is clear that from the year 1871 to 2012 the population in Sri Lanka has increased by 8 times. The first doubling of the population had taken place in 1925, and this had taken 54 years, counting from the year 1871. But the second doubling of the population had taken place in 1960 after an interval of only 35 years. As a result of the high population growth during those years, the second doubling had occurred within a comparatively short period. In the year 2003, the total population of Sri Lanka was 19.2 million and this could be identified as the year in which the third doubling of the population had occurred; but this increase had taken place after 43 years. The table further confirms that although the population has been increasing over time, the rate of the population growth has been subjected to fluctuation. Especially, it appears that from the year 1953 up to the present, the rate of population growth had decreased sharply. The reason for this is the declining birth rate of the country. Increase in literacy, rising age limit for women's marriages, introduction of family planning programs (methods), and more women going out to work, all of which began to prevail from the middle of

the last century have contributed to this decline in the population growth. Factors such as migration abroad as a reaction to the ethnic crisis in the North and East, mass migration of women of reproductive age for employment to the Middle East and other countries too may have had an impact on the above situation.

Fig. 1 shows that the growth of the Sri Lankan population during the period under review has not been uniform. Until 1946, the average inter-census growth rate never exceeded 2 percent (Table I). But the postwar years show a sudden spurt in the growth rate, which had increased to 2.8 percent in the 1946-1953 period.

IV. CHANGE IN GENDER COMPOSITION

Age - Gender composition of a society's population has significant implications for the current and future development of that society [7]. Sex ratio is the mode of computation used to describe the gender composition in a population. Sex ratio is the number of males per 100 females. Sex ratio varies from country to country and it impacts on the society and the economy of a country in different ways. Fig. 2 shows that the female population of Sri Lanka is increasing gradually relative to the male population.

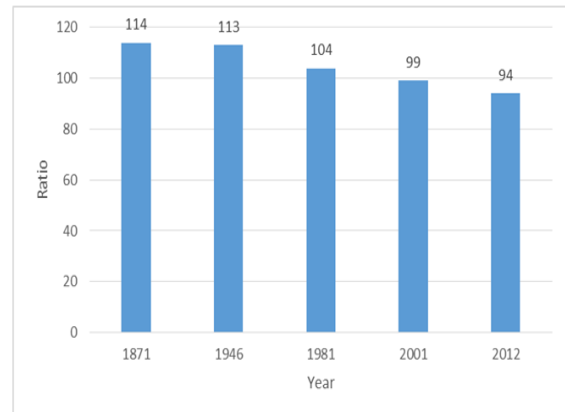


Fig. 2. Sex ratio in Sri Lanka.

Though there were 114 males for every 100 females in Sri Lanka in the year 1871, by 1990 there was a tendency for the female population to start increasing at a faster rate. The sex ratio which was rated at 99 in 2001 had further declined to 94 by 2012. According to the projections of demographers, the sex ratio in 2051 and 2071 will further decline to 93 and 92, respectively. In 1871 females comprised 46.7 per cent of the population, and in 1981 this number had risen to 49 percent of the population. It appears that in Sri Lanka the female population is growing at a faster rate than the male population. One reason for this is that the life expectancy of females is higher than that of the males [6] - [8]. The increase in female population is also due to declining fertility levels, and reduction in maternal and child mortality, as well as welfare measures taken by the state to improve the quality of life of the population. However, during the 1990s more females have been counted among the Sri Lankan population and in the coming decades the sex ratio is expected to increase further in favor of females.

V. CHANGE IN POPULATION DENSITY

Population density is defined as the average number of persons living in an area of one square kilometer. When considering the population density of the world as a whole, the number of persons living in a square kilometer is 43. The highest population density is reported from the Asian region. Sri Lanka, covering a land area of 65,610 square kilometers, ranks as one of the most densely populated countries in the Asian region. According to population density figures, Sri Lanka ranks in the 39th position out of all the countries in the world, with neighboring India ranking as the 2nd most densely populated country. According to the Sri Lankan Census report of 1981, the number of people living in a square kilometer was 230 then, but it had gradually risen to 300 and 324 in the years 2001 and 2012, respectively (Table I).

When attention is paid to population density district-wise, it readily becomes apparent that there is a higher population in certain districts and a lower population in certain other districts due to various factors. Consequently, considerable differences in the population density could be observed between various districts. For example, in Colombo, Gampaha and Kaluthara in the Western Province, in Galle and Matara in the Southern belt, in Kandy in the Central Province and in Jaffna district of the Northern Province, high population densities could be observed. Colombo district has been recorded as the district with the highest population density of all times beginning with the first Census report. The number of persons living in a square kilometer in Colombo district in 1981 was reported as 2605 whereas this figure had increased to 3438 in 2012. According to the population census of 2001, about 57 percent of the population was located in the Wet Zone, which constitutes only about 21 percent of the total land area of the country. Colombo, the smallest of the 25 districts in Sri Lanka, has a population density that is about 11 times greater than the national average [6]. The lowest densities were reported from Mullaitivu (38 persons/sq km) and Mannar (53 persons/sq km) districts. Further increases of population in the Western Province would aggravate the already difficult to manage urbanization problems and consequences, particularly those relating to the unplanned urban environments [6]. Geographical location, climate, access to water supply, availability of infrastructure facilities, and employment prospects including those provided by expansion of various development projects could be identified as the main reasons for the variations in population density among the different districts.

VI. CHANGE IN ETHNIC COMPOSITION

Sri Lankan society is heterogeneous, as it is composed of a multi-racial, multi-religious and multi-linguistic population. It comprises Sinhalese, Sri Lankan Tamils, Indian Tamils, Sri Lankan Moors, Burghers, Malays, Sri Lankan Chetties, Bharathas and others [9]. When considering the recent changes in population growth and fertility rates in Sri Lanka, numerous differences could be observed among the different ethnic groups. Between 1981 and 2012 the Buddhist population increased from 69.30% to

70.19%, the Hindu population decreased from 15.48% to 12.61%. But the Muslim population increased from 7.56% to 9.71% while the Christian population decreased from 7.62% to 7.45% [10]. The Muslim population increased therefore, by more than double the percentage increase of the Buddhist population. Also, when comparing the fertility rates in Sri Lanka among the Sinhalese, Sri Lankan Tamils, Indian Tamils, Sri Lankan Moors, and others, they were in the ratio of 2.3, 2.3, 2.9, 3.3 and 2.4 respectively. These figures clearly indicate that the Muslim population in Sri Lanka is increasing more rapidly than the Sinhalese population. The high birth rate of Muslims can be attributed to their culture and religious attitudes. Although the population growth of Sri Lankan Tamils was taking place at a slow and steady pace, a decline in same could be observed from the year 1981. The main reason was the high number of deaths that occurred during the War period but the migration of Tamils to other countries also contributed to this.

TABLE II: DISTRIBUTION OF POPULATION BY THREE BROAD AGE GROUPS 1981 – 2071

Year	Children <15 Years		Working Ages 15 - 59 Years		Elderly 60+ Years	
	Number	%	Number	%	Number	%
1981	5,236.4	35.3	8,625.2	58.1	985.1	6.6
2001	4,922.4	26.3	12,080.5	64.5	1,731.4	9.2
2006	4,807.4	24.4	12,836.7	65.1	2,075.7	10.5
2011	4,692.4	22.8	13,294.8	64.7	2,570.4	12.5
2016	4,523.6	21.4	13,591.9	64.2	3,070.2	14.5
*2021	4,196.1	19.4	13,778.8	63.8	3,605.1	16.7
*2026	3,825.3	17.5	13,863.2	63.6	4,115.0	18.9
*2031	3,520.3	16.1	13,826.2	63.2	4,536.1	20.7
*2036	3,363.2	15.4	13,589.3	62.3	4,888.8	22.4
*2041	3,299.0	15.2	13,026.7	60.0	5,386.7	24.8
*2046	3,244.7	15.1	12,389.5	57.7	5,831.2	27.2
*2051	3,149.3	14.9	11,874.0	56.2	6,080.6	28.8
*2056	3,018.3	14.6	11,401.3	55.2	6,236.1	30.2
*2061	2,902.9	14.4	10,939.5	54.3	6,301.7	31.3
*2066	2,839.0	14.5	10,415.9	53.2	6,335.3	32.3
*2071	2,807.2	14.8	9,893.2	52.0	6,329.1	33.3

Source: De Silva, 2013 * Projected by De Silva

VII. CHANGE IN AGE STRUCTURE

The different stages of the demographic transformation gave rise to various changes in the age distribution pattern. The population of the world became slightly younger from 1950 to 1975. But after 1975, as fertility reductions in the developing world accelerated, the proportion of children at the world level began to decrease [1]. Illustrating the number of males and females belonging to different age groups at a specific period in a country, quantitatively and percentage wise, is identified as the ‘age structure’ [11]. Sri Lanka’s population will undergo major changes in its age structure in the coming decades. Ageing is a universal phenomenon, but it looms as a particularly large issue for Sri Lanka. Sri Lanka is one of the fastest ageing countries in the world [12]-[13] and it records the highest ageing population among the South Asian countries. Gradual decrease of child population and increase of ageing population is due to the severe decline in the fertility rate and the increase in life expectancy in Sri Lanka. Accordingly, the pyramidal age structure of 1981 will change gradually into a cylindrical shape by the year 2075.

As shown in Table 2, the child population under 15 years of age in Sri Lanka is declining relative to 1963. In 1963,

the child population under 15 years accounted for 41.8% of the total population whereas it had decreased to 26.3% in 2012. Decline of fertility in Sri Lanka is the main reason for the above situation [8].

Decline of fertility has allowed more women to engage in employment, reduced the expenses incurred on children's upbringing, enabled more funds to be set aside for human resources development including education of children, all of which have contributed to gaining positive results economically, making it possible to upgrade the quality of life of the entire population. But the percentage of elderly population over 60 years of age is increasing as the life expectancy is gradually ascending. The percentage of elderly population which was 5.9% of total population in 1963 increased to 12.2% by 2012. Due to declining fertility and increasing life expectancy in Sri Lanka, population projections show that this age group (60+) will account for almost 30 percent of the total population by 2050 [12]. Increase of an ageing population will inevitably result in the escalation of welfare expenditure by the country. Therefore, it is important to manage this situation and minimize the problems arising from the increase of elderly population in the country. This can be accomplished only if special attention is paid to this issue by policy makers. Also, falling child mortality rates with the falling of fertility rates, will create a large youth cohort [14]. While analyzing the age structure of the present population in Sri Lanka, it becomes apparent that the percentage of labour force is escalating to a higher value. This is a rare and valuable demographic bonus. In order to enjoy this advantage, the country should create a positive economic climate and a peaceful political environment as in the Eastern Asian countries. If this is not attended to as recommended by Abeykoon [15], there will likely be a downturn in the Sri Lankan economy due to unemployment and youth discontent. From the foregoing it is clear that various changes have taken place in the population composition of Sri Lanka during the period 1871-2012. Among those changes, the transformation that had occurred in the age structure is especially noticeable.

VIII. CONCLUSION

The study reveals that profound structural changes have taken place in the population composition over the last several decades in Sri Lanka, especially in the context of population growth, density, ethnicity, sex ratio, and age structure etc. The population has grown almost eight times since the first national census was conducted, from 2.4 million in 1871 to 20 million in 2012. The population of the country is not uniformly distributed. Some parts in the country are very densely populated while other regions are sparsely populated. The Muslim population in Sri Lanka is increasing rapidly at double the birth rate of the Buddhist population. Further, during the 1990s the females began to outnumber the males in the Sri Lankan population. In the coming decades, the sex ratio is expected to increase further in favor of females.

A special feature that was identified from the study was that the age structure of the Sri Lankan population has undergone irreversible changes. The ageing population

phenomenon is an unavoidable demographic issue that cropped up in the latter period of the demographic transition. The considerable number of people above 60 years of age in the population has raised the proportion of the elderly in Sri Lanka within a short period of time. Incidentally, this is a rather unusual occurrence as most developing countries are notable for the short life expectancy of their citizens. Over the next few decades, the pyramid shaped population age structure of 1981 will take on the shape of a barrel. At present, the ageing of the Sri Lankan population is taking on the speedy pattern of ageing as in Japan and other European countries.

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