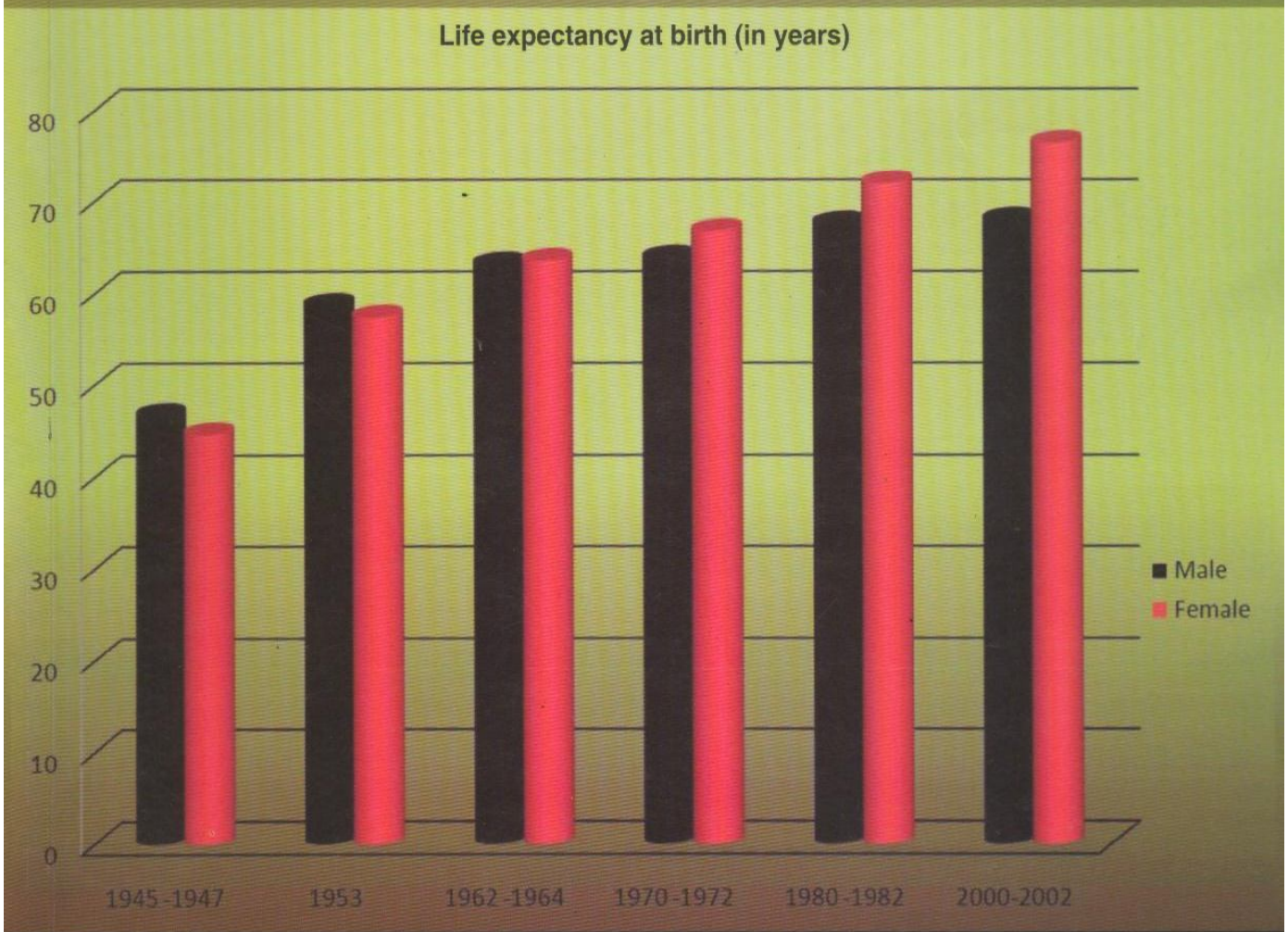
CONSTRUCTION AND ANALYSIS OF NATIONAL AND DISTRICT LIFE TABLES OF SRI LANKA 2000-2002



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Executive Summary

The life table is a vital tool, invented by demographers, to predict the pattern of survivorship of a given population at national and regional levels. It is a key measure to comprehend the level of socio-economic development and the quality of life enjoyed by the national or regional population and the efficient performance of the health system through a thorough analysis of the mortality patterns of the said community. Several studies done in various parts of the country show that there is considerable under reporting in the death registration practices. A large number of deaths that occurred in the country in the late 1980s due to civil unrest in the north as well as the south of Sri Lanka are not recorded in the formal civil registration system. These shortcomings suggest that the official figures may not be accurate. Therefore a critical evaluation of the death registration is timely.

Thus, it is important to realize that the accuracy of a life table as a predictor of survivorship and the level of well being of a community or a nation, at national or district levels, depends on the accuracy of two major items of data used, namely the population distribution by age and sex and the distribution of deaths by age and sex. The accuracy of both these types of data are affected by common errors such as incompleteness of coverage and age misreporting. Particularly the accuracy of mortality data that had been used is of vital importance when the life table is used for prediction of the age specific life expectancy of the population.

There are further problems to overcome, to minimize the errors that may occur in the mortality level, when district-wise life tables are constructed. The event of death recorded by the place of occurrence when used as the major source of mortality data for construction of the life table, may be faulty because there may be massing of mortality data specially in districts where hospitals with medical facilities are largely available. Thus a substantial proportion of deaths that should be attributed to other districts may be recorded in Colombo district hospitals where best medical facilities are available.

An accurate estimation of the life expectancy of the population depends on the availability of a precisely accurate life table. In this regard, the decades consequent to the 1981 Census, is hampered by the non availability of an acceptable base year and an age structure of the population which are basic requirements for the construction of a life table. The scheduled Census for 1991, which should have been held ten years after the 1981 Census, was not conducted due to the prevailing civil unrest in the country, which affected the supply sources of demographic data in many ways, including the unavailability of an acceptable base year population data which can be distributed to the current age structure of the population. Even for 2001 Census, the same problems occurred because the proper Census was held in only 18 districts. The data for other districts were either available only partially or had to be derived.

Various time series mortality indicators examined, confirm the emergence of an epidemiological transition as a result of effective control of pandemics, pestilence, famine and epidemics specially the malaria epidemic that persisted in a large part of the 19th and early 20th Centuries. In the post war period, dramatic declines in the infant and maternal mortality was the foremost cause of the decline in the crude death rate (CDR). During the 1945/55 decade, the crude death rate declined by 95%, with a similar reduction in the infant mortality rate (IMR) and the maternal mortality rate (MMR) by 184%.

Lengthening of the longevity of life and the improvement in the quality of life coupled with effective measures for parallel socio-economic development, were the main outcomes of the irreversible mortality decline. In the latter part of the 20th Century, the quality of health delivery services improved and the number of health institutions and maternal and childcare services increased hand in hand with a welfare system made freely available to all the segments of the community. Prevalence and increased use of contraceptives for fertility reduction and birth spacing, decrease in the proportion of high risk births, expansion of particularly female education facilities, improvement in the nutritional status of mothers can be sighted as few other outstanding improvements.

Throughout the 20th Century a steady increase in the life expectancy at birth, for both genders is observed. At the turn of the century the male life expectancy at birth was 36.4 years while the female life expectancy was 2.2 years lower to that figure. Since then the life expectancy for both genders had increased progressively up to the early 1960s. Since the first quarter of the 1960/70 decade, the longevity of life of the Sri Lanka the female was more than that of the male. The male female life expectancy gap which was only 0.4 years in the period 1962–1964 had increased substantially during the consequent periods irrespective of the fact that the life expectancy for both sexes had increased considerably. The life expectancy for males had reached 67.7 years and 72.1 years for females revealing a gap of 4.5 years during the period of 1980-1982. The Department of Census and Statistics (1991) using a projection procedure to estimate the life expectancy for 1991 and projected male life expectancy to be 71.1 years and that of female to be 74.8 years. Their calculations indicated that female life expectancy was 3.7 years higher than the male. The life table for 2000-2002 presented in this booklet, indicate that this gap had increased to 8.5 years.

It should be noted that the estimates derived for the period 1980-1982 and 2000-2002 are based on the observed empirical data and for the year 1991 is based on the projected data. The 1991 projected value of female life expectancy captured the actual mortality transition in Sri Lanka while male figures significantly deviated from the actual transition. If we set aside the 1991 estimates of life expectancy, over the period of 1980-1982 and 2000-2002 the male life expectancy has increased very marginally (0.4 years) while the corresponding achievement of female expectancy have been significant (4.5 years).

The reasons for female favoured substantial gains in life expectancy during the last two decades in Sri Lanka, at national and more conspicuously in certain districts is of consequence and is worthy of investigation. Whether the observed high gap in male and female life expectancy amounting to 8.5 years for 2000-2002 is parallel with the Sri Lankan pattern of mortality transition and the regional variation of such a transition is another aspect of the emerging quality of male female life patterns. In the current Sri

Lankan societal context, a significantly large number of homicides and injuries, casualties of civil war and accidents are associated with young adult males. Incidents of suicides among both genders has declined. Nevertheless a large majority of females in reproductive ages in Sri Lanka are not exposed to maternal complications primarily due to late age at marriage. However in countries such as India, Pakistan and Bangladesh female mortality during reproductive ages are significantly higher than male mortality as female adolescents begin to experience problems of early pregnancy, malnutrition and anemia, and abortion.

Among the South Asian countries, Sri Lanka reports the highest life expectancy for both males and females with the unique feature of comparatively higher female than male life expectancy. In other South Asian countries, female life expectancy is either same or only a little higher than male life expectancy with a higher rate of increase in longevity for males . In almost all South Asian countries, excluding Sri Lanka, female mortality during reproductive ages is significantly higher due to reproductive health problems such as abortion, malnutrition, early pregnancy and high levels of fertility. In Sri Lanka during the reproductive ages female mortality is lower. In case of males an increase in the male life expectancy have not been achieved largely due to more male specific causes of mortality such as war casualties, suicides and homicides. Nevertheless there is a research vacuum which inhibits a comprehensive documentation of the causation of the current trend in female favoured life expectancy patterns.

For each district-wise life-table, a series of central death rates were computed for each sex, using the observed deaths by age for the period 2000-2002 and the age distribution of population in 2001 Census. The original district-wise central death rates were exposed to a smoothing process before being used in construction of final life tables. In this process the age distribution of deceased persons by their place of usual residence instead of place of registration of death (occurrence) was used to obtain the actual mortality experience of the respective district's population.

The highest life expectancy of 80.19 years in the district wise life tables for females for 2000-2002, is reported in the district of Hambantota while the lowest life expectancy of 72.78 years is associated with N'Eliya district. The two districts, when compared, indicate a difference of 7.41 years in female life expectancy at birth. The computed life tables for the other districts show that in general, the life expectancy at birth for females during the period of 2000-2002 is 75 years or more.

Indicated gender differences in life expectancy at birth in the national life table amounts to 8.5 years while the district wise differences in the longevity are even higher. Anuradhapura district females enjoy the highest gender difference in life expectancy, showing that their life expectancy is 10.6 years higher than their male counterparts while in Puttalm district the difference is 10.4 years and in Gampaha and Kegalle 9-10 years. Of all the districts the lowest gender difference amounting to 4.99 years is reported in N'Eliya. The apparent lag in the female health status in N'Eliya when compared to the rest of the districts in Sri Lanka, is due to several reasons such as high fertility, low level of nutrition, and relatively weak health infrastructure. The females, in Colombo which is the most developed district in Sri Lanka, enjoy 7.99 years longer longevity than the males.

The lowest male life expectancy at birth amounting to 65.78 years is reported in Anuradhapura district followed by Puttalam and N'Eliya districts. In the first 12 districts out of 18 districts analyzed, the male life expectancy at birth was less than 70 years. Only 6 districts indicated a life expectancy at birth of 70 or more years. Males in Hambantota district, compared to all the other districts have achieved the highest life expectancy at birth, which is 72.85 years. Interestingly when the regional disparities of male life expectancies are compared, the estimate for Hambantota is 7.07 years (72.85 – 65.78) higher than the lowest estimate reported for Anuradhapura district. The only other district that achieved male life expectancy at birth amounting to 72 years or more is Matara. Thus all three districts in the Southern Province of Sri Lanka demonstrate a very low mortality pattern.

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