

## Fertility Trends in Ceylon

by

O. E. R. ABHAYARATNE

*Prof. of Public Health, University of Ceylon*

and

DR. C. H. S. JAYAWARDENA

### PART I

#### The Scope of the Study

"If a severe demographic crisis is to be averted, the small family pattern must evolve directly among the peasants, for Ceylon has neither the potentialities for industrialisation nor the long span of time that is essential if rural values and behaviour are to be altered as the result of a slow and halting process of diffusion from the cities. This is the problem of Ceylon, but it is also the problem of the great cultures of Asia's mainland, of Java, of Formosa and of the Philippines. And here, again, Ceylon can constitute a laboratory for all Asia if she so wills ... " so wrote Irene Taueber in 1949.<sup>1</sup>

For nearly a decade all that has been done in this direction has been the sustained and concerted action of a small group of men and women who have banded themselves to form the Family Planning Association of Ceylon with the main object of creating a new family pattern so that there will be fewer children where there are now too many and some where there are now none. So far their efforts have failed to make any appreciable impression. The increasing rate of increase of the population has made it clear that if social change is to be wrought in areas which involve values that are sacred and attitudes towards life that are basic, the change must be attempted according to a program that has been evolved from scientific research designed specifically to ascertain how best these values and attitudes can be manipulated.

The recognition of the need to identify the basic values and attitudes involved and, second, to indicate the lines along which family planning propaganda could be profitably conducted has led to the promotion of research studies in this sphere. At the express request of the Family Planning Association of Ceylon, a study has been planned which seeks to identify the attitudes of the people to certain fundamental questions such as economic betterment, improved living conditions and achievement orientation—questions that are intimately connected with the problem of smaller family units. Economy of effort and finances demanded that the study be made on a sample basis and, consequently, the selection of the samples posed the first problem.

Occidental writers who have assumed the task of unravelling the mysteries of the East in an all embracing manner have been wont to look upon the small island of Ceylon—barely twenty five thousand square miles in all—not only as a homogeneous unit but also as one that could be adequately dealt with in conjunction with the neighbouring subcontinent

1, Irene Taueber : Ceylon as a Demographic Laboratory. *Population Index*, 15 (1949) 293—304.

of India. The more discerning students, however, have recognised that this little island far from being homogeneous is an extremely heterogeneous one where the seemingly superficial impression of homogeneity had been created by an unfathomable spirit of tolerance that pervaded the entire social atmosphere until very recent times. From whatever angle the population of Ceylon is viewed, be it the ethnic, linguistic, religious, educational or economic characteristics, the island gives sustenance to a multitude of groups each of which has its own peculiar way of life which it jealously safeguards. It was, perhaps, the recognition of this fact that led Irene Tauber to contend "here much that is now speculative can be reduced to specific hypotheses and subjected to the rigid test of quantitative verification".<sup>2</sup>

The suitability of Ceylon as a demographic laboratory rests not only on the diversity that characterises its population but also on the fact that the diverse groups have been concentrated in different parts of the island. The geographical isolation permits the treatment of these groups as discrete units which can be readily compared and contrasted. Yet, in the proposed study of the values and attitudes of the people, the selection of a sample on a random basis did not appear to be the best. As differential fertility was the subject around which the study revolved, it was deemed expedient to have this as the primary criterion for the selection of the samples: the ethnic, linguistic, religious, educational and economic characteristics utilised as variable factors. What would be ultimately studied, consequently, are the values and attitudes prevalent in different groups having different fertility patterns, but similar socio-economic characteristics, on the one hand, and the values and attitudes prevalent in different groups having similar fertility patterns but with different socio-economic characteristics, on the other.

It is evident that the selection of the samples whose values and attitudes were to be studied should have as its basis a study of the population of the island. This study must necessarily take into consideration the structure of the population and the changes that have occurred in this structure over a period of time. It, consequently, constitutes the first stage of the research program. This report contains the results of this preliminary study. Broadly speaking, it comprises an analysis of the population changes, the fertility patterns and the socio-economic conditions of the country since the beginning of this century.

## PART II

### The Data and Their Limitations

It is only in recent times that the importance and necessity of population statistics have been universally recognised. In the past such statistics were considered unnecessary in many countries. It is generally believed that only the most advanced countries have any population statistics worthy of that name. Demographers in these countries have studied the population from so many angles that the existence of adequate population data has been established. The so-called under-developed countries are believed to have no statistics at all, or, if it is conceded that they do possess some demographic data, they are considered to be grossly inadequate—the degree of inadequacy being inversely proportional to the development of the country. However, it has been found that the demographic

---

2. *ibid.*

data available in these countries, as in the case of India,<sup>3</sup> lend themselves readily to meaningful analysis in spite of the fact that they are not as complete as the demographer would wish them to be. The belief that demographic data do not exist in most countries stems more from the paucity of demographic studies than from a factual evaluation of the situation. In some instances, a wealth of statistical information exists though people are unaware of its existence and the belief that no demographic data exist persists until someone interested investigates and points out the error. Such appears to be the case with Ceylon. It is generally believed that there are no demographic data for Ceylon but as Irene Taueber points out, among the less widely known aspects of this country are its "manifold statistics that lie unused in volumes collecting dust in the libraries and government offices of the world".<sup>4</sup> She goes even further and states "The prolific historical records and the incomparable analytical potentialities of the current censuses and vital records make Ceylon a true laboratory for demographic research."<sup>5</sup>

The data for this study have been taken from the census reports and the reports of the Registrar General on vital statistics. The current series of censuses in Ceylon began in 1871—the result of the promulgation of the Census Ordinance No. 5 of 1868 which provided for the taking of a census from time to time when the Governor and the Executive Council deemed it necessary. This series was to be regular and decennial and consequently, censuses were taken in 1881, 1891, 1901, 1911 and 1921. In 1931, because of the depression and the adverse financial situation of the country, it was decided that the census should be a partial one. Accordingly, a census of the City of Colombo was taken and the population of the rest of the island estimated on the basis of the changes that were found to have occurred here. No census was taken in 1941 because of World War II, but immediately after the war a census was taken in 1946. The next census was taken in 1953 though it was hoped that the series of decennial censuses taken at the beginning of the decade would be resumed in 1951. A census is being conducted in 1963.

The extent to which the processes of birth, death and migration go on in a country is measured by a registration system designed to record the events as they occur. Some sort of registration appears to have been practised in the early nineteenth century in Ceylon, for the Ceylon Blue Book, published in the printed form first in 1862, gives a tabulation of the annual population of the country from 1823. Legal recognition of the registration of births and deaths was made in 1847 by enactment of the Registration of Marriages, Births and Deaths Ordinance No. 6 of 1847. Yet registration was incomplete and haphazard. A series of amendments to the ordinance followed in the attempt to improve registration culminating in the Births and Deaths Registration Ordinance No. 1 of 1895 which forms the basis of the registration system prevailing in the country today. This Ordinance has since been amended and exists today in the consolidated and revised form as the Births and Deaths Registration Act No. 17 of 1951.

Census data and vital statistics in all countries are subject to the common errors of under-enumeration, mis-statements of age and inaccuracies in the migration figures. A reasonable estimate of the different errors involved is possible by a comparison of census and vital statistics figures. Comparison of the intercensal change in the population with the balance of births and deaths (natural increase) and of immigration and emigration

3. Kingsley Davis: *The Population of India and Pakistan*. (Princeton: Princeton University Press, 1951).

4. Irene Taueber *op. cit.*

5. *ibid.*

(migration difference) suggests where the errors may lie. In the balancing equations, the intercensal difference equals the natural increase obtained from the vital statistics plus the net migration factor. Discrepancies, when they are a deficit, suggest errors from census under-enumeration and when they are an excess, errors from under-registration of births.

Table 1 shows the intercensal increase, the natural increase, the migration difference, the discrepancy involved and the estimated under-registration of births during the intercensal years in the period 1901—1953. The observed difference in 1921 was less than what was to be expected from the vital data, suggesting an under-enumeration in the census of 1921. At the time of this census, there was a belief that there was considerable under-enumeration although Turnour, the then Superintendent of census, believed that any under-enumeration was negligible inasmuch as the census figure did not deviate significantly from a projection for 1921 based on earlier census figures.<sup>6</sup>

During the other intercensal periods the observed difference was greater than the expected difference. If we ignore the possibility of compensating errors or improvement in census enumeration, this suggests under-registration of births. On the assumption that there is no other error involved, under-registration has been estimated as 1.4% during the first decade of this century which has gradually been reduced to 0.1% during the period 1946—1953. It must be pointed out that these figures would be greater if errors in enumeration and death registration exist.

Similar information could be obtained by a comparison of particular age groups derived from registration statistics with the enumerated population in these groups. Thus by subtracting from the number of children born during the five years preceding the census, the number of deaths in this group, the number of "under fives" at the time of the census could be obtained, provided there was no in or out migration of this group. Discrepancy between the observed census figure and the expected one, if an excess, suggests a preponderance of errors from under-registration of births while it suggests a preponderance of errors from under-enumeration at the census if it is a deficit.

TABLE I

*Intercensal Increase, Natural Increase and Migration Difference during the Intercensal Years in the Period 1900—1960.*

1 Period	2 Intercensal Increase	3 Natural Increase	4 Migration Difference	5 Discrepancy (Column 2 minus total of Columns 3 and 4)	6 Estimated Under- Registration of Births
1901—1911	540,396	356,147	164,036	20,213	1.4%
1911—1921	392,255	319,410	86,234	13,389	...
1921—1931	808,266	656,950	134,958	16,358	0.8%
1931—1946	1,350,468	1,280,916	50,244	19,308	0.6%
1946—1953	1,440,556	1,363,174	76,268	1,113	0.1%

Source : Column 2 From Census Reports.  
 Column 3 From Administration Reports of Registrar General on Vital Statistics.  
 Column 4 From Administration Reports of Registrar General on Vital Statistics and Statistical Abstracts of Ceylon.

6. L. J. B. Turnour: *Report of the Census of Ceylon for 1921.* (Colombo: Ceylon Government Press, 1923).

Table 2 shows these figures for the census years 1901, 1911, 1921, 1946 and 1953. In the years 1901, 1911 and 1921, the official census figure was higher than the expected figure, while in the years 1946 and 1953 the official census figure was less. This suggests under-registration of births at the beginning of the century and under-enumeration at the later censuses. Table 3 shows the expected and observed population 1—5 years by one year age groups at the census of 1953. In some age groups such as "3 years and 4" and the "4 years and under 5" the observed number is much greater than the expected while in the other age groups the position is reversed. The lack of consistency suggests that the discrepancy is due to a mis-statement of age rather than to under-enumeration especially as consideration of the total population reveals no strong evidence of under-enumeration.

A third evaluation of the data is based on a comparison of the fate of one age group through different censuses. The over sixty fives in the 1946 census, for example, would have been in the category 40 years and over in the 1921 census, 30 years and over in the 1911 census, and 20 years and over in the 1901 census. The difference in the census figures must be due to deaths and migration in that group. If the census figure was greater than that calculated from the previous census figure by deducting the number of deaths in the intercensal period, the difference could be explained by immigration but a smaller census figure is evidence of under-enumeration, especially if immigration outweighed emigration.

TABLE II

*Expected Number of "Under Fives" at Census and Official Census Figures 1900—1960.*

1 Census Year	2 Births Preceding Five Years	3 Deaths in the Group	4 Expected Number of "Under Fives" (Column 2 minus Column 3)	5 Official Census Figure	6 Discrepancy (Column 5 minus Column 4)
1901	659,032	161,642	497,390	638,776	141,385
1911	757,959	202,751	555,208	607,975	52,767
1921	876,398	243,817	632,581	643,469	10,900
1946	1,161,069	213,360	947,709	861,439	86,270*
1953	1,510,715	187,707	1,323,008	1,208,829	114,179*

Source : Registrar General's Reports.

\*The expected figure is greater than the official census figure.

TABLE III

*Persons 1—5 Years, Expected and Observed at the 1953 Census by One Year Age Groups.*

1 Age Group	2 Expected Numbers	3 Observed Number	4 Discrepancy (Column 3— Column 2)
Under 1 year	288,949	261,800	—27,149
1 Year and Under 2 Years	281,686	193,537	—88,149
2 Years and Under 3 Years	268,972	247,900	—21,072
3 Years and Under 4 Years	250,305	261,828	+11,523
4 Years and Under 5 Years	241,771	243,764	+1,993

Sources : Column 2 Registrar General's Report.

Table 4 shows the fate of the over 20 years age group in 1901 through 1946. The 1911 census showed this group to be greater than that expected if migration had played no part. A similar situation obtained at the 1946 census. At the 1921 census, however, the official census figure was much lower than the expected, suggesting an under-enumeration of a minimum of 5.4%.

TABLE IV

*Counts through 1946 of Persons Over Twenty at 1901 Census.*

No. Over Twenty at 1901 Census	1,674,098
Registered Deaths from the group 1901—1911	441,127
Expected No. Over Thirty at 1911 Census	1,232,971
No. Over Thirty at the 1911 Census	1,293,980
Excess at 1911 Census	60,009
Registered deaths from the group 1911—1921	417,341
Expected No. Over Forty at the 1921 Census	876,639
No. Over Forty at the 1921 Census	829,231
Deficit at 1921 Census	47,408
Registered Deaths from the group 1921—1946	733,285
Expected Over Sixty Fives at the 1946 Census	95,946
Over Sixty Fives at the 1946 Census	229,498
Excess at 1946 Census	87,252
Migration Difference 1901—1911	+ 178,000*
Migration Difference 1911—1921	+ 80,000*
Migration Difference 1921—1946	+ 209,000*

\* Migration Difference is for all age groups. A positive difference denotes an inward excess.

The following conclusions are suggested by this analysis with regard to census data and vital statistics :

(a) there was an under-registration of births at the beginning of the century to the extent of about 1.5%. This appears to have decreased gradually to a current level of about 0.1%.

(b) there was an under-enumeration at the census of 1921 of at least 5.4%; and

(c) there has been a mis-statement of age at the censuses. Although we have discussed only the age group 0 to 4, examination of counts by single years of age gives prima facie evidence of age mis-statement.

(d) Other possibilities are errors both in census and vital data, and different degrees of error in each at different periods of time.

### PART III

#### The Growth and Distribution of the Population

Regular and comprehensive censuses taken in Ceylon since 1871 give us a more or less complete picture of the changes that have occurred in the population. These census figures are presented in Table 5. At the first census, taken in 1871, the population of the country was found to be 2,400,380 while at the last census taken in 1953, it was 8,097,895—an increase of 237.37%. Lack of comparable data precludes an international comparison

of the changes in population over the entire period 1871—1953. Table 7 shows the population of 16 countries around the year 1870 and again around the year 1950. These figures indicate the rate of change of Ceylon's population has been high when compared with the European countries but when the comparison is with the other countries the rate change cannot be considered either high or low. It may be, consequently, concluded that the growth of Ceylon's population was normal especially when the location of the country is taken into consideration. It must, however, be pointed out that in neighbouring India and Pakistan, the population increased only 39% during a period (1891—1941) when it increased in Ceylon by 100.6%.<sup>7</sup>

TABLE V

*Enumerated Population of Ceylon 1871—1953*

Census	Population	Increase
1871	2,400,380	.....
1881	2,759,738	359,358
1891	3,000,789	241,051
1901	3,656,954	656,165
1911	4,106,350	449,396
1921	4,498,605	392,255
1946	6,657,339	2,158,734
1953	8,097,895	1,440,556

Source : Census Reports.

See also Statistical Abstract of Ceylon 1960 Table 8.

TABLE VI

*Estimated Midyear Population of Ceylon 1900—1960*

Year	Population	Year	Population	Year	Population
1900	3,559,866	1920	4,485,904 (b)	1941	6,020,000
1901	3,582,697	1921	4,504,837	1942	6,021,000
1902	3,629,986	1922	4,561,474	1943	6,134,000
1903	3,703,615	1923	4,643,761	1944	6,276,000
1904	3,767,826	1924	4,791,099	1945	6,496,000
1905	3,901,471	1925	4,926,607	1946	6,695,000
1906	3,968,541	1926	5,047,632	1947	6,879,000
1907	3,671,340	1927	5,203,238	1948	7,086,000
1908	4,008,742	1928	5,334,370	1949	7,297,000
1909	4,056,002	1929	5,430,026	1950	7,544,000
		1930	5,253,210 (c)		
1910	4,121,443 (a)	1931	5,325,254	1951	7,742,000
1911	4,120,819	1932	5,386,106	1952	7,940,000
1912	4,151,250	1933	5,415,516	1953	8,155,000
1913	4,220,458	1934	5,551,623	1954	8,385,000
1914	4,251,032	1935	5,598,000	1955	8,589,000
1915	4,355,015	1936	5,631,000	1956	8,929,000
1916	4,482,809	1937	5,712,000	1957	9,165,000
1917	4,589,635	1938	5,810,000	1958	9,389,000
1918	4,677,258	1939	5,897,000	1959	9,625,000
1919	4,724,034	1940	5,951,000	1960	9,896,000

(a) Corrected after the 1911 Census. (b) Corrected after the 1921 Census. (c) Corrected after the 1931 Census.

Source : Administration Reports of the Registrar General on Vital Statistics.

Note : These figures do not correspond exactly with those given in the Statistical Abstracts on later years. Corrections have presumably been made in the latter reports.

7. A. G. Ranasinha: *Census of Ceylon 1946 General Report*. (Colombo. Ceylon Government Press, 1950).

Chart 1. Population of Ceylon 1871 - 1963

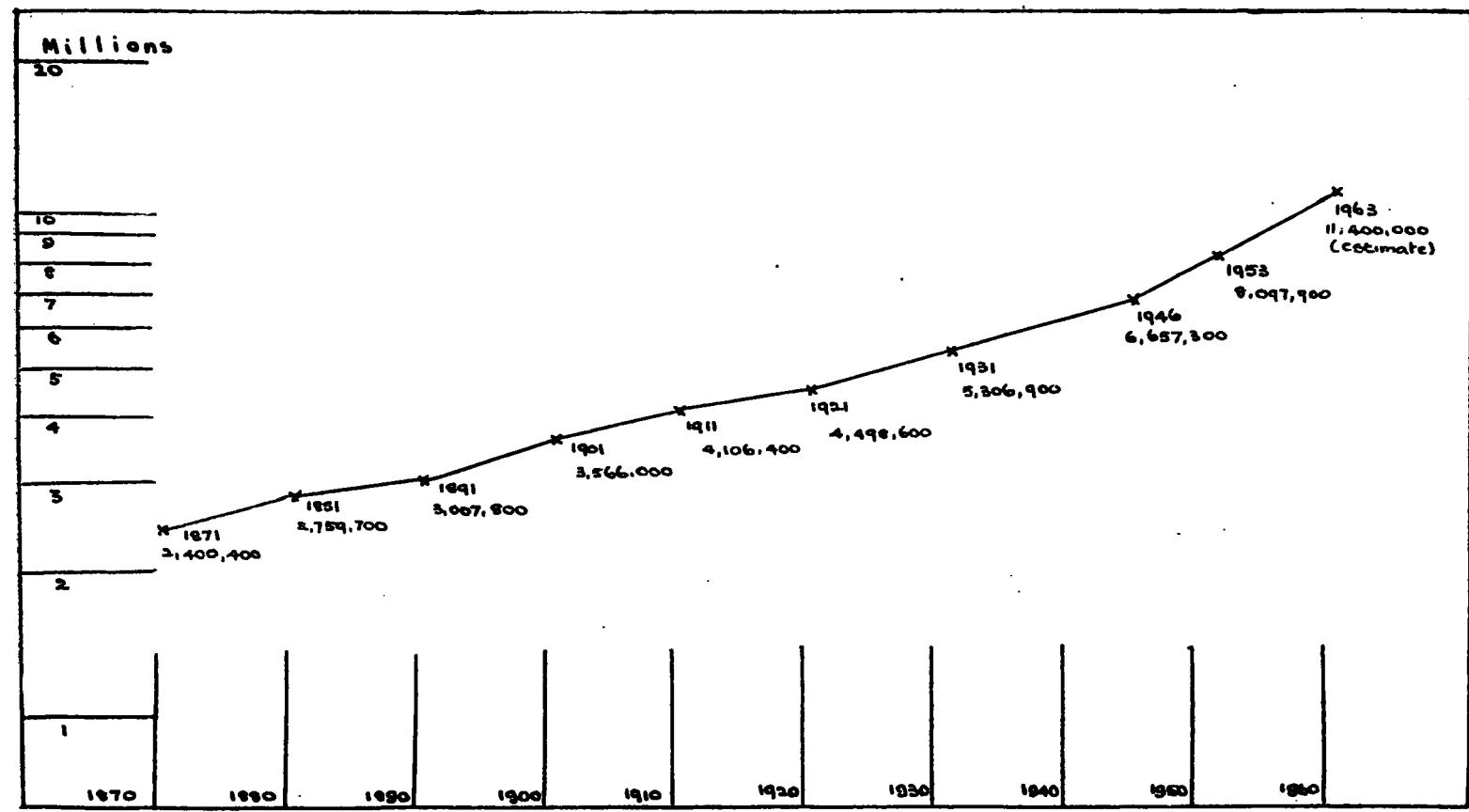


TABLE VII

*Increase of Population in Selected Countries 1870—1950*

Country	Period	Population at		Percentage Increase
		Beginning	End of Period	
Canada	1871—1951	3,689,257	13,984,329	279.06
Cuba	1877—1953	1,521,684	5,807,057	281.69
U. S. A.	1870—1950	38,558,371	150,697,361	290.83
Puerto Rico	1877—1950	731,648	2,210,703	202.15
Brazil	1872—1950	10,112,061	51,976,357	414.00
Chile	1875—1952	2,075,971	5,900,809	185.69
Colombia	1870—1951	2,391,984	11,266,075	370.99
Italy	1871—1951	27,436,806	46,737,629	70.35
Norway	1875—1950	1,813,424	3,278,546	80.79
Portugal	1878—1950	4,550,699	8,441,312	85.50
Sweden	1870—1950	4,168,525	7,044,939	68.98
Switzerland	1870—1950	2,669,147	4,723,163	76.95
United Kingdom	1871—1951	27,431,474	50,211,826	83.04
New Zealand	1871—1951	254,928	1,939,472	660.80
Hawaii	1872—1950	56,897	499,794	778.45
Ceylon	1871—1953	2,400,380	8,097,895	237.37

Source : United Nations Demographic Yearbook. New York 1953.

The growth of Ceylon's population has not been uniform. During the period 1871—1921, when the decennial censuses were held, the intercensal increase varied from a low of 8.73% in the period 1881—1891 to a high of 21.87% in the period 1891—1901. During the 25 year period 1921—1946 the population increased by 47.99% while during the 7 year period 1946—1953 the increase was 21.64% (Table 8). As the lengths of the intercensal periods have varied from time to time, a more meaningful figure for comparison is the average annual rate of increase—shown in Table 9. The changes that have occurred during the period 1871—1953 represent an average annual increase of 14.8 per 1000 persons. When viewed in terms of the average annual rate of growth of the world's population during this period (estimated average annual rate of growth 6.9 per 1000)<sup>8</sup> the growth of Ceylon's population has been considerable. It is so when the comparison is with India and Pakistan

TABLE VIII

*Percentage Increase of Population during Intercensal Periods.*

Original Census	Final Census						
	1881	1891	1901	1911	1921	1946	1953
1871	14.97	25.01	52.35	71.07	87.41	177.35	237.36
1881	.....	8.73	32.51	48.79	63.01	141.23	193.43
1901	.....	.....	.....	12.29	24.02	82.05	121.44
1891	.....	.....	21.87	36.84	49.91	121.85	169.86
1911	.....	.....	.....	.....	9.55	62.12	97.20
1921	.....	.....	.....	.....	.....	47.99	80.00
1946	.....	.....	.....	.....	.....	.....	21.64

Source : Based on data in Table 8.

8. Kingsley Davis: *The World Demographic Transition. Annals of the American Academy of Political and Social Science* 237 (1945).

where the average annual rate of growth was 6 per 1000.<sup>9</sup> But in comparison with other Asian countries the rate for Ceylon is not exceptionally high. Japan's population increased by 15.3 per 1000 per annum during the period 1920—1940;<sup>10</sup> the comparable figure for Ceylon is 15. The population of Burma, Malaya, Singapore, the Philippines, Taiwan, Thailand, and Korea has increased in the past World War II era at a rate well over 20 per 1000<sup>11</sup>; the comparable Ceylon figure is 28.

TABLE IX

*Average Annual Percentage Increase of Population during Intercensal Periods.*

Original Census	1881	1891	1901	Final Census 1911	1921	1946	1953
1871	1.4	1.2	1.4	1.3	1.3	1.4	1.5
1881	....	0.8	1.4	1.3	1.2	1.4	1.5
1891	....	....	2.0	1.6	1.3	1.4	1.6
1901	....	....	....	1.2	1.0	1.3	1.5
1911	....	....	....	....	0.9	1.4	1.6
1921	....	....	....	....	....	1.6	1.8
1946	....	....	....	....	....	....	2.8

Based on the relationship  $P_t = P_0 e^{rt}$ .

Source : Based on data in Table 8.

Fluctuations in the rate of growth have been noticed in many countries, sometimes occasioned by war, and sometimes by changes in migration policy. In addition to these fluctuations, the average annual rate of growth has shown a discernible trend. In most European countries there has been a retardation in the rate of growth of the population.<sup>12</sup> In the Latin American countries<sup>13</sup> the trend has been one of accelerated growth. In Asia the growth appears to have started only in very recent times and that too in a vigorous form.<sup>14</sup> Although the position in Ceylon could be described as a fairly high rate of growth between 1871 and 1946, it is only since the end of the World War II that the high rate of growth has caused concern. Not only is the present rate of growth at an unprecedented high level but the larger population base results in large increases in absolute numbers.

Throughout history the population of no country has been uniformly distributed over its territorial limits. The people have been concentrated in certain parts of the land while other parts have remained more or less uninhabited. In the past, when man was dependent heavily on agriculture for his existence, the factors that controlled the distribution of the population were physical such as atmospheric temperature, rainfall, landform and the quality of the soil. Where nature was bountiful, people congregated, for here the burden of living was lighter and the struggle for existence less intense than in areas where nature

9. Kingsley Davis: *The Population of India and Pakistan*, op. cit.

10. I. B. Taueber and E. G. Beal: The Demographic Heritage of the Japanese Empire. *Annals of the American Academy of Political and Social Science* 237 (1945) 64—71.

11. United Nations: *Demographic Yearbook 1949—1950*. (New York 1950).

12. F. W. Notestein, I. B. Taueber, D. Kirk and A. J. Coale, *The Future Population of Europe and the Soviet Union*.

13. G. Mortara: A Riddle Solved. Brazil's Population *Estadística* 1 (1943) 142—147.

United Nations: *Determinants and Consequences of Population Trends* (New York 1953)

14. United Nations: *Determinants and Consequences of Population Trends*, op. cit.

was less congenial. After the Industrial Revolution, however, man's direct dependence on physical factors was reduced. The availability of natural resources that could be exploited for industrial purposes began to play a predominant part, for now the stress was on manufacture rather than on agriculture and the adjutants to the former rather than to the later influenced the lives of men. With the passage of time, the march of technology and the diversification of economic activity considerably reduced the influence of factors such as climate, the quality of the soil and the availability of natural resources; cultural factors which influenced the people's view of the land and its uses played a more predominant part. Cultural factors, however, influence and are influenced by demographic factors. The increase in the population and the inability of the populated area to support the increased population leads to the search for new areas to live, new forms of economic activity, new techniques of production, new forms of social organisation and new objectives that society must attain.<sup>15</sup>

Ceylon is divided, for the purposes of administration, into nine provinces—Western, Central, Southern, Northern, Eastern, North Western, North Central, Uva and Sabaragamuwa. Each of these provinces is divided further into districts—23 in all.

These are in the

Western Province	— Colombo, Negombo and Kalutara.
Central Province	— Kandy, Matale and Nuwara Eliya.
Southern Province	— Galle, Matara and Hambantota.
Northern Province	— Jaffna, Mannar and Vavuniya.
Eastern Province	— Batticaloa and Trincomalee.
North Western Province	— Kurunegala, Chilaw and Puttalam
North Central Province	— Anuradhapura and Polonnaruwa.
Province of Uva	— Badulla and Monaragala.
Province of Sabaragamuwa	— Ratnapura and Kegalle.

Until recent times, Anuradhapura and Polonnaruwa constituted one single district—that of Anuradhapura—and so did Badulla and Monaragala—that of Badulla. As comparable statistics for the entire period are available only when these districts are considered in their old form, they will be so considered in this study. The Registrar-General, and the Superintendent of Census have presented most of their statistics combining the districts of Colombo and Negombo, sometimes under the single title of Colombo and sometimes under the combined title of Colombo and Negombo. In this study the same procedure will be adopted. These two districts will be treated as one (Map 1).

Table 10 shows population distribution over the island at various censuses between 1900 and 1960. Table 11 gives the population indexes based on 1901 = 100. At the turn of the century we find that more than half of the country's population was concentrated in the south western and central parts of the country which constitute less than one fourth the total surface area. The most densely populated parts (Table 12 and Map 2) were the Western, Central and Southern Provinces. Less densely populated but nevertheless containing a sizeable population were the Northern and North Western Provinces and the

15. *ibid.*

MAP 1. MAP OF CEYLON SHOWING THE PROVINCES AND DISTRICTS.  
 PROVINCIAL, District Boundary  
 Figures—District Population at 1953 Census.

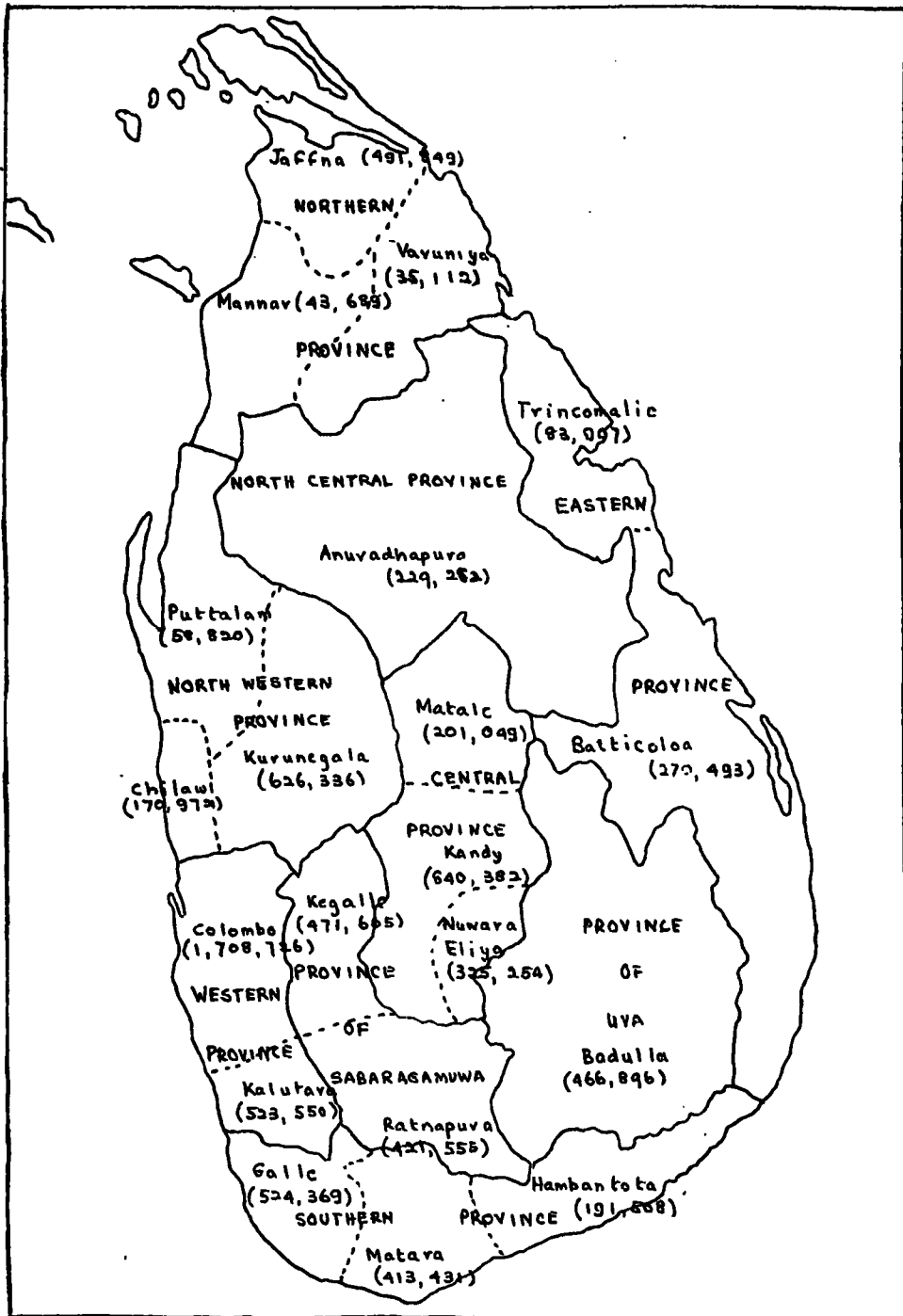
TABLE X

Numerical Distribution of the Population of Provinces and Districts at the Censuses 1900—1953

Area	Extent. Sq. Miles	1901	1911	1921	1946	1953
Ceylon	25,331.88 (100.0)	3,656,954 (100.0)	4,106,350 (100.0)	4,497,854 (100.0)	6,657,339 (100.0)	8,097,895 (100.0)
Western Province	1,432.00 ( 5.7)	920,683 ( 25.2)	1,106,321 ( 26.2)	1,246,847 ( 27.7)	1,876,904 ( 28.2)	2,232,276 ( 27.6)
Colombo	808.25 ( 3.1)	690,826 ( 18.9)	826,828 ( 20.1)	923,143 ( 20.5)	1,420,332 ( 21.3)	1,708,726 ( 21.1)
Kalutara	623.75 ( 2.6)	229,857 ( 6.3)	279,493 ( 6.8)	323,704 ( 7.2)	456,572 ( 6.9)	523,550 ( 6.5)
Central Province	2,290.13 ( 9.0)	622,832 ( 17.0)	672,258 ( 16.4)	717,739 ( 16.0)	1,135,290 ( 17.1)	1,366,685 ( 16.9)
Kandy	913.83 ( 3.6)	377,591 ( 10.3)	408,429 ( 10.0)	433,933 ( 9.7)	711,449 ( 10.7)	840,382 ( 10.4)
Matale	902.45 ( 3.6)	92,203 ( 2.5)	108,367 ( 2.6)	116,584 ( 2.6)	155,720 ( 2.3)	201,049 ( 2.5)
Nuwara Eliya	473.75 ( 1.8)	153,038 ( 4.2)	155,462 ( 3.8)	167,162 ( 3.7)	268,121 ( 4.1)	325,254 ( 4.0)
Southern Province	2,146.25 ( 8.5)	566,736 ( 15.5)	628,817 ( 15.3)	671,234 ( 14.7)	961,418 ( 14.4)	1,129,308 ( 14.0)
Galle	652.25 ( 2.6)	258,116 ( 7.1)	291,001 ( 7.1)	313,118 ( 7.0)	459,785 ( 6.9)	524,369 ( 6.5)
Matara	481.25 ( 1.9)	203,750 ( 5.6)	227,308 ( 5.5)	238,509 ( 5.3)	351,947 ( 5.3)	413,431 ( 5.1)
Hambantota	1,012.75 ( 4.0)	104,870 ( 2.8)	110,508 ( 2.7)	119,607 ( 2.6)	149,686 ( 2.2)	191,508 ( 2.4)
Northern Province	3,249.33 ( 13.5)	340,936 ( 9.3)	369,712 ( 9.0)	374,892 ( 8.3)	479,672 ( 7.2)	570,650 ( 7.1)
Jaffna	998.63 ( 3.9)	300,851 ( 8.2)	326,712 ( 8.0)	330,544 ( 7.3)	424,788 ( 6.4)	491,849 ( 6.1)
Mannar	964.21 ( 3.8)	24,926 ( 0.7)	25,603 ( 0.6)	25,582 ( 0.6)	31,538 ( 0.5)	43,689 ( 0.5)
Vavuniya	1,466.50 ( 5.8)	15,159 ( 0.4)	17,336 ( 0.4)	18,706 ( 0.4)	25,926 ( 0.3)	33,917 ( 0.5)
Eastern Province	3,840.10 ( 15.2)	173,602 ( 4.7)	183,698 ( 4.5)	192,821 ( 4.3)	279,112 ( 4.2)	354,410 ( 4.4)
Batticaloa	2,792.10 ( 11.0)	145,161 ( 4.0)	153,943 ( 3.7)	158,709 ( 3.5)	203,186 ( 3.1)	270,493 ( 3.3)
Trincomalee	1,048.00 ( 4.2)	28,441 ( 0.7)	29,755 ( 0.8)	34,112 ( 0.8)	75,926 ( 1.1)	83,917 ( 1.1)
North Western Province	3,025.87 ( 11.9)	353,626 ( 9.7)	434,116 ( 10.6)	492,181 ( 10.9)	667,889 ( 10.0)	855,228 ( 10.6)
Kurunegala	1,843.75 ( 7.3)	249,429 ( 6.8)	306,807 ( 7.5)	354,197 ( 7.9)	485,042 ( 7.3)	626,336 ( 7.7)
Puttalam	909.87 ( 3.5)	29,779 ( 0.8)	39,665 ( 1.0)	35,610 ( 0.8)	43,083 ( 0.7)	58,820 ( 0.7)
Chilaw	262.25 ( 1.0)	74,418 ( 2.0)	87,644 ( 2.1)	102,374 ( 2.3)	139,764 ( 2.1)	170,072 ( 2.1)
North Central Province	4,008.54 ( 15.8)	79,110 ( 2.2)	86,276 ( 2.1)	96,525 ( 2.2)	139,534 ( 2.1)	229,282 ( 2.8)
Anuradhapura	4,008.54 ( 15.8)	79,110 ( 2.2)	86,276 ( 2.1)	96,525 ( 2.2)	139,534 ( 2.1)	229,282 ( 2.8)
Province of Uva	3,227.15 ( 12.9)	186,674 ( 5.1)	216,692 ( 5.3)	233,864 ( 5.2)	373,238 ( 5.2)	466,806 ( 5.8)
Badulla	3,227.15 ( 12.9)	186,674 ( 5.1)	216,692 ( 5.3)	233,864 ( 5.2)	373,238 ( 5.2)	466,806 ( 5.8)
Province of Sabaragamuwa	1,892.50 ( 7.5)	321,755 ( 8.8)	408,521 ( 10.0)	471,814 ( 10.5)	745,382 ( 11.2)	893,160 ( 11.0)
Ratnapura	1,250.50 ( 4.9)	132,964 ( 3.6)	165,992 ( 4.0)	202,975 ( 4.5)	343,620 ( 5.2)	421,555 ( 5.2)
Kegalle	642.00 ( 2.6)	188,791 ( 5.2)	242,529 ( 6.0)	268,839 ( 6.0)	401,762 ( 6.0)	471,605 ( 5.8)

Figures in parentheses are percentages.  
Source : Census Reports.

Map 1. Map of Ceylon showing the Provinces and Districts.



PROVINCE BOUNDARY ————— District Boundary - - - - -  
 figures - District Population at 1953 Census

TABLE XI  
*Population Indexes at Censuses by Province and District 1900—1960*  
 (1901=100)

Area	1901	1911	1921	1946	1953
Ceylon	100	117	129	190	230
Western Province	100	120	136	204	241
Colombo	100	120	134	206	248
Kalutara	100	122	142	200	230
Central Province	100	110	117	184	220
Kandy	100	108	115	189	223
Matale	100	118	127	171	219
Nuwara Eliya	100	101	110	176	212
Southern Province	100	111	120	171	200
Galle	100	113	122	180	204
Matara	100	111	117	173	202
Hambantota	100	105	114	136	185
Northern Province	100	110	110	141	168
Jaffna	100	108	110	141	164
Mannar	100	105	105	129	174
Vavuniya	100	120	130	160	240
Eastern Province	100	107	111	162	205
Batticaloa	100	106	110	140	186
Trincomalee	100	105	123	269	298
North Western Province	100	125	142	195	245
Kurunegala	100	125	145	200	255
Puttalam	100	133	119	142	197
Chilaw	100	120	140	190	230
North Central Province	100	110	120	175	285
Anuradhapura	100	110	125	175	285
Province of Uva	100	116	125	220	250
Badulla	100	116	150	200	250
Province of Sabaragamuwa	100	130	156	233	280
Ratnapura	100	127	156	263	210
Kegalle	100	130	144	214	251

Source: Based on figures in Table 10.

Province of Sabaragamuwa. Sparsely populated were the Eastern and North Central Provinces and the Province of Uva. The population was not uniformly distributed throughout the province: some districts had a greater concentration than others. Thus in the Western Province, the District of Colombo had a very much higher density than the District of Kalutara and similarly in the Northern Province the District of Jaffna had a very much higher density than the other two districts. In the Central Province, the District of Matale, in the Southern Province the District of Hambantota and in the North Western Province, the District of Puttalam had densities much lower than the other districts in these provinces.

During the period 1901—1953 the population of the country has grown by 130%. Four provinces—Central (120%) Southern (100%), Northern (68%) and Eastern (105%) have shown a rate of growth smaller than this. The other five provinces—Western (141%), North Western (145%), Uva (150%), Sabaragamuwa (180%) and North Central (185%)—have grown at a much faster rate. With regard to the rate of growth too, (Table 11 and Map 3) the different districts in the different provinces have grown at different rates. In

the Northern Province the District of Jaffna grew by 64% while the District of Vavuniya grew by 140%; in the Eastern Province, the population of the District of Trincomalee increased by 198% while the population in the adjoining District of Batticaloa increased by only 86%; in the North Western Province the population of the District of Kurunegala increased by 155% while the population of the District of Puttalam increased by 97% and in the Province of Sabaragamuwa the population of the District of Ratnapura increased by 210% while the population of the District of Kegalle increased by 151%.

TABLE XII

*Density of the Population at Censuses by Province and District 1900—1960.*

Area	1901	1911	1921	1946	1953
Ceylon	141	162	178	263	320
Western Province	643	773	871	1,311	1,559
Colombo	855	1,023	1,143	1,758	2,114
Kalutara	368	448	519	732	839
Central Province	272	294	313	496	597
Kandy	413	447	475	779	920
Matale	102	120	129	173	223
Nuwara Eliya	323	328	353	566	686
Southern Province	264	293	313	448	526
Galle	396	446	480	705	804
Matara	424	472	496	782	859
Hambantota	104	109	118	148	189
Northern Province	99	108	109	140	166
Jaffna	301	327	331	425	493
Mannar	26	27	27	33	45
Vavuniya	10	12	13	16	24
Eastern Province	45	48	50	73	92
Batticaloa	52	55	57	73	97
Trincomalee	27	28	33	72	80
North Western Province	117	144	163	221	284
Kurunegala	135	166	102	263	493
Puttalam	33	44	39	47	65
Chilaw	284	334	390	533	649
North Central Province	20	22	24	35	57
Anuradhapura	20	22	24	35	57
Province of Uva	57	66	71	114	142
Badulla	57	66	71	114	142
Province of Sabaragamuwa	170	216	249	394	472
Ratnapura	106	133	162	275	337
Kegalle	294	378	419	626	735

Figures are persons per square mile.

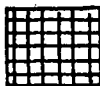
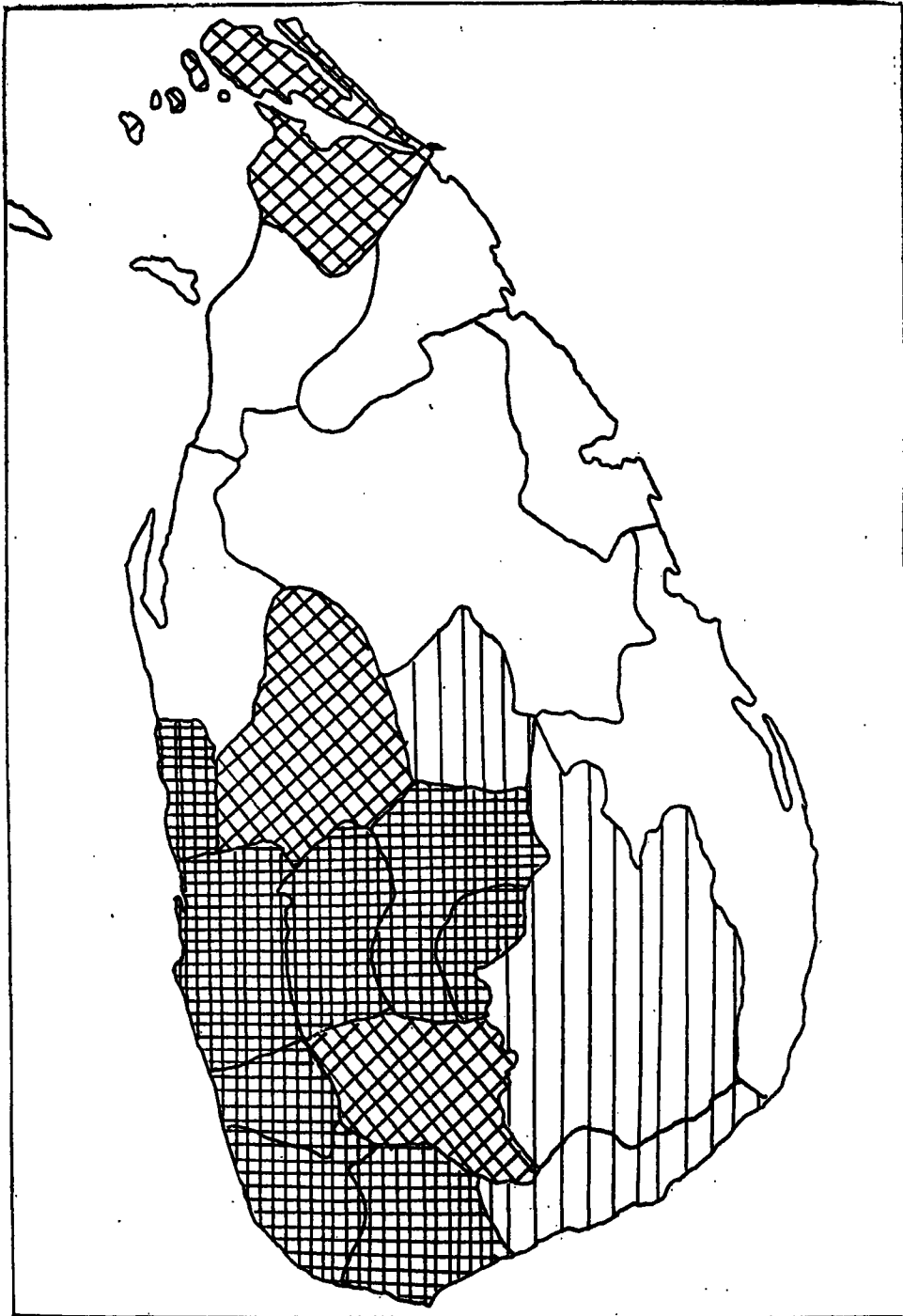
Course : Census Reports. Also Statistical Abstracts of Ceylon.

On the basis of the population distribution in 1901 and the rate of growth of the population during the period 1901—1953, it is possible to divide the Districts into nine groups.

I. Densely populated. — (More than 300 persons per square mile.)

- (a) Rapid growth — Kegalle.
- (b) Medium growth — Colombo, Kalutara and Kandy.
- (c) Slow growth — Nuwara Eliya, Galle, Matara and Jaffna.

Map 2. Density of Population 1953.



Over 500 persons  
per square mile



100 and under 300  
persons per square mile



300 and under 500  
persons per square  
mile.



Under 100 persons  
per square mile.

- II. Moderate density — (Under 300 and over 100 persons per square mile.)
- (a) Rapid growth — Kurunegala and Ratnapura.
  - (b) Medium growth — Matale and Chilaw.
  - (c) Slow growth — Hambantota.
- III. Sparse density — (Under 100 persons per square mile.)
- (a) Rapid growth — Trincomalee, Anuradhapura and Badulla.
  - (b) Medium growth — Vavuniya.
  - (c) Slow growth — Mannar, Batticaloa and Puttalam.

There is a weak negative correlation ( $-0.15$ ) between the density of population and the rate of growth. This correlation is statistically insignificant.

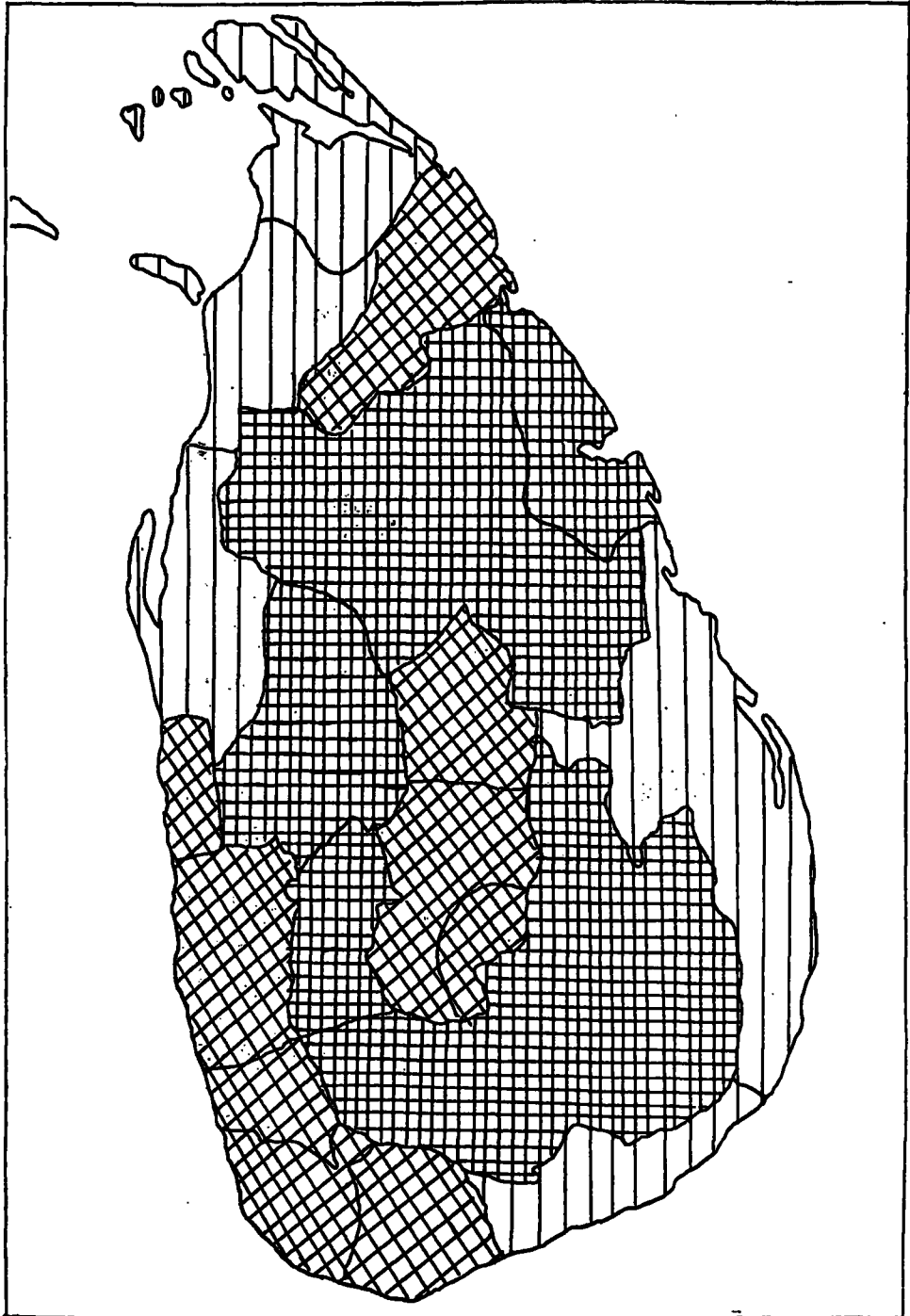
## PART IV

### The Economic Consequences of the Population Growth

A womb to the tomb welfare state is the ideal towards which most countries in the world are said to be marching. Ceylon too is marching towards this goal and the progress that the country has made is not inconsiderable. As things stand today, the Ceylonese comes into this world with a free delivery at a government hospital, during his infancy he receives free milk at a government clinic. He receives, later on, free education at a government school where he gets in addition a free midday meal and free books. If he is intelligent enough to obtain admission to an University, he receives free instruction there too. As an adult, when he is sick he receives free medical assistance and when he is not sick, he receives his essential foods at subsidised rates. When he is dead, he receives a free burial, if his relatives are unable or unwilling to give him a costlier one. The term free connotes that the recipient of the services receives them without any cost but those who are employed by government to dispense these services have to be paid and where the services involve the transfer of material goods from one person to another, the monetary implications of the transaction become the business of the government. What all this means is best illustrated by consideration of the government's expenditure on some of the social services.<sup>16</sup>

In the fiscal year 1958/59 the education bill of the country was Rs. 247,776,000.00 and the health bill Rs. 141,866,000.00—the two combined constituting 25.5% of the government's expenditure that year, and a per capita expenditure of Rs. 40.37 (Table 13). The increase of the population demands an increase in the expenditure but this does not constitute the only increase. Improvement of the facilities that could be offered demands additional expenditure to ensure that the services offered are worthy of the name. During the period 1946/47—1958/59, when the population increased by 37%, the education bill increased by 306.5% and the health bill by 271.2%. This money and money spent on the other social services must come from the country. The Government gets its revenue by taxation in various forms to various degrees—a process that gives it an ability to vary its revenue within rather wide limits. Yet there is a limit beyond which no further increase

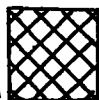
16. S. Selvaratnam: Some Implications of Population Growth in Ceylon. *The Ceylon Journal of Historical and Social Studies*. 4 (1961) 33—49.

**Map 3. Percentage Change in Populations 1901-1953.**

Over 150%



50 and under 100%

100 and under  
50 %

Under 50%

is possible. This limit is determined by the gross national product. During the period under consideration here, 1946/47—1958/59, the gross national product, increased, from Rs. 2,409,000,000 at the beginning of the period to Rs. 5,753,000,000 at the end of the period—an increase of 138·8%, which is small in comparison with the increase in the education and health bills. Unless the national product is greatly increased, the time may not be far off when the country will not be able to maintain these services even at their present level.

TABLE XIII

*Government Expenditure on Education and Health.*

Year	Education Expenditure		Health Expenditure	
	Rupees	Index	Rupees	Index
1946—47	60,954,000	100.0	38,217,000	100.0
1947—48	84,732,000	139.0	53,304,000	139.5
1948—49	94,436,000	155.0	58,771,000	153.8
1949—50	105,598,000	173.3	64,179,000	168.0
1950—51	117,114,000	192.1	69,514,000	181.9
1951—52	135,484,000	222.3	84,808,000	221.9
1952—53	142,989,000	236.2	89,364,000	233.9
1953—54	138,263,000	226.9	92,281,000	241.5
1954—55	146,463,000	240.5	93,087,000	243.6
1955—56	162,152,000	266.0	101,771,000	266.3
1956—57	184,928,000	303.4	114,312,000	299.1
1957—58	209,766,000	344.1	121,135,000	317.0
1958—59	247,766,000	406.5	141,866,000	371.2

Note. The scheme for Free Education was inaugurated in 1946.

Source : Statistical Abstracts of Ceylon.

TABLE XIV

*Gross National Output. 1947—1959*

Year	Gross Output Rupees	Population Persons	Per capita Output Rupees
1947	2,409,000,000	7,044,000	34.19
1948	2,762,000,000	7,251,000	38.09
1949	2,967,000,000	7,476,000	39.89
1950	2,501,000,000	7,688,000	45.64
1951	4,619,000,000	7,885,000	58.58
1952	4,507,000,000	8,088,000	57.16
1953	4,491,000,000	8,302,000	54.10
1954	4,772,000,000	8,519,000	56.02
1955	5,234,000,000	8,729,000	59.96
1956	5,096,000,000	8,945,000	56.97
1957	5,200,000,000	9,172,000	56.69
1958	5,493,000,000	9,404,000	58.41
1959	5,753,000,000	9,651,000	59.61

Source : Statistical Abstracts of Ceylon.

.. Increase in population brings with it many other problems, most of them revolving around employment. The extent of unemployment in a country can be gauged by the registrations for employment and better employment. These figures do not measure the situation exactly for they are generally much lower than the actual number of unemployed. Nevertheless, they reflect the trend in unemployment and under-employment. Since 1946 the persons seeking employment or better employment through the employment exchanges in the country have increased. Also increased is the proportion of these persons to the total employable male population (20—60 age group), from 2.1% in 1946 to 5.1% in 1959.

TABLE XV  
*Registrants for Employment and Better Employment 1946—1959*

<i>Year</i>	<i>Registrants</i>	<i>Labour Force (a)</i>	<i>Percentage Unemployed</i>
1946	36,544	1,708,000	2.1
1947	34,744	1,711,000	2.0
1948	66,656	1,824,000	3.7
1949	69,732	1,879,000	3.7
1950	65,122	1,935,000	3.4
1951	52,707	1,986,000	2.7
1952	53,023	2,036,000	2.6
1953	51,546	2,077,000	2.5
1954	63,304	2,134,000	3.0
1955	71,010	2,172,000	3.3
1956	85,952	2,230,000	3.9
1957	112,758	2,287,000	4.9
1958	117,796	2,344,000	5.0
1959	128,018	2,499,000	5.1

(a) Male Population 20—60 years.

Source : Statistical Abstracts of Ceylon.

· Increase in employment opportunities can result from the opening up of new avenues of employment or from the extension of existing avenues. In a country that is predominantly agricultural, the extension of existing avenues of employment must be associated with an increase in the extent of land cultivated. The cultivated land in Ceylon today is much more than what it was a few years ago and there is still more land that could be profitably cultivated with improved irrigation facilities. But, as the territorial limits of a country do not expand with its increasing population there is a limit to which agricultural extension is physically possible. Not only can employment opportunities not be increased, they must actually decrease as more and more land is taken up merely to house the increasing numbers. Industrialisation, obviously, is the only solution. Its importance has been recognised and since 1952 concerted efforts have been made to provide more employment through both large scale and small scale industrial projects. But yet the movement in this direction has not been impressive. Over 50% of the labour force is engaged in agricultural pursuits: the percentage was larger in 1953 than in 1946. Only 10% of the labour force was engaged in manufacture in 1953—a percentage slightly larger than that in 1946. (Table 16).

One of the aims of population studies is to estimate the future population size so that an important factor in the planning of socio-economic development programs may be as factual as possible. Projections of Ceylon's future populations have been made by the Registrar-General,<sup>17</sup> the United Nations,<sup>18</sup> and S. Selvaratnam.<sup>19</sup> These projections are based on certain assumptions regarding the future trends in mortality and fertility. As these assumptions vary, the figures presented in each of these projection studies differ from one another. All three have assumed a decline in mortality. The Registrar-General's assumed decline is the smallest, Selvaratnam's is the largest while the United Nations one has not been inconsiderable. Because death rates are still highest among infants and very young children, occasioned by a morbidity that could be controlled, it is not unreasonable to assume a further decrease in the death rate. But how long it would continue to fall without maintenance and further improvement in health and living standards must at the present moment remain a matter of conjecture. It has been estimated that with no further improvements to the health services, the health bill of the country would be Rs. 293,000,000.00 in 1981.<sup>20</sup> Can the country afford it? This is the vital question.

TABLE XVI

*Distribution of the Labour Force in the different types of occupations 1946—1953*

Type of Occupation	1946	1953
Agriculture, Forestry, Hunting and Fishing	52.90	54.06
Mining and Quarrying	0.35	0.56
Manufacture	8.77	10.00
Building and Construction	1.77	2.52
Commerce, Banking and Finance	7.85	10.23
Administration, Professional and other services	24.41	17.40
Others (Unproductive)	0.35	0.57
Total Employed	2,611,524	2,132,650*

Source : Census Reports.

\*Exclusive of 146,090 persons whose occupation was inadequately described and consequently not classifiable.

Note. Occupational categories used are the broad categorisations used in the 1953 Census. Occupations were regrouped to make the 1946 categorisation comparable to the 1953 one.

As far as fertility is concerned, the projections have been made for different trends—a rise in fertility, a constant fertility, a slow fertility decline and a rapid fertility decline—all likely eventualities. But here again, what the exact situation will be in years to come is unknown. Fertility will be discussed more fully later on.

Translating the anticipated population changes into economic terms, it has been contended that by the year 1981, the education bill assuming only maintenance of present standards, would be Rs. 894,000,000.00 and the total cost for the social services for that year (education, health and housing) would be Rs. 2,864,000,000.00.<sup>21</sup> Here again the vital question is the ability of the country to foot the bill. Population changes, it has been further estimated, would increase the work force of the country to 7.1 million in 1981. If

17. Department of Census and Statistics: *Statistical Abstract of Ceylon*, 1957 (Colombo: Ceylon Government Press).

18. United Nations: *The Population of Asia and the Far East*, Population Studies No. 31, New York, 1959.

19. S. Selvaratnam, *op. cit.*

20. *ibid.*

21. *ibid.*

socio-economic conditions are so changed that this entire force could find employment, the financing of the social services may not be a formidable problem but if such a situation does not obtain, not only would it be difficult to maintain the services at their present level, but the country would be saddled with the additional problem of large scale unemployment.

The population of a country could be its greatest asset. It could well be its biggest liability. What it actually is, is dependent on the extent to which the available talent is exploited to improve the economic development of the country. In the so-called under-developed countries, the rate of economic development is relatively slow. The rapid increase in population have consequently posited themselves as seeming impediments to progress. The advantages that accrue from the economic changes that are occurring fail to register themselves as appreciable changes in the standard of living, so much so that the efforts of the country to improve existing standards appear futile. Two methods are available to reduce the disjuncture that exists between economic development and population growth. The one, dependent on a change in the values of the people, is a dramatic reduction in the rate of population growth; the other, dependent on the existence of capital, manpower, technical know-how, and raw material, is a dramatic increase in the rate of economic growth. What course of action should be and could be followed in any one country depends on the prevailing conditions and the peculiar genius of its people.

## PART V

### Crude Death and Birth Rates

The growth of the population is dependent on the natural increase and the migration difference. In the nineteenth century migration played a large part in the population growth of this country but its contribution to the increase has gradually reduced though Ceylon continued to remain an immigrant-recipient country till as late as 1955. The contribution made by migration now is so small that the present increase in population may be looked upon as solely dependent on the balance between births and deaths.

TABLE XVII

*Intercensal Increase, Natural Increase and Migration Difference 1871—1953.*

1 Period	2 Intercensal Increase	3 Natural Increase		4 Migration Difference	
		Number	Proportion	Number	Proportion
1871—1881	359,358	119,792	33.3	239,556	66.7
1881—1891	241,051	144,260	59.8	96,791	40.2
1891—1901	656,165	225,406	34.4	430,759	65.6
1901—1911	449,396	356,147	79.2	93,249	20.8
1911—1921	392,255	319,410	81.4	72,845	18.6
1921—1931	808,266	656,950	81.3	151,316	18.7
1931—1946	1,350,468	1,280,916	94.8	69,552	5.2
1946—1953	1,440,556	1,363,175	94.6	77,381	5.4

Source : Column 2 from Census Reports.

Column 3 from Administration Reports of the Registrar General of Ceylon.

Column 4 from Statistical Abstracts of Ceylon.

TABLE XVIII  
Crude Death Rate 1900—1960

Year	Rate	Year	Rate	Year	Rate
1900	28.6	1920	29.6	1941	18.8
1901	27.6	1921	31.2	1942	18.6
1902	27.5	1922	27.8	1943	21.4
1903	25.9	1923	30.6	1944	21.3
1904	24.9	1924	25.7	1945	22.0
1905	27.7	1925	23.9	1946	20.3
1906	34.3	1926	24.7	1947	14.3
1907	30.1	1927	21.7	1948	13.2
1908	29.4	1928	24.8	1949	12.6
1909	30.3	1929	24.9	1950	12.6
		1930	25.4		
1910	27.3	1931	22.1	1951	12.9
1911	34.8	1932	20.5	1952	12.0
1912	32.4	1933	21.2	1953	10.9
1913	28.4	1934	22.9	1954	10.4
1914	32.2	1935	36.6	1955	11.0
1915	25.2	1936	21.8	1956	9.8
1916	26.8	1937	21.7	1957	10.1
1917	24.7	1938	21.0	1958	9.7
1918	31.9	1939	21.8	1959	9.1
1919	35.6	1940	20.6	1960	8.6

Trend Line Equation.  $Y=22.7-0.3132 X$  when  $X$  is 0 in 1930 and in one year intervals.

Source : Administration Reports of the Registrar General of Ceylon.

The death rate has shown a considerable reduction during the period 1900—1960. This reduction, however, has not been uniform. During the first quarter of the century, it has remained more or less constant, with occasional fluctuations, around the level of 30 per 1000. During the next 20 years the death rate fell to the level of 20 while in the post-world-war II period the death rate fell still further till it now stands around the level of 8. This dramatic reduction in the death rate, unprecedented in the annals of world demography, has been occasioned mainly by the eradication of malaria—a major cause of morbidity and mortality in by gone years—the use of antibiotics, better health facilities, improved sanitation and other public health measures. In the occidental countries such a reduction was slow, and, as the technical know-how necessary for the improvement of the health services could not be borrowed but had to be developed, the reduction was usually associated with an improvement in the socio-economic standards of the country. Following the fall in the death rate was a fall in the birth rate in these countries, so much so that the rate of increase of the population was not inordinately high. In Ceylon, on the other hand, there has been no significant fall in the birth rate. It has remained more or less constant since the turn of the century—around the level of 37.5 per 1000. The 1900—1960 trend line shows very slight downward slope for the country as a whole.

When the provinces and districts are considered the picture is a little different. Table 19 and Chart 2 show the relative figures. The rates vary from district to district. It was lowest in the Chilaw, Colombo and Kalutara districts. In the Galle, Puttalam, Nuwara Eliya and Jaffna districts, the rate was slightly higher but still lower than the average annual birth rate for the country as a whole. Slightly higher than the average Ceylon rate were

the rates for the Mannar, Kegalle, Kandy, Trincomalee, Matara and Hambantota districts. The rates in the other districts—Matale, Vavuniya, Batticaloa, Kurunegala, Anuradhapura, Ratnapura and Badulla districts—were even higher.

As far as the changes are concerned, the birth rate has remained more or less constant during the period under consideration in the Colombo, Kandy and Badulla districts. In Colombo and Kandy the trend has been a slight decrease while in Badulla, it was a slight increase. Rates declined in the Jaffna, Kurunegala, Ratnapura, Chilaw, Matara, Kegalle, Kalutara and Galle districts. They increased in the Mannar, Trincomalee, Batticaloa, Matale, Hambantota, Puttalam, Vavuniya, Anuradhapura and Nuwara Eliya districts. On the basis of the changes that have occurred in the birth rate, it is possible to divide the districts into the following groups :

I. Where the average annual birth rate was low, and

- |                |   |                      |
|----------------|---|----------------------|
| (a) Decreasing | — | Chilaw and Kalutara. |
| (b) Constant   | — | Colombo.             |
| (c) Increasing | — |                      |

II. Where the average annual birth rate was moderate, and

- |                |   |   |
|----------------|---|---|
| (a) Decreasing | — | Galle, Jaffna, Kegalle and Matara.                          |
| (b) Constant   | — | Kandy.  |
| (c) Increasing | — | Puttalam, Nuwara Eliya, Trincomalee, Mannar and Hambantota. |

III. Where the average annual birth rate was high, and

- |                |   |  |
|----------------|---|--|
| (a) Decreasing | — | Ratnapura and Kurunegala.                                    |
| (b) Constant   | — | Badulla.   |
| (c) Increasing | — | Matale, Vavuniya, Batticaloa and Anuradhapura. <sup>22</sup> |

In general it may be said that the birth rate tended to be higher in the sparsely populated areas than in the densely populated areas. In the former areas the birth rate has increased since the turn of the century while in the latter areas the birth rate has decreased.

An interesting feature about the changes that have occurred in the crude birth rate is that these changes are not reflected in the changes that have occurred in the total population. As birth is one of the methods by which people are added to the population, it is natural to expect the most population growth in areas where the increase in the birth rate was greatest and the least in areas where the reduction in the rate was most. But this is not the case. In the Puttalam District, for example, the crude birth rate showed a phenomenal increase though no extraordinary population growth was recorded. Again, in the Ratnapura District, the population grew at an exceptionally high rate while the birth rate decreased. Differential death rates (Table 21) account in part for this discrepancy; internal migration also makes its contribution. Changes in the crude birth rate are not reflected in the population changes, probably because these changes, though categorisable in terms of increases or decrease, were not marked. The crude birth rate increased most during the period 1900—1960 in the Puttalam District— 56%—and decreased most in the Kalutara District—by 23%—over the 60 year period.

<sup>22</sup> The terms low, moderate and high, employed in this categorisation are used in a relative sense and in the context of the Ceylon data:

TABLE XIX

Crude Birth Rates by Province and District 1900—1960

Year	W.P.	Colombo	Kalutara	C. P.	Kandy	Matale	N <sup>o</sup> Eliya	S. P.	Galle	Matara	H <sup>o</sup> tota	N. P.	Jaffna	Mannar
1900	36.5	34.4	39.8	34.8	36.4	44.3	24.9	42.6	44.0	41.8	40.9	39.5	39.0	41.8
1901	32.8	32.0	35.1	32.4	3.25	41.1	24.3	41.0	40.1	42.5	40.3	42.5	42.9	37.9
1902	35.5	34.7	37.8	36.1	37.3	43.5	28.9	44.3	43.5	45.1	44.8	38.3	36.6	39.6
1903	36.2	35.2	39.1	37.4	38.5	43.1	31.1	44.1	42.7	45.5	44.8	38.2	38.3	36.8
1904	34.0	33.1	36.6	36.7	37.5	43.9	30.3	42.2	38.9	43.2	48.0	35.9	35.1	40.9
1905	36.9	35.8	40.2	36.2	36.4	46.3	29.4	45.1	44.2	46.0	45.4	38.6	39.1	30.8
1906	33.8	32.9	36.4	37.4	38.4	43.0	31.8	38.4	37.6	38.4	40.7	41.3	41.3	42.0
1907	31.8	30.6	35.3	32.4	32.5	36.1	29.3	37.1	37.1	36.9	37.6	32.5	32.2	36.2
1908	37.2	36.6	39.1	41.0	41.3	52.2	33.5	42.4	41.0	44.4	47.3	40.2	38.9	40.2
1909	35.5	33.9	39.1	37.7	38.0	31.5	36.0	38.8	38.9	38.1	39.8	39.5	38.8	46.8
1910	34.5	33.7	36.8	38.4	38.9	44.8	32.6	43.2	41.3	44.6	45.2	37.3	37.0	38.2
1911	34.3	32.6	39.2	39.7	39.4	42.4	39.1	41.1	40.9	43.5	36.5	37.5	37.4	37.5
1912	30.5	28.2	37.0	36.2	36.4	33.1	28.6	38.9	41.7	39.4	30.0	34.2	35.1	26.7
1913	36.2	35.5	38.2	40.3	40.2	42.2	39.1	40.7	38.4	43.1	42.3	35.4	34.9	40.5
1914	37.0	36.0	40.0	41.6	42.5	36.4	42.8	43.4	41.8	44.5	45.6	35.2	34.4	39.3
1915	36.1	35.0	39.3	40.3	40.1	41.7	39.7	40.8	38.2	42.5	44.5	32.2	32.0	32.4
1916	35.2	33.7	39.7	44.0	43.8	47.4	42.2	43.3	39.7	44.4	51.0	40.3	39.7	45.2
1917	37.9	36.4	42.1	45.9	44.8	51.8	44.9	43.6	42.6	44.5	44.7	38.3	37.7	41.1
1918	33.9	32.5	44.8	45.9	45.5	46.0	46.9	42.3	37.6	43.6	52.9	37.0	36.1	42.6
1919	33.1	31.8	40.3	40.2	40.3	41.1	39.3	36.9	36.3	36.7	38.9	32.4	32.9	38.7
1920	32.5	31.9	33.9	39.9	39.3	43.2	39.3	32.8	32.4	30.4	38.8	35.3	34.9	37.0
1921	38.3	37.8	39.6	40.5	39.6	42.4	41.5	40.0	38.6	45.1	47.8	38.5	38.0	38.7
1922	35.9	34.7	39.2	44.7	44.1	43.7	46.8	40.2	40.3	41.8	36.8	35.9	35.9	33.2
1923	34.9	33.6	38.4	45.5	45.6	41.9	47.5	41.6	41.6	42.1	40.8	35.1	35.0	39.5
1924	32.1	31.8	33.4	43.2	42.9	39.8	46.1	40.2	38.2	41.0	44.2	37.8	38.4	34.3
1925	33.4	33.3	33.6	43.6	43.2	45.9	43.4	44.4	40.8	45.6	52.3	38.5	38.4	38.7
1926	35.9	34.8	38.1	51.2	52.2	47.4	51.1	44.7	42.7	45.5	48.4	37.4	36.7	40.4
1927	34.7	34.2	35.9	46.6	48.4	46.0	42.3	42.7	40.9	43.6	45.6	36.9	36.6	37.5
1928	36.2	36.0	36.8	47.4	48.2	46.3	46.0	46.3	43.3	46.7	53.7	39.2	38.9	36.8
1929	32.6	31.8	34.8	45.6	46.3	43.7	45.0	43.1	41.9	44.0	44.1	33.0	32.7	32.2

TABLE XIX

*Crude Birth Rates by Province and District 1900—1960 (Contd.)*

<i>Year</i>	<i>W.P.</i>	<i>Colombo</i>	<i>Kalutara</i>	<i>C.P.</i>	<i>Kandy</i>	<i>Matale</i>	<i>N'Eliya</i>	<i>S. P.</i>	<i>Galle</i>	<i>Matara</i>	<i>H'tota</i>	<i>N. P.</i>	<i>Jaffna</i>	<i>Mannar</i>
1930	33.5	32.6	36.0	40.4	41.0	40.9	38.7	43.8	43.3	44.9	43.0	34.5	34.3	34.6
1931	30.9	30.3	32.8	38.7	38.3	42.0	37.8	41.1	38.9	42.2	45.0	34.8	34.5	36.6
1932	29.8	29.1	31.8	38.3	38.0	42.6	36.7	41.0	37.2	42.5	48.8	33.4	33.9	24.5
1933	32.3	31.4	35.0	39.4	38.9	42.6	38.8	43.3	40.5	45.5	46.9	35.6	35.4	34.7
1934	29.6	29.1	31.0	36.9	33.4	43.6	36.9	39.8	36.5	40.7	47.7	35.8	34.6	46.1
1935	28.6	26.9	32.0	35.9	34.2	35.5	40.4	41.1	38.5	43.0	44.1	33.6	33.6	32.8
1936	30.3	29.5	32.5	33.2	31.7	34.2	36.4	38.7	37.8	39.0	40.3	34.1	33.5	41.9
1937	32.2	31.4	34.3	39.2	38.8	44.9	37.1	39.6	38.9	39.5	42.3	34.7	34.3	36.9
1938	30.6	30.2	31.8	36.7	35.9	42.2	35.9	38.6	36.1	40.1	42.7	36.8	36.6	39.3
1939	31.0	30.6	32.3	36.4	35.6	41.2	36.1	37.4	36.4	37.9	39.9	35.2	34.8	44.4
1940	32.2	30.4	34.3	37.5	36.9	41.6	37.2	35.3	36.8	32.6	37.2	35.8	34.8	44.1
1941	32.1	31.3	34.4	38.9	37.5	45.1	39.5	34.6	36.4	31.7	36.4	32.5	31.6	36.5
1942	30.5	29.5	38.8	37.8	36.6	47.1	36.4	36.5	35.0	37.6	44.3	37.0	36.9	43.0
1943	38.1	37.7	38.4	39.1	38.5	48.7	36.2	43.2	42.5	41.8	49.4	35.9	34.9	41.5
1944	35.0	36.1	36.7	36.1	34.6	45.3	35.4	40.0	38.5	40.3	43.9	32.5	35.1	30.2
1945	31.8	31.6	32.3	41.6	41.6	43.7	41.6	36.7	33.9	38.2	41.6	32.4	32.2	32.5
1946	37.8	37.7	38.3	42.1	43.2	38.2	41.4	40.7	42.0	40.8	36.3	35.2	35.1	30.2
1947	35.3	36.1	33.0	45.0	44.0	49.3	44.7	38.2	38.6	39.3	40.5	37.2	36.9	34.5
1948	35.5	35.9	34.4	44.3	42.6	47.4	47.1	41.9	38.0	42.8	52.1	38.3	37.2	43.9
1949	37.2	38.3	34.0	42.4	40.9	46.5	44.0	37.6	34.7	37.2	48.0	36.0	34.7	40.1
1950	35.2	36.0	32.7	42.4	40.5	48.5	43.7	39.7	35.5	39.7	52.4	39.0	37.6	45.4
1951	34.8	35.4	33.0	44.2	43.2	50.0	43.5	39.5	34.7	40.4	52.4	37.5	35.7	35.7
1952	32.9	33.9	29.9	42.7	41.6	50.6	41.0	40.3	33.3	41.9	58.1	36.5	34.5	46.8
1953	37.2	37.8	35.5	39.8	39.1	43.3	39.4	41.7	37.2	43.3	50.2	35.5	34.0	40.6
1954	31.9	32.1	30.1	38.2	39.1	42.2	33.5	35.7	31.4	36.2	45.8	32.1	30.5	38.0
1955	32.8	33.8	29.4	39.8	38.8	44.3	39.4	38.4	32.9	39.4	51.0	36.3	34.5	41.0
1956	31.5	32.1	29.5	38.3	37.4	43.2	37.8	37.4	33.4	38.2	45.7	33.7	32.4	39.4
1957	33.2	34.3	29.8	37.0	36.6	40.4	36.0	36.5	31.9	39.8	41.5	32.5	30.9	37.8
1958	30.1	30.6	28.5	39.0	37.5	42.4	40.9	35.7	32.9	36.9	42.7	35.1	33.0	42.0
1959	37.0	34.7	29.0	37.2	35.9	43.6	36.9	35.3	29.9	37.5	44.4	37.4	35.6	44.6
1960	32.3	33.5	28.1	39.1	38.9	42.2	37.5	35.5	32.0	35.9	43.0	34.5	32.1	40.8

TABLE XIX

Crude Birth Rates by Province and District 1900—1960 (Contd.).

Year	Vavuniya	E.P.	B'caloa	Trinco	N. W. P.	K'gala	Puttalam	Chilaw	N. C. P.	A'pura	Uva	Badulla	Sab.	Ratnapura
1900	45.4	42.2	43.5	35.5	39.1	40.8	34.7	28.4	40.2	40.2	39.6	39.6	42.0	45.1
1901	43.5	43.2	42.9	44.6	41.2	43.6	36.2	34.5	47.9	47.9	39.8	39.8	39.2	42.0
1902	36.8	44.6	45.9	38.0	41.3	44.1	32.6	35.3	3.81	88.1	42.6	42.6	41.4	40.8
1903	38.6	47.1	48.4	40.3	44.6	47.6	35.5	38.3	38.5	38.5	44.2	44.2	44.0	43.7
1904	44.8	46.0	46.2	45.3	45.2	48.8	37.5	36.6	42.6	42.6	43.5	43.5	41.2	40.8
1905	41.3	40.7	40.8	40.5	45.0	48.9	35.4	35.4	43.6	43.6	38.8	38.8	42.8	41.4
1906	40.5	41.0	40.7	42.4	34.5	36.5	27.9	30.2	36.7	36.7	40.7	40.7	41.1	39.9
1907	32.9	39.2	39.6	37.2	34.6	35.8	34.5	30.6	40.0	40.0	37.9	37.9	37.2	37.0
1908	42.9	39.1	38.0	40.2	48.5	52.4	37.4	39.6	43.2	43.2	44.5	44.5	49.9	49.4
1909	46.3	43.9	44.8	39.2	36.3	37.1	35.9	34.0	41.1	41.1	45.6	45.6	43.8	45.0
1910	40.3	40.5	40.1	43.0	40.0	42.2	28.7	37.5	41.0	41.0	41.8	41.8	40.5	39.8
1911	38.9	44.4	44.5	43.8	36.9	39.6	28.5	31.2	46.1	46.1	39.0	39.0	36.9	39.3
1912	27.4	40.4	41.4	34.9	27.1	27.5	22.1	27.9	30.3	30.3	39.4	39.4	31.7	35.1
1913	38.0	40.5	41.0	37.9	41.7	44.0	30.9	38.5	34.1	34.1	42.5	42.5	44.8	44.1
1914	43.8	34.1	34.7	30.8	35.5	35.7	30.1	36.9	36.8	36.8	40.0	40.0	42.0	42.9
1915	36.5	38.0	38.0	38.0	36.2	38.3	24.1	34.3	37.4	37.4	42.7	42.7	43.1	45.7
1916	45.2	45.7	45.5	46.3	41.9	45.2	29.0	36.6	41.7	41.7	46.7	46.7	43.8	47.5
1917	47.3	43.1	42.1	48.2	44.0	46.9	35.2	38.1	51.9	51.9	46.0	46.0	47.0	50.7
1918	47.8	44.2	43.8	46.2	43.4	47.4	32.4	34.9	49.5	49.5	50.3	50.3	50.8	51.8
1919	29.1	40.0	40.9	34.9	34.6	37.1	24.3	30.8	32.8	32.8	41.0	41.0	44.9	49.5
1920	37.0	44.7	44.9	44.1	42.0	39.2	33.6	33.0	42.0	42.0	41.2	41.2	41.3	40.3
1921	38.7	45.2	46.1	40.7	42.5	44.3	42.0	41.8	42.5	42.5	42.0	42.0	41.5	41.2
1922	39.1	42.3	43.9	34.7	35.2	35.7	34.8	33.7	36.7	45.3	45.3	45.3	43.4	43.4
1923	31.0	39.4	40.6	33.7	37.4	38.8	33.7	33.7	38.6	38.6	44.8	44.8	41.8	44.2
1924	37.1	40.8	41.8	35.6	39.1	41.6	31.0	35.3	38.6	38.6	44.6	44.6	44.1	42.3
1925	42.2	43.3	43.5	42.5	45.5	48.4	40.6	37.5	43.6	43.6	48.6	48.6	43.5	45.0
1926	46.6	46.3	46.6	44.4	43.0	45.1	35.8	38.2	43.0	43.0	49.1	49.1	47.9	51.6
1927	40.7	48.7	49.1	46.6	44.8	47.9	37.2	36.7	50.9	50.9	50.7	50.7	46.1	48.4
1928	47.0	45.1	44.9	45.6	41.9	44.8	35.7	34.2	47.9	47.9	51.6	51.6	46.1	50.3
1929	40.0	45.9	46.9	41.1	35.6	38.0	30.6	29.1	43.3	43.3	45.5	45.5	43.1	47.6

TABLE XIX

Crude Birth Rates by Province and District 1900—1960 (Contd.).

Year	Vavuniya	E.P.	B'caloa	Trinco	N. W. P.	K'gala	Puttalam	Chilaw	N. C. P.	A'pura	Uva	Badulla	Sab.	Ratnapura
1930	37.6	43.1	43.9	39.4	39.3	41.5	32.9	33.5	39.0	39.0	43.8	43.8	42.9	41.6
1931	38.2	45.6	47.2	38.6	38.9	40.0	34.5	32.5	43.4	43.4	43.2	43.2	40.2	42.1
1932	36.4	44.1	44.4	43.0	41.5	44.2	38.0	33.5	42.2	42.2	43.5	43.5	39.1	40.6
1933	39.9	43.1	43.2	42.4	41.1	44.2	32.0	32.0	43.1	43.1	43.8	43.8	41.3	43.0
1934	45.1	44.3	44.4	43.8	44.1	46.9	45.8	33.8	54.4	54.4	44.4	44.4	38.5	39.2
1935	34.1	43.3	44.5	38.5	29.5	30.7	31.6	25.0	42.6	42.6	42.5	42.5	33.9	38.2
1936	36.2	39.3	39.4	39.0	34.8	37.1	37.0	25.9	51.8	51.8	38.5	38.5	31.7	35.8
1937	40.2	39.0	39.0	39.5	41.3	43.8	38.5	33.6	48.9	48.9	45.0	45.0	39.8	38.5
1938	38.4	41.2	39.8	48.0	35.7	38.0	35.0	28.3	42.6	42.6	40.2	40.2	38.0	38.2
1939	40.5	44.3	43.5	48.4	38.8	41.4	37.3	30.1	49.4	49.4	40.5	40.5	36.0	35.9
1940	46.1	44.3	43.2	49.6	36.1	36.7	41.0	32.8	47.3	47.3	37.9	37.9	36.0	36.7
1941	45.5	40.6	40.1	43.0	39.0	40.6	39.6	33.5	44.1	44.1	43.1	43.1	39.5	37.7
1942	39.7	37.4	38.6	31.9	44.2	46.8	43.6	35.3	43.0	43.0	41.4	41.4	38.4	36.4
1943	50.1	40.1	43.7	29.3	38.2	39.2	33.3	48.8	48.9	48.9	37.5	37.5	43.5	42.5
1944	44.0	43.7	42.9	47.3	38.8	39.3	45.1	35.1	37.9	37.9	37.3	37.3	38.9	32.2
1945	35.6	40.1	43.7	29.3	38.2	39.2	33.3	36.1	29.6	29.6	46.1	46.1	38.5	39.5
1946	43.8	39.3	42.0	31.6	31.3	30.1	38.6	33.1	38.9	38.9	39.8	39.8	38.4	41.8
1947	44.9	39.1	42.6	28.8	41.9	43.2	43.3	36.9	41.3	41.3	41.3	41.1	41.3	42.1
1948	49.1	41.2	45.1	35.9	43.3	44.9	45.6	37.6	44.6	44.6	48.1	48.1	40.3	43.2
1949	54.1	40.5	42.1	36.1	44.9	47.0	47.4	36.8	48.8	48.8	41.2	41.2	41.4	45.0
1950	54.8	43.7	47.6	34.1	47.7	50.2	52.1	37.7	53.6	53.6	44.7	44.7	39.9	43.6
1951	58.4	42.6	46.7	32.7	45.3	47.7	50.9	35.5	60.4	60.4	45.1	45.1	41.5	43.4
1952	58.5	43.0	47.3	32.8	45.5	47.4	56.2	35.6	59.3	59.2	45.7	45.7	38.6	40.5
1953	49.0	40.9	41.8	39.4	42.1	43.7	43.9	35.6	44.2	44.2	40.8	40.8	38.7	39.8
1954	47.7	43.9	45.0	40.4	39.1	40.2	46.0	32.9	46.6	46.6	40.1	40.1	36.8	39.1
1955	54.3	43.9	43.9	44.1	42.2	44.6	44.6	32.4	46.6	46.6	44.2	44.2	36.1	37.8
1956	44.5	45.7	45.7	46.0	38.6	39.9	42.0	32.4	45.4	45.4	41.8	41.8	34.9	36.7
1957	46.7	46.3	46.0	47.2	38.5	39.6	43.3	32.4	45.7	45.7	41.1	41.1	35.0	36.3
1958	53.6	46.3	46.4	46.0	36.8	38.5	42.4	28.1	44.8	44.8	42.7	42.7	33.7	35.8
1959	52.9	50.2	51.1	47.4	38.3	39.7	43.9	30.6	45.7	45.7	43.8	43.8	34.7	37.2
1960	57.3	48.6	49.5	46.0	36.7	37.8	42.1	30.2	47.9	47.9	42.2	42.2	34.3	36.4

Chart 2. Birth and Death Rates. Western Province. 1900 - 1960.

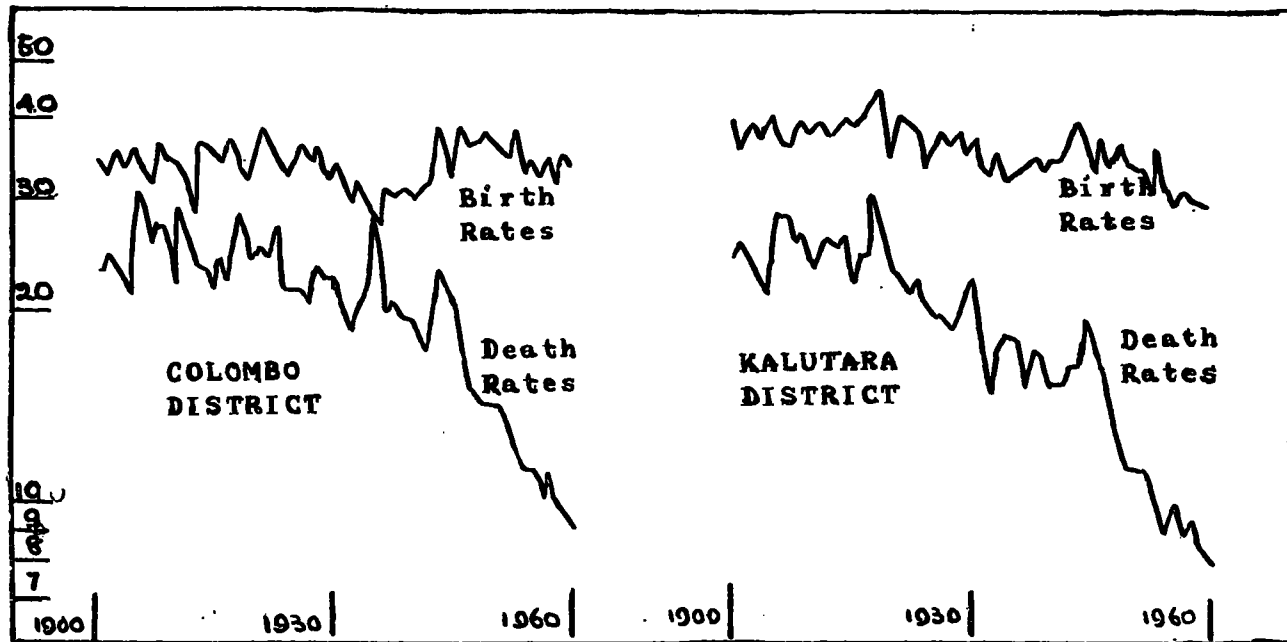


Chart 3. Birth and Death Rates. Central Province. 1900 - 1960.

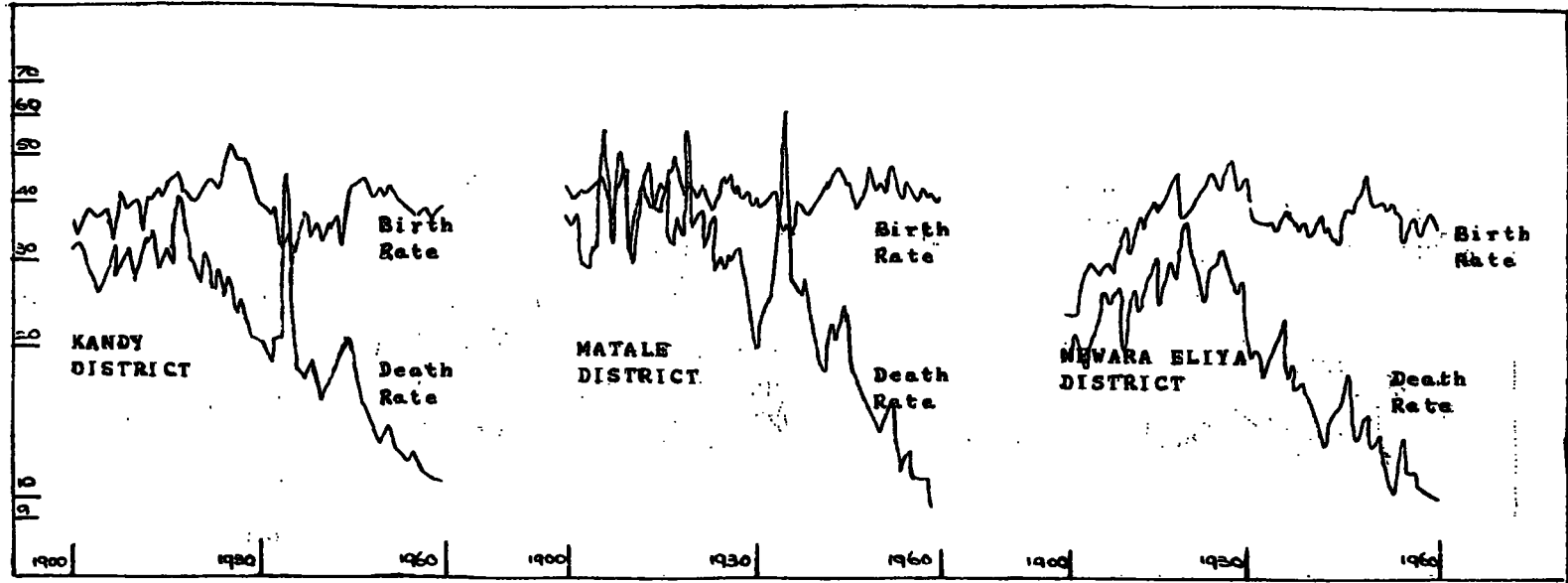


Chart 4. Birth and Death Rates, Southern Province, 1900 - 1960.

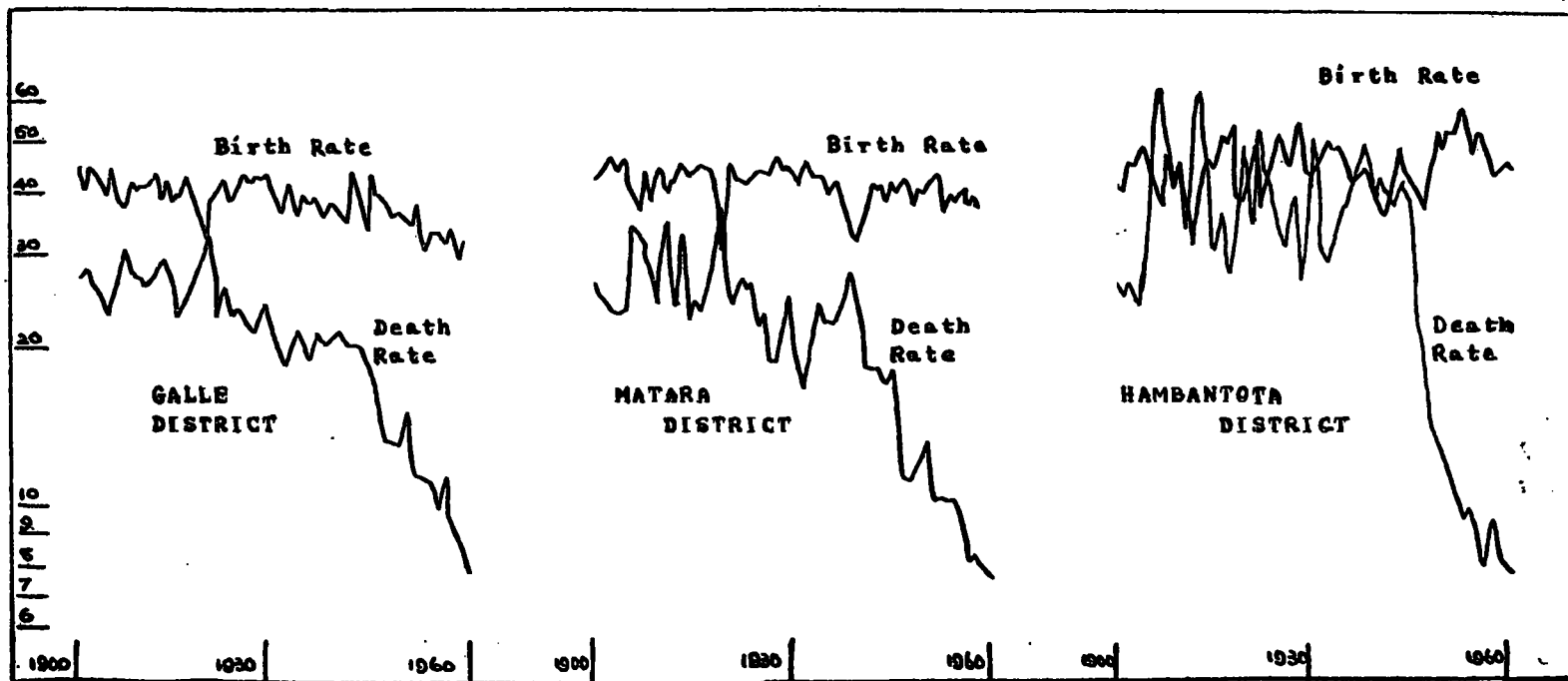


Chart 5. Birth and Death Rates. Northern Province. 1900 - 1960.

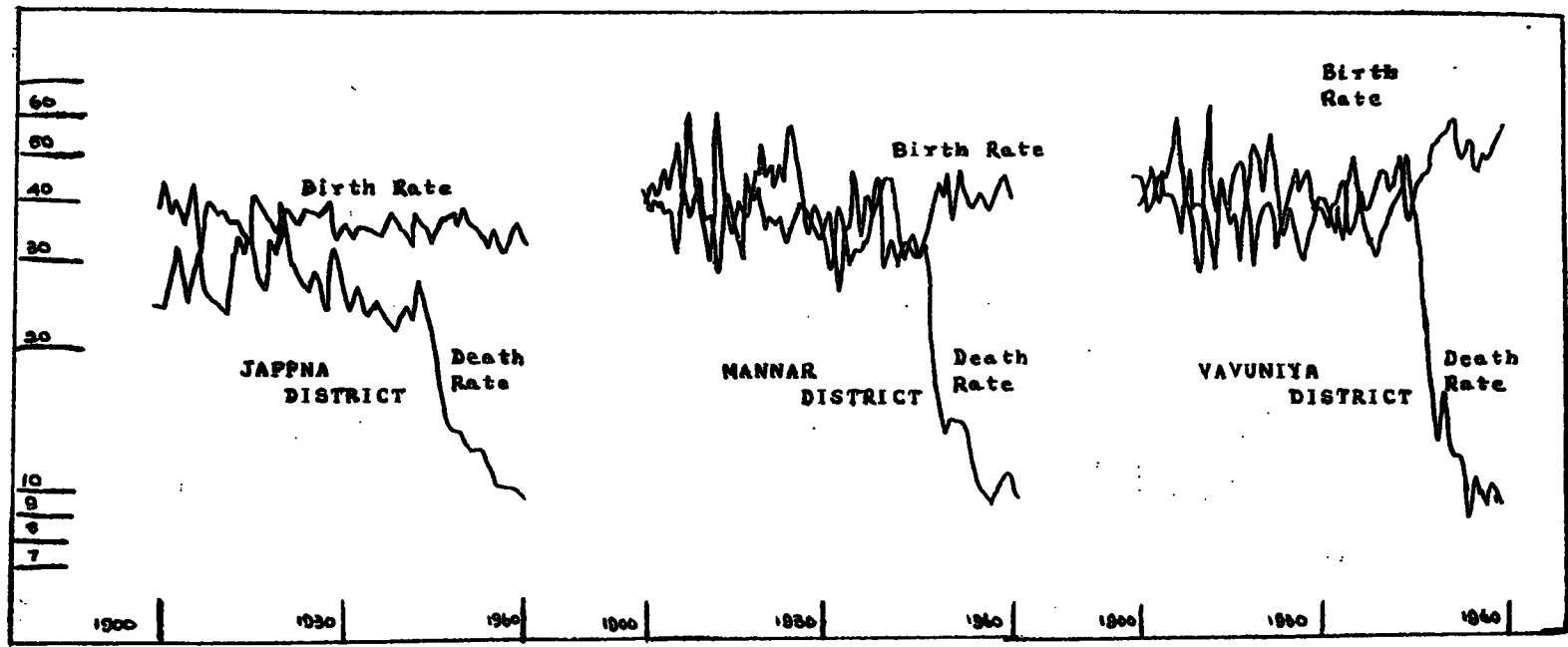


Chart 6. Birth and Death Rates. Eastern Province. 1900 - 1960.

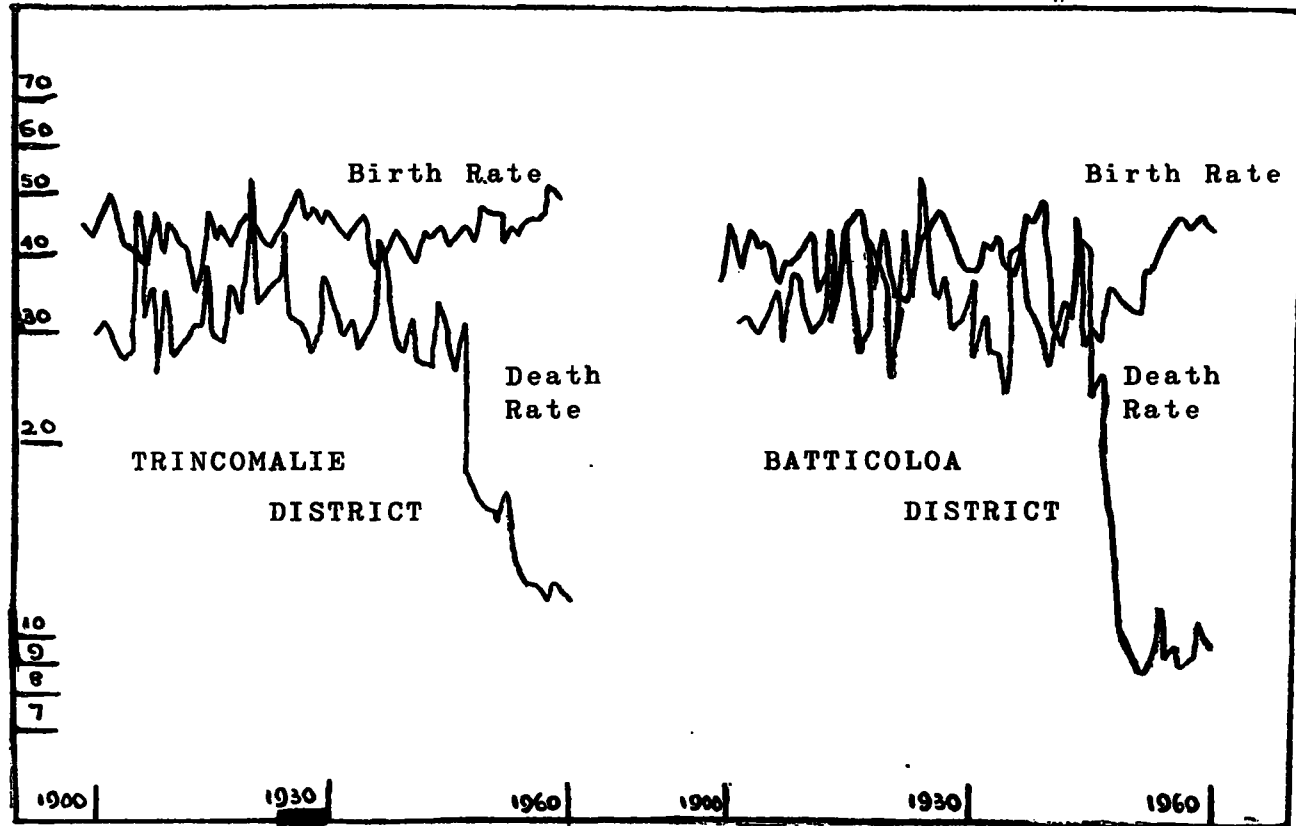


Chart 7. Birth and Death Rates. North Western Province. 1900 - 1960.

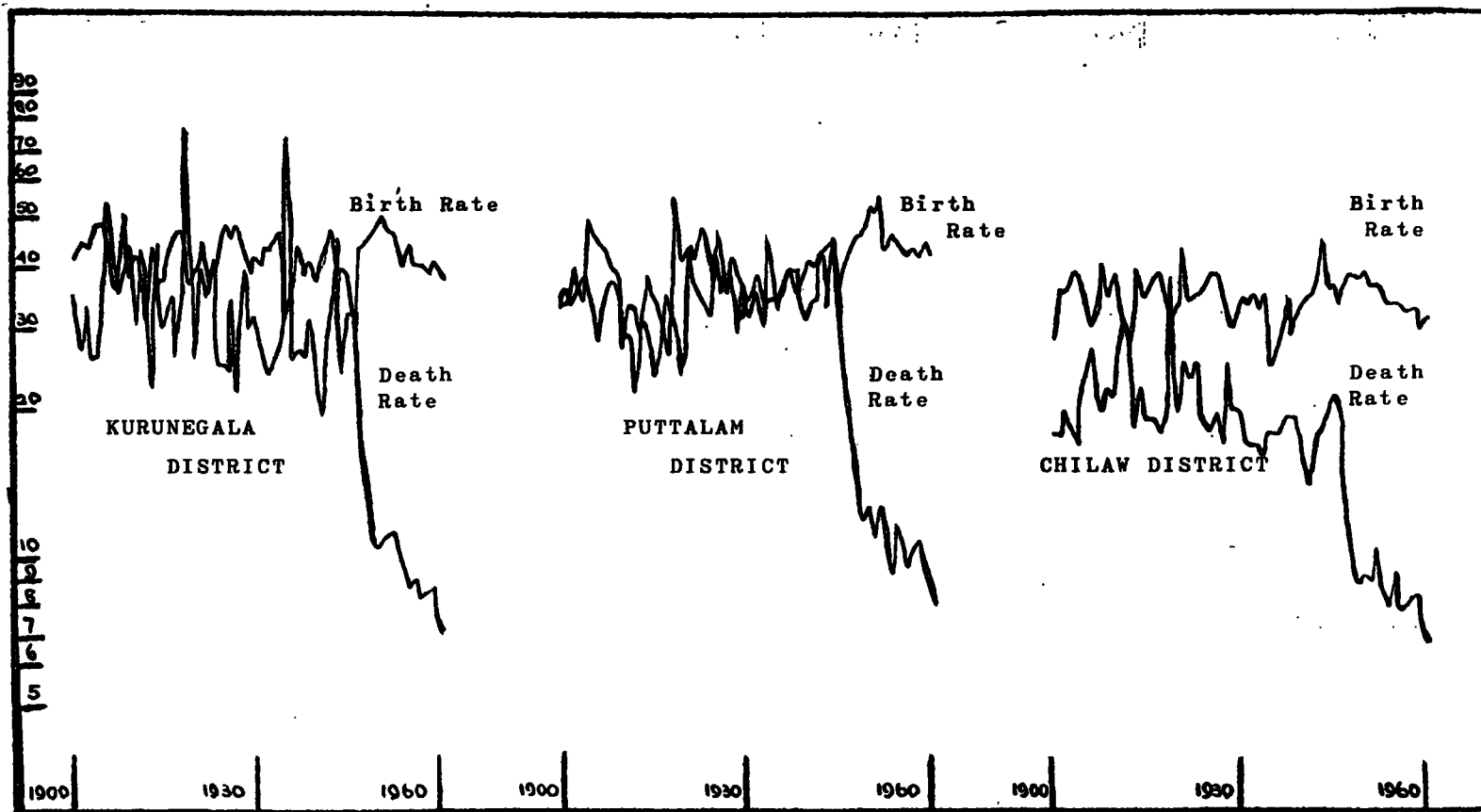


Chart 9. Birth and Death Rates. Province of Uva. 1900 - 1960.

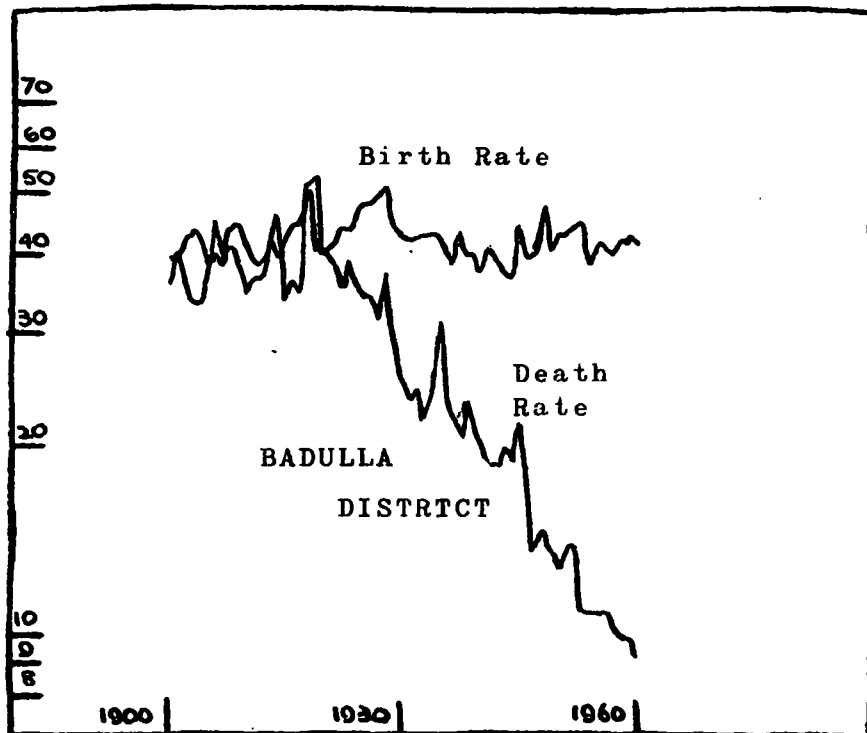


Chart 8. Birth and Death Rates. North Central Province. 1900 - 1960.

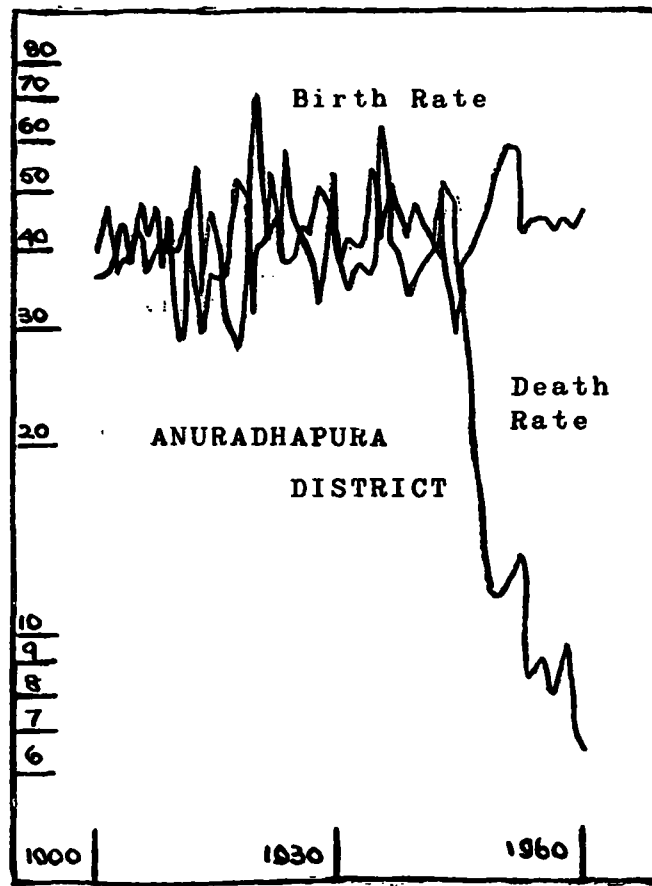
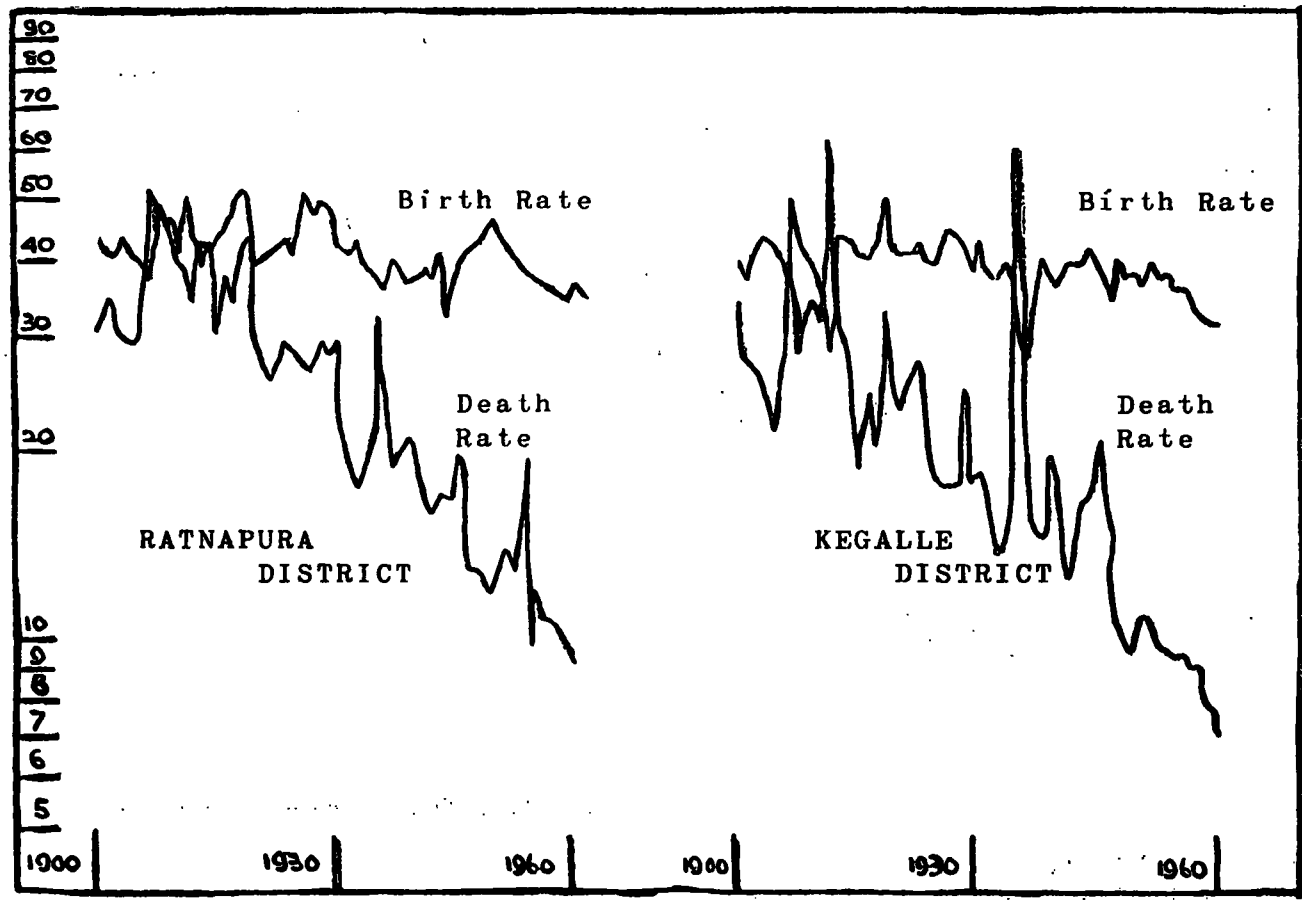
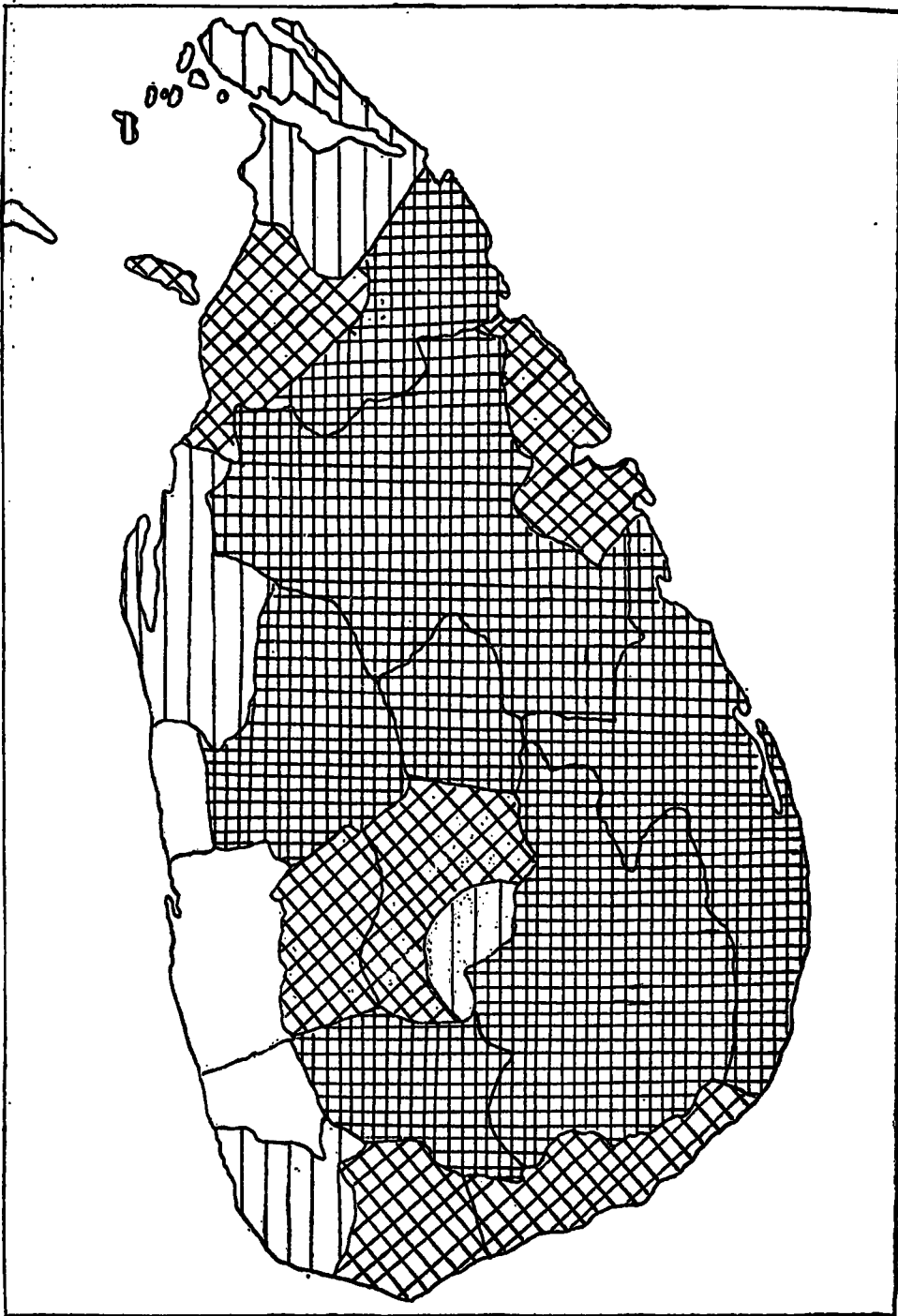


Chart 10. Birth and Death Rates. Province of Sabaragamuwa. 1900 - 1960.



Map 4. Average Annual Birth Rates 1900 - 1960



41 and under 44



35 and under 39

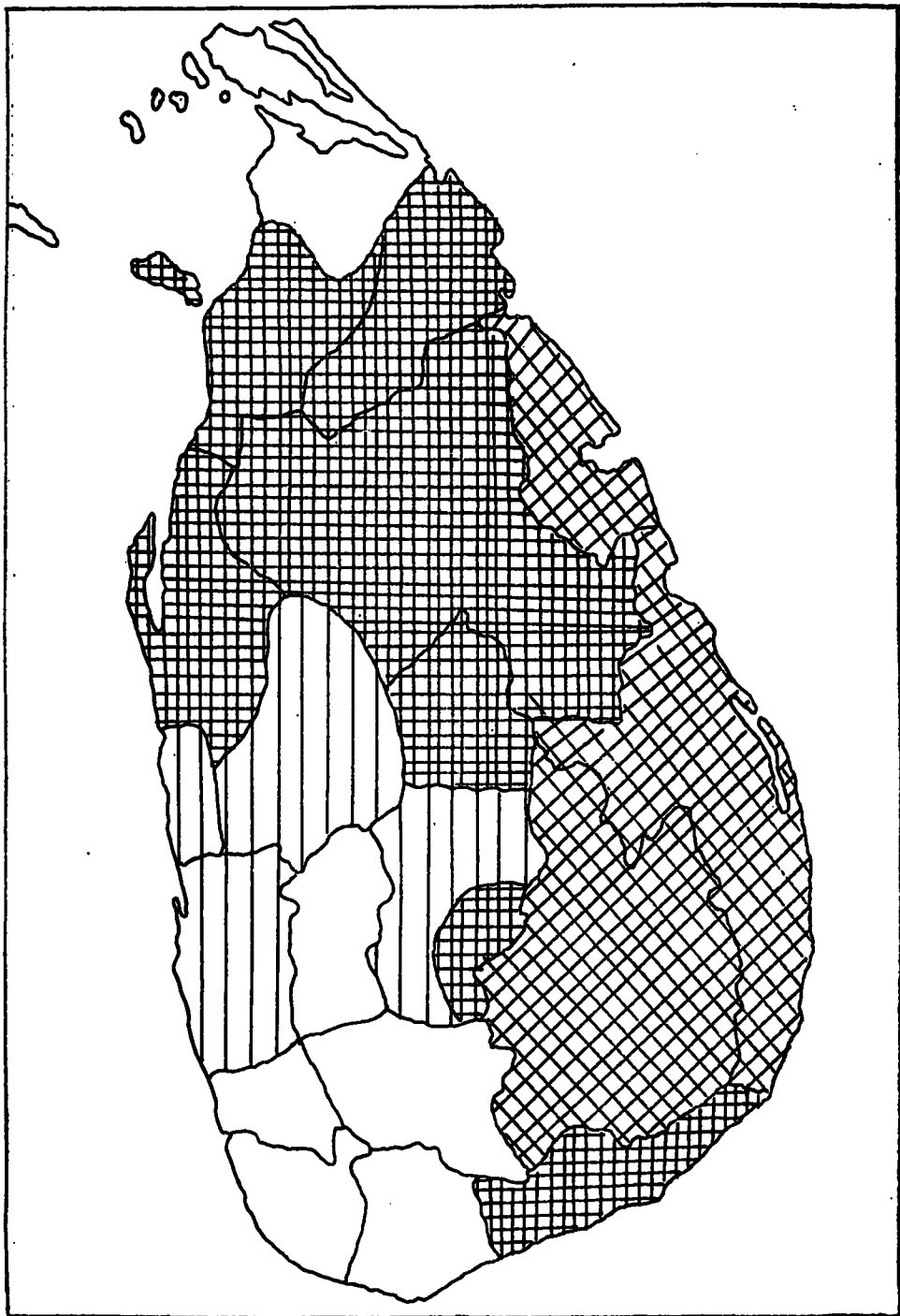


38 and under 41



32 and under 35

Map 5. Change in Birth Rates. 1900 - 1960



Increase Over 5%

Increase Under 5%



Decrease Under 5%

Decrease Over 5%

TABLE XIX

*Crude Birth Rates by Province and District 1900—1960 (Contd.)*

Year	Kegalle	Ceylon	Year	Kegalle	Ceylon	Year	Kegalle	Ceylon
1900	39.9	38.5	1920	42.1	36.4	1941	41.2	36.5
1901	37.6	37.5	1921	41.8	40.8	1942	40.3	36.7
1902	41.8	38.5	1922	43.2	39.4	1943	42.5	40.6
1903	44.2	40.0	1923	40.1	39.1	1944	39.9	37.1
1904	41.4	38.5	1924	40.2	37.3	1945	37.6	36.7
1905	43.7	38.7	1925	42.3	39.2	1946	35.4	38.4
1906	41.9	35.7	1926	45.2	41.0	1947	40.5	39.4
1907	37.4	32.8	1927	44.4	39.5	1948	37.8	40.6
1908	50.2	40.1	1928	43.0	40.0	1949	38.2	39.9
1909	43.0	36.7	1929	39.8	36.5	1950	36.0	40.4
1910	41.0	39.0	1930	44.0	39.0	1951	39.8	40.5
1911	35.2	37.9	1931	38.5	37.4	1952	37.0	39.5
1912	29.3	33.3	1932	37.7	37.0	1953	37.8	39.4
1913	45.3	38.6	1933	39.8	38.6	1954	34.6	36.2
1914	45.1	38.1	1934	38.0	37.2	1955	34.5	36.9
1915	41.4	37.0	1935	30.1	34.4	1956	33.4	36.4
1916	41.3	39.0	1936	28.0	34.1	1957	33.8	36.5
1917	44.6	40.1	1937	41.0	37.8	1958	31.9	35.8
1918	50.2	39.2	1938	37.8	35.9	1959	32.5	37.0
1919	41.9	34.2	1939	36.1	36.0	1960	32.4	36.6
			1940	35.3	35.8			

TABLE XX

*Crude Birth Rates in Selected Countries.*

Country	Rate	Country	Rate	Country	Rate
Canada	27.4	Mexico	43.9	United States	24.5
Bahama Islands	32.7	Barbados	33.6	British Honduras	42.1
Trinidad and Tobago	34.5	British Guiana	44.3	Ceylon	39.6
Formosa	46.6	Israel	31.6	Cyprus	26.8
Malaya	44.4	Singapore	47.5	Austria	14.8
Belgium	16.8	Denmark	17.8	Finland	23.1
France	19.2	Ireland	21.8	Italy	17.6
Netherlands	22.4	Norway	18.7	Portugal	24.7
Spain	20.8	Sweden	15.5	Switzerland	17.4
United Kingdom	15.4	Yugoslavia	29.7	Australia	23.3
Fiji Islands	40.7	Hawaii	29.9	Pacific Islands	29.0

Source : UN Demographic Yearbook.

## PART VI

## Primary Determinants of Fertility

Births and Birth Rates are primarily determined in demographic terms by such factors as the number of persons in the reproductive ages, their age and sex distribution, the proportion married, the duration of marriage and the number of persons previously born. Consequently, analysis of births by age of mother, the duration of marriage and order of birth reveal useful information. Unfortunately, in Ceylon, as in most other countries, all

TABLE XXI

## Crude Death Rates by Province and District 1900—1960

Year	W. P.	Colombo	Kalutara	C. P.	Kandy	Matale	N'Elitiya	N. P.	Jaffna	Mannar	Vavuniya	S. P.	Galle
1900	23.6	23.1	24.2	29.9	32.1	37.3	19.9	26.0	24.2	40.4	38.2	27.0	27.2
1901	22.6	22.9	25.2	30.1	32.5	36.2	20.4	26.1	23.5	47.7	42.7	26.2	27.6
1902	22.9	23.5	23.8	29.4	29.8	37.5	23.5	27.0	25.7	35.9	40.2	25.4	26.2
1903	22.1	23.0	22.9	25.1	25.4	30.0	21.3	35.2	32.8	37.8	46.8	24.1	25.4
1904	20.3	21.2	20.5	23.5	24.0	29.2	18.8	36.4	35.9	42.0	39.5	23.2	22.6
1905	23.9	25.6	23.0	26.3	26.2	32.8	22.3	26.8	24.0	48.3	50.7	25.5	24.0
1906	29.3	30.3	28.4	37.0	36.1	57.8	27.9	29.1	27.2	45.7	42.5	33.6	26.5
1907	24.3	24.8	27.5	28.0	27.1	33.1	27.0	33.1	30.5	50.8	60.8	37.5	31.0
1908	25.0	27.1	25.4	32.1	30.3	48.8	26.4	27.9	25.1	44.4	46.1	31.2	27.4
1909	25.2	26.7	26.9	33.0	32.1	45.7	27.6	26.3	24.6	40.1	41.2	30.2	26.9
1910	22.4	21.7	22.7	26.8	27.3	30.7	22.5	25.2	24.2	35.0	29.2	26.8	25.9
1911	28.6	28.9	25.3	35.4	34.5	49.1	28.3	24.7	23.0	37.0	38.6	33.2	26.2
1912	24.6	24.5	25.7	31.3	30.9	41.2	25.6	35.6	33.0	51.1	64.4	35.7	27.4
1913	22.8	22.6	25.4	30.8	29.9	38.6	28.0	31.1	29.9	45.6	34.5	28.7	28.5
1914	23.2	23.0	25.9	35.2	33.0	48.4	32.6	36.4	35.3	45.0	44.5	31.7	27.9
1915	20.7	21.4	21.5	27.5	26.5	33.0	26.4	33.3	32.4	45.1	33.2	24.3	23.2
1916	23.1	23.6	24.0	32.2	31.1	39.5	30.5	29.1	27.5	46.9	34.6	26.7	24.2
1917	22.1	22.0	24.4	30.0	29.7	33.5	28.2	27.3	25.8	47.8	28.9	25.0	25.1
1918	25.9	25.6	29.7	43.4	40.3	56.7	42.9	36.5	33.3	72.5	48.1	29.7	27.4
1919	27.8	28.0	28.1	39.1	39.5	48.7	37.9	31.1	28.1	59.9	52.7	53.8	28.6
1920	23.6	24.1	23.8	33.0	33.4	33.8	31.2	37.8	36.7	47.0	43.6	32.6	32.2
1921	24.2	25.1	22.1	34.3	34.4	40.7	29.4	34.7	32.9	49.4	46.5	31.2	27.8
1922	23.0	24.0	20.5	27.5	26.6	32.0	26.5	29.0	27.8	40.4	36.3	26.9	22.9
1923	25.0	26.6	21.8	32.0	30.4	42.3	29.3	29.7	27.2	44.3	55.6	28.8	25.3
1924	19.9	20.8	19.6	30.2	28.8	28.8	34.9	28.6	25.9	50.5	50.7	26.1	22.7
1925	20.3	21.4	19.3	28.1	26.9	30.9	29.1	27.3	25.9	41.4	34.9	23.6	22.6
1926	19.8	20.8	19.1	29.3	28.3	33.9	28.2	28.6	27.6	36.1	39.6	25.2	22.0
1927	18.9	20.1	18.0	26.9	26.4	28.1	27.2	26.1	24.1	49.0	33.8	21.1	20.6
1928	21.3	22.6	18.4	28.2	28.4	34.4	27.9	23.8	22.6	37.6	29.1	21.7	21.7
1929	21.1	22.0	20.6	24.9	23.6	32.9	23.7	32.1	30.6	47.4	39.1	27.1	24.0
1930	21.3	22.0	21.7	23.5	22.4	34.4	20.1	28.7	27.3	41.8	38.8	28.2	22.7

TABLE XXI

Crude Death Rates by Province and District 1900 - 1960 - (Contd.)

Year	W.P.	Colombo	Kalutara	C.P.	Kandy	Matale	N'Eliya	N. P.	Jaffna	Mannar	Vavuniya	S. P.	Galle
1931	19.0	19.7	18.2	21.4	21.0	24.8	20.4	25.5	24.4	33.6	36.0	21.8	20.1
1932	16.8	18.0	14.9	20.0	19.9	22.9	18.7	27.2	25.4	42.7	39.6	19.6	18.1
1933	18.8	20.3	16.9	19.4	18.7	23.1	19.2	27.7	27.0	32.5	35.2	22.4	19.8
1934	19.9	21.0	18.8	22.4	21.0	28.0	20.6	25.2	24.4	32.2	32.3	23.9	21.2
1935	24.7	28.2	18.8	43.1	46.0	63.9	25.3	26.0	24.0	39.0	49.3	25.3	21.2
1936	17.3	19.0	14.7	19.6	18.5	27.6	18.6	27.2	25.1	43.2	48.7	23.2	19.2
1937	18.6	20.1	17.1	18.7	17.7	24.4	18.3	25.3	23.7	41.7	37.1	25.0	21.0
1938	17.8	18.9	16.6	17.4	16.0	25.1	17.0	24.5	23.3	35.4	35.3	25.8	20.7
1939	17.8	19.0	14.8	19.1	18.0	27.7	17.4	22.6	21.9	28.0	30.1	25.4	19.5
1940	17.5	18.6	15.4	16.9	16.4	21.1	16.8	23.0	22.6	30.8	34.3	26.1	20.7
1941	16.2	17.4	15.2	14.7	14.3	19.2	13.5	25.1	23.7	36.5	40.8	23.8	21.4
1942	16.4	16.9	16.2	15.5	14.9	23.3	13.1	23.9	22.6	31.2	40.9	21.4	19.6
1943	18.5	19.8	15.6	17.8	17.2	26.9	14.3	28.3	26.7	29.6	50.1	22.6	20.2
1944	20.6	22.6	18.5	18.1	17.8	25.4	15.3	24.9	23.3	37.1	44.8	21.8	19.6
1945	19.6	20.8	16.5	21.5	20.9	28.6	19.0	23.6	22.4	31.3	35.1	19.5	19.0
1946	17.3	18.5	14.7	19.7	18.9	28.6	16.2	18.5	17.0	32.1	26.3	21.2	17.4
1947	13.8	14.9	12.6	14.4	14.2	17.2	13.6	15.7	15.3	17.8	19.9	13.9	14.2
1948	13.6	14.3	11.4	14.5	14.0	15.0	15.8	12.8	12.5	15.3	15.8	12.5	13.2
1949	13.1	14.4	11.3	13.1	12.9	13.1	13.8	12.7	12.7	12.7	12.2	12.4	13.1
1950	13.0	14.2	10.9	13.7	13.9	13.6	13.3	12.6	12.5	13.6	14.5	12.4	13.1
1951	13.0	14.2	10.8	14.2	14.0	14.6	14.6	12.1	11.9	13.6	12.3	13.3	14.6
1952	11.4	12.3	9.6	13.1	12.7	14.4	13.2	12.4	12.3	14.1	12.3	11.0	11.7
1953	10.4	11.2	8.7	12.7	12.6	13.5	12.4	11.6	11.7	11.8	10.1	10.3	10.8
1954	10.4	11.1	9.1	11.5	11.6	11.6	10.9	10.9	11.2	10.1	8.7	10.2	11.0
1955	10.5	11.2	9.8	12.7	12.2	12.3	14.3	10.4	10.4	10.2	11.0	10.4	11.4
1956	99.5	10.2	8.4	11.5	11.4	11.7	11.8	10.2	10.3	9.2	10.5	8.7	9.8
1957	10.3	11.0	9.0	11.5	11.4	11.1	11.9	10.0	10.0	10.3	9.3	9.6	10.7
1958	9.2	9.8	8.1	10.8	10.8	11.2	10.9	10.2	10.1	10.7	10.5	8.9	9.4
1959	8.9	9.4	8.0	10.4	10.4	9.7	10.9	10.1	10.0	11.0	10.3	8.1	8.8
1960	8.2	8.6	7.6	10.3	10.3	9.8	10.7	9.5	9.5	10.5	9.1	7.2	7.3

TABLE XXI

*Crude Death Rates by Province and District 1900 - 1960. (Contd.)*

Year	Matara	H'tota	E. P.	B'caloa	T'malie	N.W. P.	K'gala	Puttalam	Chilaw	N. C. P.	A'pura	Uva	Badulla
1900	27.4	26.0	30.9	30.6	32.6	32.8	36.0	33.0	17.9	36.8	36.8	35.5	35.5
1901	25.1	25.1	32.0	32.2	31.0	25.7	26.8	34.0	18.3	38.3	38.3	40.6	40.6
1902	23.7	27.0	30.2	29.7	32.4	30.5	32.7	39.3	19.8	42.7	42.7	36.3	36.3
1903	22.5	24.1	27.7	27.3	30.2	24.7	25.5	36.3	17.5	44.9	44.9	33.9	33.9
1904	23.0	25.1	29.9	29.4	32.3	34.3	25.5	34.4	16.7	37.5	37.5	33.9	33.9
1905	23.5	33.1	46.7	49.0	34.6	35.0	36.8	49.0	23.5	48.3	48.3	36.4	36.4
1906	34.1	50.4	31.9	33.4	28.6	47.5	53.9	45.1	27.1	43.9	43.9	45.8	45.8
1907	33.0	63.3	36.1	35.8	37.7	33.1	35.8	43.5	20.6	47.8	47.8	39.1	39.1
1908	29.2	45.2	28.0	26.1	38.1	33.8	37.4	39.9	19.7	38.2	38.2	42.3	42.3
1909	27.7	44.7	35.2	35.6	32.9	39.0	44.6	39.2	21.7	44.5	44.5	41.0	41.0
1910	24.0	34.7	28.6	28.4	29.8	27.7	29.5	26.6	21.4	28.8	28.8	34.9	34.9
1911	32.1	53.9	29.9	29.7	31.4	39.4	43.0	32.5	29.8	33.0	33.0	37.1	37.1
1912	34.8	60.5	32.9	30.9	43.6	35.7	38.4	33.1	27.7	54.5	54.5	37.4	37.4
1913	24.1	39.4	31.0	30.6	33.3	28.8	21.5	29.2	19.4	34.6	34.6	41.3	41.3
1914	32.7	40.0	39.5	38.6	44.4	39.5	45.0	37.6	21.9	47.2	47.2	46.6	46.6
1915	22.9	30.5	31.0	30.1	36.3	28.3	30.2	34.4	19.4	40.5	40.5	33.9	33.9
1916	23.9	40.0	28.5	28.6	27.6	30.5	33.9	30.6	19.3	30.8	30.8	36.3	36.3
1917	23.4	28.3	34.8	35.5	31.1	24.4	26.2	26.8	17.6	27.6	27.6	35.0	35.0
1918	26.7	43.3	33.2	31.4	42.7	32.7	36.3	35.1	19.9	39.6	39.6	51.6	51.6
1919	33.8	49.4	51.3	54.1	36.4	65.3	75.4	54.4	37.3	72.9	72.9	53.6	53.6
1920	33.1	32.7	31.5	32.8	25.7	26.0	26.0	41.4	20.3	41.2	41.2	40.5	40.5
1921	25.3	52.1	36.3	34.4	45.2	36.6	39.3	43.4	24.9	54.6	54.6	38.5	38.5
1922	23.9	43.6	35.5	36.0	33.2	33.3	35.4	41.0	23.4	29.5	29.5	34.7	34.7
1923	26.9	42.2	40.4	37.3	55.3	38.0	41.0	47.4	24.7	58.5	58.5	39.6	39.6
1924	26.4	34.2	43.0	44.4	36.2	24.8	25.1	39.6	18.8	46.7	46.7	37.0	37.0
1925	22.1	29.7	31.7	31.3	33.5	24.1	24.7	37.0	17.9	42.7	42.7	34.5	34.5
1926	23.0	38.4	31.8	30.8	36.7	31.4	33.6	47.0	19.2	41.4	41.4	35.2	35.2
1927	19.1	27.0	28.3	27.8	30.6	22.1	22.3	35.9	17.1	32.9	32.9	32.3	32.3
1928	18.8	28.2	30.2	30.4	30.6	36.1	39.4	40.1	23.9	37.2	37.2	37.8	37.8
1929	23.6	43.6	35.7	35.6	36.4	28.2	29.5	29.0	20.4	53.6	53.6	30.7	30.7
1930	25.4	50.5	33.5	34.6	28.4	28.7	30.6	35.8	19.8	39.5	39.5	26.1	26.1

TABLE XXI

Crude Death Rates by Province and District 1900 - 1960. (Contd.)

Year	Matara	H'tota	E. P.	B'caloa	T'malie	N.W. P.	K'gala	Puttalam	Chilav	N. C. P.	A'pura	Uva	Badulla
1931	20.4	30.2	28.6	27.9	31.7	26.0	27.3	31.9	17.4	35.2	35.2	24.3	24.3
1932	17.4	29.2	31.5	32.3	28.1	23.0	23.6	35.2	16.9	38.6	38.6	25.3	25.3
1933	20.8	33.7	27.6	27.5	28.3	23.6	25.2	30.2	15.9	36.9	36.9	21.6	21.6
1934	22.4	35.3	29.1	30.3	23.5	37.0	29.1	33.7	17.6	37.9	37.9	23.7	23.7
1935	25.0	49.1	34.3	32.9	40.8	63.9	73.8	33.7	34.7	64.0	64.0	32.3	32.3
1936	21.8	39.9	42.6	41.9	41.9	24.4	25.8	34.0	16.9	44.1	44.1	24.4	24.4
1937	21.7	45.3	34.1	34.3	32.8	26.1	27.1	39.1	19.2	40.8	40.8	21.8	21.8
1938	22.9	48.8	30.3	30.0	31.4	25.4	26.3	39.2	18.5	37.0	37.0	21.2	21.2
1939	27.1	40.2	27.6	27.8	26.9	28.6	30.9	34.0	19.4	34.7	34.7	23.5	23.5
1940	26.5	42.6	30.6	30.7	30.3	23.7	25.4	31.8	15.8	38.1	38.1	20.8	20.8
1941	19.9	41.7	28.4	27.3	33.6	19.3	19.7	33.6	14.2	40.3	40.3	19.0	19.0
1942	17.9	36.5	27.6	26.9	30.5	29.6	29.4	42.8	15.5	40.9	40.9	18.8	18.8
1943	18.3	41.5	35.3	33.7	42.8	26.4	45.6	44.0	18.2	51.6	51.6	19.7	19.7
1944	17.6	39.8	32.1	30.1	41.2	24.7	24.0	45.1	18.8	48.7	48.7	19.4	19.4
1945	16.8	27.1	25.5	26.1	24.0	30.3	32.3	35.6	21.4	32.3	32.3	21.7	21.7
1946	17.7	41.3	29.5	30.9	25.5	28.7	32.0	24.7	18.6	27.2	27.2	17.7	17.7
1947	11.5	18.4	17.8	18.2	16.6	15.5	16.2	19.7	11.7	19.5	19.5	13.9	13.6
1948	11.1	13.6	16.0	17.2	12.6	12.2	12.8	12.5	10.1	14.1	14.1	15.1	15.1
1949	11.3	12.7	14.4	16.1	10.3	10.3	10.6	11.9	9.0	12.1	12.1	13.7	13.7
1950	11.6	11.9	14.4	16.4	9.4	10.4	10.5	12.7	9.1	12.1	12.1	13.0	13.0
1951	12.5	11.5	12.8	14.7	8.5	10.7	11.1	11.2	9.0	12.6	12.6	13.7	13.7
1952	10.0	11.6	14.6	16.9	9.2	11.3	11.4	13.2	10.4	13.4	13.4	13.9	13.9
1953	9.6	10.4	12.6	13.1	11.0	9.9	10.3	9.9	8.6	9.7	9.7	11.4	11.4
1954	9.6	9.2	11.3	11.9	9.2	8.6	8.8	9.3	7.8	8.6	8.6	11.0	11.0
1955	9.5	9.8	11.4	11.9	9.8	9.4	9.2	11.6	9.2	9.1	9.1	11.4	11.4
1956	7.9	7.9	11.6	12.4	9.0	8.3	8.3	9.5	7.8	8.3	8.3	10.3	10.3
1957	8.8	8.8	10.9	11.4	9.2	8.5	8.4	10.3	7.9	8.2	8.2	10.4	10.4
1958	8.2	9.1	11.9	12.3	10.6	8.9	8.8	10.8	8.2	9.8	9.8	10.0	10.0
1959	7.8	7.0	11.3	11.8	9.8	7.7	7.7	9.2	7.3	7.3	7.3	10.0	10.0
1960	7.5	6.6	10.9	11.3	9.6	7.0	7.0	8.0	6.6	6.6	6.6	9.1	9.1

the statistical data necessary for such analyses are not available. Birth statistics by age of mother have been published only since 1952. Birth statistics by duration of marriage and order of birth are not being published.

TABLE XXI  
Crude Death Rates by Districts 1900—1960. (Contd.)

Year	Sab.	R'pura	K'galle	Year	Sab.	R'pura	K'galle	Year	Sab.	R'pura	K'galle
1900	33.3	31.3	34.8	1920	25.9	29.9	22.8	1940	17.4	20.1	15.0
1901	30.9	35.6	27.7	1921	26.3	27.3	25.5	1941	14.8	17.2	12.7
1902	28.7	30.7	27.2	1922	26.9	25.9	27.7	1942	14.5	15.6	13.5
1903	26.7	29.8	24.5	1923	27.2	30.4	24.7	1943	16.8	17.0	16.9
1904	25.3	30.0	22.0	1924	23.0	28.6	18.8	1944	16.9	16.9	16.9
1905	29.7	34.3	26.5	1925	22.3	28.4	17.8	1945	20.4	19.5	21.2
1906	45.0	52.4	40.1	1926	22.0	27.2	18.2	1946	17.7	18.4	17.2
1907	34.8	43.7	28.9	1927	22.0	27.5	17.9	1947	12.1	13.1	11.2
1908	38.0	45.7	33.0	1928	27.2	29.7	25.4	1948	11.4	12.6	10.5
1909	39.9	47.1	35.2	1929	22.8	28.3	18.3	1949	11.1	12.2	10.1
1910	36.3	40.4	33.5	1930	24.1	29.7	19.4	1950	11.6	12.7	10.7
1911	59.0	51.3	64.3	1931	19.3	20.6	18.2	1951	12.6	14.4	11.0
1912	40.2	43.2	38.1	1932	15.8	17.7	14.2	1952	11.3	12.6	10.1
1913	33.3	38.8	29.5	1933	16.7	18.3	15.4	1953	10.2	19.7	9.8
1914	34.1	42.5	28.3	1934	19.4	21.3	17.9	1954	9.9	10.2	9.6
1915	24.0	30.8	19.3	1935	48.2	33.2	61.3	1955	10.8	12.1	9.7
1916	30.1	38.2	24.6	1936	17.3	19.1	15.8	1956	10.0	10.9	9.2
1917	25.8	33.8	20.4	1937	16.9	19.2	14.9	1957	10.2	11.2	9.3
1918	36.9	42.2	33.3	1938	17.4	19.8	15.3	1958	9.3	10.6	8.1
1919	33.1	44.0	25.9	1939	20.3	20.5	20.0	1959	9.0	10.1	8.0
								1960	8.3	9.4	7.3

Source : Reports of the Registrar General of Ceylon.

Table 22 shows the Age Specific Fertility Rates and the Total Fertility Rates for the different districts during the periods 1952—1960. The Age Specific Fertility Rates represent the number of the live births per 1000 women in each age group. As the number of births to women under 15 years of age and over 45 years are negligible these rates have been ignored. Most frequently, the most fertile age group was the "25 years and under 30" group. In the Nuwara Eliya, Batticaloa, Puttalam and Badulla Districts, however, the most fertile group was the "20 years and under 25" group, while in the Galle District it was the "30 years and under 35" group. The next most fertile groups were the "20 years and under 30" and "30 years and under 35" age groups, except in the Galle and Matara Districts where the older age groups appear to be more fertile. In these districts the "35 years and under 40" was more fertile than the "20 years and under 25" group and the "40 years and under 45" more fertile than the "15 years and under 20". Generally, the least fertile group was the "40 years and under 45" group.

The general pattern may be said to be, in order of decreasing fertility, "25 years and under 30", "20 years and under 25", "30 years and under 35", "35 years and under 40", "15 years and under 20", "40 years and under 45". This pattern is more or less common to all the districts and has, generally speaking, remained unchanged throughout the period

under consideration. Deviations from this pattern are not worthy of note except perhaps for the tendency to greater fertility in the older age groups in the Galle and Matara Districts and greater fertility in the Vavuniya, Batticaloa, Trincomalee and Anuradhapura Districts.

A noteworthy feature of these age specific fertility rates, is that the rates in each age group vary from district to district. Thus, in the "15 and under 20" age group, the rate was an average of 19 in the Galle District and 229 in the Vavuniya District. Generally, when the rates are high in one age group, they tend to be high in all age groups in that district but there is no uniformity in the magnitude.

TABLE XXII

*Age Specific Birth Rates 1952—1960*

		<i>15 and under 20 yrs.</i>	<i>20 and under 25 yrs.</i>	<i>25 and under 30 yrs.</i>	<i>30 and under 35 yrs.</i>	<i>35 and under 40 yrs.</i>	<i>40 and under 45 yrs.</i>	<i>No. Childrer born per woman by age 45</i>
Ceylon	1952	64.6	253.3	297.8	231.1	141.3	37.3	5.13
	1953	59.8	249.1	298.5	230.5	142.7	35.6	5.08
	1954	58.1	227.2	272.1	211.5	131.4	33.6	4.67
	1955	63.8	231.3	282.3	224.8	103.0	38.2	4.72
	1956	70.4	230.5	273.4	233.4	142.9	40.7	4.96
	1957	69.3	226.6	269.7	239.8	147.6	41.5	4.97
	1958	67.5	220.1	261.6	241.3	144.4	41.7	4.88
	1959	68.5	225.8	271.2	251.6	153.5	42.6	5.07
	1960	67.5	227.3	261.8	257.5	154.7	43.9	5.07
	Western Province	1952	33.9	195.1	263.4	213.2	124.3	32.1
1953		31.5	206.1	291.5	234.1	140.7	34.0	4.67
1954		28.8	172.0	247.5	204.8	118.7	31.0	4.01
1955		33.4	173.0	249.3	213.7	122.1	33.8	4.13
1956		40.0	191.1	241.5	215.9	129.0	37.3	4.27
1957		43.3	194.5	253.3	233.8	139.6	38.7	4.52
1958		39.9	179.4	223.8	214.0	122.7	33.6	4.07
1959		44.9	198.7	248.1	238.1	136.9	37.3	4.52
1960		45.1	194.6	229.1	237.6	135.7	36.7	4.39
Colombo		1952	38.5	206.0	274.1	216.5	122.9	31.8
	1953	35.6	206.1	291.5	234.5	140.7	34.0	4.71
	1954	32.2	178.5	258.7	210.4	117.8	28.4	4.13
	1955	36.3	183.7	264.1	221.7	123.8	32.6	4.31
	1956	43.6	200.6	248.5	217.1	127.8	35.5	4.73
	1957	43.2	204.5	262.1	240.5	141.4	37.3	4.65
	1958	44.4	186.8	228.4	215.8	119.7	31.5	4.13
	1959	51.2	211.7	257.8	246.5	137.8	36.2	4.75
	1960	51.4	206.7	238.7	246.6	136.5	35.3	4.58
	Kalutara	1952	20.4	161.8	230.3	203.0	128.7	33.0
1953		19.7	134.8	262.5	221.7	146.0	38.3	4.37
1954		18.7	152.0	212.9	188.0	121.4	38.2	3.66
1955		24.9	140.1	203.7	189.1	117.0	37.3	3.56
1956		29.3	161.2	218.4	212.1	133.1	42.8	3.98
1957		29.1	162.9	224.3	212.4	138.8	42.8	4.03
1958		26.8	156.2	208.5	208.1	132.8	40.0	3.86
1959		26.3	157.7	215.5	211.3	134.2	40.8	3.93
1960		26.8	156.8	156.9	208.8	133.0	39.2	3.60

TABLE XXII

*Age Specific Birth Rates 1952—1960. (Contd.).*

Central Province	1952	90.1	281.2	292.7	232.4	149.1	43.3	5.44
	1953	78.2	265.2	278.5	208.4	142.9	33.3	5.03
	1954	74.1	251.6	264.6	202.4	135.6	33.9	4.81
	1955	84.2	257.2	269.4	207.4	140.2	38.1	4.99
	1956	85.8	265.0	276.8	225.5	144.9	45.1	5.23
	1957	79.4	251.2	265.7	230.1	140.8	42.5	5.01
	1958	80.5	259.8	274.0	250.1	151.8	50.6	5.33
	1959	73.9	247.0	267.0	240.5	149.1	44.4	5.11
	1960	82.5	282.6	294.6	267.1	165.7	48.7	5.71
	Kandy	1952	78.8	273.0	294.4	231.7	148.6	45.6
1953		67.2	255.6	280.1	202.2	134.3	31.1	4.85
1954		65.7	250.4	275.4	209.6	140.7	34.4	4.88
1955		73.2	237.6	274.3	208.1	136.5	38.1	4.84
1956		75.3	251.0	270.6	233.7	146.6	41.0	5.09
1957		71.1	242.2	266.3	233.2	143.8	43.1	5.00
1958		69.7	239.4	270.2	253.7	150.9	49.8	5.17
1959		63.5	230.4	256.3	243.9	147.3	46.1	4.94
1960		70.4	254.3	275.1	264.2	158.0	47.3	5.35
Matale		1952	137.5	345.6	354.4	269.3	140.4	41.4
	1953	102.6	323.1	334.2	247.2	145.2	37.5	5.95
	1954	108.4	305.5	312.6	224.2	127.6	35.7	4.56
	1955	118.0	322.7	315.9	242.8	143.6	39.7	5.91
	1956	132.6	311.5	308.6	257.4	154.8	40.4	6.03
	1957	121.6	284.3	281.5	254.0	148.6	43.8	6.67
	1958	122.6	297.1	294.8	271.6	161.0	45.5	5.95
	1959	121.2	297.8	315.5	279.9	178.2	40.3	6.15
	1960	114.0	286.9	301.7	269.8	170.0	45.7	5.94
	Nuwara Eliya	1952	93.8	265.4	255.3	214.6	155.6	38.8
1953		91.7	357.9	244.6	204.9	164.2	36.7	5.50
1954		77.6	222.8	211.8	171.8	126.6	31.8	4.12
1955		95.2	272.5	232.0	188.4	147.2	36.7	4.86
1956		87.3	275.1	273.7	187.7	135.6	58.4	5.09
1957		77.7	255.4	254.1	209.1	229.2	40.3	4.83
1958		84.7	293.0	289.9	227.5	149.0	55.5	5.40
1959		74.1	260.7	264.8	211.7	137.4	42.3	4.96
1960		101.0	386.8	361.2	255.1	187.9	55.9	6.84
Southern Province		1952	27.3	225.3	319.0	264.7	178.0	54.1
	1953	25.3	222.8	314.8	266.3	179.3	52.7	5.30
	1954	21.8	187.6	268.6	230.3	159.8	47.1	4.58
	1955	26.2	192.0	289.9	253.3	177.6	56.6	4.98
	1956	28.9	185.8	292.1	272.0	186.4	61.4	5.07
	1957	25.4	172.9	274.8	280.5	189.3	64.6	5.04
	1958	25.5	167.4	268.6	282.4	108.1	62.5	4.93
	1959	24.8	162.3	264.0	281.5	186.2	61.3	4.93
	1960	24.3	160.9	257.6	294.4	190.2	62.6	4.95
	Galle	1952	18.3	175.1	256.7	225.6	158.2	56.3
1953		17.1	171.5	257.4	249.7	155.5	52.0	4.62
1954		14.8	145.8	221.0	204.7	144.8	48.4	3.90
1955		20.1	145.3	226.9	219.2	147.9	56.2	4.08
1956		23.1	155.0	252.5	253.5	165.0	57.7	4.53
1957		19.9	145.8	234.2	246.3	164.2	58.3	4.34
1958		19.8	141.5	231.5	258.4	164.5	59.4	4.38
1959		18.5	134.0	216.6	235.8	156.0	54.4	4.08
1960		19.0	140.7	222.6	269.8	169.4	58.8	4.40

TABLE XXII.  
Age Specific Birth Rates 1952—1960. (Contd.)

Matara	1952	24.1	223.2	347.3	290.3	196.5	58.4	5.70
	1953	22.1	231.6	242.8	247.2	145.2	27.5	5.13
	1954	16.9	189.1	288.0	241.7	168.4	50.0	4.78
	1955	22.1	195.1	311.5	266.6	194.8	61.2	5.41
	1956	22.0	186.8	322.5	292.6	205.7	68.2	5.49
	1957	21.3	181.0	314.0	325.4	224.1	77.8	5.72
	1958	20.4	171.4	296.4	305.8	192.9	71.3	5.92
	1959	19.2	166.4	293.4	321.4	216.9	4.22	5.46
	1960	18.5	162.0	275.4	312.5	204.5	72.2	5.23
	Hambantota	1952	67.0	385.4	239.0	328.8	197.6	36.0
1953		62.4	361.3	392.6	295.6	182.8	36.2	5.65
1954		59.5	313.6	365.5	284.9	187.1	34.0	6.22
1955		58.4	329.2	426.9	330.2	231.0	49.3	7.13
1956		68.7	261.1	331.2	280.4	204.0	57.1	6.01
1957		55.9	224.4	299.5	281.9	183.3	55.3	5.49
1958		59.3	223.0	306.0	298.3	194.8	51.3	5.66
1959		61.9	222.4	320.2	320.3	201.3	52.4	5.89
1960		57.7	207.1	305.4	321.1	214.7	51.9	5.79
Northern Province		1952	67.5	230.0	282.0	202.2	111.8	28.8
	1953	64.9	222.7	263.9	193.6	107.0	25.9	5.36
	1954	65.0	200.3	235.3	169.3	96.6	22.8	3.95
	1955	72.9	218.8	261.7	204.2	110.2	26.0	4.47
	1956	76.8	227.1	250.6	216.3	121.6	29.6	4.61
	1957	77.6	230.9	247.0	208.8	118.2	24.6	4.45
	1958	79.9	232.7	265.4	230.4	125.2	29.2	4.81
	1959	87.2	241.0	275.4	243.8	145.7	34.1	5.32
	1960	78.3	231.5	245.9	225.9	235.6	32.1	4.75
	Jaffna	1952	56.0	211.9	268.7	193.5	105.2	27.6
1953		52.7	204.7	245.5	186.8	99.3	24.1	4.07
1954		52.6	180.4	216.9	160.9	99.0	21.1	3.62
1955		58.1	196.4	243.3	195.9	103.8	24.6	4.11
1956		63.9	216.3	239.9	212.0	117.4	28.3	4.39
1957		64.2	198.1	237.5	201.1	114.1	23.0	4.19
1958		64.1	215.1	251.3	218.4	119.3	26.5	4.47
1959		70.7	224.3	263.0	236.3	140.0	33.1	4.84
1960		63.0	210.5	230.4	210.7	130.2	30.4	4.38
Mannar		1952	156.1	342.3	391.2	253.7	159.5	50.5
	1953	158.5	312.1	384.1	236.5	178.1	63.4	6.61
	1954	167.2	307.9	350.4	217.7	127.2	45.0	6.06
	1955	196.4	326.5	363.5	254.8	143.8	30.4	6.58
	1956	168.8	290.9	284.4	258.1	158.5	37.6	6.00
	1957	170.7	305.7	272.4	256.5	116.6	31.1	5.77
	1958	139.4	323.4	298.5	287.5	158.4	48.5	6.48
	1959	197.6	340.5	314.9	262.7	190.8	39.6	6.73
	1960	149.0	334.7	283.0	279.8	154.3	45.4	6.23
	Vavuniya	1952	206.4	436.4	290.8	310.6	186.3	27.3
1953		213.1	457.5	450.5	272.2	174.9	29.9	8.00
1954		208.1	446.2	428.7	274.2	174.9	32.5	7.83
1955		242.1	514.1	469.9	309.8	201.5	55.2	8.96
1956		207.0	299.7	352.0	232.9	146.5	46.0	6.42
1957		214.5	320.7	342.8	269.7	185.2	58.2	6.96
1958		249.1	359.0	409.1	345.7	179.7	61.8	6.96
1959		252.5	347.0	387.0	333.3	185.2	46.5	7.76
1960		267.0	381.4	396.2	387.4	197.2	48.5	8.39

TABLE XXII  
Age Specific Birth Rates 1952—1960. (Contd.)

Eastern Province	1952	169.2	330.9	297.2	297.8	95.8	19.8	5.17
	1953	148.9	306.7	299.9	202.4	92.4	19.2	5.35
	1954	172.1	324.5	300.0	217.0	107.3	24.7	5.73
	1955	169.7	323.8	311.9	226.1	113.5	23.5	5.83
	1956	191.9	316.1	316.8	249.4	126.9	29.8	6.15
	1957	198.3	325.9	314.4	244.1	135.4	30.3	6.24
	1958	190.3	313.7	325.8	250.7	139.3	33.0	6.26
	1959	202.5	336.7	355.1	277.8	149.9	36.5	6.80
	1960	200.0	325.7	326.0	275.8	153.6	37.9	6.60
	Batticaloa	1952	162.7	305.8	287.4	200.3	98.9	20.2
1953		145.0	304.5	289.0	200.4	92.5	19.0	5.25
1954		164.2	327.6	309.1	213.6	103.6	23.0	5.71
1955		161.5	319.4	301.4	292.2	102.7	22.3	5.55
1956		185.0	315.3	308.1	243.4	120.2	29.9	6.00
1957		188.0	320.3	309.1	243.0	126.5	28.3	6.08
1958		180.3	315.5	321.9	246.0	130.3	32.0	6.13
1959		192.5	343.4	360.8	273.8	142.9	35.1	6.74
1960		193.0	330.7	329.8	271.4	150.5	35.8	6.56
Trincomalee		1952	195.0	342.3	330.6	187.9	81.8	17.7
	1953	164.4	314.2	337.2	210.1	92.2	20.0	6.02
	1954	203.3	313.4	295.3	230.1	124.0	32.5	6.00
	1955	202.4	339.2	345.2	249.5	162.5	27.5	6.63
	1956	217.5	319.0	345.1	271.1	152.8	29.6	6.73
	1957	237.0	244.9	331.7	247.9	169.8	38.7	7.35
	1958	227.5	307.6	338.4	267.7	173.6	37.3	6.76
	1959	240.0	314.1	336.5	292.6	176.7	42.3	7.01
	1960	228.0	308.9	313.8	291.9	165.7	47.0	6.78
	North Western Province	1952	78.6	310.5	330.7	229.5	133.5	28.3
1953		76.2	303.9	318.6	228.2	128.0	27.2	5.40
1954		75.0	269.1	302.5	217.1	127.6	26.0	5.09
1955		82.0	284.2	330.3	236.6	143.1	36.1	5.56
1956		98.2	247.2	283.2	226.2	123.7	27.3	5.07
1957		94.9	245.1	277.6	230.2	138.3	30.6	6.08
1958		93.4	224.6	260.2	224.7	144.9	30.2	4.89
1959		96.8	230.3	266.2	242.2	154.2	34.3	5.11
1960		87.3	224.0	245.4	242.8	147.4	36.4	4.92
Kurunegala		1952	83.2	330.5	344.0	230.1	139.3	27.7
	1953	81.1	321.5	333.7	233.2	135.0	28.3	5.66
	1954	78.0	280.8	314.0	220.2	134.3	27.0	5.27
	1955	88.4	302.8	351.5	253.0	156.2	40.7	5.96
	1956	103.9	247.7	290.0	236.3	139.4	29.5	5.23
	1957	98.2	243.5	282.6	241.6	147.8	33.3	5.24
	1958	98.0	227.5	268.4	237.2	159.3	34.0	5.12
	1959	99.9	230.3	270.8	257.6	167.7	39.1	5.32
	1960	89.7	220.6	247.2	260.5	160.9	41.6	5.10
	Puttalam	1952	163.9	403.5	374.3	282.4	154.4	39.0
1953		131.6	367.1	311.5	249.8	148.4	34.0	6.21
1954		163.8	368.4	351.0	164.0	148.9	30.4	6.63
1955		148.4	378.0	358.7	225.3	148.9	27.0	6.43
1956		158.7	327.6	303.6	206.5	121.8	23.8	5.71
1957		158.8	315.6	322.1	230.3	123.9	23.8	5.87
1958		154.3	302.2	302.7	235.6	136.0	26.9	5.79
1959		171.9	306.0	305.5	259.4	144.8	30.9	6.09
1960		168.0	333.5	274.9	224.0	120.2	21.6	5.71

TABLE XXII

*Age Specific Birth Rates 1952—1960. (Contd.).*

Chilaw	1952	41.5	217.9	271.2	210.7	107.1	26.9	4.32
	1953	45.4	227.9	268.8	204.0	96.1	21.4	4.02
	1954	42.2	202.9	248.1	191.7	98.1	21.4	4.02
	1955	43.2	196.3	248.2	183.6	96.8	23.6	3.96
	1956	57.9	217.7	249.8	196.7	112.0	21.1	4.28
	1957	61.8	227.2	214.9	188.6	108.2	23.5	4.05
	1958	56.4	185.6	213.1	174.8	94.4	18.6	3.71
	1959	60.8	203.6	233.8	180.1	107.1	18.7	4.02
	1960	54.3	199.6	227.3	183.6	105.8	23.2	3.97
	North Central Province	1952	184.5	476.0	448.2	310.5	182.0	41.9
1953		180.0	466.0	426.3	290.5	194.2	37.7	7.97
1954		203.5	498.4	465.6	307.9	202.7	41.0	8.59
1955		201.7	467.4	484.2	328.6	223.3	56.9	8.81
1956		174.4	305.4	337.1	265.1	160.5	42.3	6.42
1957		163.0	319.5	333.2	267.5	164.4	46.8	6.47
1958		137.1	304.6	326.6	298.9	167.7	56.6	6.46
1959		147.1	307.2	340.0	293.1	175.7	43.5	6.54
1960		142.0	319.5	356.6	327.8	180.9	52.2	6.90
Anuradhapura		1952	184.5	476.0	448.2	310.5	182.0	41.9
	1953	180.0	466.0	426.3	290.5	194.2	37.7	7.97
	1954	203.5	498.4	465.6	307.9	202.7	41.0	8.59
	1955	201.7	467.4	484.2	328.6	223.3	56.9	8.81
	1956	174.4	305.4	337.1	265.1	160.5	42.3	6.42
	1957	163.0	319.5	333.2	267.5	164.4	46.8	6.47
	1958	137.1	304.6	326.6	298.9	167.7	56.6	6.46
	1959	147.1	307.2	340.0	293.1	175.7	43.5	6.54
	1960	142.0	319.5	356.6	327.8	180.9	52.2	6.90
	Province of Uva	1952	107.0	349.6	311.2	243.4	175.0	47.9
1953		100.3	327.7	288.2	222.4	157.7	44.1	5.70
1954		102.7	328.7	288.0	207.0	144.1	43.6	5.57
1955		114.9	359.2	311.7	229.7	162.1	40.6	6.09
1956		94.5	309.2	331.8	247.0	142.4	44.1	6.69
1957		95.9	310.5	304.1	238.8	148.9	43.3	5.71
1958		93.2	311.1	316.7	274.8	152.5	50.3	6.00
1959		86.4	326.2	332.2	277.0	159.2	50.5	6.16
1960		86.6	307.3	318.4	279.2	143.2	52.7	5.93
Badulla		1952	107.0	349.6	311.2	243.4	175.0	47.9
	1953	100.3	327.7	288.2	222.4	157.7	44.1	5.70
	1954	102.7	328.7	288.0	207.0	144.1	43.6	5.57
	1955	114.9	359.2	311.7	229.7	162.1	40.6	6.09
	1956	94.5	309.2	331.8	247.0	142.4	44.1	6.69
	1957	95.9	310.5	304.1	238.8	148.9	43.3	5.71
	1958	93.2	311.1	316.7	274.8	152.5	50.3	6.00
	1959	86.4	326.2	332.2	277.0	159.2	50.2	6.16
	1960	86.6	307.3	318.4	279.2	143.2	52.7	3.93
	Province of Sabaragamuwa	1952	61.6	259.0	312.1	246.1	146.6	34.1
1953		56.2	244.2	311.1	238.9	142.2	36.3	5.15
1954		50.5	237.9	289.5	224.5	140.4	33.9	4.88
1955		52.9	225.2	282.4	223.6	241.7	36.5	4.81
1956		61.2	227.8	265.4	238.7	147.9	37.9	4.90
1957		59.8	223.2	263.7	237.5	154.5	40.5	4.90
1958		59.8	214.3	250.7	235.6	147.7	31.5	4.73
1959		56.3	215.6	263.9	244.1	158.3	40.2	4.89
1960		53.0	217.2	248.4	247.2	163.0	42.4	4.86

TABLE XXII

*Age Specific Birth Rates 1952—1960. (Contd.).*

Ratnapura	1952	73.4	278.7	322.7	263.0	154.7	34.9	5.64
	1953	65.3	266.0	318.8	254.9	153.5	36.7	5.48
	1954	61.6	268.2	312.1	242.5	152.1	38.7	5.38
	1955	64.9	255.8	297.1	235.9	151.7	37.0	5.21
	1956	66.9	252.9	271.7	250.5	151.4	44.3	5.19
	1957	62.6	241.9	275.3	242.7	157.8	44.4	5.21
	1958	62.3	236.9	272.0	242.7	154.0	41.1	5.06
	1959	61.6	241.0	191.1	254.4	163.1	42.7	5.30
	1960	59.2	236.1	270.5	258.3	167.8	48.3	5.20
	Kegalle	1952	52.1	242.9	303.2	231.6	139.8	33.4
1953		48.9	226.4	304.7	225.1	132.6	35.9	4.62
1954		58.1	227.2	272.1	211.2	131.4	33.6	4.67
1955		43.3	200.3	270.1	213.1	133.3	36.1	4.48
1956		55.6	205.9	259.9	228.4	144.8	32.3	4.63
1957		57.1	206.7	253.8	232.9	151.6	37.0	4.70
1958		57.5	194.4	232.4	229.3	142.2	33.5	4.45
1959		51.1	193.3	240.7	235.0	154.1	38.0	4.56
1960		47.0	200.6	229.5	237.4	158.7	37.2	4.55

Source : Reports of the Registrar General of Ceylon.

Note : Rates are births per 1,000 women in each age group.

The age specific rates are dependent to a large extent on the age of marriage. The average age of marriage for females, for general marriages in Ceylon in 1957, was 22.73. It ranged from a high of 25.19 in the Matara District to a low of 19.86 in the Vavuniya District. For Kandyan marriages, the average age was 20.75 ranging between 21.47 in the Nuwara Eliya District to 19.74 in the Vavuniya District, while for Muslim marriages, the average age was 18.3 ranging from 21.6 in the Hambantota District to 16.3 in the Batticaloa District. Where the fertility tended to be greater in the lower age groups, such as in the Puttalam, Batticaloa, Vavuniya and Trincomalee Districts, the average age at marriage tended to be much lower than in areas where fertility tended to be greater in the higher age groups. Age of marriage is also related to total fertility—the sum of the age specific fertility rates expressed as the number of children per women. There is a negative correlation ( $-0.43$ ) between the two. The lower the age of marriage, the greater the number of children born per woman.

The Gross Reproduction Rates—the sum of the age specific rates based on female births—give an indication of the number of daughters a woman would produce in her child bearing period provided she continued to the end of her period and behaved as far as reproduction was concerned as other women in her community. Statistical data, however, are inadequate to compute these rates over a long period of time—a procedure that would enable the identification of trends. Table 24 shows the Average Gross Reproduction Rates during the period 1950—1960 for the different districts. It has varied from district to district and produced the general pattern of a lower rate in the more densely populated south west section of the country and a higher rate in the more sparsely populated areas.

Births and birth rates are limited first by the biological factors that enable only women and women of a certain age group to give birth and then by the prevalent customs and mores which restrict this activity to an even smaller segment. While it is physically

possible for a fecund woman to conceive at any time between puberty and menopause, it is socially unacceptable for her to give birth if she is unmarried or at the menopausal end of the reproductive period. The extent to which the physical possibility abnegates the social impropriety depends obviously on the extant social customs, the sex taboos and their relative strengths. Whatever the cultural situation may be, the proportion of the child bearing population has an important effect on the magnitude of the birth rate. When this segment is large, the crude birth rate is higher than when it is small, other factors being equal.<sup>23</sup>

The role played by the group becomes evident on consideration of the General Fertility Rates—the number of females born in a particular year per 1000 women of child bearing age. Table 25 shows these rates for the different districts in Ceylon for census years during the period 1900—1960. The rate has been calculated on the basis of the annual average number of births for a nine year period centred at the census year and the female population of child bearing age, which in Ceylon happens to be the 15—45 years, as enumerated in the census.

TABLE XXIII

*Average Age at Marriage 1953*

<i>District</i>	<i>General Marriages</i>	<i>Kandyan Marriages</i>	<i>Muslim Marriages</i>	<i>All Marriages</i>
Western Province	23.14	—	20.0	22.88
Colombo	22.84	—	20.2	22.06
Kalutara	23.99	—	19.8	23.68
Central Province	21.87	21.04	18.5	21.27
Kandy	22.40	21.02	19.2	21.55
Matale	21.40	20.73	17.9	20.81
Nuwara Eliya	20.75	21.47	19.5	20.19
Southern Province	24.34	—	20.6	24.21
Galle	24.37	—	19.4	24.21
Matara	25.19	—	21.3	25.06
Hambantota	22.06	—	21.6	22.35
Northern Province	21.12	19.74	18.4	20.93
Jaffna	21.20	—	17.0	21.11
Mannar	20.78	—	19.3	20.12
Vavuniya	19.86	19.74	16.9	19.50
Eastern Province	21.15	20.43	16.2	18.35
Batticaloa	20.79	20.33	16.3	18.05
Trincomalie	21.80	21.20	15.9	19.42
North Western Province	21.53	20.17	18.4	20.87
Kurunegala	21.79	20.17	18.0	21.54
Puttalam	21.24	20.26	19.0	20.38
Chilaw	21.06	—	18.8	20.97
North Central Province	22.15	21.03	17.1	21.18
Anuradhapura	22.15	21.03	17.1	21.18
Province of Uva	21.79	21.13	18.3	21.43
Badulla	21.79	21.13	18.3	21.43
Province of Sabaragamuwa	22.56	20.65	18.4	21.80
Ratnapura	23.12	20.57	19.0	22.34
Kegalle	22.07	20.70	18.3	21.39

Source : Registrar General's Report.

<sup>23</sup> United Nations: *Recent Trends in Fertility in Industrialised Countries*. New York, 1958.

TABLE XXIV

*Average Annual Gross Reproduction Rates 1950—1960*

<i>District</i>	<i>Rate</i>	<i>District</i>	<i>Rate</i>
Colombo	2.3	Batticaloa	3.3
Kalutara	1.8	Trincomalee	3.3
Kandy	2.6	Kurunegala	2.5
Matale	3.0	Purtalam	2.9
Nuwara Eliya	3.4	Chilaw	2.0
Galle	2.2	Anuradhapura	3.4
Matara	2.6	Badulla	3.0
Hambantota	2.8	Ratnapura	2.6
Jaffna	2.2	Kegalle	2.2
Mannar	3.1		
Vavuniya	4.1		

Source : Administration Reports of the Registrar General.

The General Fertility Rate for Ceylon, like the Crude Birth Rate, remained more or less constant during the period, but, unlike the Crude Birth Rate, showed a slight tendency to increase, suggesting that the proportion of the 15—45 years old females in the general population tended to decrease. In the different districts, too, the General Fertility Rate follows the same general pattern of the Crude Birth Rate. Where the Crude Birth Rate showed an increase, the General Fertility Rate, too, showed an increase and where the Crude Birth Rate decreased, the General Fertility, too, decreased. But the increase in the General Fertility Rate was much greater than the increase in the Crude Birth Rate and the decrease in the former much smaller than the decrease in the latter, lending support to the observation that the relative size of the child bearing population was becoming smaller.

Increase in the Crude Birth Rates and in the General Fertility Rates could result in an increase in family size. Table 26 shows the children ever born by age of mother as revealed in the 1946 Census. More than four children were borne, to a somewhat higher proportion of mothers, reaching their 45th year in 1925 (66.3%) than mothers who reached their 45th year in 1945 (61.5%). Thus the proportion of mothers having fewer than four children has increased. The trend, consequently, appears to be towards fewer children and smaller families, which is seemingly inconsistent with an increasing or even constant fertility. A possible explanation is that total births are increased by a larger segment of the population producing children. Table 27 shows the proportion of women 15 years and over who were married during the census years.<sup>24</sup> This proportion has increased since the turn of the century except in the Kandy, Nuwara Eliya and Batticaloa Districts. In the former two districts, the proportion has remained more or less the same while in the latter, the proportion has decreased. There is a weak positive correlation (+0.23) between the changes in the proportion married and the changes in the Crude Birth Rate and a strong positive correlation (+0.76) between these changes and the change in the General Fertility Rate.

24. Since 1946, censuses have enumerated persons married (registered) and married (by custom). Before that date, this differentiation did not exist. It may be that the latter group was not enumerative in the earlier census but their numbers are very small. It is possible that at the beginning of the century, the group was larger than at midcentury.

TABLE XXV

## General Fertility Rate

District	1901	1911	1921	1946	1953
Ceylon	171.46	172.88	179.30	180.20	185.70
Western Province	156.31	165.01	162.40	153.47	175.04
Colombo	152.14	160.25	159.10	153.39	185.55
Kalutara	166.77	178.80	171.70	153.78	145.89
Central Province	139.42	173.34	194.40	201.30	194.90
Kandy	145.35	180.10	197.13	195.85	192.20
Matale	181.68	173.31	192.55	217.39	225.93
Nuwara Eliya	101.31	151.07	189.32	207.06	184.02
Southern Province	191.25	193.30	186.22	176.57	180.59
Galle	182.03	187.38	177.73	164.18	155.44
Matara	205.16	206.47	197.44	181.81	189.48
Hambantota	189.49	187.46	187.02	204.08	235.24
Northern Province	103.30	154.86	156.84	157.60	169.75
Jaffna	182.82	153.04	154.91	152.88	160.31
Mannar	178.95	169.50	170.26	191.78	220.71
Vavuniya	201.73	173.00	179.64	214.36	265.44
Eastern Province	202.07	180.27	189.10	182.96	216.03
Batticaloa	200.71	182.67	193.03	183.07	211.50
Trincomalee	205.64	163.10	175.83	182.56	232.45
North Western Province	185.38	170.81	181.07	190.13	204.77
Kurunegala	193.07	175.22	186.09	197.65	212.46
Puttalam	163.60	128.75	150.21	198.66	233.58
Chilaw	166.48	174.66	170.68	162.10	167.14
North Central Province	212.24	164.60	178.38	204.11	214.91
Anuradhapura	212.24	164.60	178.38	204.11	214.91
Province of Uva	182.48	175.72	192.31	211.44	209.14
Badulla	182.48	175.72	192.31	211.44	109.14
Province of Sabaragamuwa	185.77	181.89	205.12	195.41	192.08
Ratnapura	202.12	191.34	210.43	227.89	201.98
Kegalle	174.18	175.79	201.10	185.02	283.24

Source : Administration Reports of the Registrar General.

The years 1911, 1921, 1946 and 1953 were chosen because they were Census years.

The births on which the rate was calculated was the average of a nine year period centered at the year concerned. The population was the female age group 15 to 45 as enumerated at the Census held that year.

Though the population of Ceylon is increasing at an increasing rate, fertility has tended to remain more or less constant since the turn of the century. The number of persons added to our population by birth is proportionately the same now as it was at the beginning of the century.<sup>25</sup> The size of the family, however, has displayed a slight tendency to decline. Women contributing to the task of human replacement are making a smaller contribution. The proportion of the "child bearing population"—females aged 15—45 years has declined, so that the proportion of the population that can contribute to human

25. More or less constant crude birth rate. See chart 2.

replacement is becoming somewhat smaller. On the other hand—those married and consequently physically able and socially likely to produce children—have increased, offsetting the decline in the proportion of the reproductive group.<sup>26</sup> The result is an appearance of constant fertility when in reality a decline in fertility has already begun. The likelihood is that this trend would continue and gather momentum with the passage of time, although the decline may not be sufficient for a marked decrease in birth rates.

TABLE XXVI

*Percent Distribution of Mothers aged 45 by number of children ever born*

Year in which Mother is aged 45	No. of Children			
	1	2—4	5—8	More than 8
1925	6.25	27.45	45.33	20.97
1930	7.20	29.01	44.55	19.24
1935	7.02	28.87	44.32	19.79
1940	7.53	30.31	43.66	18.50
1945	7.71	30.84	43.71	17.74
1950	8.22	32.40	44.12	14.86
1955	8.85	36.62	45.72	8.85
1960	11.66	49.07	36.35	2.92
1965	19.38	64.30	12.20	4.12
1970	44.69	52.99	2.26	0.06
1975	76.18	23.07	0.54	0.09
1980	78.96	21.02	0.02	—

Source: A. G. Ranasinha. Report of the Census of Ceylon, 1946. (Colombo: Ceylon Government Press, 1950). Figures refer to the situation as ascertained by the Census of 1946.

Although this is the general picture for the whole country, a different picture is presented by the various districts. The districts can be arranged in a continuum according to the magnitude of the crude birth rate. The same ranking results if the criterion utilised is the density of population, the average age at marriage, the total fertility, or the proportion of the population married, for a low birth rate is associated with a high density of population, a high average age at marriage, a low total fertility and a low proportion of the population married. The population changes, however, do not fit into this continuum. Those districts at either end of the continuum grow relatively slowly while those at the centre more rapidly. It is possible to group the districts so that each group has its own peculiar demographic characteristics. An interesting feature of this grouping is that adjacent districts fall into the same group making it possible to divide the country into demographic areas.

The first area—the South West Coast—has a decreasing birth rate and a slowly growing population. In the districts that constitute this area—Chilaw, Colombo, Kalutara and Galle—the density of the population is high, the birth rate is low, the average age at marriage high, the total fertility low, and the percentage of married persons small. The Chilaw District differs from the rest in that the average age at marriage is comparatively low.

The second area—the West Interior—is comprised of the Districts of Kurunegala, Kegalle, Kandy, Ratnapura and Matara. In these districts the population growth has

26. Vide *Supra*.

been rapid though the birth rate has been falling. The density of the population of these districts has been lower, the birth rate higher, the average age at marriage lower, the total fertility higher, and the percentage married greater than in the previous group. The Districts of Kegalle and Ratnapura vary slightly from this general pattern. In Kegalle the total fertility is comparatively low while Ratnapura is sparsely populated.

TABLE XXVII

*Percentage of Females 15 and over enumerated as married in census years*

<i>District</i>	1901	1911	1921	1946	1953
Ceylon	60.75	60.19	58.33	64.40	64.94
Western Province	56.87	57.13	55.49	59.71	60.45
Colombo	56.54	56.55	54.88	59.92	60.48
Kalutara	57.84	58.79	57.17	59.10	60.37
Central Province	68.25	66.74	70.75	69.69	68.08
Kandy	68.05	66.98	77.09	68.73	66.66
Matale	65.53	68.17	57.25	69.50	70.95
Nuwara Eliya	70.40	69.55	66.48	72.40	70.05
Southern Province	51.76	53.89	49.82	58.53	61.61
Galle	53.56	53.25	51.98	57.89	56.96
Matara	55.66	61.58	48.97	58.21	66.20
Hambantota	59.25	42.17	45.50	61.56	66.54
Northern Province	64.15	63.86	62.87	65.70	65.69
Jaffna	63.71	73.45	62.24	64.96	64.50
Mannar	67.00	66.60	67.20	71.20	73.70
Vavuniya	70.00	69.70	71.50	73.20	78.00
Eastern Province	68.74	63.62	62.62	65.57	56.81
Batticaloa	67.87	63.57	61.09	83.21	32.14
Trincomalie	73.30	63.59	70.60	75.10	74.71
North Western Province	58.54	61.41	47.04	66.60	69.60
Kurunegala	60.70	59.86	43.42	69.01	71.27
Puttalam	43.30	66.50	55.72	70.66	64.40
Chilaw	60.78	64.82	66.02	60.90	65.77
North Central Province	41.13	65.83	63.60	73.95	78.36
Anuradhapura	41.13	65.83	63.60	73.95	78.36
Province of Uva	61.89	65.41	61.98	71.31	70.60
Badulla	61.89	65.41	61.98	71.31	70.60
Province of Sabaragamuwa	62.17	62.00	60.72	69.26	63.84
Ratnapura	61.50	63.25	60.62	70.29	69.42
Kegalle	62.67	61.17	60.80	68.41	68.58

Source : Since 1946, censuses have enumerated persons married (registered) and married (by custom). Before that date, this differentiation did not exist. It may be that the latter group was not enumerative in the earlier census but their numbers are very small. It is possible that at the beginning of the century the group was larger than at midcentury.

The third and fourth areas—the North West Coast—consisting of the Districts of Mannar and Puttalam—and the South East Coast, consisting of the Districts of Hambantota and Batticaloa—have similar demographic characteristics. They have even a lower

density of population, a higher birth rate, a lower average age at marriage, a higher total fertility, and a higher proportion married than the other districts already mentioned. In these districts, the population is growing at an extremely slow rate though the birth rate is relatively low.

The fifth area—the East Interior—comprises the Districts of Vavuniya, Anuradhapura, Trincomalee, Matale and Badulla. Here the population is growing rapidly and the birth rate is also increasing rapidly. These areas were the most sparsely populated, had the highest birth rates, the lowest average age at marriage, the highest total fertility, and the biggest proportion married. The District of Badulla, however, has a relatively high age at marriage.

Two districts do not fit into the areal patterns. These are the District of Jaffna which has demographic characteristics similar to that of the East Coast and the District of Nuwara Eliya which stands by itself with a relatively low average annual birth rate that is increasing, a dense population that is growing slowly, and a high proportion of married people getting at a relatively early age.<sup>27</sup>

## PART VII

### Natural Regions and Demographic Areas

Ceylon is a small island situated at the southern tip of India between the 5° 55' and 9° 50' north latitudes and 79° 42' and 81° 53' east longitudes. The greatest length—north to south—is 270 miles, and the greatest breadth—east to west—is 140 miles. It is 25,332 square miles in area of which 335 11/40 square miles are large inland waters. Most of the land is readily available for occupation although large tracts of land in the north central and eastern sections of the country are covered with jungle.

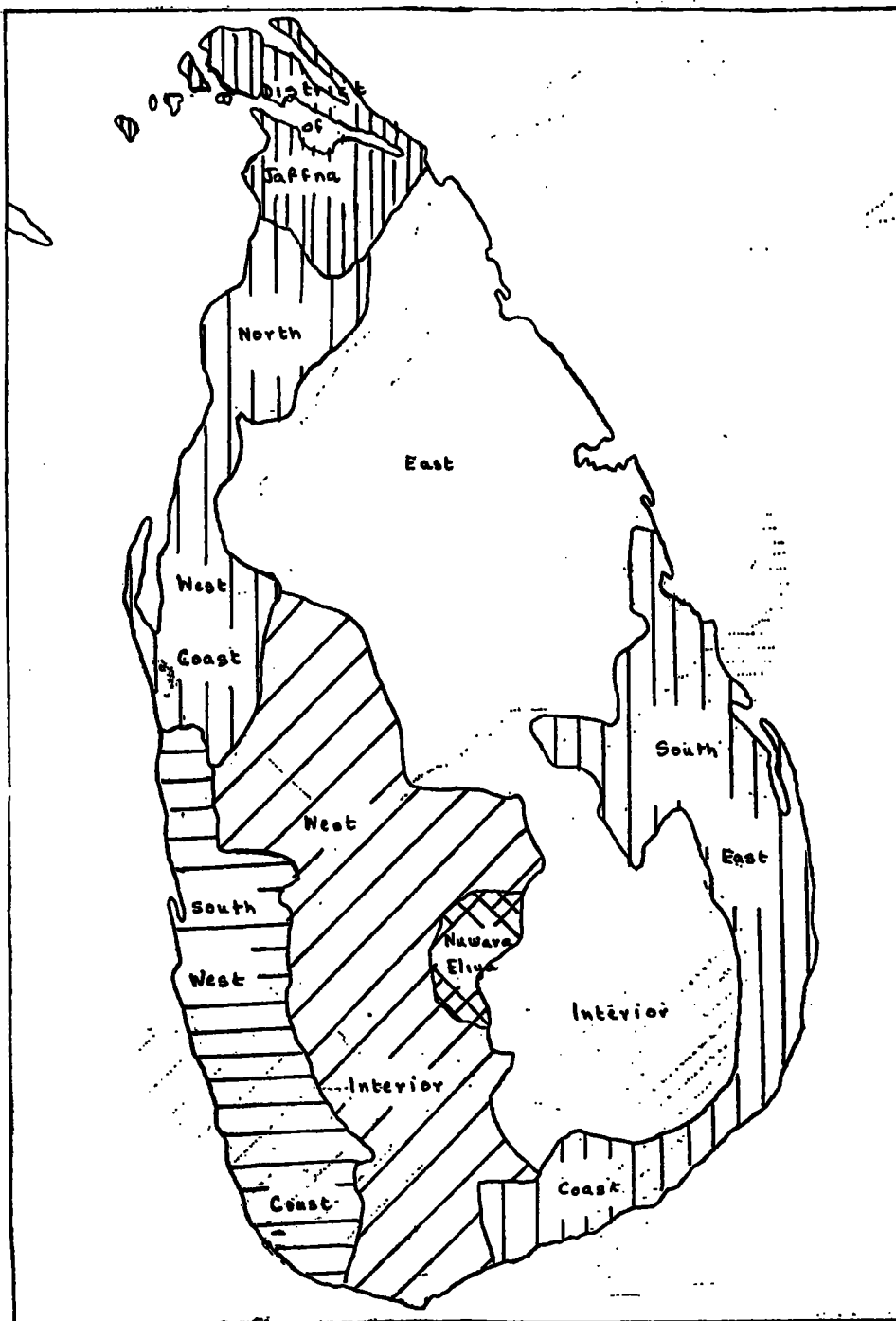
Administratively the country is divided into nine provinces which are further subdivided into twenty three revenue or administrative districts. The division of the country into provinces and districts is based invariably on accessibility of the different parts to a central control station and the quantum of work that the administrative officers were called upon to do. The demographic interest in the division of the country into districts revolves round a division based on natural resources, for resources obviously play an important part in the distribution of the population.

Ceylon is customarily divided into a wet zone—the south western section of the country—and a dry zone—the north eastern section. Though the climatic differences justify the division of the country into these two zones, with the exception of two small areas—one in the north western part and the other in the south eastern—no part of the country is completely dry. The average annual rainfall of the wet zone varies from 100 to over 200 inches—while the dry zone has an average annual rainfall of under 50 inches—and a prolonged period of drought during the South West Monsoon from which Ceylon gets most of her rain. A further factor that aggravates the situation in the dry zone is the fact

27. The terms low, high, slow, rapid, increase, decrease, used in this section are used in a relative sense and in the context of the data discussed.

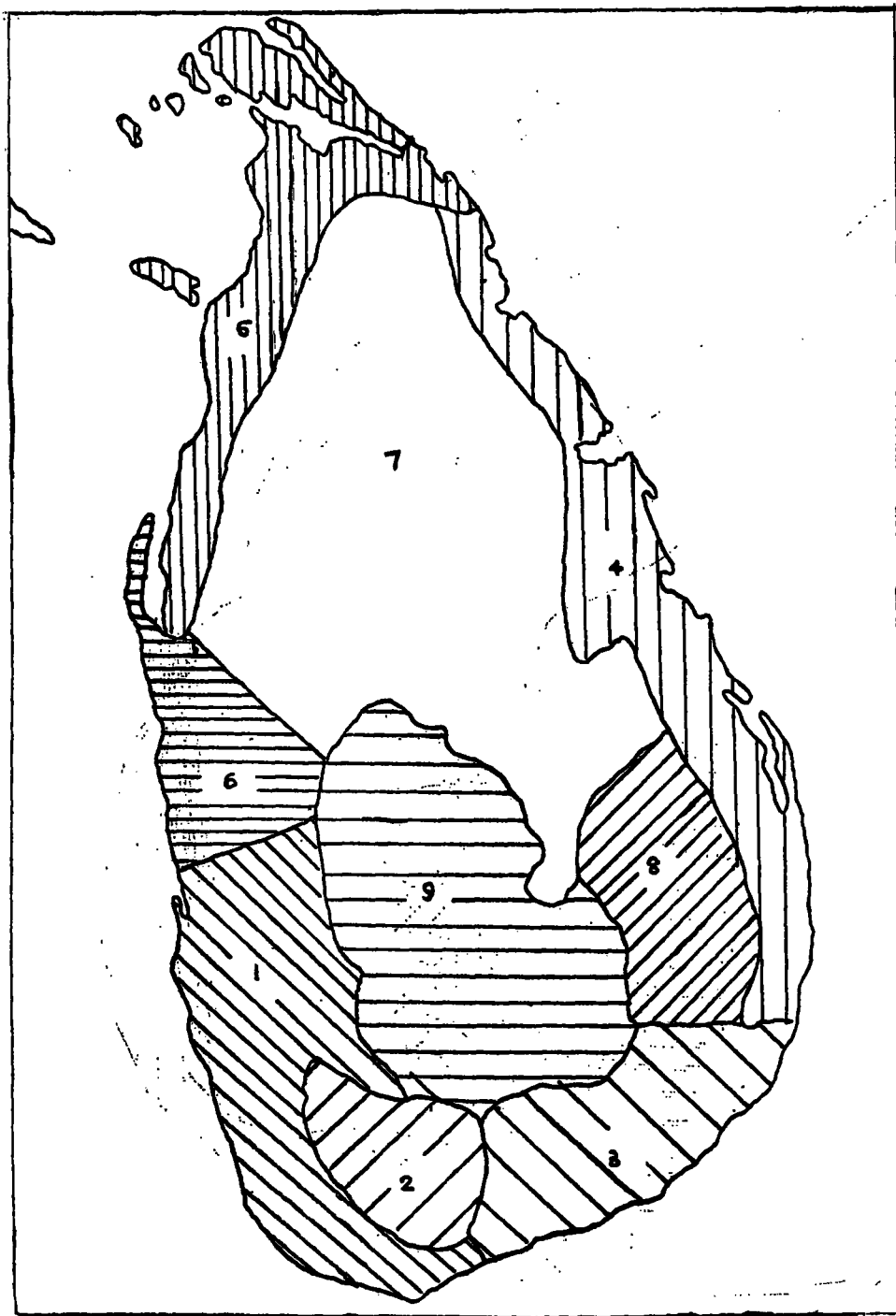
Note: Refer to text for characteristics.

Map 6. Demographic Areas



Notes: Refer to text Per Characteristics

Map 7. Natural Regions (After Cook)



Note: Refer to text for Characteristics

that an extensive ancient crystal rock floors the greater part of the area and hinders the accumulation of telluric water.<sup>28</sup> The torrential floods that occur frequently here, causing breaches in all but the most robustly built dams, together with the high rate of evaporation during the drier seasons, make the collection of surface water in tanks inadequate to meet the needs of the area. The average annual temperature varies little from 80°F in the coastal area. In the dry zone, especially in the northern sector, the average annual temperature may reach as high as 82°. In the central areas the temperature is considerably lower—falling as low as 60°.

TABLE XXVIII

Distribution of the Population by Ethnic Group 1953.

District	All Races	Low Country Sinhalese	Kandyan Sinhalese	Ceylon Tamil	Indirn Tamil	Ceylon Moors	Indian Moors	Burghers and Eurasians	Malay	Veddahs	Euro-peans	Others
Ceylon	100.0	42.8	26.5	11.0	12.0	5.7	0.6	0.6	0.3	0.0	0.1	0.4
Colombo	100.0	78.1	2.4	5.3	4.2	4.6	1.2	1.9	0.9	—	0.2	1.2
Kalutara	100.0	85.3	1.1	1.1	6.6	5.4	0.1	0.1	0.1	—	0.0	0.2
Kandy	100.0	10.3	47.7	3.0	30.5	6.7	0.7	0.4	0.3	0.0	0.1	0.3
Matale	100.0	10.8	58.3	3.9	20.2	5.5	0.7	0.2	0.2	0.0	0.0	0.2
Nuwara Eliya	100.0	7.0	28.8	2.2	59.2	1.4	0.5	0.3	0.2	0.0	0.2	0.2
Galle	100.0	93.5	0.6	0.6	2.1	2.9	0.0	0.1	0.1	—	0.0	0.1
Matara	100.0	93.6	0.4	0.6	2.8	2.4	0.0	0.1	0.0	—	0.0	0.1
Hambantota	100.0	96.2	0.5	0.6	0.1	1.7	0.0	0.1	0.8	—	0.0	0.0
Jaffna	100.0	0.9	0.3	95.5	1.6	1.3	0.2	1.0	0.0	—	0.0	0.1
Mannar	100.0	4.0	0.8	46.3	18.3	24.9	5.2	0.1	0.1	0.0	0.0	0.3
Vavuniya	100.0	4.6	12.3	67.1	6.7	8.1	0.5	0.3	0.0	0.0	—	0.4
Batticaloa	100.0	4.3	7.2	47.5	0.7	39.2	0.3	0.6	0.1	0.0	0.0	0.1
Trincomalee	100.0	12.2	6.0	40.6	4.1	33.1	1.0	1.3	0.6	—	0.2	0.9
Kurunegala	100.0	18.3	73.6	1.6	1.6	4.1	0.5	1.0	0.1	0.0	0.0	0.1
Puttalam	100.0	31.7	22.0	13.5	1.8	29.0	1.0	0.2	0.5	—	0.0	0.3
Chilaw	100.0	84.1	2.8	5.1	3.6	3.0	0.4	0.2	0.1	—	0.0	0.7
Anuradhapura	100.0	16.9	66.4	6.0	1.5	8.1	0.5	0.2	0.1	0.1	0.0	0.2
Badulla	100.0	8.2	48.9	2.9	35.6	2.9	0.5	0.3	0.2	0.1	0.1	0.3
Ratnapura	100.0	16.0	59.6	1.6	20.7	1.2	0.4	0.1	0.1	0.0	0.0	0.2
Kegalle	100.0	9.5	72.5	1.1	12.4	3.8	0.3	0.1	0.1	0.0	0.0	0.3

Source : Statistical Abstracts of Ceylon, 1962.

The land relief makes the country divisible into :

- (1) the coastal lowlands ;
  - (2) the lowlands and uplands of the interior :
- and (3) the hilly or montane country.

Ranges and ridges and differences in temperature, rainfall and accessibility offer further subdivisions. Cook<sup>29</sup> has defined nine natural regions. These are, as shown in map 7 :

28. E. K. Cook. *Ceylon: Its Geography, Its Resources and Its People*. London: Macmillan and Co. Ltd., 1951.

29. *ibid.*

(1) The Southwest lowlands. Lying from sea level to 600 feet above sea level this region is inhabited by the Low Country Sinhalese except in the vicinity of the major parts of Colombo, Galle, and Negombo where there is a mixture of peoples. The area is influenced by the South West Monsoon and consequently is very wet:— the average annual rainfall ranges from 75 to 150 inches. It is cultivated chiefly with coconut, some cinnamon and, in suitable sites, paddy.

(2) The Sabaragamuwa Hill Country. Made up of a series of almost parallel ridges running roughly south east to north west, usually not exceeding 1,500 feet, this area is considerably wetter than the preceding one. It is characterised by isolation and inaccessibility and consequently is very sparsely populated. For the larger part it is comprised of wet evergreen forests. There are, however, a few tea plantations. Paddy is grown along the river beds.

(3) Hambantota Dry Zone. Although this area, in the south east section of the country, has some rain throughout the year, it is too little to be of value. The area is sparsely populated and comprises mostly thorn scrub and dry jungle.

(4) The Eastern Coast Lowlands. Extending about 10 to 30 miles inland from the eastern shores of the country, this area comprises numerous lagoons for the first five miles or so and dry mixed evergreen forests for the larger part of the rest. With a low rainfall, having a single maximum during the North East Monsoon, and a high temperature, it is sparsely populated by Tamils and Tamil speaking Sinhalese people engaged in a little coconut growing and paddy cultivation on the one hand, and fishing during the South West Monsoon on the other.

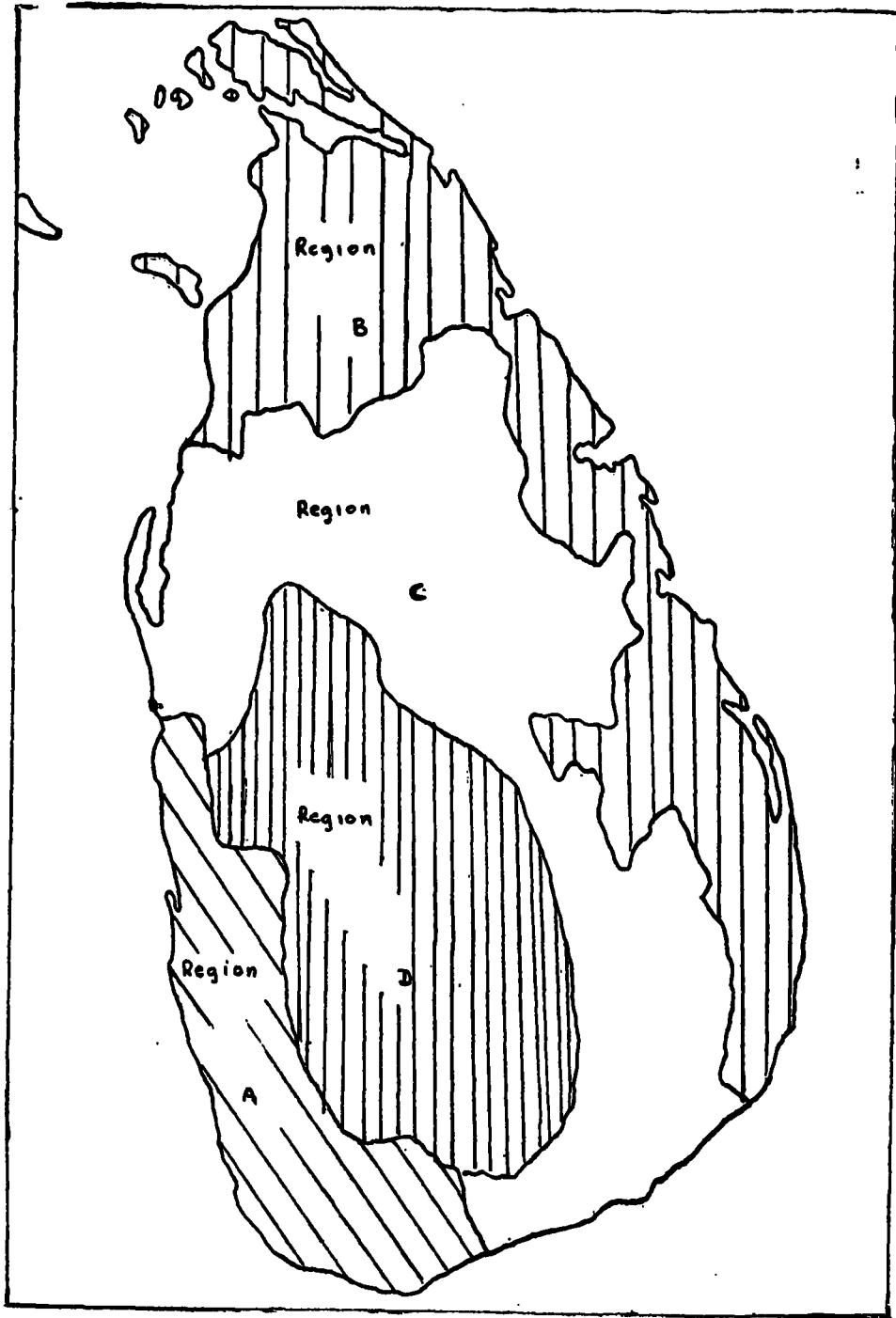
(5) The Jaffna Limestone Area. A dry and hot area with a single rainfall maximum during the North East Monsoon, it has a crystalline rock floor covered by limestone which makes the pursuit of agriculture more difficult. Populated by Tamils, the area has been converted into a profitable agricultural district by sheer industry. The less congenial northern section of the area is densely populated while the more congenial southern section where there is an admixture of Tamils and Moors is sparsely populated.

(6) The Chilaw Transition Zone. This zone lies between the Jaffna Limestone Area and the South West Lowlands. Wet it is densely populated and cultivated with coconut. Periodic droughts during the dry season and inundations during heavy rains characterise this area.

(7) The North Central Uplands and Lowlands. This area is characterised by two maxima of rainfall alternating with periods of ineffective rainfall and high evaporation. It is sparsely populated, partly with Tamil people and partly with Sinhalese people who have made their homes along the banks of ancient tanks and cultivate paddy when the vagaries of the weather permit it.

(8) The Talawa or Savanna Region. This region is climatically similar to the North Central Uplands and Lowlands except for a little more rainfall and slightly lower temperature so that the droughts are less severe. Relatively inaccessible, the area is sparsely populated and the natural vegetation is tree or tree group and grass savanna.

Map 8. Natural Regions of Ceylon (After Ranasinha.)



Note: Refer to text for Characteristics

(9) The Hill or Montane Country. With a high rainfall and a low temperature this area forms the most important natural region economically. It houses most of the tea and rubber plantations where the Indian Tamil population is concentrated. The indigenous population of the area consists mainly of Kandyan Sinhalese.

Yet another division that is possible is one that is dependent on the pattern of life prevalent in the various regions of the country. In this division four areas are recognised. (See map 8).

“(1) Region A. Extending from the Chilaw District in the middle North West along the western and southern coasts up to and including Matara. Here one may see a pattern of life woven mainly around the coconut plantations, and which is to some extent influenced by commercial activities owing to the situation of the ports of Colombo and Galle within the area.

(2) Region B. Consisting of the Northern and Eastern Provinces where life proceeds on a pattern determined largely by racial homogeneity.

(3) Region C. Comprising the dry zone, namely the North Central Province, the Puttalam District, the Matale North Division, Lower Uva and Hambantota District where the arid conditions of climate and soil determine a similar mode of living.

(4) Region D. The Kandyan Hill Country, where the pattern of life has been shaped by the existence of large plantations or estates mainly of tea and rubber.”<sup>30</sup>

The demographic areas roughly correspond to these regions. The South West Coast corresponds to Region A, differing from it in that the District of Matara is not included in the former. Region D corresponds to the West Inland. The former has included in it the Matale South Division, Upper Uva and the Nuwara Eliya District which are not included in the latter, while the latter has included in it the District of Matara not included in the former. The East Inland roughly corresponds to Region C. It has included in it the Matale South Division and Upper Uva which does not form part of Region C. The East Inland differs from Region C, in addition, in that the former contains the Vavuniya and Trincomalee Districts not included in the latter and the latter contains the Puttalam and Hambantota Districts not included in the former. Region D gets itself demographically divided into the District of Jaffna which is demographically similar to the South West Coast, the Districts of Vavuniya and Trincomalee which fall into the East Inland, and the Districts of Mannar and Batticaloa, which together with the Districts of Puttalam and Hambantota constitute the similar third and fourth demographic areas.

## PART VIII

### Cultural, Economic and Social Factors

#### Ethnic Differences

A variety of ethnic groups exists in Ceylon. There are first the Sinhalese constituting the largest single group. They are divisible into the Low Country Sinhalese, who inhabit the coastal area and who have had considerable contact with the occidental culture, and

30. A. G. Ranasinha: *Census of Ceylon 1946. General Report*. Colombo. Ceylon Government Press, 1950.

the Kandyan Sinhalese, who live in the interior and have been spared this culture contact. There are then the Tamils, divisible into the Ceylon Tamils, inhabiting the northern and eastern sections of the country, and the Indian Tamils living and working in estates or plantations in the central hill country. Third are the Moors, again divisible into the Ceylon Moors, concentrated in the north west and north east coastal areas and the Indian Moors concentrated in the north west coast. Fourth are the Malays, a small group, scattered all over the country. These are the main groups constituting about 99% of the country's population. The remainder comprise the Europeans, the Burghers and Eurasians and non nationals. These are concentrated in the urban centres.

The different ethnic groups in Ceylon are concentrated in different parts of the country. They have their own religious beliefs. The Sinhalese, both Low Country and Kandyan, are mainly Buddhists; the Tamils, both Ceylon and Indian, are mainly Hindus; and the Moors, both Ceylon and Indian, together with the Malays, are Muslims. The Europeans, Burghers and Eurasians are usually Christians—both Catholics and Protestants. A small segment of the Sinhalese and Tamils also fall into the latter religious group. The geographical concentration and the religious difference aided by a history that promoted segregation rather than assimilation has given meaning to ethnic origin and converted it into an epitome of culture. Do these cultural groups have their own peculiar demographic pattern?

The Low Country Sinhalese are concentrated in the South West Coast where the population growth is slow, the birth rate low, and the fertility is decreasing. These characteristics however are not characteristic of Low Country Sinhalese because the District of Jaffna where the Ceylon Tamils are concentrated also displays this demographic pattern. Moreover, the District of Hambantota where the population is 96.2% Low Country Sinhalese has a relatively high birth rate though its population growth is slow. This district falls into the South East Coast and has a demographic pattern similar to that of the Districts of Batticaloa, Mannar and Puttalam. A large segment of the population of the former two districts are Ceylon Tamils while the latter district contains a large proportion of Sinhalese, both Low Country and Kandyan. These three districts, however, have one feature in common—they are the areas in which the Ceylon Moors are concentrated. The Ceylon Moors constitute a large segment of the population of the Trincomalee District which has a different demographic pattern. The districts that have the same demographic pattern as Trincomalee constitute a nondescript group from the point of view of ethnic origin. The population of the District of Trincomalee is mainly Ceylon Tamil and Ceylon Moors, of Vavuniya, Ceylon Tamil; of Anuradhapura, Kandyan Sinhalese; and of Matale, Nuwara Eliya, and Badulla, Kandyan Sinhalese and Indian Tamil. The Kandyan Sinhalese and Indian Tamil combination is found also in the Kandy, Kegalle and Ratnapura Districts which fall into still another demographic group. Into this same group falls the District of Kurunegala which has a Sinhalese population largely Kandyan. It would thus appear that cultural differences rather than ethnic differences are the major determinants of demographic patterns.

The crude birth rates of the different ethnic groups in the various districts are shown in Table 29. When the island is considered as a whole, the Ceylon Moors and Malays have the highest rates. This is not surprising since Muslims typically have higher rates than Buddhists or Hindus. The Sinhalese<sup>31</sup> and the Ceylon Tamils have a lower rate—around

31. The Registrar-General does not differentiate between the Low Country Sinhalese and the Kandyan Sinhalese in presenting birth statistics.

40. An even lower rate—around 32—is found among the Indian Tamils, the Europeans and the Burghers while the Indian has the lowest rate—around 13. This pattern is not followed in the districts. The rates for the ethnic groups vary from district to district. There is, however, a positive correlation between the relative size of an ethnic group in a district and the birth rate of that district as far as the Kandyan Sinhalese (+ 0.54), the Ceylon Tamil (+ 0.09), the Ceylon Moor (+ 0.24), the Malay (+ 0.14) the Indian Moor (+ 0.12) and the Burgher (+ 0.19) are concerned and a negative correlation between them for the Low Country Sinhalese (– 0.23) and the Indian Tamils (– 0.11). These correlations are not statistically significant. A high birth rate for a particular ethnic group in one area does not necessarily mean a high rate for that ethnic group in all areas. Neither does a high birth rate in a particular area mean a high birth rate for all the ethnic groups in that area.

TABLE XXIX

*Crude Birth Rate by District and Ethnic Group 1953*

<i>District</i>	<i>Sinhalese</i>	<i>Ceylon Tamils</i>	<i>Indian Tamils</i>	<i>Ceylon Moors</i>	<i>Indian Moors</i>	<i>Malays</i>	<i>Europeans</i>	<i>Burghers and Eurasians</i>
Ceylon	40.97	39.23	33.07	42.73	12.73	45.08	33.96	31.00
Colombo	38.88	37.75	23.78	44.95	11.47	46.53	44.05	32.49
Kalutara	35.39	32.48	39.20	40.02	13.57	15.40	—	6.00
Kandy	40.58	73.42	31.75	43.24	13.24	34.88	53.26	29.15
Matale	46.81	58.29	31.20	46.42	16.99	77.89	—	13.60
Nuwara Eliya	42.26	92.12	36.36	47.38	11.84	28.97	—	23.01
Galle	37.65	35.24	29.81	37.49	29.56	37.69	—	17.61
Matara	44.05	27.32	32.12	42.69	28.88	46.50	—	21.68
Hambantota	50.96	20.96	11.50	32.82	23.20	78.48	—	12.30
Jaffna	22.48	34.47	30.57	38.95	7.33	25.00	—	17.20
Mannar	14.63	44.68	35.34	48.38	19.05	29.04	—	58.80
Vavuniya	61.52	48.93	38.48	52.28	29.42	67.00	—	18.92
Batticaloa	36.70	42.24	53.70	41.23	52.28	36.84	—	40.71
Trincomalee	30.20	41.75	44.52	41.55	5.77	38.49	93.20	52.97
Kurunegala	44.73	38.77	28.61	43.31	9.09	33.90	—	23.29
Puttalam	47.36	36.94	21.36	43.24	5.05	34.89	—	42.02
Chilaw	37.49	29.38	9.32	37.76	4.75	60.50	4.00	37.20
Anuradhapura	46.00	31.39	30.20	50.37	12.41	22.50	4.18	40.60
Badulla	45.49	66.19	33.33	41.70	12.28	38.06	9.16	21.08
Ratnapura	41.47	44.46	35.00	36.39	15.62	13.64	—	27.51
Kegalle	38.13	56.48	35.61	40.08	8.91	27.47	—	9.22

Source : Report of the Registrar General of Ceylon on Vital Statistics for 1953.

### Religion

The importance of religion in connection with fertility is that customs and taboos may strongly influence fertility whether or not this is their intent. The major religious groups in Ceylon are the Buddhists (64.3%), the Hindus (19.9%) the Christians, both Roman

Catholics and Protestants (9.0%) and the Muslims (6.7%). The Buddhists are concentrated in the South West quadrant of the country and the Hindus in the North East quadrant. The southern part of the Northern Province has a large concentration of Muslims and the North West Coast a large concentration of Christians. (See Table 30). As far as doctrine is concerned, it is generally agreed that no religion opposes limitation of births. Roman Catholic opposition is not to the principle of birth control but to all methods except periodic or total abstinence. Bryce Ryan suggests that the Buddhist belief in re-incarnation may be an obstacle to family planning, but concedes it is not an insurmountable impediment to contraception as the Buddhist position is not doctrinaire.<sup>32</sup> Correlation between the size of the religious group in a district and the crude birth rate of the district is positive for the Buddhist (+ 0.08), the Hindus (+ 0.12), and the Muslims (+ 0.28). It is negative for the Christians (- 0.44), and this, in spite of the fact that 84% of the Christians are Roman Catholics.

TABLE XXX

*Percentage Distribution of Population according to Religion 1953*

<i>District</i>	<i>All Religions</i>	<i>Buddhists</i>	<i>Hindus</i>	<i>Muslims</i>	<i>Christians</i>	<i>Others</i>
Ceylon	100.0	64.3	19.9	6.7	9.0	0.1
Colombo	100.0	65.8	6.2	7.0	20.7	0.3
Kalutara	100.0	83.0	6.6	5.6	4.7	0.1
Kandy	100.0	57.3	30.3	7.9	4.4	0.1
Matale	100.0	68.0	22.0	6.5	3.4	0.1
Nuwara Eliya	100.0	35.3	57.1	2.2	5.3	0.1
Galle	100.0	93.4	2.2	3.0	1.3	0.1
Matara	100.0	93.8	22.9	2.4	0.8	0.1
Hambantota	100.0	96.4	0.7	2.5	0.3	0.1
Jaffna	100.0	1.1	85.3	1.5	12.1	0.0
Mannar	100.0	3.0	26.4	30.4	40.2	0.0
Vavuniya	100.0	15.6	62.0	8.8	13.3	0.3
Batticaloa	100.0	10.9	44.4	39.3	5.4	0.0
Trincomalie	100.0	16.8	38.6	34.7	9.8	0.0
Kurunegala	100.0	88.5	2.3	4.6	4.5	0.1
Puttalam	100.0	34.0	6.9	30.5	28.6	0.0
Chilaw	100.0	42.2	5.7	3.6	48.4	0.1
Anuradhapura	100.0	82.8	6.2	8.8	2.1	0.1
Badulla	100.0	56.9	36.4	3.6	3.0	0.1
Ratnapura	100.0	74.9	20.4	1.8	2.7	0.2
Kegalle	100.0	81.0	12.0	4.2	2.7	0.1

### Literacy

Illiteracy is generally associated the world over with high fertility and large families. Table 31 shows the percentage literate in the different districts in Ceylon in 1953. The districts along the West Coast—the districts that had the lowest birth rates—had the

32. Bryce Ryan: Institutional Factors in Sinhalese Fertility. *The Milbank Memorial Fund Quarterly* 30 (1952) 359—381.

largest proportion of literate persons in their population. As one moved towards the north east—areas where the birth rates were considerably higher—the percentage of literate persons decreases. There is a negative correlation ( $-0.58$ ) between the percentage literate in a district and its crude birth rate. This is what is expected. Since the turn of the century, the literacy rate has been steadily increasing in Ceylon. Only 26.4% of the population of the country was literate in 1901. In 1953 the figure was 65.4%—an increase of 147.8%. This change, however, has failed to make any impression on the birth rate.

TABLE XXXI

## Percentage Literate 1953

District	Rate	District	Rate
Ceylon	65.4	Jaffna	76.9
		Mannar	65.9
		Vavuniya	71.6
Colombo	54.0	Batticaloa	53.7
Kalutara	45.6	Trincomalie	65.1
Kandy	57.3	Kurunegala	67.5
Matale	57.5	Puttalam	67.5
Nuwara Eliya	46.7	Chilaw	80.4
Galle	69.0	Badulla	45.1
Matara	61.4	Ratnapura	55.1
Hambantota	57.4	Kegalle	62.4
Anuradhapura	63.5		

Source : Census of Ceylon, 1953.

## Urbanisation and Occupation

Urbanisation and industrialisation were usually associated with a lower fertility. The urban-rural division assumes meaning because the mode of life in the two areas is different. In the rural areas life is generally easy going, traditional customs prevail, interpersonal interactions are deep and a permissiveness and informality pervade the social atmosphere. The predominant occupation is agriculture and dependent as it often is on the vagaries of the weather, it yields neither regularity nor fixity of income. In the urban area life is more regimented, interpersonal interactions are superficial and life often proceeds in a rather monotonously along a fixed pattern. Non-agricultural occupations predominate which ensure a fixed income with greater regularity.

Though these are the general characteristics of urban and rural areas, the size of the agglomeration appears to be an important factor in the determination of the urban or rural nature of the area. Large agglomerations are more likely to possess urban characteristics while the smaller ones are generally blatantly rural. Mere plurality prevents the intimacy that is the essential characteristic of a rural area. In most countries the urban area depends on the size of the agglomeration for definition. In others, however, this factor is not given so much weight and an urban area is one so declared and defined by legislation. In these countries the urban population does not present the actual picture for urbanites who, living in the rural hinterland of the urban area, generally under urban conditions,

are counted as rural folk. Ceylon falls into that category of countries where urban areas are legally defined. In Ceylon there exists a third group—the estate population—so-called because they work on the tea and rubber estates. These, on the one hand, possess the rural characteristic of the deep interpersonal relations and, on the other, the urban characteristic of a regimented life and a fixed and regular income. The proportion of the population in the different districts in Ceylon living in urban areas, rural areas and on estates is shown in Table 32. Ceylon has largely a rural population (72.2%) but in certain areas like the Districts of Colombo, Trincomalee, Puttalam, Jaffna and Galle, a sizeable proportion of the population lives in urban areas and in districts like the District of Nuwara Eliya, Badulla and Ratnapura, a sizeable proportion lives on estates.

The highest birth rates are found in districts which have a large rural population and the lowest in those districts where the population is relatively urban. There is a negative correlation between the crude birth rate of a district and the relative size of the urban population of that district ( $-0.32$ ). The correlation between the birth rate and the size of the estate population is also negative, though not so large ( $-0.07$ ) while it is positive between the crude birth rate and the size of the rural population ( $+0.18$ ).

TABLE XXXII

Percentage Distribution of Population by residence, 1953

District	Urban	Rural	Estate
Ceylon	15.3	72.2	12.5
Colombo	41.5	57.8	0.7
Kalutara	11.1	80.4	8.5
Kandy	10.8	56.2	33.0
Matale	8.6	69.1	22.3
Nuwara Eliya	5.5	31.5	63.0
Galle	12.7	83.1	4.2
Matara	9.8	85.6	4.6
Hambantota	5.8	94.0	0.2
Jaffna	15.7	84.3	—
Mannar	—	99.8	0.2
Vavuniya	—	99.8	0.2
Batticaloa	6.5	93.4	0.1
Trincomalee	31.4	68.5	0.1
Kurunegala	3.2	93.7	3.1
Puttalam	17.4	81.2	1.4
Chilaw	6.7	90.9	2.3
Anuradhapura	8.0	90.4	1.6
Badulla	4.7	57.6	37.7
Ratnapura	4.5	70.6	24.9
Kegalle	1.2	83.2	15.7

Source: Census of Ceylon, 1953.

TABLE XXXIII

*Percentage Distribution of Population by Occupation 1953*

<i>District</i>	<i>Agriculture Forestry Hunting and Fishing</i>	<i>Manufacture</i>	<i>Construction</i>	<i>Service</i>	<i>Commerce Banking and Finance</i>	<i>Transport Storage and Communication</i>	<i>Other</i>
Ceylon	52.9	10.1	1.9	16.3	8.2	3.5	7.1
Colombo	19.6	14.7	2.5	34.6	12.6	6.8	9.2
Kalutara	49.3	14.2	2.4	15.9	9.2	3.9	5.1
Kandy	67.0	4.7	1.6	10.9	8.0	2.5	5.3
Matale	72.3	4.3	1.6	9.6	6.3	1.7	4.2
Nuwara Eliya	85.3	1.9	0.9	5.6	3.5	1.2	7.1
Galle	40.9	22.7	2.3	14.5	8.9	3.2	3.2
Matara	55.2	15.9	2.2	11.9	9.1	2.5	8.0
Hambantota	65.0	8.2	1.1	10.5	5.9	1.6	20.5
Jaffna	40.7	14.4	1.8	17.1	8.7	3.3	13.2
Mannar	53.3	6.4	1.2	16.7	8.9	5.3	15.9
Vavuniya	60.0	3.7	1.2	13.6	5.1	4.1	9.4
Batticaloa	51.5	10.7	1.9	12.2	9.0	3.4	11.1
Trincomalie	38.7	7.0	3.5	29.8	9.3	4.2	7.5
Kurunegala	67.6	6.5	1.1	10.1	6.3	2.7	5.7
Puttalam	64.9	6.4	1.5	10.6	7.1	3.5	6.0
Chilaw	41.9	24.6	2.2	13.0	9.3	5.5	3.5
Anuradhapura	65.6	4.2	2.3	10.6	7.1	2.4	7.8
Badulla	79.0	2.8	1.4	7.8	4.2	1.6	3.2
Ratnapura	75.5	5.1	1.8	7.8	4.6	1.6	3.6
Kegalla	64.8	6.0	1.7	9.8	6.0	2.1	9.6

Source: Census of Ceylon, 1953.

As far as occupation is concerned Ceylon, is largely an agricultural country with over 50% of its population engaged in this activity. Only the Districts of Colombo, Kalutara, Galle, Jaffna, Trincomalee and Chilaw have less than 50% of their population engaged in agriculture. In these districts, a relatively large segment of the population is engaged in manufacture. There is a positive correlation between the crude birth rate and the percentage of the gainfully occupied persons engaged in agriculture (+ 0.50) and a negative correlation between it and the percentage engaged in manufacture (- 0.53).

#### The Relative Importance of the Factors

The correlations between the crude birth rate and the various cultural, social and economic factors considered reveal that fertility would tend to be lower in areas

- (1) where there is a high proportion of Low Country Sinhalese or Indian Tamils ;
- (2) where there is a high proportion of Christians ;
- (3) where more people are literate ;
- (4) where there is a large urban population ; and
- (5) where a large section of the population is engaged economically in manufacture.

They also reveal that fertility would tend to be higher in areas

- (1) where there is a high proportion of Kandyan Sinhalese or Ceylon Moors ;
- (2) where there is a high proportion of Muslims or Hindus ;
- (3) where fewer people are literate ;
- (4) where there is a large rural population ; and
- (5) where a large section of the population is engaged economically in agriculture.

Two questions arise in this connection. First, to what extent are the various factors mutually exclusive ? and second, to what extent do they influence fertility ? As has already been mentioned, the Sinhalese are Buddhists, the Tamils Hindus, and the Moors Muslim. But with the exception of the Moor-Muslim combination, the correlations reveal that the tendency to a high or low fertility expressed by a particular ethnic group is not expressed by the religion that is peculiar to that group. This is mainly due to the fact that each ethnic group is divisible to two sub-groups which, as in the case of the Sinhalese, display opposing tendencies, relegating, thereby, the religious factor to a relatively unimportant position. As much as ethnic origin and religion are linked together, urbanisation, occupation and literacy are tied together by the common bond of economic development. Chilaw, for example, has the largest proportion of literate persons. It has also the largest proportion of persons engaged economically in manufacture. Likewise Badulla and Nuwara Eliya have the smallest proportion of literates and the largest proportion engaged economically in agriculture. Urbanisation, however, does not fit neatly into this picture. The Districts of Badulla and Nuwara Eliya have a comparatively small rural population while the District of Chilaw has a relatively large one. The seemingly paradoxical situation in the former two districts is due to a part of the non-urban population being categorised as estate and in the latter, perhaps, to the arbitrary restriction of the urban area. These two groups of characteristics—the ethno-religious and the socio-economic—cannot be considered mutually exclusive. Chilaw, for example, has both the ethno-religious and socio-economic characteristics that favour a low fertility while Batticaloa has both the ethno-religious and socio-economic characteristics that favour high fertility.

The role that the various factors play can best be determined by a consideration of the characteristics of the different districts. The districts that fall into the South West Coast—Chilaw, Colombo, Kalutara and Galle,—it has been already pointed out, have a low fertility which is decreasing and a comparatively slow rate of population growth. They are all in addition :

- (a) areas with a high proportion of Low Country Sinhalese ;
- (b) areas with a high proportion of Buddhists, (with the exception of the Chilaw District where the Christians outnumber the Buddhists) ;
- (c) areas with a high proportion of literate persons ;
- (d) areas with a large section of the population engaged economically in manufacture ;
- (e) areas where a large section of the population lives in urban areas (with the exception again of Chilaw).

With the exception of the religious factor, these characteristics are all associated with a low fertility. The same fertility pattern is displayed by the District of Jaffna which differs from the South West Coast in that it has a predominantly Tamil Hindu population. This common fertility pattern suggests that the socio-economic characteristics are relatively



more important than the ethno-religious ones. The Low Country Sinhalese Buddhist predominance is also a characteristic of the District of Matara and Hambantota. But the fertility patterns of these districts differ from that in the South West Coast. The socio-economic characteristics of Hambantota are diametrically opposite to those of the South West Coast. The illiterate, rural, agricultural population of Hambantota (high fertility correlates) support further the relatively greater importance of the socio-economic factors. However, the socio-economic characteristics of the District of Matara are similar to those of the South West Coast although the fertility patterns differ.

Similar socio-economic characteristics are found first in the Districts of Matale, Nuwara Eliya and Badulla (illiterate, estate, agricultural), second in Hambantota, Ratnapura and Kegalle, (illiterate, rural, agricultural), and third, in Vavuniya, Kurunegala and Anuradhapura (literate, rural, agricultural). In the first group, Matale and Badulla have similar fertility patterns while Nuwara Eliya differs, and this inspite of the fact that the ethno-religious characteristics of Matale and Badulla have similar fertility patterns, while Nuwara Eliya differs, and this inspite of the fact that the ethno-religious characteristics of Matale and Nuwara Eliya are similar. In the second group all three districts have a high fertility but the trends displayed by them differ. Ratnapura and Kegalle have similar trends and similar ethno-religious characteristics while Hambantota has a different trend and a different ethno-religious pattern. A similar situation obtains in the third group. Here, however, the similar trends are found in the districts that dispaly dissimilar ethno-religious characteristics.

As far as ethno-religious characteristics are concerned, similarities exist, apart from the South West Coast, first, in the Districts of Kandy, Matale, Nuwara Eliya, Badulla, Ratnapura and Kegalle, (Kandyan Sinhalese, Indian Tamil, Buddhist, Hindu); second, in Jaffna and Vavuniya (Ceylon Tamil and Hindu); third, in Batticaloa and Trincomalee (Ceylon Tamil, Ceylon Moor, Hindu, Muslim); and fourth, in Kurunegala and Anuradhapura, (Kandyan Sinhalese and Buddhist). In these groups of Districts, similar fertility patterns exist only in association with similarities in the literacy—urbanisation—occupation complex.

## PART IX

### NOTES ON STATISTICAL TECHNIQUES USED

#### Rates

In this study a variety of rates—the Crude Birth Rate, the Age Specific Birth Rate, the Total Fertility Rate, the General Fertility Rate and the Gross Reproduction Rate—all connected with fertility, have been used. These are conventional rates and are described in the text before their use. Thus the procedure used in their calculation should be clear, Data on the Crude Death Rate which are not connected with fertility are also prescribed.

The characteristics of districts such as the extent of marriage and literacy, the predominance of particular ethnic and religious groups and the predilection to urban dwelling and agricultural activity have been expressed as a percentage which takes into account the persons possessing the characteristic and the population of the area. In the case of

ethnic and religious groups the population used in the calculations was the total population of the district. But in the case of marriage, literacy and agricultural activity the base population was limited to those capable of possessing the characteristic such as the over 15 years age group in the case of marriage, the over fives in the case of literacy and the gainfully occupied in the case of agricultural activity.

### Rate of Change

Rates of change were calculated where data permitted such calculations. They were made from the difference between the final figure and the original one and expressed as a percentage of the latter. When trend lines could have been calculated, the final and original figures used were those calculated from the trend so as to minimise the effect of erratic fluctuations. When trends could not be calculated, the observed figures were used. Most frequently, the change was expressed as a percentage change over the entire period considered, but occasionally, as in the case of the population growth, the calculation of an average annual rate of growth became necessary. These calculations were made on the assumption that the change occurred in the period considered first at a uniform rate and second in geometric progression.

### Correlation

Correlations have been made between birth rates and fertility on the one hand and the different characteristics of the districts on the other. The correlations attempted were linear and the method used was that of the Least Squares.

### Grouping of Data

For graphical presentation of the data and also the identification of demographic areas, it was necessary to group the different districts. In this grouping, Sturges formula was used to determine the class interval so as to minimise the distortion of the data that accompanies grouping.

### Errors and Corrections

Under-enumeration at censuses and under-registration during intercensal periods have probably occurred. The errors have been fully discussed earlier. No corrections, however, have been made.

### Sources of Data

Unless otherwise stated, the source of all the data used in this study has been the Reports of the Registrar General of Ceylon on Vital Statistics and the Census Reports.

## PART X

## ACKNOWLEDGEMENTS

The idea of this study originated with Mrs. E. C. Fernando, the Honorary Secretary of the Family Planning Association of Ceylon. Together with Mr. S. Selvaratnam of the Department of National Planning, she assisted in the preparation of the initial proposal. Dr. M. C. Balfour of the Population Council read the proposal and suggested useful changes. He was also mainly responsible for securing us a grant from the Population Council for this study. Without this grant, this study would not have been possible. While the study was in progress, we had the opportunity of discussing the subject with Dr. Dudley Kirk of the Population Council, Professor Philip Hauser of the University of Chicago, Professor David Glass of the London School of Economics and Professor Vincent Whitney of the University of Pennsylvania. They, together with Professor Ralph Pieris of the University of Ceylon, helped with their penetrating remarks and proficient suggestions. Professor D. A. Ranasinghe placed at our disposal his spacious office. Mr. R. M. Edris and Mr. R. Vellupillai assisted in the collection of data and Miss Z. Jayewardene did the typing. Mrs. Betty Nortman assisted in the preparation of the manuscript. To all these individuals, the authors are deeply grateful.