

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.²³

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.

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

TABLE XXIV
Average Annual Gross Reproduction Rates 1950—1960

District	Rate	District	Rate
Colombo	2.3	Batticaloa	3.3
Kalutara	1.8	Trincomalie	3.3
Kandy	2.6	Kurunegala	2.5
Matale	3.0	Puttalam	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.²⁴ 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.²⁵ 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.²⁶ 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

District	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	52.14
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.²⁷

PART VII

Natural Regions and Demographic Areas

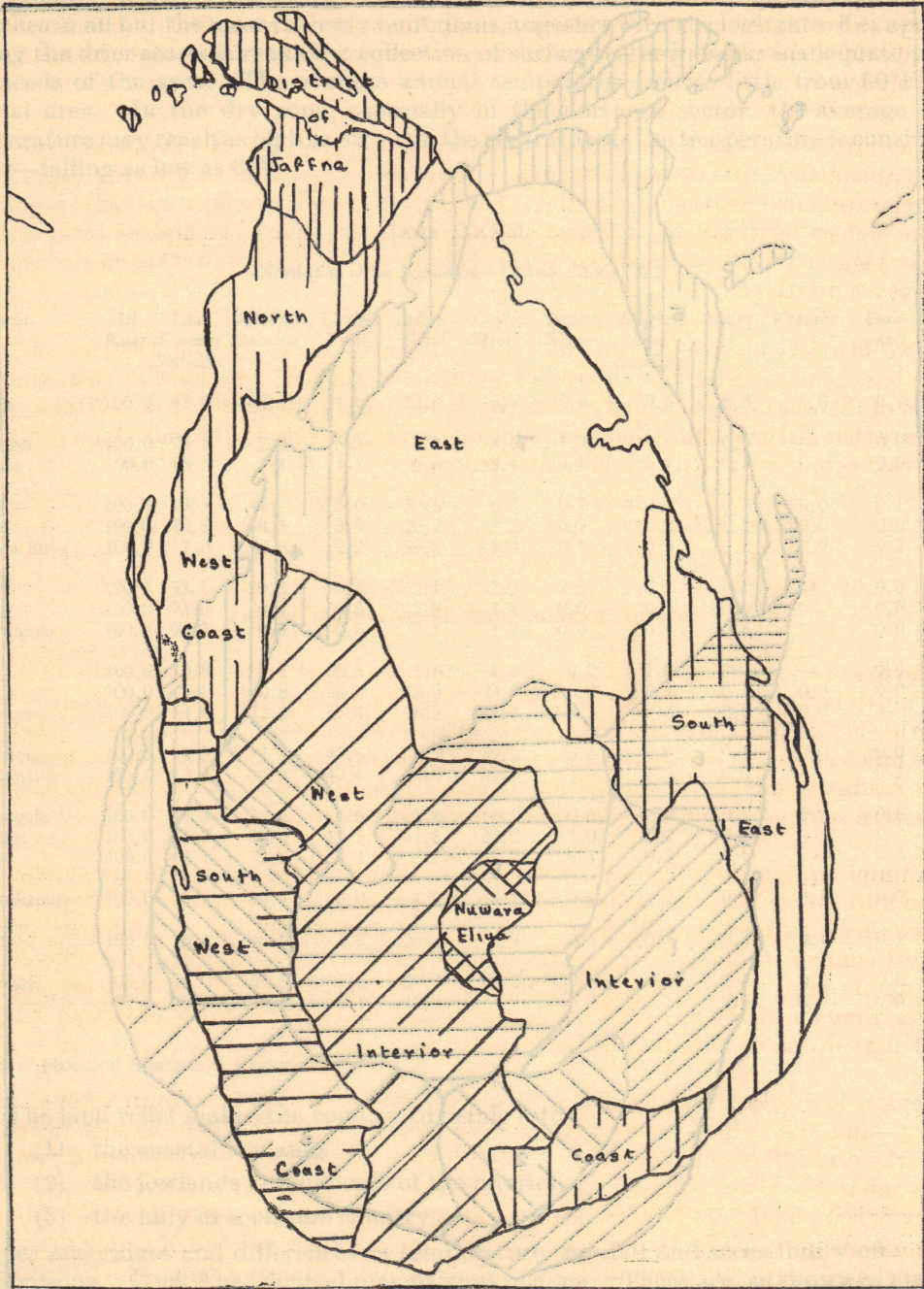
Ceylon is a small island situated at the southern tip of India between the 5° 55' and 9° 50' north latitudes and 79° 42' and 81° 53' east longitudes. The greatest length—north to south—is 270 miles, and the greatest breadth—east to west—is 140 miles. It is 25,332 square miles in area of which 335 11/40 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 import 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

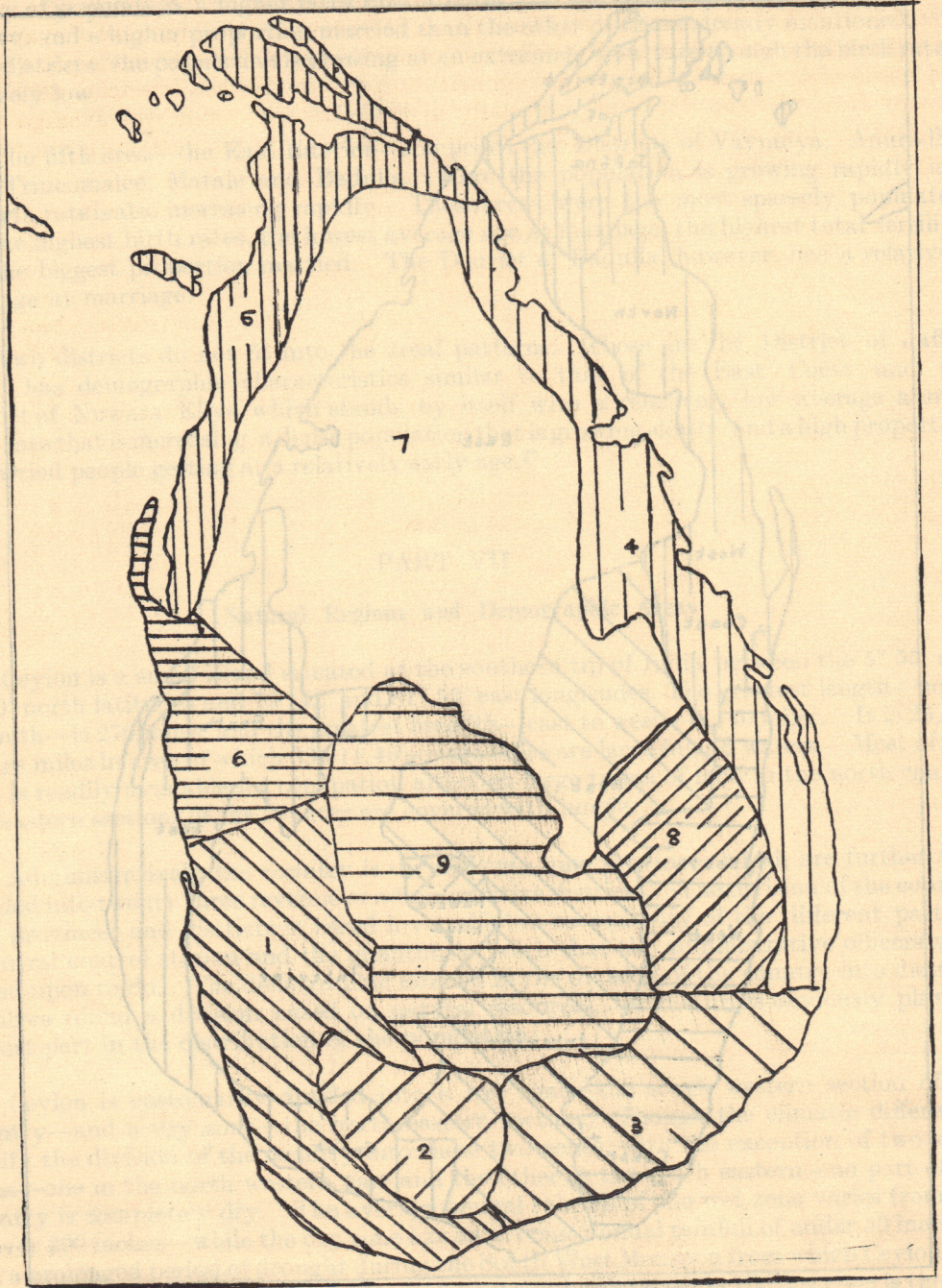
27. The terms low, high, slow, rapid, increase, decrease, used in this section are used in a relative sense and in the context of the data discussed.
Note: Refer to text for characteristics.

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.²⁸ 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	Indim 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
Trincomalie	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.

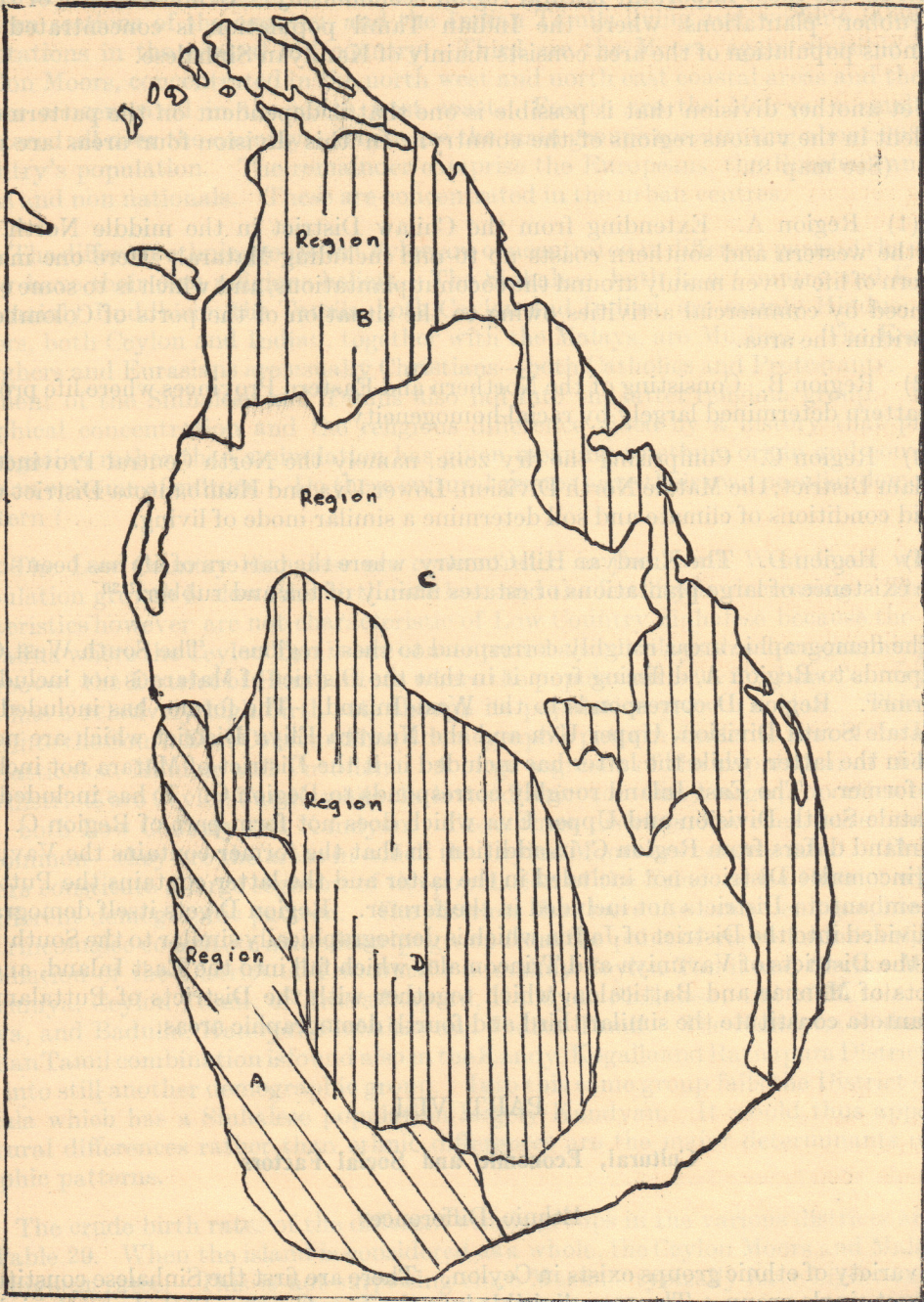
Ranges and ridges and differences in temperature, rainfall and accessibility offer further subdivisions. Cook²⁹ has defined nine natural regions. These are, as shown in map 7 :

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.³⁰

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 Sinhalese³¹ 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

District	Sinhalese	Ceylon Tamils	Indian Tamils	Ceylon Moors	Indian Moors	Malays	Europeans	Burghers and Eurasians
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
Trincomalie	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.³² 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.

District	All Religions	Buddhists	Hindus	Muslims	Christians	Others
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

District	Agriculture Forestry Hunting and Fishing	Manufacture	Construction	Service	Commerce Banking and Finance	Transport Storage and Communication	Other
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

TABLE XXXIV Summary of Characteristics of the Districts

District	Density of Population	Population Growth	Birth Rate	Change in Birth Rate	Total Fertility	Age at Marriage	Predominant Ethnic Group	Predominant Religion	Literacy	Large Urban Population	Rural or Estate Population	Large non Agricultural Population
Colombo	H	MC	L	D	ML	MH	LCS	B	H	++	R	+
Katutura	H	MC	L	D	L	MH	LCS	B	H	++	R	+
Kandy	H	MC	MH	D	ML	ML	(KS (IT	(B (HI	L	-	(R (E	-
Matale	M	MC	H	I	MH	ML	(KS (IT	(B (HI	L	-	(E	-
Nuwara Eliya	H	S	ML	I	H	ML	(KS (IT	(B (HI	L	-	E	-
Galle	H	S	ML	D	L	H	LCS	B	H	++	R	++
Matara	H	S	MH	D	ML	H	LCS	B	H	++	R	++
Hambantota	M	S	MH	I	MH	MH	LCS	B	L	-	R	-
Jaffna	H	S	ML	D	L	ML	CT	HI	H	+	R	++
Mannar	L	S	MH	I	H	ML	(HI (CM	(HI (MU	H	+	R	++
Vavuniya	L	MC	H	I	H	L	CT	HI	H	-	R	-
Batticaloa	L	S	H	I	H	L	(CT (CM	(HI (MU	L	-	R	+
Trincomalie	L	RA	MH	I	H	L	(CT (CM	(HI (MU	H	+	R	+
Kurunegala	M	RA	H	D	ML	ML	KS	B	H	-	R	-
Puttalam	L	S	ML	I	MH	ML	(LCS (KS (C	(B (C	H	+	R	-
Chilaw	M	MC	L	D	L	ML	(CM (LCS	(MU (C	H	-	R	+
Anuradhapura	L	RA	H	I	H	ML	KS	B	H	-	R	-
Badulla	L	RA	H	I	MH	ML	(KS (IT	(B (HI	L	-	E	-
Ratoapura	M	RA	H	D	MH	MH	(KS (IT	(B (HI	L	-	R	-
Kegalle	H	RA	MH	D	ML	ML	(KS (IT	(B (HI	L	-	R	-

=High
 =Medium
 =Low
 =Moderately High
 =Moderately Low
 =Decreasing
 =Increasing
 =Low Country Sinhalese
 =Kandyan Sinhalese
 =Ceylon Tamil
 =Indian Tamil
 =Ceylon Moor
 =Indian Moor
 =Buddhist
 =Hindu
 =Muslim
 =Christian
 =Present
 =Absent
 =Rural
 =Estate
 =Rapid
 =Slow
 =Moderate

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 display 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

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