

The Urban Fringe of Colombo: Some Trends and Problems Concerning its Land Use

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Urban settlement in most countries during the last few decades has been characterized by the expansion of population into the areas surrounding the cities. While a part of this growth can be explained in terms of (i) natural increase and (ii) migration from rural areas to the urban fringe, the major part represents the movement of people from the cities to the fringe areas,—a movement facilitated by the development of automobile transportation and other technological developments such as the extension of electricity and water mains into these areas.

Although the areas surrounding the city have been commonly referred to as the 'rural-urban fringe', the term has been used in a number of different situations with varying meanings.¹ Nevertheless, the rural-urban fringe may, from an operational point of view, be defined as the "area of transition between well-recognized urban land uses and the area devoted to agriculture"². In other words, it is the area of mixed urban and rural land uses, between the point where the entire range of city services ceases to be available and the point where agricultural land uses begin to predominate.

The rapid growth of population in the fringe relative to the central city is well illustrated in the case of Colombo. The purpose of this paper is to examine certain aspects of the economic geography of the urban fringe of Colombo with a view to focussing attention on some of the changes that are taking place within it. For the sake of statistical convenience the central city is defined as the area falling within the municipal limits, and the fringe as the area comprising the ten District Revenue Officers' Divisions in the Colombo District*. The paper is divided into three parts. Part I outlines the major characteristics of the economic geography of the fringe. Part II presents the results of a study carried out in a selected area within the fringe, while Part III includes observations and conclusions.

1. Kurtz, R. A. and Eicher, J. B., "Fringe and Suburb: A confusion of concepts", *Social Forces*, Vol. XXXVII, October 1958.
2. Wehrwein, G. S., "The Rural-Urban Fringe", *Economic Geography*, Vol. XVIII, July 1942.

* It should be noted that only a part of the area included in the ten D.R.O. Divisions constitutes the urban fringe of Colombo. However, since the necessary data were not available on a micro-level, the statistics for the ten Divisions are presented here.

PART I

THE URBAN FRINGE

Population Growth :—The rapid growth of population in the fringe relative to the central city can be seen from Table I, which gives the changes in the distribution of population in the city of Colombo and in the D.R.O. Divisions within the Colombo District between 1946 and 1963. The figures bring out two significant trends in the growth of population within the area : (1) In the period between 1946 and 1953, the D.R.O. Divisions of Aluthkuru Korale South, Siyane Korale West (Adikari Pattuwa) and the Colombo Mudaliyar's Division had a rate of increase higher than that of the city, while the population of Aluthkuru Korale North (A) and Salpiti Korale grew at a rate approximating that of the city. It is interesting to note that these five units represent the first tier of D.R.O. Divisions lying adjacent to the city (Fig. 1). (2) Between 1953 and 1963, in addition to the first tier of D.R.O. Divisions mentioned above, the second tier of D.R.O. Divisions, i.e. Hapitigam Korale, Aluthkuru Korale North (B), Siyane Korale West (Meda Pattuwa) and Hewagam Korale also showed a rate of increase higher than that of the city of Colombo.

It may be argued that, in the popular mind, Colombo covers an area larger than that included within the Municipality of Colombo and, therefore, if the population of some of the densely built-up areas is added the city would show a higher rate of growth than the fringe. That this assumption is incorrect becomes clear when we add the population of the Dehiwala-Mount Lavinia area (the largest local authority area lying adjacent to the city) to that of the city of Colombo. Between 1953 and 1963, the population of Colombo together with that of Dehiwala-Mount Lavinia increased by 23 per cent. However, the figures in Table I show that during the same period, seven of the ten D.R.O. Divisions showed a rate of increase that was higher than 23 per cent.

It is noteworthy that the majority of the urban places within the Colombo District have also shown a rate of increase greater than that of the city of Colombo. This can be seen from Table II which gives the percentage increase in population in some of the more important urban places within the district. The figures show that the population in all these except in Gampaha and Veyangoda increased at a faster rate than in the city of Colombo. It should be pointed out that the rates of increase cannot be calculated for Kandana, Hendala and Maharagama, all of which came to be treated as urban places after 1953. However, if data were available it is very likely that these three places would also exhibit a trend similar to that of the other urban places within the district.

It was mentioned earlier that the rapid increase of population in the fringe was the outcome of three sets of factors, i.e. natural increase within it, the outward migration of people from the city to it, and inward migration from other parts of Ceylon into it. Because of the lack of data it is not possible to measure the rate of natural increase in the fringe. Although a precise measurement is difficult even in the case of the other two movements, yet some idea of their significance can be had by examining the data on the place of birth and the place of residence given in Census Reports.³ It should be pointed out however, that even these data are of limited value partly because they often show only inter-district movements thus failing to reveal the very significant movements within the district, and also because comparable data are lacking for successive census years.

The most obvious indicator of migration is the difference between the number born and that resident in a given district. These figures for the Colombo District for the last three census years are given in the table below.

TABLE A
Number of People born and the number residing in the Colombo District
for the Census Years 1946, 1953 and 1963

Census Year	Born in Colombo District	Resident in Colombo District	
		Ceylon Born	Foreign Born
1946 ..	1,314,301	1,329,409	90,923
1953 ..	1,582,341	1,610,887	97,839
1963 ..	2,062,788	2,160,705	46,715

Source: Department of Census and Statistics, Ceylon.

Migration occurs in two streams, inward and outward, and the difference between these indicates the nett effect of the movement. This nett migration balance shows life-time migration up to the year under consideration. The difference between the nett migration balances for two census years gives the nett intercensal migration balance, a positive figure indicating a nett gain and a negative figure showing a nett loss. A summary of the migration balances is given below.

TABLE B
Nett Migration balance and nett Intercensal Migration balance for the
Colombo District, 1946 to 1953

Year	Life-time In-migrants to Colombo District	Life-time Out-migrants Colombo District	Life-time Nett Migration Balance	Nett Intercensal Migration Balance
1946 ..	163,656	148,548	+ 15,108	+ 13,438
1953 ..	229,460	200,914	+ 28,546	
1963 ..	348,275	250,358	+ 97,917	+ 69,371

Source: Department of Census and Statistics.

3. Vamathevan, S. *Internal Migration in Ceylon 1946-1953*, Monograph No. 13, Dept. of Census and Statistics, Ceylon 1961.

The successive increase in the numbers given above can be explained partly by the difference in length of the intercensal periods and partly by the fact that in 1963 there were 20 urban places in the Colombo District, whereas in 1953 there were only 10. Yet, even after allowance is made for this fact, there remains a strong indication of an accelerated migration towards the Colombo District in recent years. Table III further indicates that Colombo is one of the districts that are affected by a heavy inflow of migrants and that the major proportion of the inflow is from the Wet Zone districts. Some data are available in respect of birth and residence in urban places (Tables IV and V) and tend to corroborate what has been said above. Their usefulness, however, is limited by the fact that the data for different census years are not always comparable.

Inter-urban migration data for 1953 are summarized in the table below :

TABLE C
Inter-Urban Migration 1953

A. <i>Born in urban* places in Colombo District</i> 437,318	i. Resident in urban places in Colombo District	312,649	71.49%
	ii. Out-migrants to urban places outside Colombo District	13,777	3.15%
	iii. Out-migrants to rural areas within or outside Colombo District	110,892	25.36%
B. <i>Resident in urban* places in Colombo District</i> 626,671 (Ceylon Born)	i. Born in urban places in Colombo District	312,649	49.89%
	ii. In-migrants from urban places outside Colombo District	26,279	4.19%
	iii. In-migrants from rural areas within or outside Colombo District	287,743	45.92%

(*Municipal Council areas and Urban Council areas only)

Source: Department of Census and Statistics.

The figures show that 25 per cent of those born within urban areas had moved into rural areas and 46 per cent of those resident in the urban places had moved in from rural areas. Actual experience would suggest that the former is directed more towards the urban fringe while the latter originates more in other districts than in Colombo. The data given in Table C are not fully indicative of the migratory movements which exist in the Colombo District. A (i) and B (i) appear to be a static component of the urban population, but it should be noted that in 1953 there were 10 urban places in the district, and that the migration between these places has been ignored. It should also be remembered that inter-urban migration leaves out the rural-to-rural component altogether. The inward component of such a movement would obviously be directed towards the fringe.

If Colombo is defined as the central city, the remaining nine urban places would be contained in the urban fringe. Some of the migration characteristics of the fringe are likely to be revealed if the migration components of the city of Colombo are separated from those of the other nine i.e. Negombo, Avissawella, Dehiwala-Mt.Lavinia, Gampaha, Jaela, Kolonnawa, Kotte, Moratuwa and Wattala-Mabole-Peliyagoda (Table D).

TABLE D
Life-time Migration components of the Colombo District 1953

A. <i>Born in the city of Colombo</i> 278,157	i. Resident in the city of Colombo	168,222	60.5%
	ii. Out-migrants to the "Fringe Towns"	28,479	10.2%
	iii. Out-migrants to urban places outside the district	8,781	3.2%
	iv. Out-migrants to rural areas within or outside Colombo district	72,675	26.1%
B. <i>Resident in the city of Colombo</i> 352,795 (Ceylon Born)	i. Born in the city of Colombo	168,222	47.7%
	ii. In-Migrants from the "Fringe Towns"	4,647	1.3%
	iii. In-migrants from urban places outside the district	16,762	4.7%
	iv. In-migrants from rural areas within or outside Colombo district	163,164	46.3%

Source: Department of Census and Statistics.

If we consider the people born in the city of Colombo the movement to the fringe would include A (ii) and a large part of A (iv). It should be noted that the proportion of outmigrants from Colombo is larger than that from other urban places (Tables D and E below). In-migration from fringe towns, i.e. component B (ii) in table D, is very small when compared with the out-migration, i.e. component A (ii) in table D, yielding a positive migration balance for the "fringe towns". As mentioned earlier, the in-migration from rural areas, i.e. component B (iv) in table D, is likely to be greater from outside the district.

It is interesting to note that there is a movement of people from the "fringe towns" to other areas. This can be seen from table E which gives the life-time migration components of the "fringe towns" in the Colombo District.

TABLE F
Life-time Migration components of "Fringe Towns" in Colombo District 1953

	i. Resident in "fringe towns"	111,301	69.9%
	a. Out-migrants to the city of Colombo	4,647	2.9%
A. <i>Born in</i> <i>"Fringe Towns"</i> 159,161	iii. Out-migrants to urban places outside the district	4,996	3.2%
	iv. Out-migrants to rural areas within or outside Colombo district	38,217	24.0%
	i. Born in the "fringe towns"	111,301	40.6%
B. <i>Resident in</i> <i>"Fringe Towns"</i> 273,876 (Ceylon Born)	ii. In-migrants from the city of Colombo	28,479	10.4%
	iii. In-migrants from urban places outside the district	9,517	3.5%
	c. In-migrants from rural areas within or outside the Colombo district	124,579	45.5%

Source: Department of Census and Statistics.

The above figures show that there is a considerable movement from the "fringe towns" into rural areas. The in-migration from rural areas, i.e. component B (iv), is likely to be greater from outside the District than from within it. Tables A and B prove further that there is a considerable movement outward from the centre as well as a large influx into the district from other parts of the island. The tendency appears to be very strong for both these streams to terminate in the fringe.

Data for the intercensal period 1953-63 cannot be obtained because comparable data are not available for 1963. However, as shown earlier the life-time migration figures are considerably large for 1963. By that year, among the Ceylon-born population of 2,160,705 there were 348,275 in-migrants to the Colombo District of whom 238,395 went to urban places some of which are located in the fringe and the remaining 109,880 to the rural areas, parts of which would be included in the fringe (Table V).

Land use: From the point of view of use the land in the fringe can be divided into two fairly well-defined categories, i.e. urban and rural. Generally speaking, urban uses predominate in the zone peripheral to the city whereas rural or agricultural uses become more important as one moves away from the built up area. The agricultural land in turn can be divided into two categories, the land devoted to peasant crops such as paddy and that devoted to plantation crops such as rubber. The proportion of land in these two categories is given in Table VI. The figures show that paddy, which is the chief peasant crop, plays a far less important role in the agriculture of the Colombo District than the plantation crops. In 1962, approximately 57,000 acres in the district were given over to paddy cultivation, of which nearly 65 per cent comprised

land in holdings below 5 acres in size. The paddy land is cultivated in both Maha and Yala although the acreage sown in Yala is generally less than fifty cent of that sown in Maha. Of the plantation crops coconut and rubber are the most important, the former covering approximately 220,000 acres and the latter 65,000 acres. As in the case of paddy, a sizeable proportion of the land devoted to plantation crops is in the form of very small holdings, presumably a reflection of the peasants' growing interest in the cultivation of money crops. Holdings below five acres for instance comprise 37 per cent of the land in the Colombo District as compared to 23 per cent for the island as a whole, 29 per cent for Galle, 27 per cent for Kalutara, 15 per cent for Matale and 11 per cent for Kandy. The process of fragmentation that has gone on in the case of plantation crops is brought out further by taking a specific crop such as rubber. Of the land that was given over to rubber in 1968, holdings below 10 acres accounted for 56 per cent of the acreage in the Colombo District as compared to 36 per cent in Kalutara, 34 per cent in Galle, 30 per cent in Kegalle and 25 per cent in Ratnapura.

Manufacturing :—Although not as important as agriculture, manufacturing is nevertheless one of the major economic activities in the fringe. The industries in the area today may be divided into five broad groups: (1) Traditional industries such as brick and tile-making; (2) Service industries such as rice milling and foundry work; (3) Government sponsored small scale industries such as weaving; (4) Government sponsored large scale industries such as steel rolling and (5) Privately owned consumer goods industries. The absence of data makes it difficult to assess the relative importance of these industries in the economic structure of the area. However it is significant that nearly 80 per cent of the industries in the island today are located in the Colombo District* (Table VII). Of these, a greater proportion is located within the city and its immediate environs, but within the last few years there has been a tendency for industries to move into the fringe. Since enough land has not been reserved within the city and its suburbs to ensure efficient industrial growth, there is a general scarcity of good industrial sites and as a result many industrialists have had to move into the fringe in search of cheap land. This land has not only attracted new industries but also older established industries that have decentralized because of the scarcity of land within the built up area. The movement of industry into the fringe is well illustrated in the figures given in Tables VIII and IX. Of the new industries in the Food and Beverage Group that were started between 1961 and 1968, 26 plants found a location outside the built up area as compared to 30 within it. Similarly, in the Leather, Rubber, Wood and Paper Group, 67 of the new plants that were started between 1961 and 1968 found a location within the built up area while another 23 were

* These represent industries that have been registered with the Department of Industries.

located outside the area. The evidence, therefore, seems to suggest that the fringe is becoming more and more attractive to prospective industrialists.

Transportation:—One of the significant characteristics of the fringe is the large daily movement of population to and from the city. This can be seen from Table X which shows the relationship of traffic volumes to distance on roadways around Colombo. The figures show that all of the volumes increase rapidly as the distance to the city decreases. Seventy eight per cent of the traffic destined for Colombo area is generated within a twenty mile radius of the city while fifty six per cent is generated within a ten mile radius.

With the rapid increase in population in the fringe during the past several years there has been a corresponding increase in the daily movement of people to and from the city. Although the absence of data makes it difficult to measure this trend, nevertheless some idea of the increase can be had from Table XI, which gives the number of passengers carried on certain selected bus routes between 1963 and 1967. The increasing growth rates of travel between the fringe and the city are also brought out in a classification count carried out by the Traffic and Planning Branch of the Public Works Department. The figures given in Table XII are based on a six hour manual count between 7.00 a.m. and 1.00 p.m. at Nawinna and Kotte in 1961 and 1967 and show that there has been an appreciable increase in vehicular traffic, especially buses, during this period.

Some of the commuters who move into the city from the fringe do so in private vehicles—mainly passenger cars. The significance of this movement is brought out in Table XIII which gives the passenger car and lorry trips between 8 selected interview stations around the periphery of Colombo and (1) Colombo Postal Zones (2) Urban areas adjacent to Colombo and (3) Western Province Zones outside Colombo. The figures show that the greatest volume of travel takes place within the municipal limits. However, it is noteworthy that travel from the urban areas adjacent to Colombo represent 66 per cent of the travel within the city while that from the other parts of the province represent almost 43 per cent. Thus, there appears to be a considerable volume of passenger cars moving into the city from the fringe.*

Urban Development:—It was pointed out earlier that the urban population in the fringe has been expanding steadily. This expansion, however, has not been uniform, some settlements having grown at a

* This trend would have been more marked, and consequent problems greater, if not for the ban on the import of cars since 1960.

faster rate than others. This differential growth is at once a cause and a result of the development of some settlements as central places.

The most important function of these central places is the provision of services to the local inhabitants. A service centre serves not only the population of the centre, but also that of a complementary region around it. The gravitation of demand towards the centre has been likened to the crystallization of matter around a nucleus.⁴ This analogy has been used for working out patterns of "market areas" or "complementary regions" around service centres. In a homogeneous landscape the complementary regions would develop into hexagonal shapes, and each centre would have six main transportation lines radiating from it.⁵ Among service centres some move into positions of greater importance than others, giving rise to a hierarchical order among the centres. The smaller centres are those that provide services with a smaller range. Hence their complementary regions are smaller, and the centres are spaced closer together than are the larger centres with larger complementary regions. In addition to all the services which are provided by the smaller centres, the larger centres provided other services with a larger range, the presence of which elevates them to the higher hierarchical levels. The ideal pattern is never realized in reality, but yields a model for understanding reality. While the fringe falls within the complementary region of Colombo for a large number of services, several service centres have developed within the fringe and have risen to various levels in the hierarchy. All the "fringe towns" are service centres while other service centres are not recognized as "urban" places.

PART II

HEWAGAM KORALE-PALLE PATTUWA DIVISION

The Palle Pattuwa Division of the Hewagam Korale situated to the South East of Colombo could be treated as being representative of the fringe both from the point of view of population increase as well as the patterns of economic activity. In 1963, the area had a population of 122,353 which represented an increase of 41.4 per cent over the 1953 figure. Although the division as a whole had this high rate of increase a certain degree of regional variation is nonetheless apparent (Table XIV). In order to bring out this variation more clearly the villages have been divided into four categories: (1) Those showing an increase greater than that of the division; (2) those showing an increase less than that of the division but greater than that of the district; (3) those showing

4. Christaller, W., *Central Places in Southern Germany* (Trans. C. W. Baskin), New Jersey, 1966.

5. Losch, A., *The Economics of Location* (Trans. W. H. Woglom and W. F. Stolper), New York, 1954.

an increase less than that of the district but greater than that of the city and (4) those showing an increase lower than that of the city. It is significant that only five of the thirty three villages in the area showed an increase lower than that of the city.

Agriculture is the major economic activity in the area with paddy as the major crop in the lowland areas and coconut and rubber in the highland areas. According to the information released by the local gramasevakas there were approximately 7,500 paddy holdings in the area in 1967 of which 78 per cent were cultivated by owners and the remainder by tenants. Of these holdings 13 per cent were over one acre in extent, 57 per cent were below half an acre and the remainder between one half of an acre and one acre.

Of the operators, approximately 300 were interviewed on the field with the help of a questionnaire, representing a 5 per cent random sample. According to the information provided by the cultivators paddy was grown during both Maha and Yala although in certain years there has been a tendency for a smaller acreage to be cultivated during the Yala season because of such problems as floods and poorly drained fields. Apart from paddy, some cultivators also grew a variety of crops on the unirrigable highland areas and of these coconuts, rubber and vegetables appeared to be the most popular. A little over 75 per cent of these highland holdings were below two acres in extent.

The yields of paddy obtained by the cultivators were generally low throughout the division with approximately 65 per cent reporting a yield of less than 25 bushels per acre in both Maha and Yala. Some, however, did report yields of over 45 bushels per acre but these comprised less than 5 per cent of those who were interviewed. Almost all the cultivators reported the use of fertiliser although 60 per cent had adopted the practice after 1960. Only 16 per cent transplanted their paddy and nearly all of them had adopted this practice within the last five years. On the other hand nearly 55 per cent of the cultivators used insecticides, a practice that had become popular only after 1960. The use of machinery was relatively unimportant prior to 1963, but almost 60 per cent reported the use of machinery in their agricultural operations today. Most of the paddy that was produced was used for domestic consumption although a small proportion was sold when there was a little surplus or at times when they needed a little extra cash. Most of the highland crops, on the other hand, were produced for commercial purposes with rubber being sold mainly to dealers and coconuts and vegetables to local residents, either individually or at the local fairs. The paddy cultivators in the area have had to face a variety of problems. Of these, environmental problems such as drought, floods and poor natural drainage were the most important. Others included such things as difficulties in obtaining fertiliser and mechanical equipment, lack of agricultural instruction, shortage of capital and high labour costs.

Of the cultivators who were interviewed 46 per cent were engaged in other occupations. Of the latter 23 per cent worked as labourers, 22 per cent were in business and another 12 per cent were engaged in teaching. Although 54 per cent of the cultivators were not engaged in other occupations, the majority of them were nevertheless interested in doing a job. Some were uncertain as to the type of job they would like to do but, to the remainder, trade and carpentry appeared to be the most attractive.

The evidence drawn from the Palle Pattuwa Division seems to suggest that paddy cultivation in the fringe does not appear to be in a very healthy state. The multiplicity of holdings, the low yields and the slow spread of improved agricultural techniques show that there has been little change from the traditional pattern. Perhaps of greater significance is the growing importance of non-farm occupations. This shows that people in the fringe are becoming less dependent on paddy as a means of sustenance.

Although agriculture is undoubtedly the major economic activity in the Palle Pattuwa Division, a certain amount of industrial development appears to have taken place in the area over the past several decades (Table XV). All the industries characteristic of the fringe are represented in the area and of these the manufacture of brick and tiles appear to be the most important. With the exception of these two industries, which are essentially raw material oriented and hence located in close proximity to the Kelani River, the other industries in the area are irregularly distributed over the entire division. Of these, some have been located with reference to such factors as labour, cheap land, transportation facilities and local markets, whereas in the case of others non-economic factors, such as residence, appear to have played a more important role. Although there are over 230 industries in the area the majority of them are relatively small in size, employing on the average less than ten persons.

Despite the presence of a variety of industries in the area, the rate of industrial development measured in terms of employment has hitherto been rather slow, presumably a reflection of the slow rate of industrial development in the country as a whole. This situation, however, is bound to change in the future, partly because of the efforts that are being made to step up the rate of industrial growth in the country and also because industrialists have begun to move into the fringe in search of suitable industrial sites.

From the point of view of transportation the Palle Pattuwa Division is served by a network of major and minor roads and the Kelani Valley Railway running from Colombo to Opanaika. While a part of the commuters from the area travel in cars, the greater number apparently rely on buses and the railway. Of these two, bus transportation is evidently the

most popular. In 1961, for example, in the month of November the Kelani Valley Railway carried a total of 433,801 passengers which represents a fraction of the number carried on the different bus routes operating within the area. The Kelani Valley narrow gauge line which skirts this area has been the centre of a great deal of discussion. Because of the various problems associated with this line such as poor alignment, low speed of travel and low financial returns many people have recommended its complete abandonment. On the other hand some have argued very strongly for retaining the portion of the line from Colombo to Homagama as a broad gauge railway.⁶ The latest recommendation is the conversion of the line between Colombo and Homagama into a broad gauge so that it could be used for commuter traffic as well as for the transport of materials to and from the Steel Factory.⁷

One of the most important functions of the urban settlements in the Palle Pattuwa Division is the provision of services to the local inhabitants. There are several ways in which the structure of these services could be examined, e.g. the flow of wealth, but unfortunately the absence of suitable data precludes such analysis. Therefore, the most convenient and practicable method is to examine these centres with reference to the different establishments located within them. This technique provides the basis for an objective assessment of the relative importance of the different service centres within the area.

There are several urban centres in the area providing services to the local inhabitants. The number and types of service establishments located at the more important service centres in the division are given in Table XVI. It should be noted that only the built up areas of these centres have been considered and therefore the service establishments located away from the built up areas have been excluded. The centres have been arranged according to the total number of establishments present. The data for residential buildings are also included, but even if these statistics are excluded the patterns remain unaltered.

On the basis of the data provided in Table XVI, it is possible to arrive at certain conclusions regarding the relative importance of the larger urban centres in the area : (1) Homagama and Battaramulla, located on the eastern and western margins of the area, are the two most important service centres in the area ; (2) Kottawa and Kaduwela, located on the southern and northern margins respectively, rank third and fourth but are of much less importance than Homagama and Battaramulla ; (3) Athurugiriya, lying in close proximity to the Ceylon Steel Corporation, is only half as important as Homagama and Battaramulla ; and (4) The other centres in the area are relatively unimportant except for perhaps Malabe and Pitipana (fig. 2).

6. *Ceylon Traffic and Planning Study*, Wilber Smith and Associates, 1966.

7. *Report of the Transport Commission*.

The relative importance of the service centres in the area was also examined with reference to their hinterland populations which were calculated on the basis of a sample survey. The data obtained are given in Table XVII (also figs. 3, 4 & 5). Although the results obtained are not very accurate, nonetheless they can be accepted as indicators of the relative importance of the various service centres in the area. Before drawing any conclusions however, it is necessary to point out the following: Firstly, the service areas of the more important centres such as Homagama, Battaramulla and Kottawa extend outside the area e.g. Palle Pattuwa comprises only one quarter of the hinterland of Homagama. Secondly, a section of the population of Palle Pattuwa obtains its needs from service centres located outside the area, e.g. Colombo, Maharagama and Meegoda. This feature along with the lack of some data in respect of a few settlements explains the discrepancies in the totals in Table XVII. Thirdly, a considerable number of the population was seen to obtain fish, vegetables and similar items from vendors and neighbours and therefore these figures had to be excluded from the hinterland population of the various centres. Despite these drawbacks, the hinterland populations bring out quite clearly the relative importance of the service centres in the area. Homagama and Battaramulla once again stand out as the two major nuclei in the area, followed by Kaduwela, Kottawa and Athurugiriya.

PART III

CONCLUSIONS

Since land in the urban fringe of Colombo constitutes one of our more important resources every effort should be made to plan and if possible to direct and control its future development. A pre-requisite to such planning is the need to find adequate answers to certain basic questions concerning the use of land in the fringe. It is on the basis of these answers that steps should be taken to find out the best uses to which the land could be put.

One such question is connected with the future of peasant agriculture in the fringe. A major problem facing peasant agriculture in the area is the accelerating conversion of agricultural land into non-agricultural uses. The majority of the people moving into the fringe from the city are in search of cheap land for residential purposes. Of these, some, especially those who rely heavily on public transportation, generally look for land alongside the main lines of communication, while others who own vehicles and therefore are not tied down to public transportation move deeper into the fringe. Admittedly, both groups are attracted to the fringe because of the relatively cheap land, but preliminary investigations seem to suggest that the greater competition for agricultural land comes from those who belong to the second group. On the one

hand, because of their greater mobility these people are in a position to move deeper into the agricultural areas in search of cheap land. At the same time, perhaps because of their greater affluence, they are also in a position to buy up more land partly for speculative purposes and also for other reasons such as the desire to determine one's future neighbours. Although the people from the city represent the major consumers of agricultural land in the fringe, others such as industrialists are also finding the fringe extremely attractive. In fact, the lure of cheap land has been so great that in some instances there has been a tendency to ignore other more important factors of industrial location thereby providing excellent examples of locational maladjustment in the fringe. Thus, competition for land in the fringe is on the increase and therefore the question arises as to what steps should be taken to allocate the land amongst competing uses.

A second problem facing peasant agriculture in the fringe is associated with the part-time nature of farming. Part-time farming has become a characteristic feature of peasant agriculture in the fringe and the evidence seems to suggest that it is on the increase. Therefore, the question arises as to whether the people continue to farm because of some intrinsic interest in this type of economic activity or are engaged in auxiliary occupations in an attempt to supplement their meagre earnings from the land, or for other reasons such as the insurance against some occupational disaster, the dictates of prestige or even of pleasure. A complete answer to this question is almost impossible at present. Nevertheless some thought should be given to this problem before any attempt is made to increase the efficiency of peasant agriculture on the fringe. To put it simply, there is not much point in encouraging people to improve the agriculture so long as they have only a tangential interest in their land.

Yet another problem concerns the structure of peasant agriculture in the fringe. Farmers in the fringe have hitherto been concentrating on traditional crops such as paddy, rubber and coconut. Little attention has been paid to other types of farming such as the commercial production of vegetables, fruits, eggs and milk. The question, therefore, is whether the present patterns of land use should be allowed to continue or some attempt be made to encourage farmers to produce more vegetables, fruit and poultry and dairy products. On the one hand, it cannot be denied that these types of farming represent a more intensive type of land use better suited to the fringe. However, what is more important is the fact that by encouraging the farmer to produce more fruit, vegetables, eggs and milk, it may be possible to meet at least a part of the demand of a rapidly increasing urban population.

Another basic question concerns the role of industry in the development of the fringe. It was pointed out earlier that there has been a trend towards the movement of industry into the fringe. Such a movement

would not create any major problems if industrial areas are demarcated and the location of plants is specified. Unfortunately, there is no legislation at the present time that compels the industrialist to locate his plant at a particular point, and as a result there has been a tendency to locate plants indiscriminately throughout the fringe. This has not only prevented the land in the fringe from being put to its best social and economic use but has also provided several examples of industries that seem to suffer by being poorly located.

If the pace of industrial growth in the fringe is going to accelerate itself in the future, as it would in all probability if current trends are treated as indicators for the future, then there is an obvious need for comprehensive planning of industrial land use in the area. Basic to such planning is the understanding of the space standards of the new plants. Industrial land planning should be more than just broad estimates of space needs, and therefore detailed research must be carried out on land and space requirements by type of industry. Once the data on space standards is obtained, then it will be possible to reserve land for industrial uses through a process of zoning. The quantity of land reserved would depend on such factors as the types of industry intending to move into the area, population trends, the labour force, and transportation facilities. Furthermore, the selected land should be suitable for industrial development, with special attention being paid to natural features of the site. Consideration should also be given to the external connection of the area, i.e. present and future transportation patterns and plans for housing and services.

The selection of suitable areas for the location of industry is undoubtedly one of the most pressing problems in the fringe. However, before any attempt is made to demarcate land for industry it will be necessary to find adequate answers to two basic but related questions. Firstly, what types of industries should be encouraged to move into the fringe and secondly what industries could realize economies by being in close proximity to each other. If fairly large tracts of land are reserved for industrial development, then a nucleus of linked industries may have an opportunity to develop spontaneously. Furthermore, as more information is obtained about industries, steps could be taken to plan for industrial areas specifically designed for serving interdependent factories.

Another basic question concerns the future development of transportation in the fringe. As the population in the fringe continues to expand there will be an increasing demand for improved transportation facilities. One way in which this demand could be met is by improving the bus and railway services in the area. Already, steps have been taken to improve the bus services, partly by extending the period of service and also by providing more frequent services—especially during rush hours. At the same time several new bus routes have been opened to meet the needs of those living in less accessible parts of the fringe. Likewise, railway

facilities have also been improved in an effort to meet the increased demand for rail services.

It should be pointed out that the improvements of bus and rail services provides at best only a partial solution to the problem of transportation. Of far greater significance is the need to improve the existing road network. As the population in the fringe continues to expand there will be a corresponding increase in the number of motor vehicles using the roads. Even at present many of the roads operate at their possible capacities during peak hours, and unless they are improved these roads will not be able to accommodate additional traffic. Thus, the need for a more satisfactory road network is one of the more important problems associated with the future development of the fringe. It should be emphasized at this point that in planning the road network a great deal of thought should be given to future traffic patterns and in estimating these patterns attention must be paid to two important factors. Firstly, it will be necessary to take into account potential changes in land use within the fringe. As noted earlier, land use in the fringe is changing rapidly with agricultural land giving way to urban uses. Since these new uses will generate a larger volume of traffic than at present they will require improved access as development continues. Secondly, the economic trends in the area will have to be considered. As the standard of living increases there will be corresponding increase in the growth rates of travel between the fringe and the other areas and the greater use of road transportation in the movement of goods and passengers from the fringe.

The role of recreational land in the future development of the fringe is another important question that has to be considered. Recreational land is virtually absent in the fringe, most of the parks and playgrounds being confined within the municipal limits of the city. This scarcity can be easily explained in terms of the prevailing economic and social conditions in the fringe today. But the demand for recreational land is bound to expand in the future with the increase in the number of middle-class and richer people moving into the fringe. If so, there is an urgent need to measure this potential demand and demarcate areas which could be used for recreational purposes in the future.

These are some of the more important questions to which attention should be paid if the development that is taking place rapidly in the fringe area is to be purposefully directed towards a more rational use of space. Land in this area is becoming increasingly scarce and should be treated as an expendable scarce resource. To obtain the optimum benefit from it a land use policy is urgently required to allocate land between competing interests, such as farming, industry, recreation, low and high density housing and services. Such a policy and the scheme of zonation it will involve are necessary even for the economical provision of basic

services such as water, electricity, sewage, transport, schools and recreational facilities. It would be difficult to provide these services efficiently if development is haphazard and unplanned. The fringe, therefore, is an area in which land use planning should receive very high priority.

TABLE I

Changes in the Distribution of population in the city of Colombo and the District Revenue Officers divisions in the Colombo District

	<i>Increase Absolute</i>	1946-1953 <i>Per cent</i>	<i>Increase Absolute</i>	1953-1963 <i>Per cent</i>
Colombo	64,053	20	84,820	20
Hapitigam Korale	8,766	15.8	13,594	21.2
Aluthkuru Korale North A.	19,242	19.6	26,813	22.8
Aluthkuru Korale North B.	13,796	15.6	21,238	20.7
Aluthkuru Korale South	30,232	24.2	43,870	28.3
Siyane Korale West (Meda Pattuwa)	10,402	11.9	59,357	60.5
Siyane Korale West (Adikari Pattuwa)	23,342	25.3	29,851	27.0
Siyane Korale East	12,115	13.1	11,720	11.2
Hewagam Korale	27,970	18.6	63,164	35.5
Colombo Mudliyar's Division	59,887	35.2	104,732	45.5
Salpiti Korale	19,589	19.1	38,838	31.8

Source: Census of Ceylon, 1953 and 1963.

TABLE II

Percentage increase in Population in some of the Urban centres within the Colombo District 1953-1963

	<i>Percentage Increase 1953-1963</i>
Colombo	20.0
Kochchikade	257.5
Wattala/Mabole/Peliyagoda	134.7
Battaramulla/Talangama	62.3
Dehiwala-Mount Lavinia	41.8
Piliyandala	40.8
Ja-Ela	35.6
Kotte	34.8
Minuwangoda	31.6
Moratuwa	29.3
Kolonnawa	28.4
Avissawella	26.8
Negombo	21.4
Gampaha	15.7
Veyangoda	11.3

TABLE III
Internal Migration of Population-Colombo District from 1953 to 1963

District	Life-time Migration up to 1953			Life-time Migration up to 1963			Intercensal Migration 1953-
	In-migrants to Colombo	Out-migrants from Colombo	Balance	In-migrants to Colombo	Out-migrants from Colombo	Balance	1963 Nett Migration Balance
Kalutara	35,829	24,342	+ 11,487	48,431	34,554	+ 13,877	+ 2,390
Kandy	30,071	16,117	+ 13,954	40,806	17,872	+ 22,934	+ 8,980
Matale	2,888	4,451	- 1,563	5,008	4,526	+ 482	+ 2,045
Nuwara Eliya	4,307	3,660	+ 647	8,003	3,416	+ 4,587	+ 3,940
Galle	46,640	7,858	+ 38,782	54,463	10,461	+ 44,002	+ 5,220
Matara	27,802	3,838	+ 23,964	43,431	4,447	+ 38,984	+ 15,020
Hambantota	2,245	951	+ 1,294	3,744	1,581	+ 2,163	+ 869
Jaffna	22,995	4,014	+ 18,981	27,528	4,819	+ 22,709	+ 3,728
Mannar	430	991	- 561	1,096	1,428	- 332	+ 229
Vavuniya	115	941	- 826	494	2,101	- 1,607	- 781
Batticaloa	1,645	4,196	- 2,551	2,825	1,915	+ 910	- 1,567
Amparai	—	—	—	156	5,184	- 5,028	- 2,769
Trincomalee	1,084	3,823	- 2,739	2,067	7,575	- 5,508	+ 10,209
Kurunegala	13,196	48,475	- 36,279	21,117	47,187	- 26,070	- 3,391
Puttalam	7,369	23,167	- 15,798	10,920	30,109	- 19,189	- 9,040
Anuradhapura	1,952	12,966	- 11,014	2,911	14,727	- 11,816	+ 3,866
Polonnaruwa	—	—	—	410	8,648	- 8,238	- 1,245
Badulla	6,325	6,165	- 160	11,554	6,211	+ 5,343	+ 6,530
Moneragala	—	—	—	230	1,547	- 1,317	- 1,400
Ratnapura	12,261	12,723	- 462	26,271	15,488	+ 10,783	- 11,648
Kegalle	13,306	21,236	- 7,930	25,162	26,562	- 1,400	- 28,546
Unspecified	—	—	—	11,648	—	—	—
TOTAL	229,460	200,914	+ 28,546	348,275	250,358	+ 97,917	+ 69,371

TABLE IV
Life-time Inter-Urban Migration: Colombo District up to 1953*

<i>District</i>	<i>To Urban Places in Colombo</i>	<i>From Urban Places in Colombo</i>	<i>Balance</i>
Kalutara	4,565	2,516	+ 2049
Kandy	4,717	2,804	+ 1913
Matale	346	265	+ 81
Nuwara Eliya	524	442	+ 82
Galle	7,202	1,343	+ 5859
Matara	2,631	484	+ 2147
Hambantota	414	148	+ 266
Jaffna	2,515	812	+ 1703
Mannar	—	—	—
Vavuniya	—	—	—
Batticaloa	392	313	+ 79
Trincomalee	241	490	- 249
Kurunegala	577	1,195	- 618
Puttalam	391	1,230	- 839
Anuradhapura	98	837	- 739
Badulla	816	387	729
Ratnapura	568	380	188
Kegalle	282	131	151
TOTAL	26,279	13,777	

Source: Department of Census and Statistics.

(*Municipal Council and Urban Council areas only).

TABLE V
Life-time in-migration to Urban places up to 1963*

<i>District</i>	<i>In-migrants to Urban Places in Colombo District</i>	<i>Out-migrants from Colombo District to other Urban Places</i>
Kalutara	31,493	13,270
Kandy	29,967	7,281
Matale	3,462	1,364
Nuwara Eliya	6,323	1,094
Galle	41,574	4,181
Matara	34,207	1,458
Hambantota	2,870	612
Jaffna	25,551	2,784
Mannar	776	263
Vavuniya	267	400
Batticaloa	2,278	957
Amparai	111	140
Trincomalee	1,565	2,198
Kurunegala	8,921	3,594
Puttalam	5,584	3,690
Anuradhapura	1,545	3,949
Polonnaruwa	205	852
Badulla	8,113	1,833
Moneragala	106	185
Ratnapura	12,627	1,953
Kegalle	11,605	1,719
Unspecified	9,245	—
TOTAL	238,395	53,777

Source: Department of Census and Statistics.

(* Municipal, Urban Council and Town Council areas).

TABLE VI
The proportion of land under plantation crops and paddy
in the D.R.O. Divisions within the Colombo District

	<i>Area under crops (acres)</i>	<i>Paddy Land %</i>	<i>Plantation Crops %</i>
Hapitigam Korale	37,317	13	84
Aluthkuru Korale North A.	26,442	12	87
Aluthkuru Korale North B.	56,843	14	84
Aluthkuru Korale South	24,190	21	66
Siyane Korale West Meda Pattuwa	36,718	19	75
Siyane Korale West Adikari Pattuwa	22,839	17	74
Siyane Korale East	54,787	15	83
Hewagam Korale	80,998	15	80
Colombo Mudliyar's Division	6,352	17	50
Salpiti Korale	17,464	18	70

TABLE VII
District Classification of 2245 Industrial units

<i>DISTRICTS</i>	<i>Food Beverages and Tobacco</i>	<i>Textiles</i>	<i>Chemicals and Chemical Products</i>	<i>Leather, Rubber, Wood, Cork and Paper Products</i>	<i>Non Metallic Mineral Products of Bitumin and Coal</i>	<i>Base Metal Industries and Manufactures of Metal</i>	<i>Manufactures of Transport Equipment</i>	<i>Electrical Machinery Apparatus and Supplies</i>	<i>Miscellaneous Manufacturing Industries</i>	<i>TOTAL</i>
1. Colombo	224	390	264	245	57	232	138	71	175	1771
2. Kandy	18	28	18	5	4	13	2	1	7	96
3. Jaffna	16	14	7	6	—	13	14	—	4	74
4. Kalutara	6	18	5	7	4	12	11	—	1	64
5. Matara	10	14	9	10	1	5	7	—	3	59
6. Galle	3	10	7	13	3	6	4	4	6	53
7. Kurunegala	2	5	1	2	1	4	4	1	1	21
8. Matale	4	3	6	1	—	—	1	—	5	20
9. Kegalle	3	6	1	—	1	—	2	1	—	15
10. Puttalam	5	1	1	1	1	1	1	2	—	12
11. Badulla	6	4	1	—	—	—	—	—	—	11
12. Batticaloa	3	3	—	—	—	4	4	4	—	11
13. Nuwara Eliya	4	5	—	—	—	—	—	—	—	9
14. Ratnapura	—	2	1	—	—	3	2	—	—	8
15. Trincomalee	2	—	—	—	—	1	4	—	—	7
16. Hambantota	—	1	—	—	4	—	3	1	—	6
17. Anuradhapura	2	1	1	—	—	—	1	—	—	5
18. Mannar	2	—	—	—	—	—	—	—	—	2
19. Vavuniya	1	—	—	—	—	—	—	—	—	1
20. Amparai	—	—	—	—	—	—	—	—	—	—
21. Polonnaruwa	—	—	—	—	—	—	—	—	—	—
22. Monaragala	—	—	—	—	—	—	—	—	—	—

Source: Ministry of Industries.

TABLE VIII
Regional Distribution of Leather, Rubber, Wood and Paper Industries in Ceylon

	<i>YEAR OF ESTABLISHMENT</i>						<i>Total</i>
	<i>Before 1950</i> <i>No.</i>	<i>1951-55</i> <i>No.</i>	<i>1956-60</i> <i>No.</i>	<i>1961-64</i> <i>No.</i>	<i>1965-68</i> <i>No.</i>	<i>Date not known</i> <i>No.</i>	
Colombo*	42	15	29	57	10	7	160
Suburbs	17	5	12	22	1	2	59
Rest of the Island	13	7	7	23	2	3	55
Total	72	27	48	102	13	12	274

*Includes Dehiwela-Mount Lavinia, Ratmalana and Nugegoda.

Source: Industrial Development Board.

TABLE IX
Regional Distribution of Food and Beverage Industries in Ceylon

	YEAR OF ESTABLISHMENT						TOTAL
	<i>Before 1950</i> <i>No.</i>	<i>1951-55</i> <i>No.</i>	<i>1956-60</i> <i>No.</i>	<i>1961-64</i> <i>No.</i>	<i>1965-68</i> <i>No.</i>	<i>Date not known</i> <i>No.</i>	
Colombo*	36	17	19	25	5	7	109
Suburbs	7	6	11	21	5	3	53
Rest of the Island	23	10	11	27	10	9	100
Total	66	33	41	73	20	19	252

*Includes Dehiwela-Mount Lavinia, Ratmalana and Nugegoda.
Source: Industrial Development Board.

TABLE X
Traffic volumes near Colombo

Route	Municipal Limits	10 mile radius	15 mile radius	20 mile radius
A 3	10,650	5,700	3,200	3,100
A 1	8,750	4,600	3,500	3,300
A 4	12,050	5,000	2,900	1,000
A 2	17,700	6,500	4,500	3,300
	49,150	21,800	14,100	10,700

Source: Ceylon Traffic and Planning Study (1966)

TABLE XI
Number of passengers carried on certain selected Bus routes in 1963 and 1967

	1963	1967
Route 177 Kaduwela-Pettah	2,347,421	4,059,926
Route 174 Borella-Kottawa	2,369,692	3,348,195
Route 170.2 Athurugiriya-Fort	2,101,055	2,607,357

Source: Ceylon Transport Board.

TABLE XII
Six hour manual classification count (7.00 a.m.-1.00 p.m.)

Station	Direction	Route	Year	Passenger Cars	Motor Cycles	Buses	Total
Nawinna	W	A 4	1961	1103	247	246	1596
			1967	1189	110	519	1818
	E	A 4	1961	1184	302	245	1731
			1967	1315	117	591	2023
	NW	30	1961	221	65	12	298
			1967	171	22	73	266
Kotte	NW	B 2	1961	915	102	299	1316
			1967	917	72	466	1455
	E	B 2	1961	531	65	210	806
			1967	581	41	375	997
	S	9	1961	509	37	69	315
			1967	361	54	110	525

Source: Traffic and Planning Branch, Public Works Department.

TABLE XIII

Passenger car and lorry trips between selected interview stations and (i) Colombo Postal Zones (ii) Urban Areas adjacent to Colombo (iii) Western Province Zones outside Colombo Urban Areas

	<i>Victoria Bridge</i>	<i>Kelani Bridge</i>	<i>Albion Road</i>	<i>Cotta Road</i>	<i>Narahren- pita Road</i>	<i>Kirilla- pone Bridge</i>	<i>Paman- kade Bridge</i>	<i>Dehiwala Canal Bridge</i>	<i>Total</i>
Within Colombo Municipal Limits	7,600	6,690	4,920	5,130	3,980	9,320	2,890	13,520	54,050
Urban areas adjacent to Colombo	2,810	1,860	3,550	4,570	3,810	6,990	2,990	10,800	36,421
Western Province Zones-Outside Colombo	4,830	5,320	2,260	2,010	1,050	3,260	470	3,890	23,090

Source: Ceylon Traffic and Planning Study (1966).

TABLE XIV
Percentage increase in population in the villages in the Palle Pattuwa Division of the Hewagam Korale 1953 to 1963

<i>Greater than the Division increase of 41.4%</i>		<i>Greater than the District increase of 29.1%</i>		<i>Greater than the City increase of 20%</i>		<i>Below the city increase</i>	
Ranala	114.3	Talawatugoda	39.2	Niyandagala	28.7	Oruwela	19.8
Panagoda	84.9	Homagama	37.0	Weliwita	28.3	Ihala Bomiriya	19.1
Malapalla	60.5	Athurugiriya	37.0	Navagamuwa	26.4	Mullegama	17.7
Kotalawala	51.7	Makumbura	36.9	Hiripitiya	25.4	Pitipana South	17.1
Talahena	47.0	Kalalgoda	36.7	Pitipana North	25.2	Mawatagama	13.4
Kottawa	43.3	Malabe	36.7	Hokandara South	24.8		
Rukmale	43.1	Godagama	35.8	Dedigamuwa	24.7		
		Habarakada	34.1	Koratota	21.0		
		Hewagama	34.0	Uduwana	20.5		
		Pahala Bomiriya	32.8				
		Hokandara North	29.8				
		Pore-Walgama	29.4				

TABLE XV

Industries in the Palle Pattuwa Division of the Hewagam Korale

1. Brick Industries	37	22. Printing Works	2
2. Clay Industries	34	23. Rubber Mills	2
3. Jewellery Works	20	24. Poultry	2
4. Weaving Mills	18	25. Aluminium Industries	2
5. Quarries	14	26. Tile Industries	1
6. Rice Mills	12	27. Lime Works	1
7. Garages	12	28. Coir Industries	1
8. Mattress Industries	10	29. Dhal Mills	1
9. Beedi Industries	7	30. Papadam Mills	1
10. Brass Works	6	31. Soft Drinks	1
11. Grinding Mills	5	32. Coconut Oil Extractions	1
12. Toy Industries	4	33. Cast Iron Works	1
13. Firewood Depots	4	34. Metal Industries	1
14. Carpentry Shops	4	35. Motor Vehicle Body Repair Works	1
15. Saw Mills	4	36. Electro-Plating Works	1
16. Foundries	3	37. Soap	1
17. Hardware Industries	3	38. Picture Industry	1
18. Needlework Centres	2	39. Transport Industries	1
19. Welding Works	2	40. Incense Industries	1
20. Bamboo Industries	2	41. Drugs Industries	1
21. Joss-stick Industries	2		

TABLE XVI

Analysis of the built-up area at important road junctions in Palle Pattuwa

TYPE	(number of buildings)										
	Honagama	Battaramulla	Kottawa	Kaduwela	Athurugiriya	Malabe	Pitipana	Nawagamuwu	Godagama	Ranala	Bomiriya
1. Commercial establishments	75	62	52	25	31	31	17	14	14	5	1
2. Service establishments	52	28	27	22	16	17	16	11	12	9	2
3. Public Service establishments	1	1	3	1	1	1	—	—	—	1	—
4. Educational establishments	3	7	2	2	—	3	—	1	1	—	—
5. Industrial establishments	3	3	4	7	2	1	1	—	1	—	—
6. Recreational establishments	1	1	—	3	—	—	—	1	—	—	—
7. Village fairs	1	—	—	—	2	1	—	—	—	—	—
8. Residential buildings	136	102	88	60	52	54	34	27	28	15	3
	25	45	11	22	17	9	26	21	5	10	10
	161	147	99	82	69	63	60	48	33	25	13

Table XVII

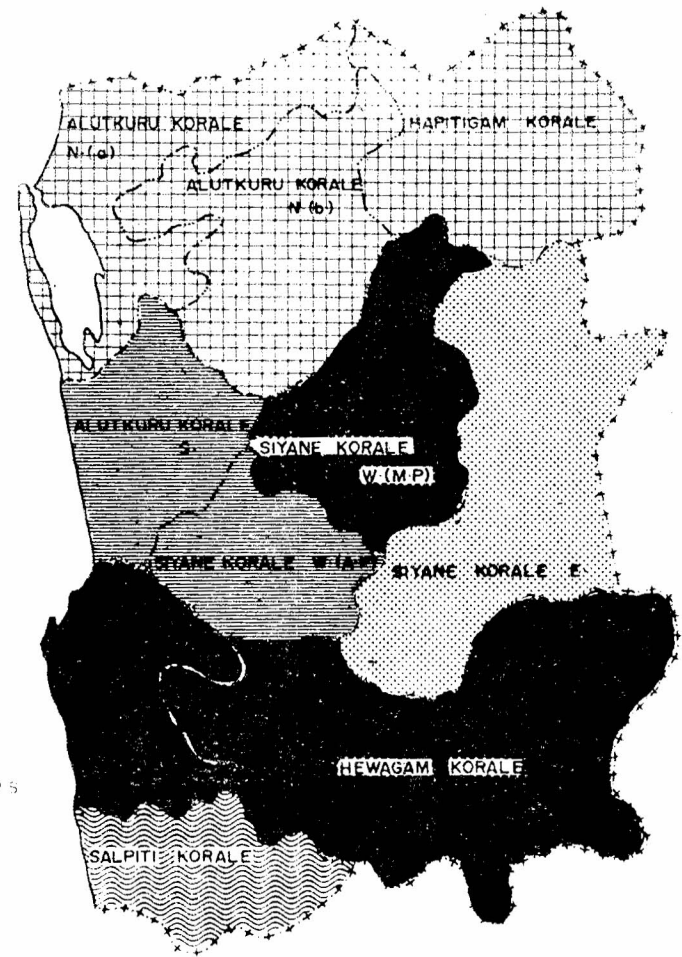
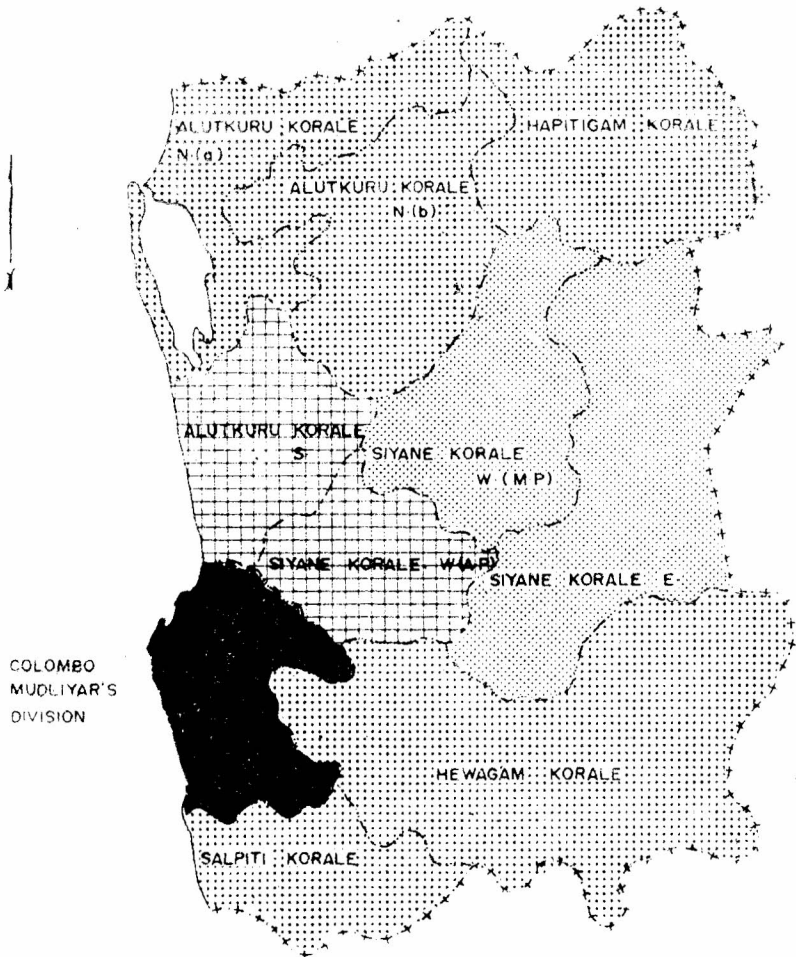
Hinterland Population in respect of selected functions of services centres in Palle Pattawa

Centre	Co-operative Store 1	Market or Village Fair 2	Police Station 3	Office of Local Authority 4	Rural Courts 5	Hospital 6	Bank 7	Agricultural Extension Centre 8	Pays of each settlement 9
1. Homagama	7,253	18,133	24,681	75,585	75,585	65,355	67,373	—	7,120
2. Kaduwela	1,612	11,721	—	15,506	48,218	—	—	—	784
3. Battaramulla Talangama	32,712	17,962	—	32,712	—	—	—	—	32,712
4. Aturugiriya	3,695	9,343	29,907	—	—	—	—	—	3,660
5. Nawagamuwā	3,742	1,069	15,286	—	—	—	—	—	3,742
6. Kottawa	6,989	5,244	—	—	—	—	—	21,564	8,400
7. Makubura	1,745	—	—	—	—	—	—	76,503	1,552
8. Malapalla	2,791	6,246	—	—	—	—	—	—	1,456
9. Malabe	3,932	4,096	—	—	—	—	—	—	3,475
10. Talawatugoda	2,430	2,279	—	—	—	—	—	—	2,430
11. Hokandara N.	4,146	1,310	—	—	—	—	—	—	3,556
12. Habarakada	3,758	671	—	—	—	—	—	—	2,142
13. Walgama	943	632	—	—	—	—	—	—	466
14. Pore	1,397	222	—	—	—	—	—	—	1,949
15. Godagama	1,293	172	—	—	—	—	—	—	1,293
16. Bomiriya	4,943	—	—	—	—	—	—	—	4,943
17. Pitipana S.	3,461	—	—	—	—	—	—	—	3,461
18. Koratota	3,335	—	—	—	—	—	—	—	3,450
19. Dedigamuwa	3,255	—	—	—	—	—	—	—	3,256
20. Pitipana N.	3,016	—	—	—	—	—	—	—	3,016
21. Hokandara S.	2,246	—	—	—	—	—	—	—	2,246
22. Oruwala	1,540	—	—	—	—	—	—	—	1,653
23. Uduwana	1,167	—	—	—	—	—	—	—	983
24. Rukmale	976	—	—	—	—	—	—	—	1,386
25. Kalagoda	787	—	—	—	—	—	—	—	787
26. Mawatagama	584	—	—	—	—	—	—	—	768
27. Ranala	553	—	—	—	—	—	—	—	553
28. Kotalawala	362	—	—	—	—	—	—	—	2,009
29. Mullegama	200	—	—	—	—	—	—	—	1,616
30. Panagoda	6,647	—	—	—	—	—	—	—	6,647
	111,510	79,100	69,874	105,803	105,803	65,355	67,373	97,067	111,510

THE URBAN FRINGE OF COLOMBO

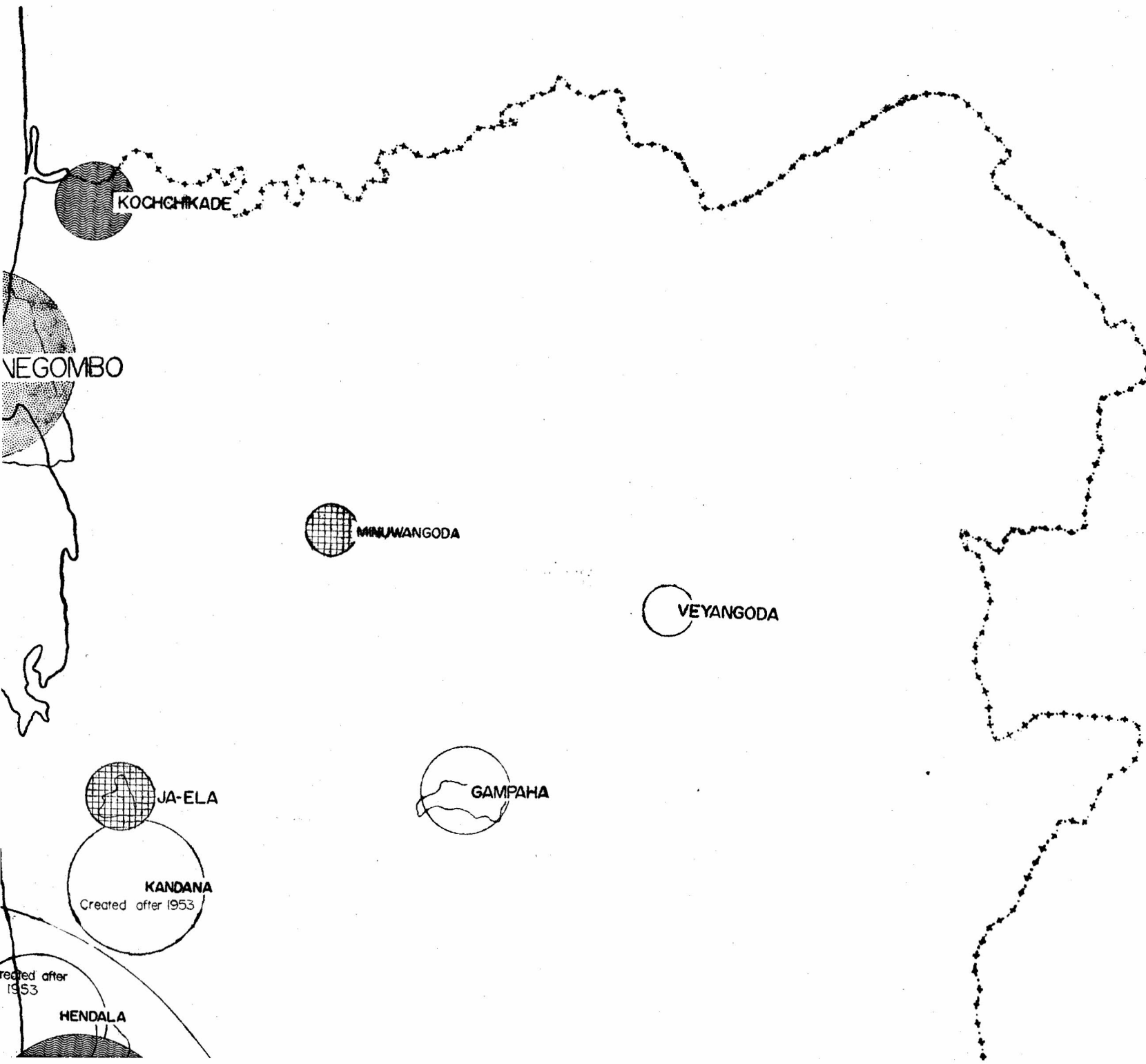
1946 - 1953

1953 - 1963

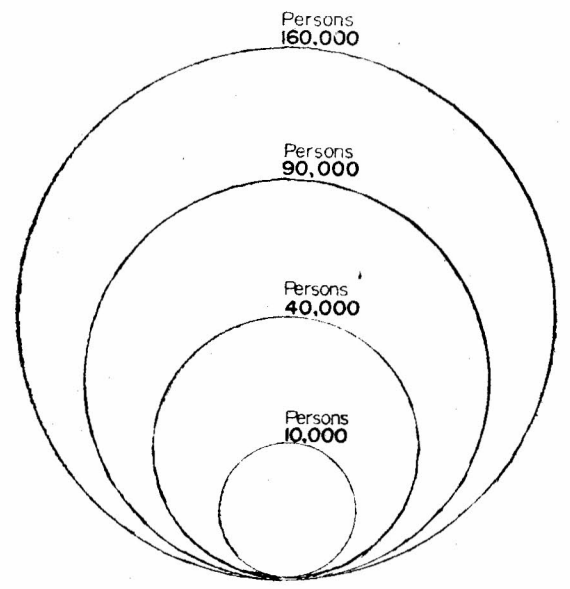


CHANGES IN POPULATION IN THE D·R·O·DIVISIONS WITHIN THE COLOMBO DISTRICT 1946-1953 and 1953 - 1963

0 10 20 30 MILES



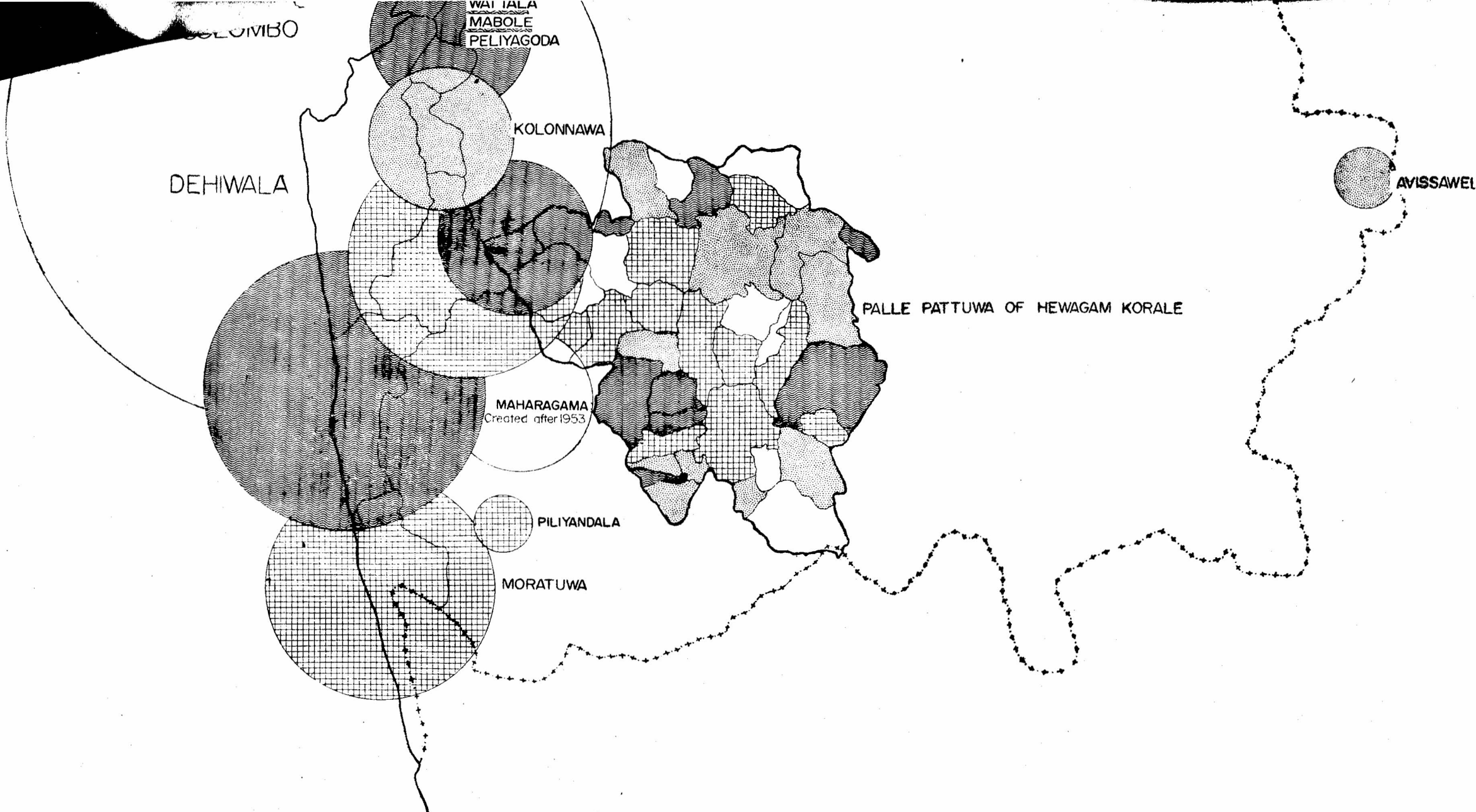
TOWN SIZE



RATE OF INCREASE OF POPULATION 1953-1963

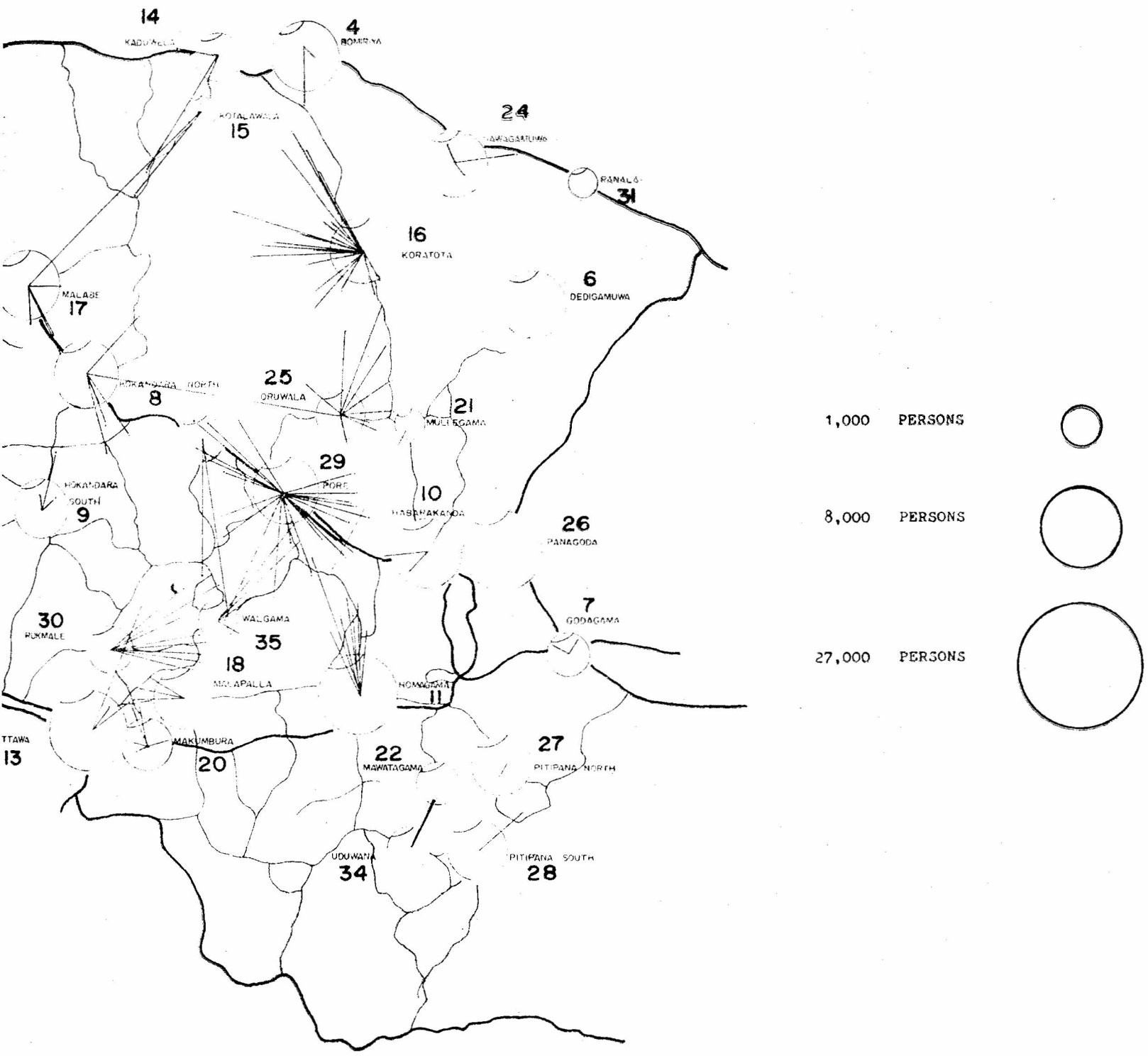
OVER 41.4%	
29.1% TO 41.4%	
20.0% TO 29.1%	
20.0% AND LESS	

CITY OF COLOMBO	20.0%
COLOMBO DISTRICT	29.1%
PALLE PATTUWA	41.4%



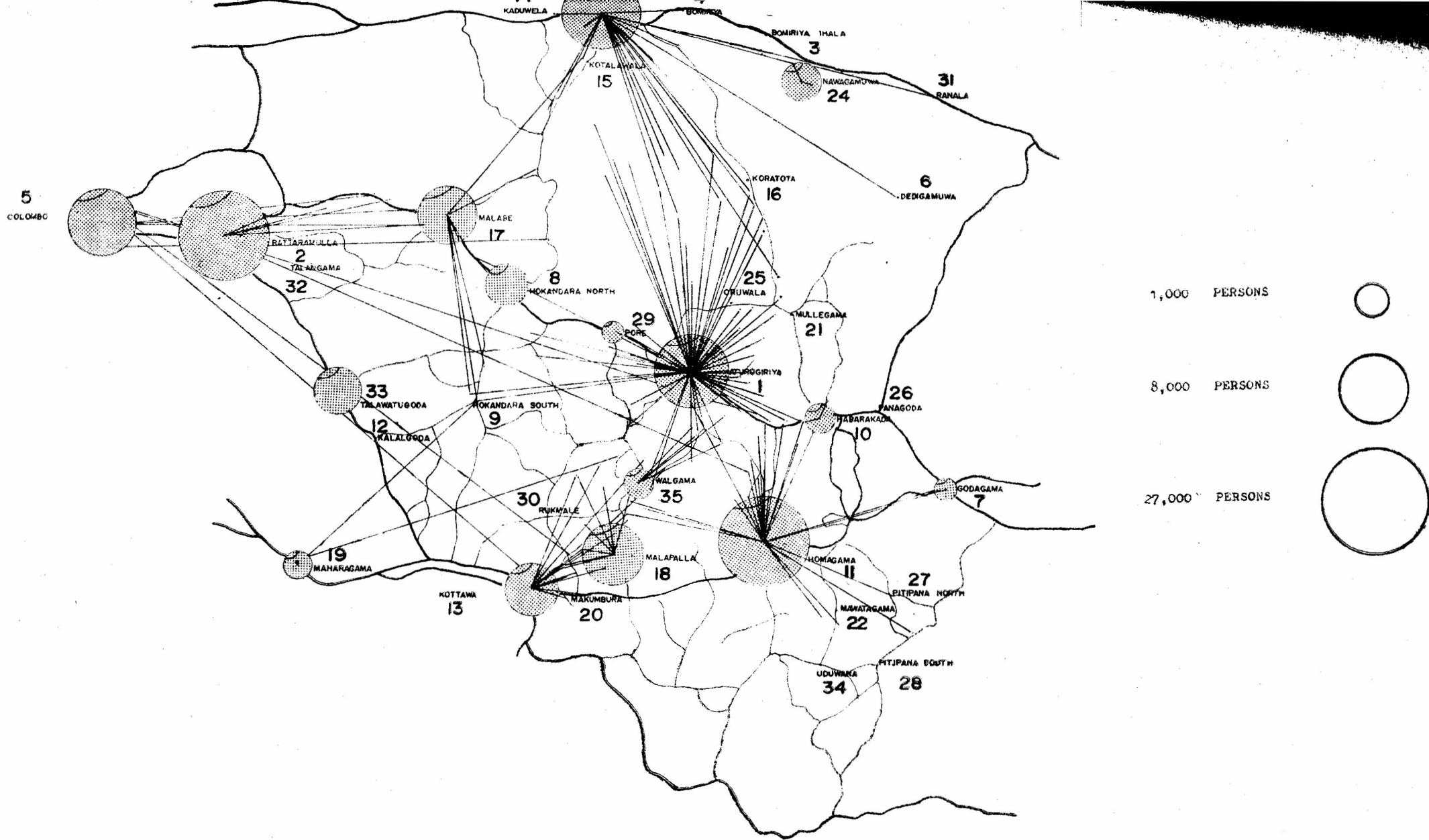
SIZE OF TOWNS IN COLOMBO DISTRICT IN 1963
and
THE GROWTH OF POPULATION 1953 - 1963

MILES 2 4 6 8 10 KILOMETERS

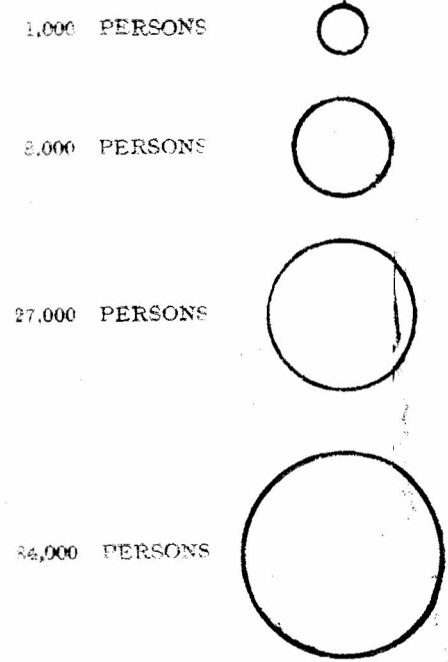
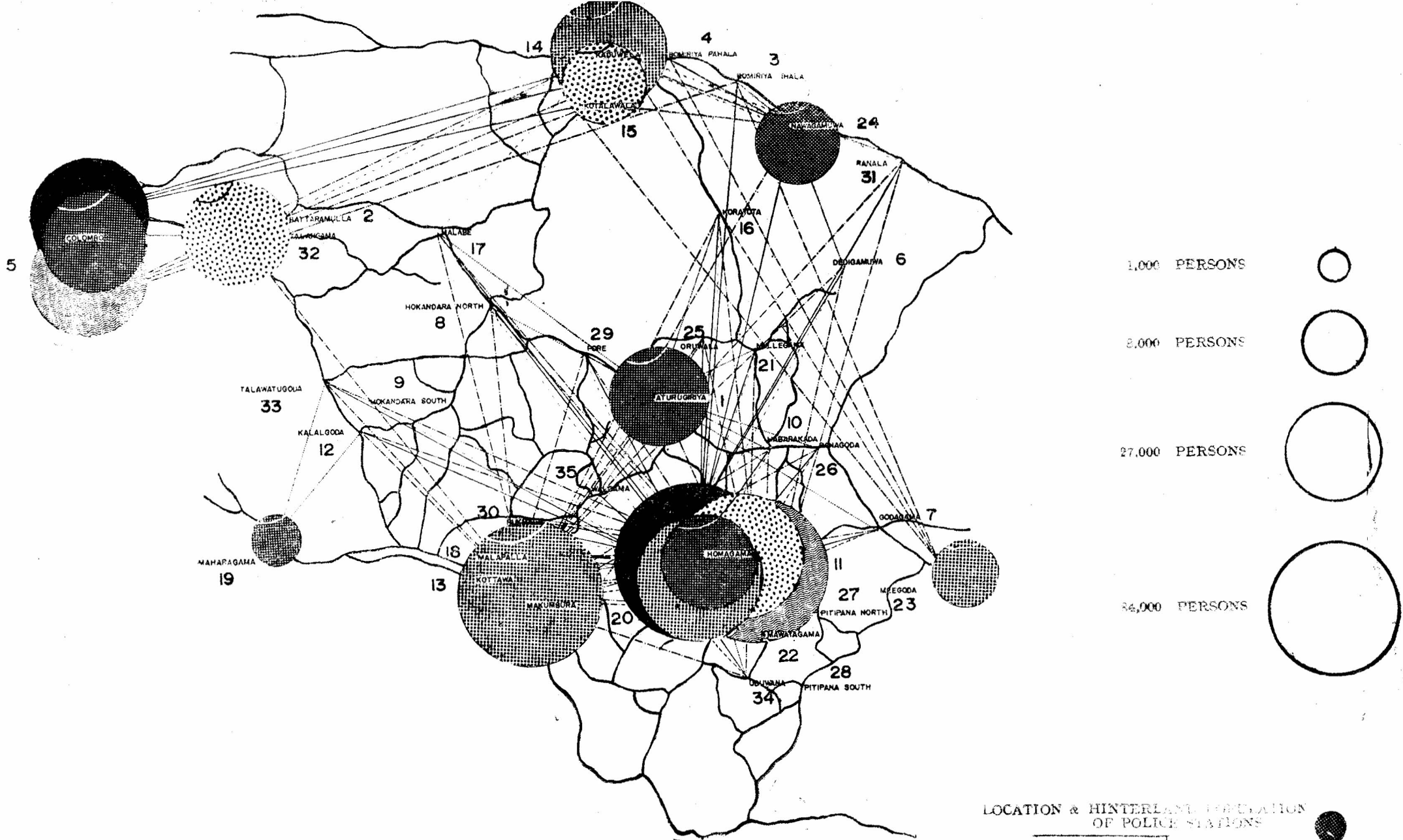


INTERLAND POPULATION OF CO-OPERATIVES IN PATTUWA OF HEWAGAM KORALE

FIG-3



LOCATION AND HINTERLAND POPULATION OF MARKET CENTERS IN
 PALLE PATTUWA OF HEWAGAM KORALE



LOCATION AND HINTERLAND POPULATION OF THE HIGHER SERVICES IN PALLE PATTUWA OF HEWAGAM KORALE



LOCATION & HINTERLAND POPULATION OF POLICE STATIONS

- RURAL COURTS
- AGRICULTURAL EXTENSION CENTRES
- TEMPLES
- LOCAL BODIES
- HOSPITALS