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ADMINISTRATIVE HEADQUARTERS IN TAMILNADU – SPATIAL DIMENSION

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ABSTRACT : This paper makes an attempt to identify the pattern of distribution and efficiency levels of administrative headquarters in Tamilnadu. The distributional pattern is determined using R_N statistics and mean centre. The efficiency levels are identified adopting indicators like centrality and accessibility of headquarters area, to be served and the distance between points of minimum aggregate travel and the headquarters. The distributional patterns of headquarters at taluk and district levels are random and clustered respectively. The headquarters at Tiruchirapalli, Periyar and Tirunelveli districts fall under first order efficiency levels. While the headquarters at North Arcot, Ramanathapuram, Madurai, Chengalput and Salem belong to fourth order efficiency level. The remaining headquarters come under the intermediate efficiency levels.

INTRODUCTION

Any politically defined area is divided into smaller units of varying hierarchial order for administrative purposes. The administrative units of decreasing hierarchial order are districts, taluks and villages. Each of these units (District and Taluk) are the areal division of operation of Government jurisdiction. The administrative headquarters of any politically defined area should be accessible to the people of that area. The accessibility is supposed to maximum theoretically at the central location but in many cases the peripheral location at the junction of routes is more favourable than the central location with inadequate transport facilities. Theoretically its service efficiency is ascribed to its accessibility centrality and the area to be served. Hence an attempt is made in this paper to identify the distributional pattern and the service efficiency levels of administrative headquarters in Tamilnadu.

The study is attempted with two objectives. The prime objective of this investigation is to assess the distributional pattern of administrative headquarters at taluk and district levels. The appraisal of efficiency levels of headquarters at district level is the second objective of this venture.

METHODOLOGY

The distributional pattern of administrative headquarters at two levels (District and Taluk) is estimated by using R_N statistics. The spatial locations of headquarters are evaluated by comparing the mean centre of the administrative centres and district headquarters. The district headquarters are

categorised into four orders of efficiency levels, adopting indicators like areal extent of the district, number of transport route convergence, the distance between the point of minimum aggregate travel and district headquarters, the indices of centrality and accessibility.

The point of minimum aggregate travel is computed adopting the procedures suggested by Hart (1969).

A map of the area showing the location of district and taluk headquarters with population written at the centre of the administrative units is prepared. A transparent mask of concentric circles (known as annules) is prepared. The space between the concentric circle is assigned consecutive odd number outward from centre. The transparent mask is superimposed on the selected trial points. The total distances to be travelled by the population to reach the chosen trial points are computed. The total values of each of the annules is summed and multiplied by the annules number. These values indicate the total distance (in annules) to be travelled to reach the trial points from all the points of the area. The trial point with least value is chosen as the point of minimum aggregate travel. From this point people have to travel least distance to reach headquarters compared to other points.

The centrality of the headquarters is obtained by computing the ratio between the mean distance which is the radius of the hypothetical circle representing the area of the district and the distance between the headquarters and the farthest point on the periphery of the district.

The index of accessibility is computed using shortest road length between the district and taluk headquarters. The accessibility potential of each taluk headquarters is equivalent to the ratio between the population of the taluk and the shortest road length between taluk headquarters and district headquarters. The accessibility potential of each taluk is multiplied by its populations. This value is summed up for all the taluks of the district and divided by the total population of the district to obtain the index of accessibility of the headquarters concerned.

The district headquarters are ranked according to their position in the preferred indicators. The aggregate rank value of each district headquarters is summed up. The summed up rank value is categorised into four orders of efficiency. The centre with lowest value may be said to be more efficient as compared to the centre with largest value.

RESULTS OF THE ANALYSIS

In Tamilnadu excluding Madras Metropolitan city, there are fifteen districts as per 1981 census served by 14 districts headquarters and 151 taluk headquarters. Fig. 1 illustrates the spatial location of district and taluk headquarters. The general pattern of distribution appears to be linear extending from north east to west and north east to south west. The distribution generally follows the major transport lines of the state. Compared to the eastern and western side, there is less concentrations in the central portion of the area. As many as 53% of the headquarters are concentrated along the eastern part of the study area. The remaining headquarters are scattered on the western and central portion of the study area.

R_N statistics computed using the formula suggested by Clark and Evan for the district headquarters is 0.937 which denotes a pattern closer to Random type of distribution. The calculation R_N statistics for the taluk headquarters is 0.272 which connoted a clustered pattern of distribution.

The mean centres of the district and taluk headquarters are assessed and depicted

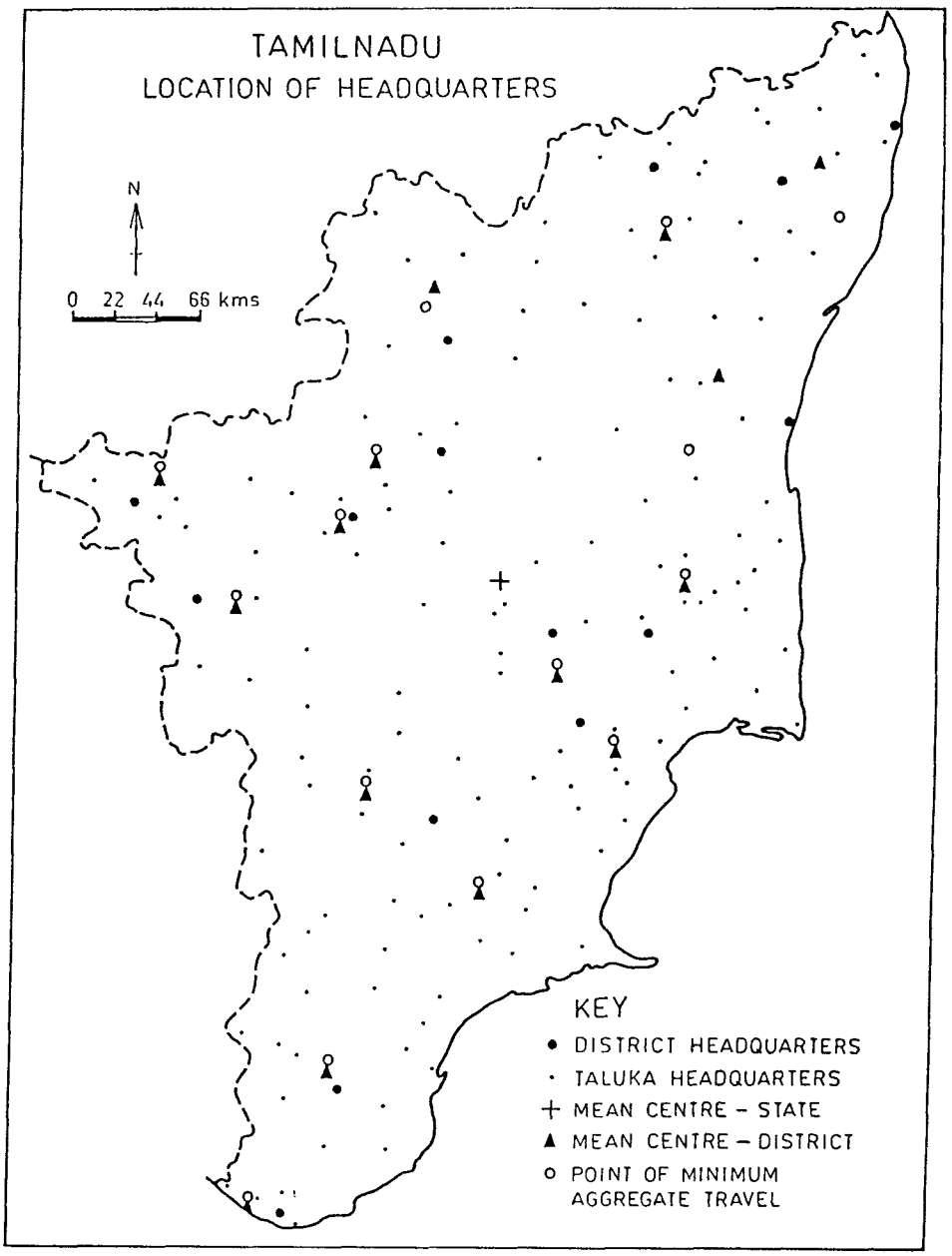

Fig.1

in Fig. 1. The mean centre of the district headquarters lies 15.4 kms. north of Musuri town. From the city of Tiruchirapalli the mean centre is 44 kms. away in north west direction. Thus the state headquarters of Tamilnadu is peripherally located at the junction of transport network lines. Table 1 indicates the straight line distance between the district headquarters and the mean centre of each district concerned.

TABLE 1 : STRAIGHT LINE DISTANCE BETWEEN HEADQUARTERS AND MEAN CENTRE OF THE DISTRICT

Distance in Kms.	Number of District	Name of the Districts
5 – 10	1	Periyar
10 – 20	3	Tirunelveli, Kannyakumari, The Nilgiris
20 – 30	5	Chengalput, Tiruchirapalli, Thanjavur, Coimbatore, Dharmapuri
30 – 40	4	North Arcot, Madurai, Pudukottai, Salem
40 – 80	2	South Arcot, Ramanathapuram

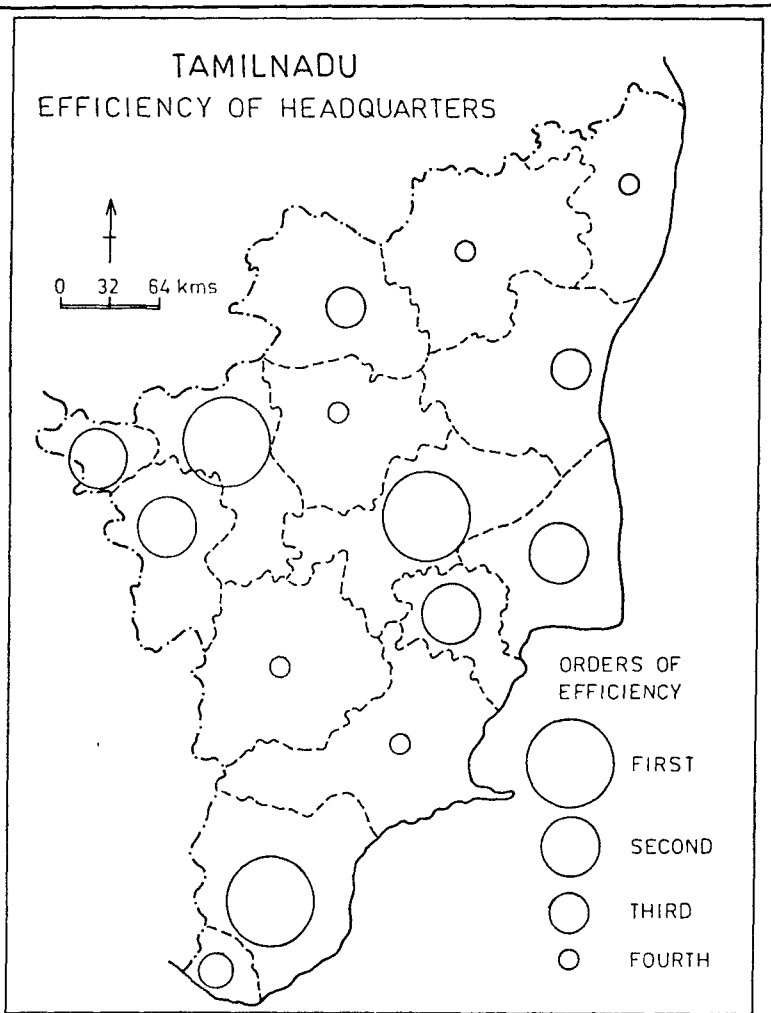

Fig.2

TABLE 2 : STRAIGHT LINE DISTANCE BETWEEN DISTRICT HEADQUARTERS AND POINT OF MINIMUM AGGREGATE TRAVEL

Distance in Kms.	Number of District	Name of the Districts
5 – 20	4	Erode, Tirunelveli, The Nilgiris, Kannyakumari
20 – 35	7	Thanjavur, Coimbatore, Tiruchirapalli, North Arcot, Chengalput, Pudukottai, Dharmapuri
35 – 45	2	Madurai, Salem
40	2	South Arcot, Ramanathapuram

Thus it is evident from Table 1 among the districts only in four districts, the distance of separation between the mean centre and district headquarter is less than 20 kms. In all the remaining districts it is more than 20 kms. Thus in all the districts except Periyar and Tirunelveli the headquarters are several kilometers away from the mean centre.

The point of minimum aggregate travel is illustrated in Fig. 2. In all the districts except Chengalput, South Arcot and Dharmapuri the point of minimum aggregate travel coincides with the median point. In the above mentioned districts the point of minimum aggregate travel coincides with headquarters at Chengalput, Ulundurpet and Palakodu taluks. The extent of deviation between the point of minimum aggregate travel and headquarters is illustrated in Table II which indicates the extent of deviation in terms of the straight line distance.

Among the districts, the distance between point of minimum aggregate and the district headquarters is least in Periyar (5.5. kms.) and Tirunelveli (11 kms.). In all the remaining districts it is more than 20 kms.

An analysis of aggregate rank value of each district headquarters evidently shows that the headquarters at Tirunelveli and Periyar districts are more efficient as compared to other district headquarters. The efficiency of the headquarters at Tiruchirapalli district is incidental on its central location, centrality and accessibility. But the headquarters at cities of Tirunelveli and Erode are efficient due to its closeness to mean centre and point of minimum aggregate travel.

The headquarters at Coimbatore, Ootacamund, Pudukottai and Thanjavur towns falls in the second order of efficiency. In the case of Coimbatore the efficiency is attributed to its high accessibility due to better developed transport network lines. But in the case of Ootacamond its efficiency level is due to its small areal extent and centrality. The accessibility is less due to the nature of the topography . The headquarters at Pudukottai and Thanjavur is able to cater to the needs of the area because of its high accessibility and the small area to be served.

The headquarters of Kannyakumari, South Arcot and Dharmapuri districts come under the third order efficiency level. The efficiency of Nagerkoil (Headquarter of

Kannyakumari) is accounted by the small area to be served and closeness to minimum aggregate travel. The accessibility is the factor that explains the efficiency level of the headquarters at Dharmapuri, South Arcot. The main factors responsible for bring down the efficiency of the headquarter at Madurai are the large areal extent to be served and non central location. The administrative headquarters at Chengalput, Salem, North Arcot, Ramanathapuram and Madurai districts belongs to the fourth order of efficiency and in the case of Salem and Chengalput the accessibility level brings the efficiency level to fourth order. But in the case of North Arcot and Ramanathapuram the efficiency is reduced due to large area to be served. In Ramanathapuram district the distance between the headquarters which is at Madurai and mean centre and minimum aggregate travel are the other factors responsible for fourth order efficiency level.

It is clear from the study, the major contributing factors affecting the efficiency level are the areal extent, centrality and accessibility of headquarters. To improve efficiency level of headquarters at Madurai and Ramanathapuram the district has been recently bifurcated and trifurcated respectively. This may improve the efficiency level of these headquarters in the future. But in the case of Chengalput district, the efficiency level can be slightly improved if the headquarters is shifted to a point closer to the point of minimum aggregate travel i.e. Chengalput town. Further the efficiency can be improved by trifurcating and providing better transport facility to North Arcot district. Similarly in the case Salem the efficiency of the headquarters can be improved by providing more transport network lines which may be developed in future due to development of Salem Steel Plant.

Tamilnadu Government has announced its decision to bifurcate and trifurcate the district of Tirunelveli and Thanjavur and North Arcot respectively.

This decision seems to be approval of the suggestion given by the Planning Commission during the first five year plan period. Thus the Government of Tamilnadu is making attempts to create a district as suggested by Prakash Rao and Bhat (i.e. a district with an area of 4,000 sq. miles and a population of one million) which is favourable for efficient administration and implementation of development programmes.

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