

CHAPTER - IV

ASSOCIATION BETWEEN POPULATION AND
SOCIO-ECONOMIC FACILITIES

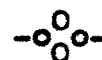
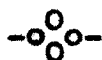
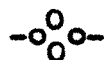
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- 4.1 Population and education facility
- 4.2 Population and medical facility
- 4.3 Population and post and telegraph
facility
- 4.4 Population and transport facility
- 4.5 Population and electricity facility
- 4.6 Population and bank facility
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Summary

References





In the previous chapters the growth and distribution of population and socio-economic facilities are presented. The object of this chapter is to analyse the association between population and socio-economic facilities. Population concentration depends upon the development of socio-economic facilities. If facilities are provided to settlement the population will be attracted towards it and vice-versa. Thus, the population and socio-economic facilities are dependant upon each other. The selected six facilities play dominant role in population distribution. The education facility is provided where sufficient population is available and education facility attracts the population from other areas. In this way every facility depends upon sufficient population size. This sufficient population for each facility is known as threshold population of that facility. " Facilities differ in terms of size of population necessary to sustain any facility at a centre. This minimum population level is termed as the population threshold of that facility," (Singh and Singh, 1987).

The threshold population for each facility is calculated by two methods. The lowest unit of population, where the facility appears and another method is the median value of population. The mean of these two methods is used as threshold population for each concerning facility. The threshold population of each facility differs because the population requirement to survive each facility is different. The threshold population for 1961,

1971 and 1981 for each facility is given in Tables 4.1, 4.2 and 4.3. By this threshold population the deficiency and sufficiency areas are delimited and they are analysed hereafter.

TABLE 4.1 : Threshold population for various facilities in Khanapur taluka, 1961.

Sr. No.	Facility	Median method	Lowest unit method	Average
1	Primary and middle school	1317	475	986
2	Secondary school	3844	1159	2501
3	Medical	3360	1097	2228
4	Post	2781	598	1689
5	Transport	2031	475	1253
6	Electricity	3864	820	2342
7	Bank	9130	4369	6749

SOURCE : Compiled by the author.

TABLE 4.2 : Threshold population for various facilities
in Khanapur taluka, 1971.

Sr. No.	Facility	Median method	Lowest unit method	Average
1	Primary and middle school	1206	157	681
2	Secondary school	2777	1051	1914
3	Medical	3684	1279	2481
4	Post	1910	609	1259
5	Telegraph	7149	2343	4746
6	Transport	2312	552	1432
7	Electricity	3039	622	1830
8	Bank	8243	3004	5623

SOURCE : Compiled by the author.

TABLE 4.3 : Threshold population for various facilities
in Khanapur taluka, 1981.

Sr. No.	Facility	Median method	Lowest unit method	Average
1	Primary and middle school	1358	172	765
2	Secondary school	3383	1426	2404
3	Medical	4444	1660	3052
4	Post	1870	172	765
5	Telegraph	7405	2685	5045
6	Transport	2788	630	1709
7	Electricity	2383	580	1481
8	Bank	5808	2052	3930

SOURCE : Compiled by the author.

4.1 POPULATION AND EDUCATION FACILITY :

a) Population and Primary and Middle School Facility :

The taluka is well served by primary and middle school facility in 1981. In this year all villages are served by this facility and this picture is not changed from 1961. As in 1961 and 1971 also all villages were served by primary and middle school facility.

b) Population and Highschool facility :

The highschool facility is separated from primary and middle school facility. Highschool is not provided to each centre. The population requirement is higher to this facility than primary school. In 1961 the threshold population for this facility was 2501 persons. In this year 12 villages and one urban centre were served by secondary school. They are Hingan-gaon Bk., Khorade, Wangi, Mahuli, Bhikavadi Kh., Shalgaon, Kadepur, Kadegaon, Tadsar, Khanapur, Pase, Chinchani-Wangi, Chinchani-Tasgaon and Vita a urban centre. These centres had sufficient of this facility. But there were four villages which having population above the threshold were not served by highschools. They are Nevari, Lengare, Wangi and Bhalwani. The remaining 80 villages were having population below the threshold and so do not have highschools (Fig.4.1-A).

In the year 1971 threshold population for highschool facility was 1914 persons. In this year 34 villages were served by this facility. In this year seven villages having the population above threshold were not served by highschools. They were

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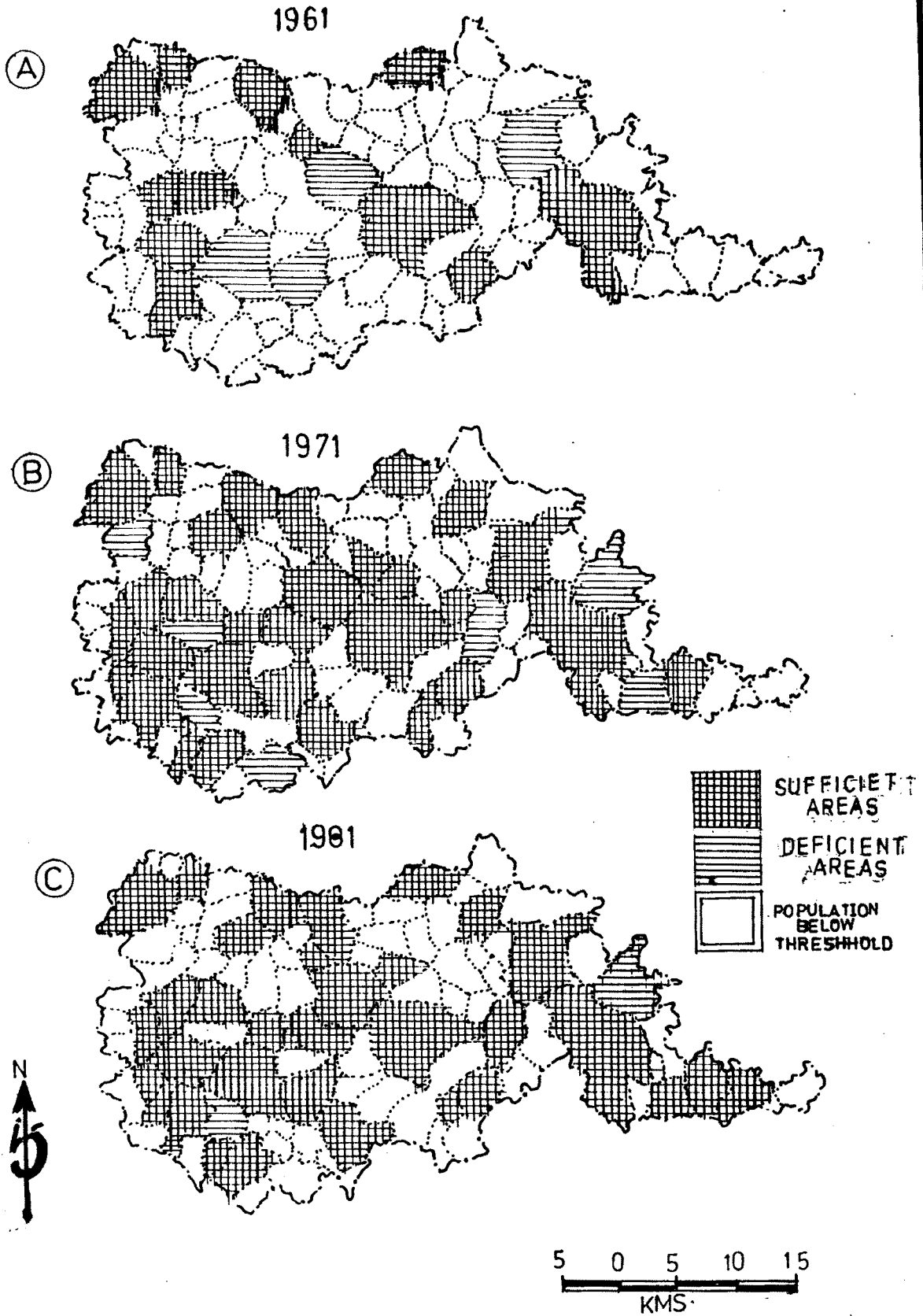


FIG-4-1

Ambak, Balvadi-Bhalvani, Balvadi-Khanapur, Hingangaon Kh., Karanje, Renavi and Vihapur. The remaining 56 villages having population below the threshold were not served by the facility (Fig.4.1-B). There was no any college in Khanapur taluka upto year 1971 subsequently it was started at Vita. In 1981 the threshold population for highschool was 2404 persons; and in this year 34 villages were served by this facility. The remaining 63 villages were not served by this facility. Out of these 63 villages two villages have population above threshold but they are not served by secondary school facility. They are Ambak and Balvadi-Khanapur. The remaining 61 villages have population below the threshold.

4.2 POPULATION AND MEDICAL FACILITY :

The deficiency and sufficiency of medical facility is shown in Fig.4.2. In year 1961, 18 settlements were served by the facility. In this year threshold population for this facility was 2228 persons. There were 9 villages which had population above threshold but did not have this facility. These villages were Yetgaon, Shalgaon, Nevari, Bawadi-Khanapur, Kade-pur, Tadsar, Wangi, Chinchani-Tasgaon and Alsund. The remaining 70 villages had population below the threshold and were not served by the facility.

In 1971 there was an improvement in medical facility. New dispensaries, health centres, hospitals were established.

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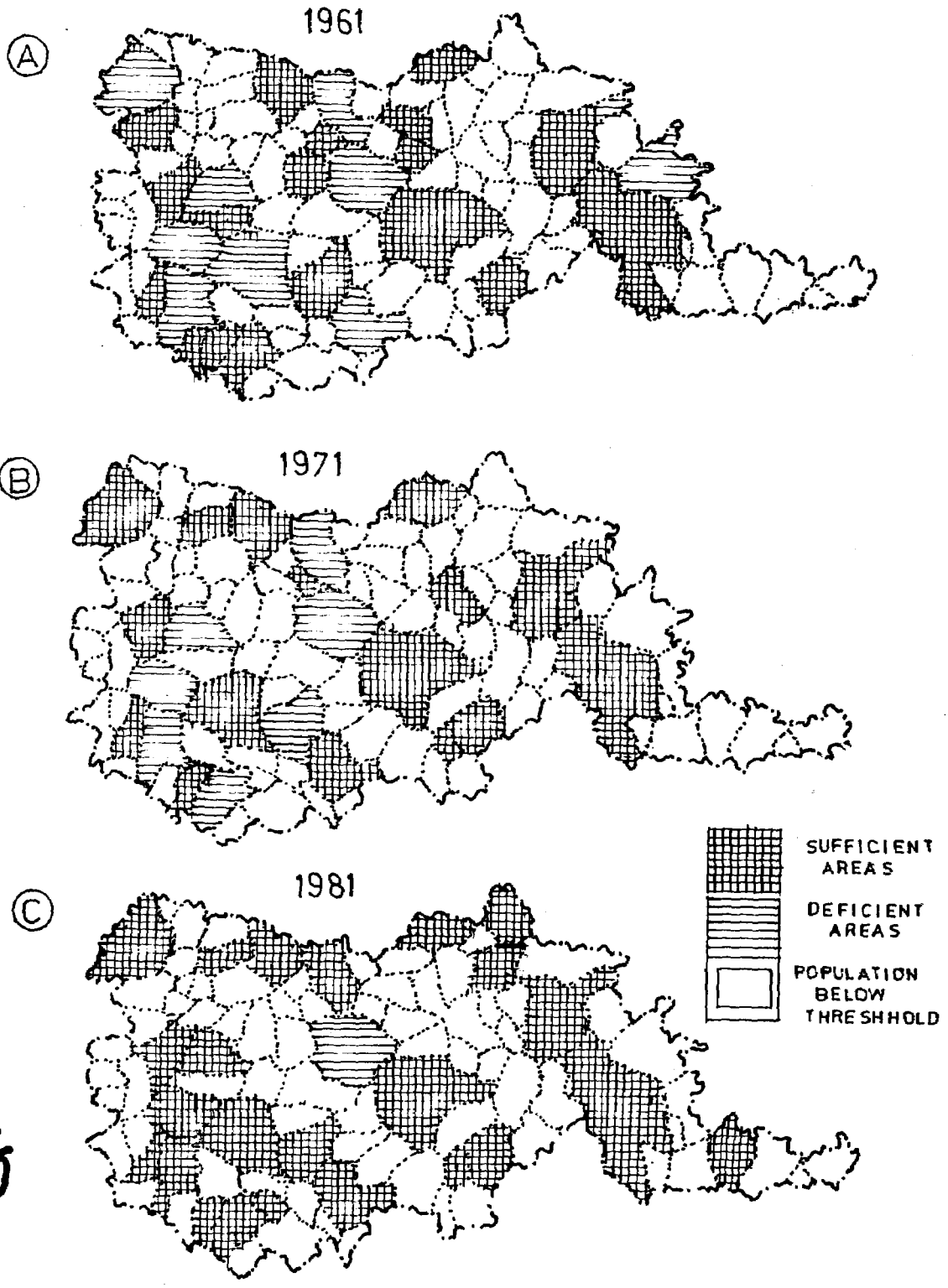


FIG 4-2

In 1971, 16 centres were served by medical facility. These settlements were sufficient by this facility (Fig.4.2-B). There were six centres which had population above threshold but were not served by facility. They were Yetgaon, Bhalwani, Nevari, Kadepur, Tadsar, Chinchani-Wangi and Devarashtre. The remaining 75 villages having population below threshold were not served by the facility. The deficient villages have decreased from 9 to 1 during 1961 to 1981. Threshold population for this facility was 3052 persons in year 1981. There were 24 centres served by medical facility. There was one centre namely Nevari which had population above threshold but was not served by facility. The remaining 72 villages had population below the threshold and they did not have medical facility.

4.3 POPULATION AND POST AND TELEGRAPH FACILITY :

a) Population and Post facility :

Fig.4.3-~~c~~ shows the sufficiency and deficiency of post facility. In 1961 there were 35 centres with this facility. In this year threshold population for post facility was 1689 persons. There were four villages which had population above threshold but did not have this facility. These villages were Nagewadi, Vihapur, Hingangaon Kh., and Karanje. The villages which had population below the threshold and were not served by facility were 58 in numbers (Fig.4.3-A).

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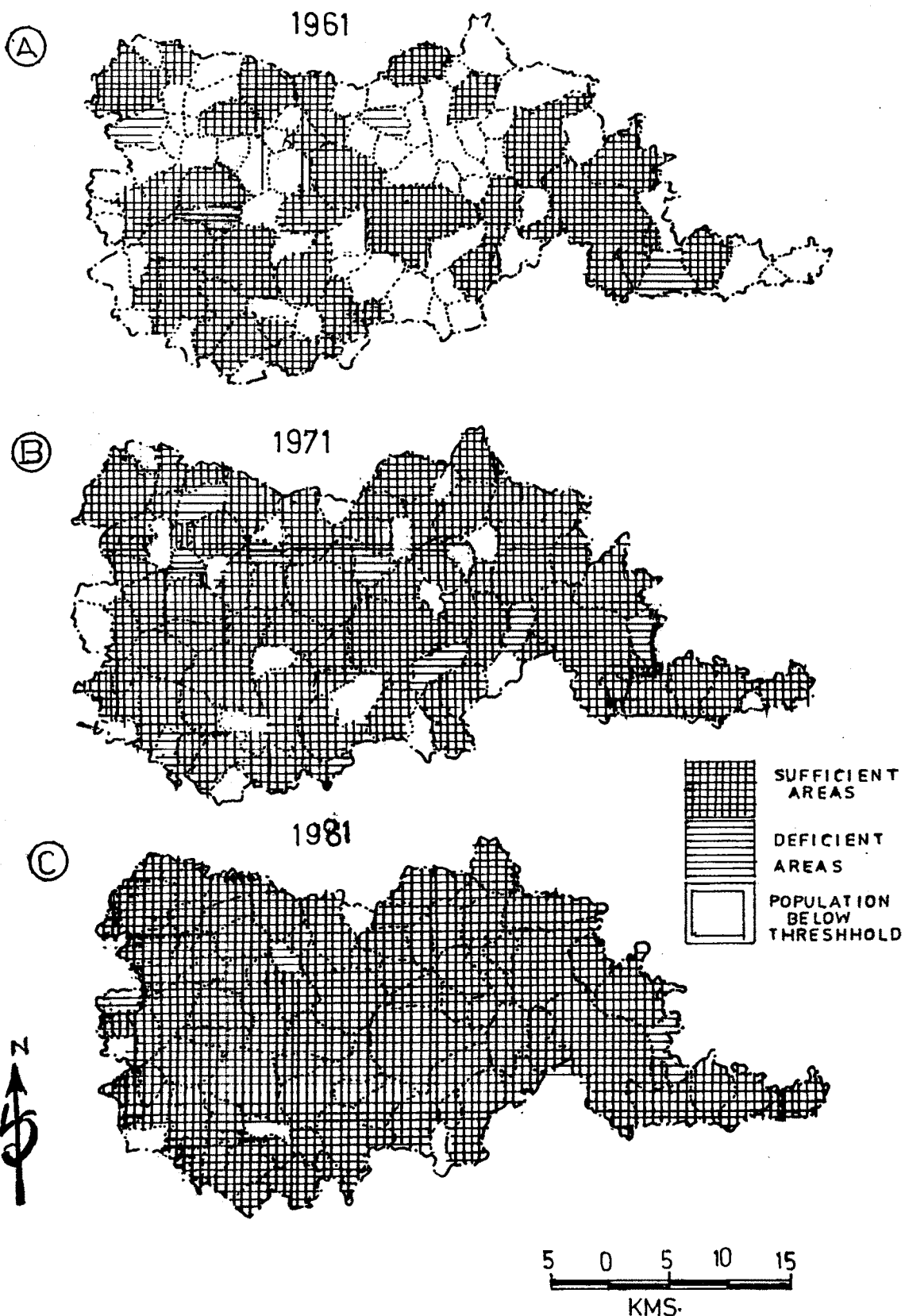


FIG-4.3

Threshold population for post facility in the year 1971 was 1259 persons. In this year 65 centres were served by this facility. There were 8 villages which had population above threshold but not served by facility. They are Upale-Mayani, Saholi, Kherade, Vita, Rewangaon, Benapur, Kurli, Asad and Ghanvad. The remaining 24 villages had population below threshold and not to be served by post facility (Fig.4.3-B). The threshold population for this facility in the year 1981 was 1021 persons. In this year 87 villages were served by the post facility. Remaining 10 villages are not served by this facility. Out of these five villages having population above threshold were not served by the facility. They are Raigaon, Khorade-Vita, Ghanavad, Khambale-Aundh and Benapur.

b) Population and Telegraph facility :

In 1961 only one centre was served by telegraph facility and that was Vita. In the year 1971 threshold population for telegraph facility was 4746 persons. In this year 4 centres were served by this facility. There were two centres which had population above threshold but were not served by telegraph facility. They were Nevari and Lengare. The remaining 90 centres have population below threshold were not served by this facility (Fig.4.4-A,E).

The minimum population requirement for telegraph facility in 1981 was 5054 persons. In this year 8 centres

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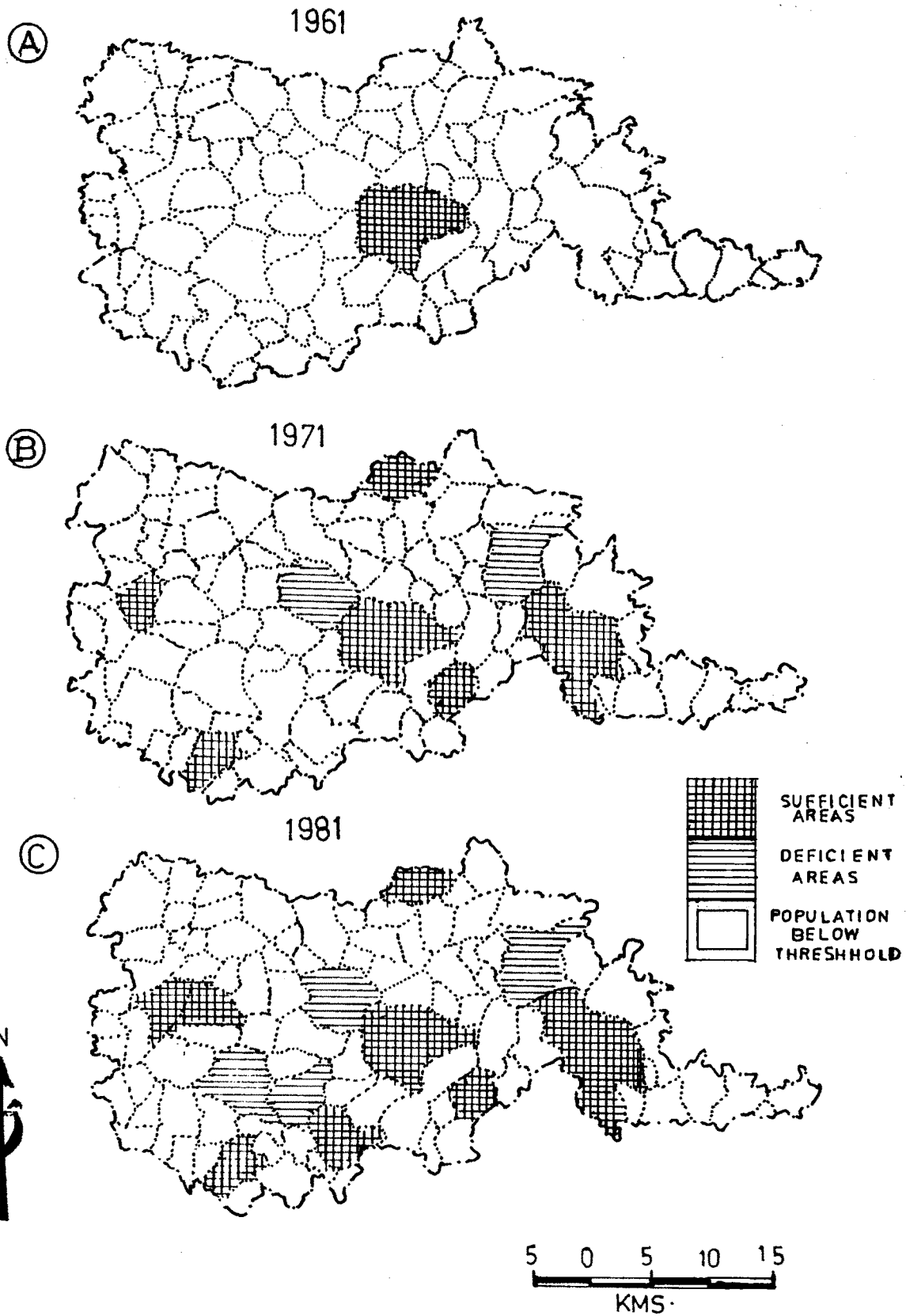


FIG 4.4

have provided this facility. There are 4 centres which have population above threshold but were not served by telegraph facility. They are Nevari, Lengare, Wangi and Bhalwani. The remaining 85 centres have population below the threshold and were not served by facility.

4.4 POPULATION AND TRANSPORT FACILITY :

In 1961, 40 villages were not connected by roads, and 57 villages were connected by roads. The threshold population for transport facility was 1253 persons and there were thirteen villages which had population above threshold but did not have this facility. They were Bhikavadi Bk., Devikhindi, Vejegaon, Tondoli, Salshinge, Balvadi-Khanapur, Wadiyeraibag, Shivani, Pare, Bhalvani, Sonkire, Chinchani-Tasgaon and Bamani. The remaining 27 villages had population below the threshold and were not served by this facility (Fig.4.5-A).

In 1971 there were 65 centres which were served by transport facility. The threshold population for this facility was 1432 persons. In this year there were 7 villages which had population above threshold but were not served by this facility. They were Bhikavadi Bk., Tondoli, Vihapur, Hingangade, Nahavi, Bamani and Wadiyeraibag. The remaining 25 villages having population below the threshold and hence were not served by transport facility (Fig.4.5-B).

In the year 1981 threshold population for transport facility was 1709 persons. Fig.4.5-C shows the deficiency

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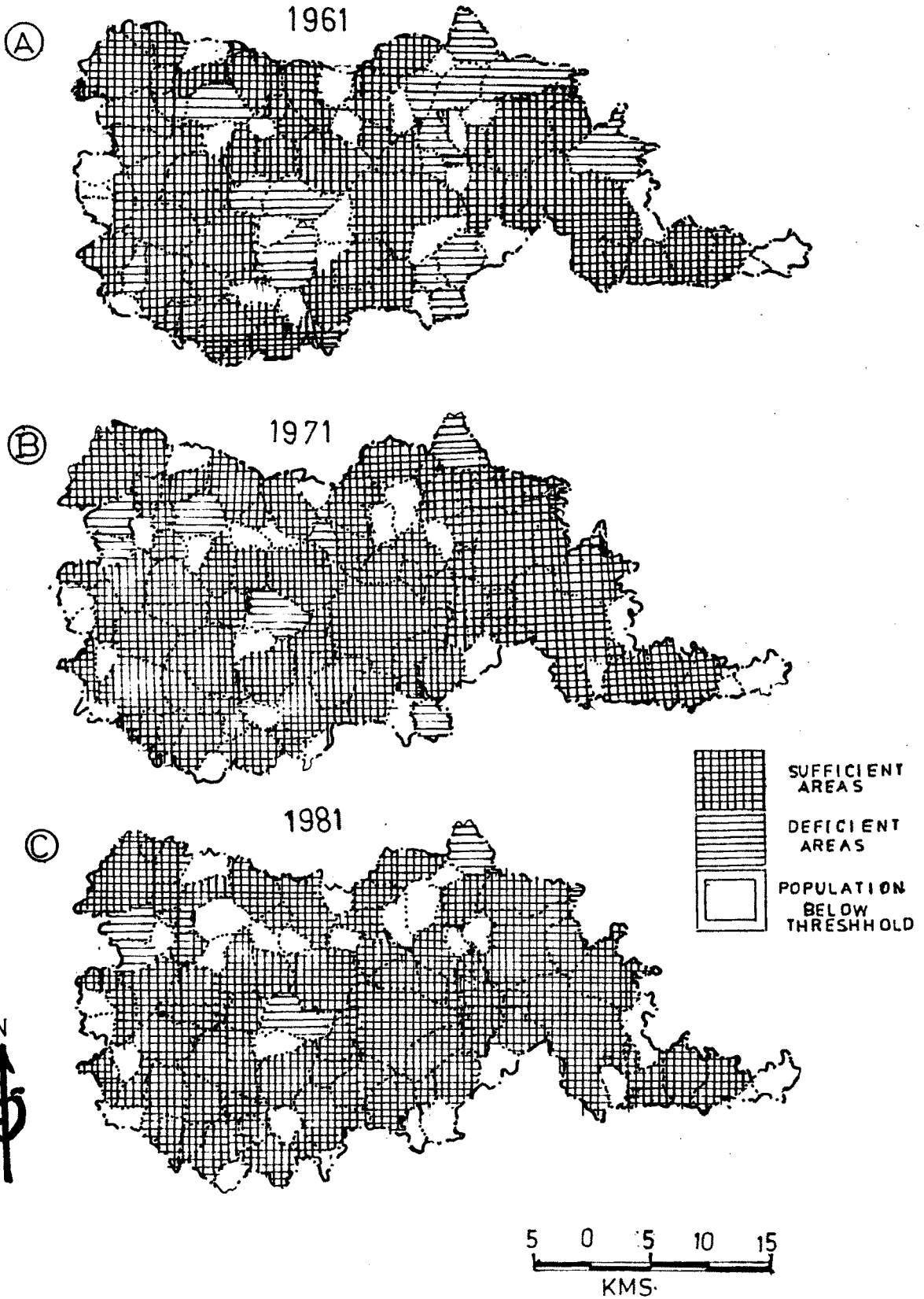


FIG.4.5

and sufficiency of this facility. In this year 65 centres were sufficiently served by this facility. There were 4 centres which have population above threshold but not served by this facility. They were Bhikavadi Bk., Tondoli, Vihapur and Nahavi. The remaining 28 villages have population below threshold and not served by this facility.

4.5 POPULATION AND ELECTRICITY FACILITY :

In the year 1961 threshold population for electricity facility was 2342 persons. In this year only 9 villages were served by this facility (Fig.4.6-A). There were only 8 villages which had population above threshold but did not have the facility. These deficient centres were Kherade-Wangi, Shalgaon, Nevari, Lengare, Balvadi-Khanapur, Khanapur, Bhalwani and Devarashtre. The remaining 80 centres had population below the threshold and were not served by electricity.

In 1971, 36 centres were served by electricity. In this year the threshold population for electricity facility was 1830 persons. There were 11 villages which had population above the threshold, but these were not served by this facility. These deficient villages were Yetgaon, Kherade-Wangi, Vezegaon, Tondoli, Salshinge, Balvadi-Khanapur, Renavi, Karnze, Ambak, Balvadi-Bhalvani and Alsund. The remaining 50 villages had population below threshold and were not served by electricity facility (Fig.4.6-B).

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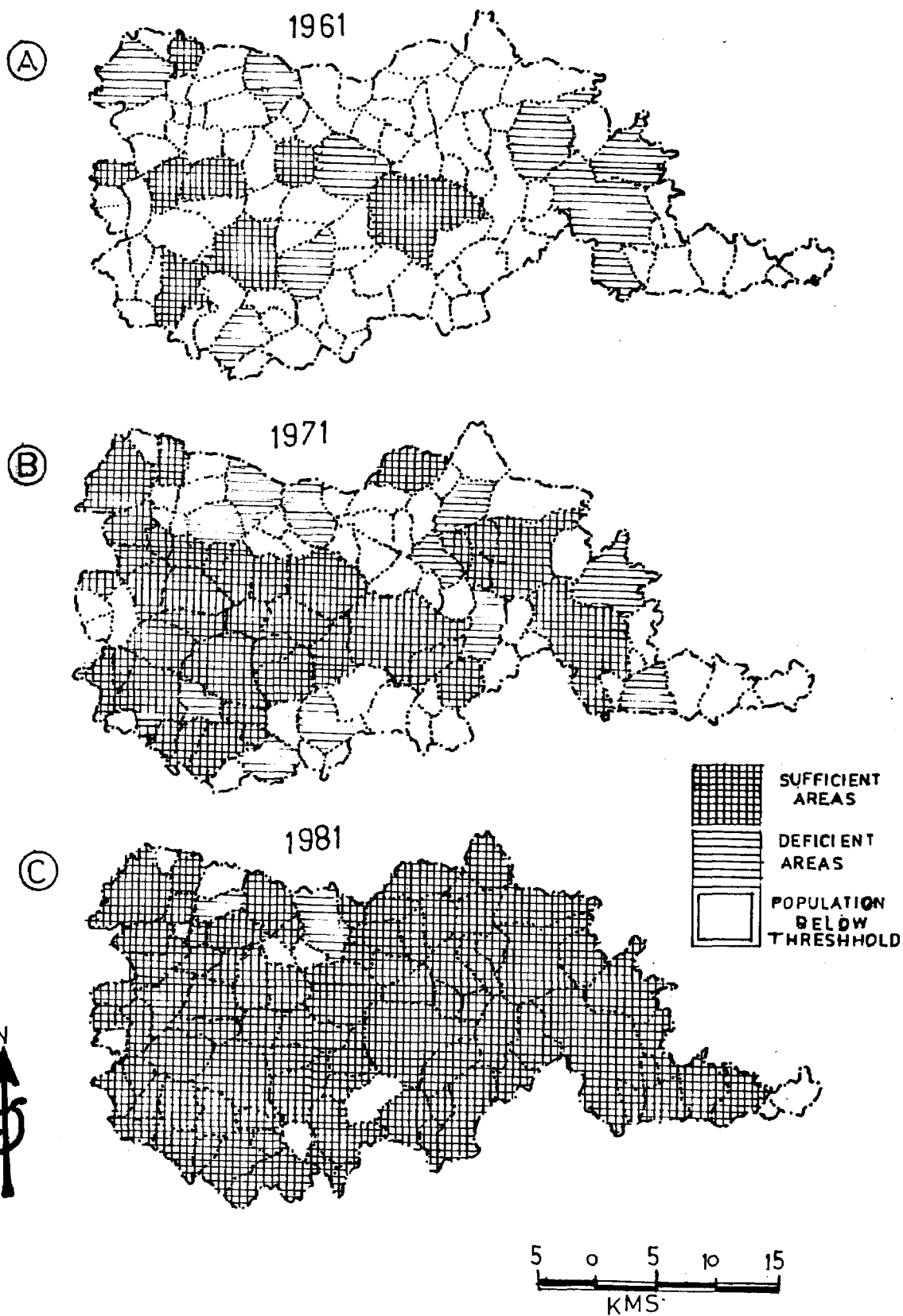


FIG-4-6

In 1981 maximum centres were served by electricity facility. Fig.4.6-C shows the deficiency and sufficiency of this facility. In this year threshold population for electricity facility was 1480 persons. 85 centres were sufficiently served by this facility. There were two centres which had population above threshold but did not served by this facility. These deficient centres are Yetgaon and Upale-Mayani. The remaining 10 centres have population below threshold and were not served by the facility.

4.6 POPULATION AND BANK FACILITY :

In the year 1961 there were two centres which were served by bank facility. These centres were Vita and Kadegaon. In this year threshold population for bank facility was 6749 persons. There was only one centre namely Khanapur whose population was observed above the threshold but not served by facility. The remaining 94 villages had population below the threshold and they were not served by bank facility (Fig.4.7-A).

In 1971 the picture got changed. There were 5 centres which were served by bank facility. Threshold population for this facility was 5623 persons. In this year there was no centre which having population above threshold ~~did not~~^{for} bank facility. Therefore, there was no deficient centre. 92 centres had population below the threshold limit and were not served by bank facility. This shows the economic backwardness of the region.

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ASSOCIATION BETWEEN POPULATION AND BANK FACILITY

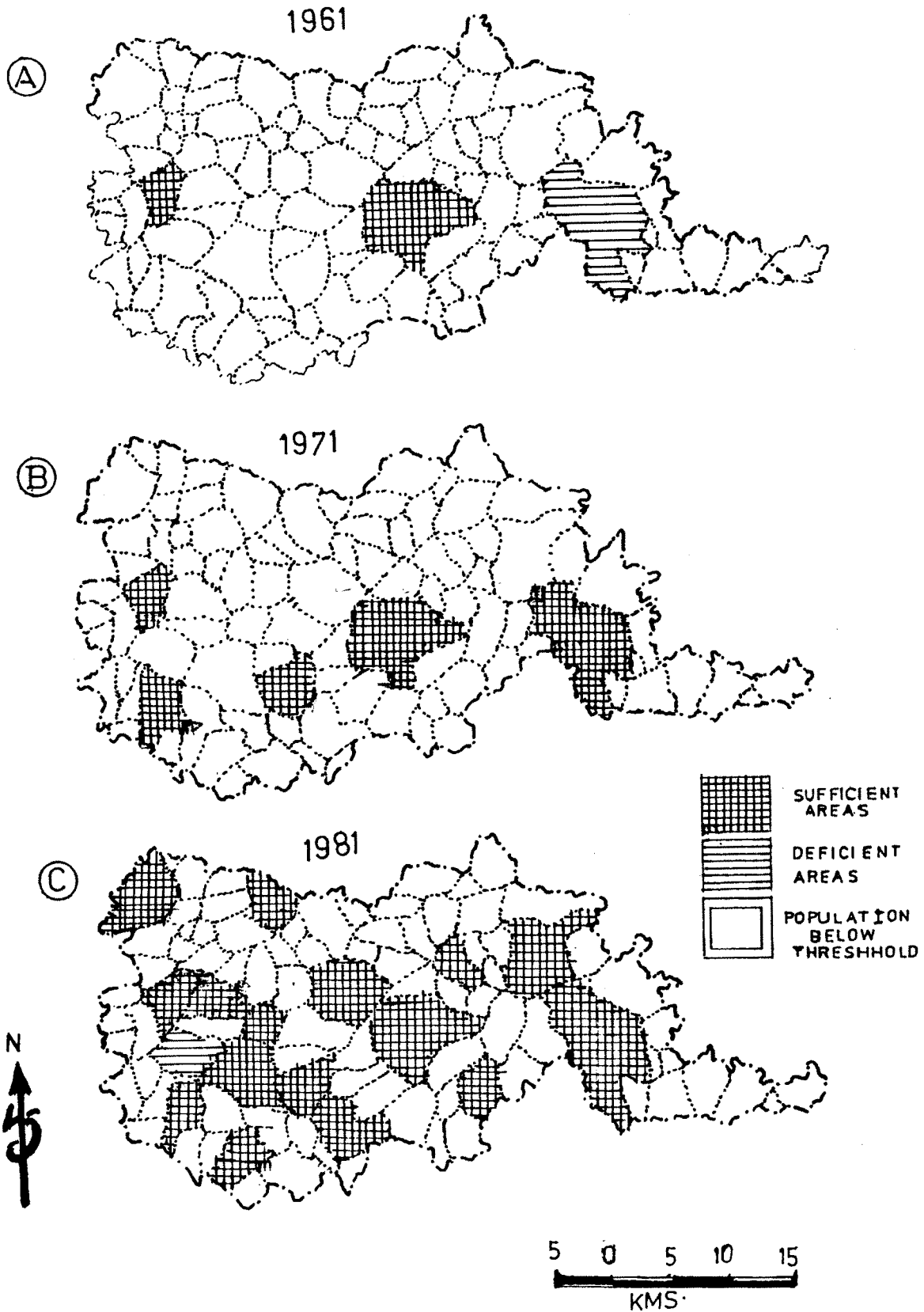


Fig.4.7-C shows the sufficiency and deficiency of this facility. The threshold population for bank facility in the year 1981 was 3930 persons. There were 16 centres which were served by bank facility but one centre which had population above threshold but was not served by this facility. This deficient centre was Tadsar, whose population was 4059. The remaining 80 villages had population below the threshold and hence not served by bank facility.

4.7 QUANTITATIVE ANALYSIS :

In Khanapur taluka of Sangli district the socio-economic facilities are not evenly distributed. There are different causes for this uneven distribution of facilities. Some centres have facility because of their central location, some have more population and some have political interferences. " Some of the settlements have more facilities and some have less, thus it has been found that in the region at higher level of facility are generally located by their appropriate location, population size and political interferences," (Singh and Singh, 1987). This association between settlements and facilities is studied quantitatively by computing the 'r' values by Karl Pearson's formula. The correlation between number of settlements and facilities is given in Table 4.4. ~~The correlation between population and various socio-economic facilities is also given in Table 4.5. It reveals that there is significant positive correlation between~~

TABLE 4.4 : Khanapur taluka - Correlation between number of settlements and facilities.

(A) 1961 'r' value - 0.43

Number of facilities	0	1	2	3	4	5	6
Number of settlements	1	32	27	21	14	0	2

(B) 1971 'r' value - 0.15

Number of facilities	1	1	2	3	4	5	6
Number of settlements		0	23	41	20	10	13

(C) 1981 'r' value + 0.37

Number of facilities		1	2	3	4	5	6
Number of settlements		0	3	14	54	13	13

SOURCE : Compiled by the author

The Table 4.4 A,B shows the negative correlation in 1961 (-0.43) and 1971 (-0.15). The positive correlation is observed only in 1981 (+0.37). As the number of facilities in settlements have increased in 1981. The correlation between population and various socio-economic facilities is also given in table 4.5. It reveals that there is significant positive correlation between

TABLE 4.5 : Khanapur taluka - Correlation between population and various socio-economic facilities.

Sr. No.	Correlation	'r' value	Sr. No.	Correlation	'r' value		
1	Population And Education		2	Population And Medical			
		1961			+ 0.71	1961	+ 0.30
		1971			+ 0.83	1971	+ 0.30
		1981			+ 0.96	1981	+ 0.43
3	Population And Post & Telegraph		4	Population And Transport			
		1961			+ 0.50	1961	+ 0.40
		1971			+ 0.64	1971	+ 0.69
		1981			+ 0.74	1981	+ 0.71
5	Population And Electricity		6	Population And Bank			
		1961			+ 0.01	1961	+ 0.03
		1971			+ 0.28	1971	+ 0.17
		1981			+ 0.57	1981	+ 0.35

SOURCE : Compiled by the author.

population and facilities like primary and middle school, education, post and transport. In case of electricity this correlation is only significant in 1981, but it was insignificant in 1961 and 1971. The correlation between population and medical and bank facilities is insignificant since 1961 to 1981. But one thing can be noted that the correlation between population and various facilities is positive in the study area as the facilities are slowly developing with the growth of population.

SUMMARY :

The deficiency and sufficiency of facility is shown with the help of the threshold population. The minimum population necessary to support the facility is called as threshold population. The threshold population is calculated by the simple mean of two methods viz. lowest unit of population and median value of population, where the facility appears. The threshold population is different for different facilities because of the importance of each facility.

The association between population and socio-economic facilities is studied by the threshold population. The centres having facility are the sufficient centres and which do not have facility eventhough population is above the threshold, are the deficient centres. The remaining centres which have population below the threshold are also the deficient areas.

The changes in facility is studied from 1961 to 1981. There is an increasing trend in the number of facilities but the rate of increase is very slow.

The quantitative analysis shows the correlation between number of facilities and the number of settlements and also between population and different socio-economic facilities. For this the Karl Pearson's formula is used. The correlation between settlement and facility is negative in 1961 and 1971 but it is positive in 1981, whereas the correlation between population and various facilities is positive in the study area but they are not sufficient.

R E F E R E N C E S

1. Singh, S.B. and Singh, B.N. (1987) : Planning for socio-economic facilities in Ghazipur Tahsil, U. P.
The National Geographical Journal of India, Vol.33, No.1, pp.89-96.
2. Singh, D.N. and Rai, S.C. (1987) : Spatial organization of socio-economic facilities in Kopaganj Block, U.P.
The National Geographical Journal of India, Vol.33, No.1, pp.68-79.

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