C H A P T E R [III]

SPATIAL DISTRIBUTION OF RURAL SETTLEMENT IN SATARA DISTRICT

3.0] Introduction

3.1] Physiography & Distribution of Rural Settlements.

3.2] Drainage Density of Rural Settlements-

3.3] Rainfall and Distribution of Rural Settlements.

3.4] Land under Forest and Distribution of Rural Settlements.

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C H A P T E R [III]

SPATIAL DISTRIBUTION OF RURAL SETTLEMENTS IN SATARA DISTRICT

3.0] I N T R O D U C T I O N :

Settlement as an occupance unit represents thus an organized colony of human beings,including the buildings in which they live or work or store or use them otherwise and the tracs or streets over which their movements take place. The centre of interest in settlement geography, as of all geography is man and the reciprocal relationship of human occupance features and environment features bear simpler forms and relationship with the environment. But with the growth of knowledge and civilization, the degree of variability in their size and form and of complexity greater. And maximum of humanization of the landscape is seen in the city of Metropolis which exhibits highly complex features and spatial patterns[1].

One of the prime concerns of geographic studies is that of spatial organization of phenomena. In rural context these spatial organizations are worth study and research because once the territorial frames of such studies are defined and the social networks which function a really territorially are deciphored precisely, planning and social

change machineries could not made more effective operating through these socially spatially covariant networks[2].

There are so many factors which affect on the distributional pattern of settlements such as physical, social and political. The distributional pattern of settlements is not determined by the natural condition but other several factors which influence on the distribution of settlements such as economic and social factors.

In the present study, an attempt has been made to find out the influence of several physical, economic, social and political factors on the distribution of rural settle--ments in the study region. The analysis of the spatial distribution of rural settlements has been studied with the help of quantitative method called 'Neighbour Analysis'.

3.1] PHYSIOGRAPHY AND DISTRIBUTION OF RURAL SETTLEMENTS :

In the present analysis of distribution of rural settlements and its relationship of physiography has been shown. The study region has been divided into four categories according to height from sea-level.

1] The River Basin Region (Below 600 m)

2] The Low Land Region (600 m to 900 m)

3] The Foot Hill Region (900 m to 1200 m)

4] The Sahyadrian Ranges (Above 1200 m)

[1] THE RIVER BASIN REGION (BELOW 600 m)

In the present study region, the northern part, the southern part and few eastern part comes below 600 m, which is occupied by the Nira Basin,the Krishna,the Koyana river

Basins and Man river. This region has got more fertile soil, irrigation facilities, developed agricultural practices and developed transportation network, so the big size rural settlements are found in this area. It is observed that, out of the total area of the study region, river basin area covers nearly 27 percent of the total, which accounts for 21 percent of rural settlements. It means that most of the rural settlements have concentrated in this region and this part of the study region is most economically prosperous.

[2] THE LOW LAND REGION (600 m to 900 m)

The low land region of the study region which covers most of the plateau area of the Sahyadrian mountain ranges and Mahadeo hill ranges. The low land region covers nearly 56 percent of the total area and accounts for 60 percent of the total rural settlements of medium and big size. This region has also got fertile soil, irrigation facilities have developed and use of modern techniques, the agricultural practices are more developed in this region. So more number of rural settlements are found. Most of the central and eastern part of the study region have been covered by such type of rural settlements (Fig. No.3.1).

[3] THE FOOT HILL REGION (900 m to 1200 m)

The region which lies between 900 m to 1200 m, altitude from sea level is considered as the foot-hill region. Most of the Sahyadrian hill ranges and the parts of the Mahadeo hill ranges which stretches into north-south and east-west direction in the study region. This region covers nearly 12 percent of the total area and 15 percent of the

of the total rural settlements which are mostly small in size.

In this area, monsoonal type of climate has influenced on the rural settlements. The region has steep slope, more monsoonal rainfall, terraced farming of rice and ragi is practiced extensively. So the rural settlements are found at the foothill region and small in size which are situated on the spurs of the hill ranges. (Table III-I and Fig. 3.1).

[4] THE SAHYADRIAN RANGES (ABOVE 1200 m)

Most of the western part of the Sahyadri hill ranges and some western part of Mahadeo hill ranges covered by this region which is above 1200 m from sea level. This region covers only 5 percent of the total area and 4 percent of the rural settlements. The rugged topograp hy, steep slope, high rainfall, less land under cultivation, more forest land etc. affects on the distribution of rural settlements in this region. Most of the rural settlements of this region are situated on the hill top which are small in size (Table III-I, Fig. 3.1).

SATARA DISTRICT

PHYSIOGRAPHY

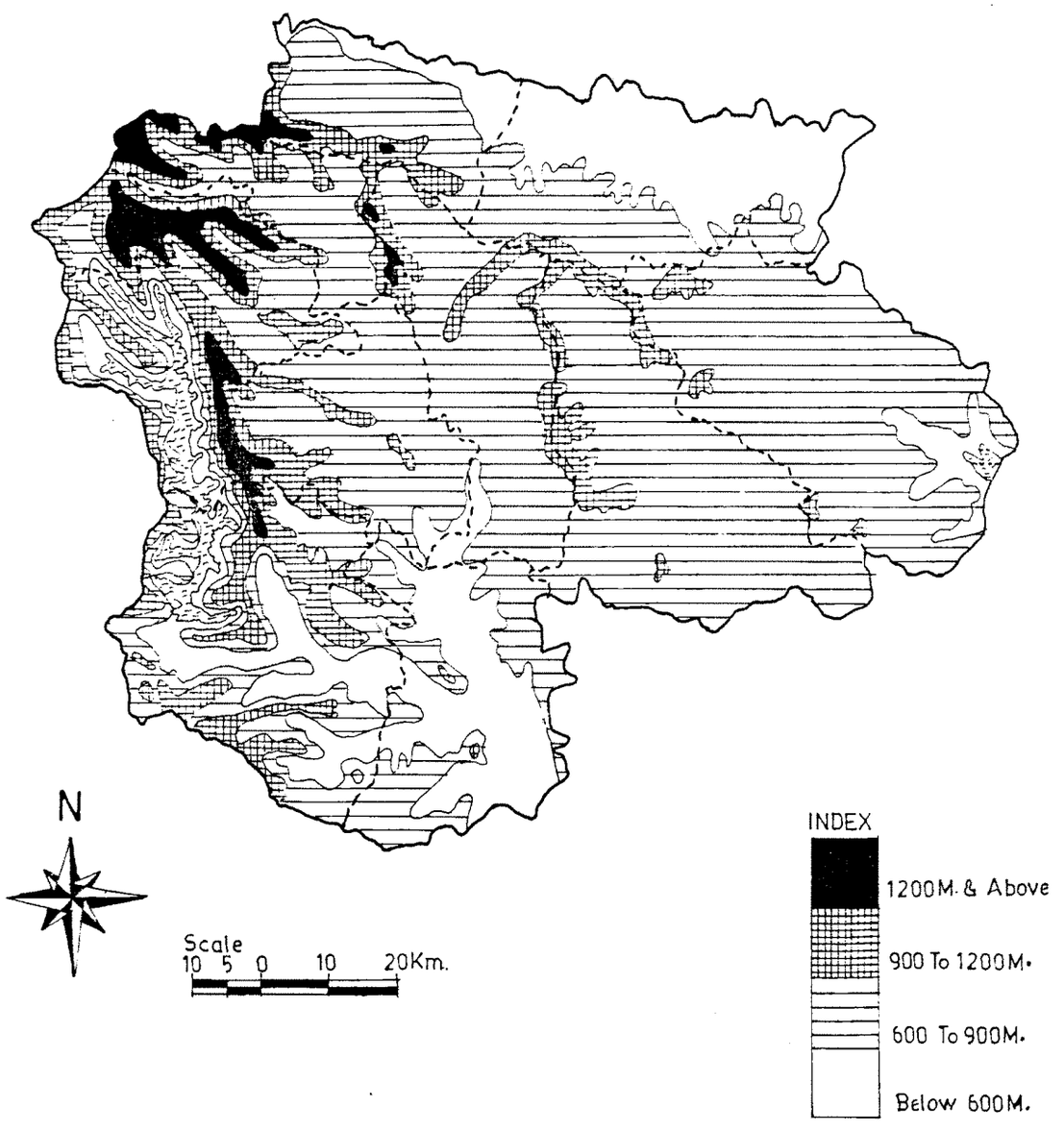


Fig 3-1

T A B L E [III-I]

SATARA DISTRICT

PHYSIOGRAPHIC REGIONS & DISTRIBUTION OF RURAL SETTLEMENTS

Sr. No.	Height in m	Area covered in sq.km	Perce-ntage to total	No.of Rural settle--ments	Percentage to Rural settle--ments.
[1]	Above 1200 m	500	05	65	04
[2]	900m to 1200m	1,200	12	238	15
[3]	600m to 900m	2,700	27	925	60
[4]	Below 600m	5,730	56	319	21
	Total ..	10,130	100%	1,547	100%

SOURCE -> AUTHOR

It is observed that in the study region, the area which lies below 900 m. covers nearly 83 percent of the total and accounts for 81 percent of the rural settlements. It means that there is a positive co-relation between area covered by the settlements and the number of rural settlements. Again, it is also observed that, the area which lies above 900 m. covers less percentage of the total area and few percent of the rural settlements. It also shows a positive co-relation between area covered and number of rural settlements.

3.2] DRAINAGE DENSITY OF RURAL SETTLEMENTS :

Human settlements always set up on the banks of streams and rivers. In any region, more number of rural settlements are found in the areas where the drainage density is high. In order to testify this fact, the entire study region has been divided into four categories of drainage density per sq.km. and the distribution of rural settlements have been verified. It is observed that the above statement is partially true.

In the study region, the drainage density below 4 km per sq.km. is observed in the south-eastern part and few part of north-eastern region, which occupies only 4 percent of the total area and accounts for one percent of the total settlements. This area is occupied by hill ranges and steep slopes. So there are few number of rural settlements. South-eastern part is mainly drought-prone area of the study region.

In the central_western part of the study region where the drainage density is observed between 4 to 8 km per sq.km. covers an area about 42 percent of the total and accounts for 45 percent of the total rural settlements. In this region the soil is fertile irrigation facilities developed so in the basin of Krishna river more number of rural settlements have developed. The area occupied by this category of drainage density and number of rural settlements has positive co-relationship.

The southern part, western part and most of the

northern part of the study region, where the drainage density is observed between 8 to 12 km per sq.km. covers an area about 51 percent of the total, which occupied by 53 percent of the total rural settlements. Here, it is also observed that the area occupied by drainage density and rural settlements have positive co-relationship.

The northern part and a very few part of south-east corner of the study region where the drainage density is observed above 12 km per sq.km. covers an area of 3 percent of the total and accounts for 1 percent of the total rural settlements. It means that, higher the drainage density lower the settlement density in the study region (Table III-II, Fig. 3.2) gives clear picture of the drainage density per sq.km and the number of rural settlements occupied by that region.

T A B L E [III-II]

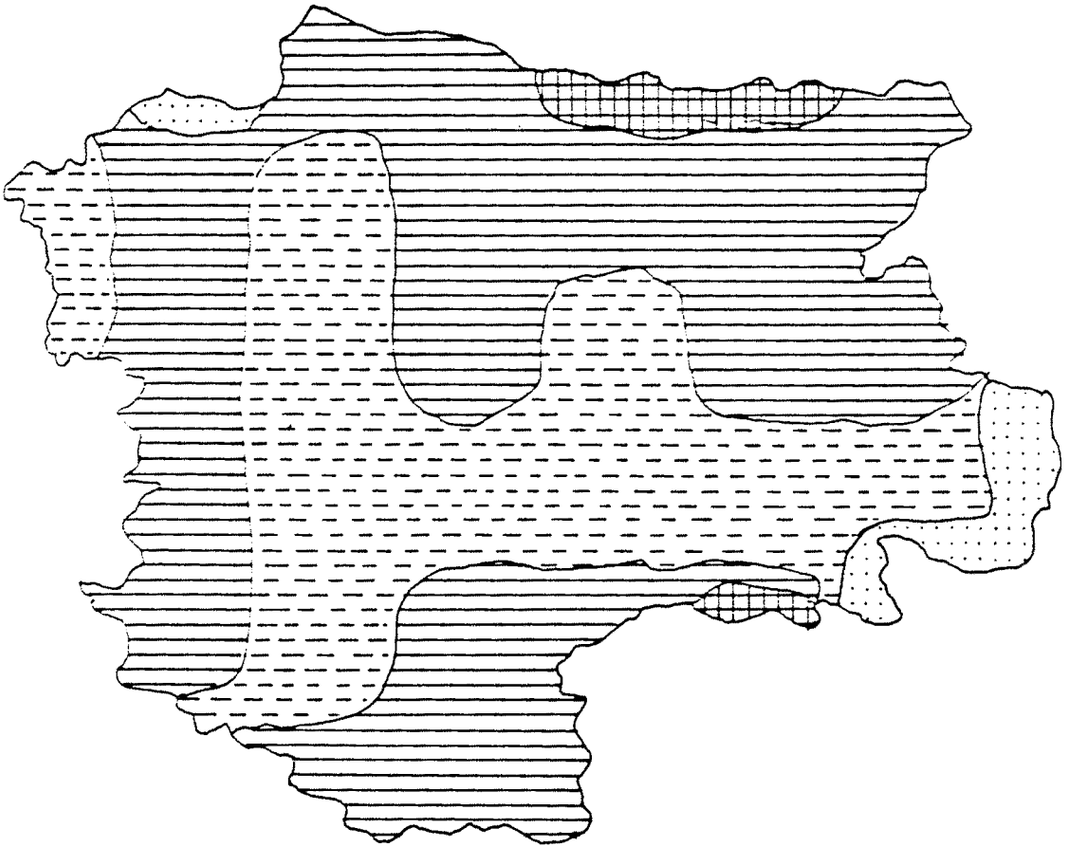
SATARA DISTRICT

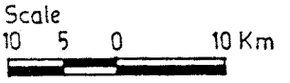
DRAINAGE DENSITY PER SQ. KM. AND DISTRIBUTION OF SETTLEMENTS

Sr. No.	Drainage Density per sq. km.	Area covered in sq.km	Perce-ntage to area	No.of Rural settle-ments	Percentage to rural settle-ments
[1]	Above 12 km	320	03	22	01
[2]	8 to 12 km	5216	51	813	53
[3]	4 to 8 km	4214	42	692	45
[4]	Below 4 km	380	04	20	01
	Total ..	10130	100%	1547	100%

SATARA DISTRICT

DRAINAGE DENSITY PER SQ.K.M.





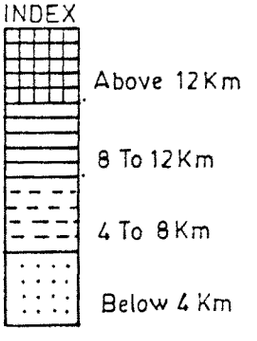


Fig - 3·2

In general, it is observed that the drainage density between 4 km to 12 km per sq.km. covers an area about 93 percent of the total which accounts for 98 percent of total rural settlements.

3.3] **RAINFALL AND DISTRIBUTION OF RURAL SETTLEMENTS** :

The climatic condition is one of the most controlling factor on the distribution of human settlements because temperature and rainfall are the main controlling elements. In the present analysis, the distribution of rainfall is taken into consideration. The rainfall of the various places taken into consideration and from that information the isopleth map has been drawn for the study region and the study region has been grouped into four categories of rainfall.

In the eastern part of the study region, where the rainfall is observed below 500mm covers an area about 33 percent of the total which accounts for 31 percent of the rural settlements. This is the part of the drought-prone area of the study region, where there is always scarecity and irregularity of rainfall is observed, so there are less number of rural settlements of medium and small size. The spacing between rural settlement is also more in comparison to western part of the study region.

In the central part of the study region, where the rainfall is observed between 500 mm to 1000 mm which occupies nearly 35 percent of the total area and accounts for 31 percent of the rural settlements. This is the

transitional zone between drought-prone area and high rainfall area where medium rainfall observed.

In the western part of the study region, where the rainfall is observed between 1000 mm to 2000 mm covers an area about 30.5 percent of the total and accounts for 45 percent of the rural settlements. In this area, it is observed that number of rural settlements are comparatively more. This part of the study region occupied by main Sahyadrian hill ranges, So the amount of rainfall is more and more number of rural settlements found in this region which are small in size.

In the north western part of the study region, where the rainfall is observed above 2000 mm, covers an area about 1.5 percent of the total area which accounts for 3 percent of the total rural settlements. This part of the study region is occupied by main Sahyadri hill ranges covered by dense forest, so the number of rural settlements are few which small in size.

The table [III-III],& Fig.3.3 indicates the area occupied by the rainfall categories and distribution of rural settlements.

SATARA DISTRICT

RAINFALL DISTRIBUTION

(M.M.)

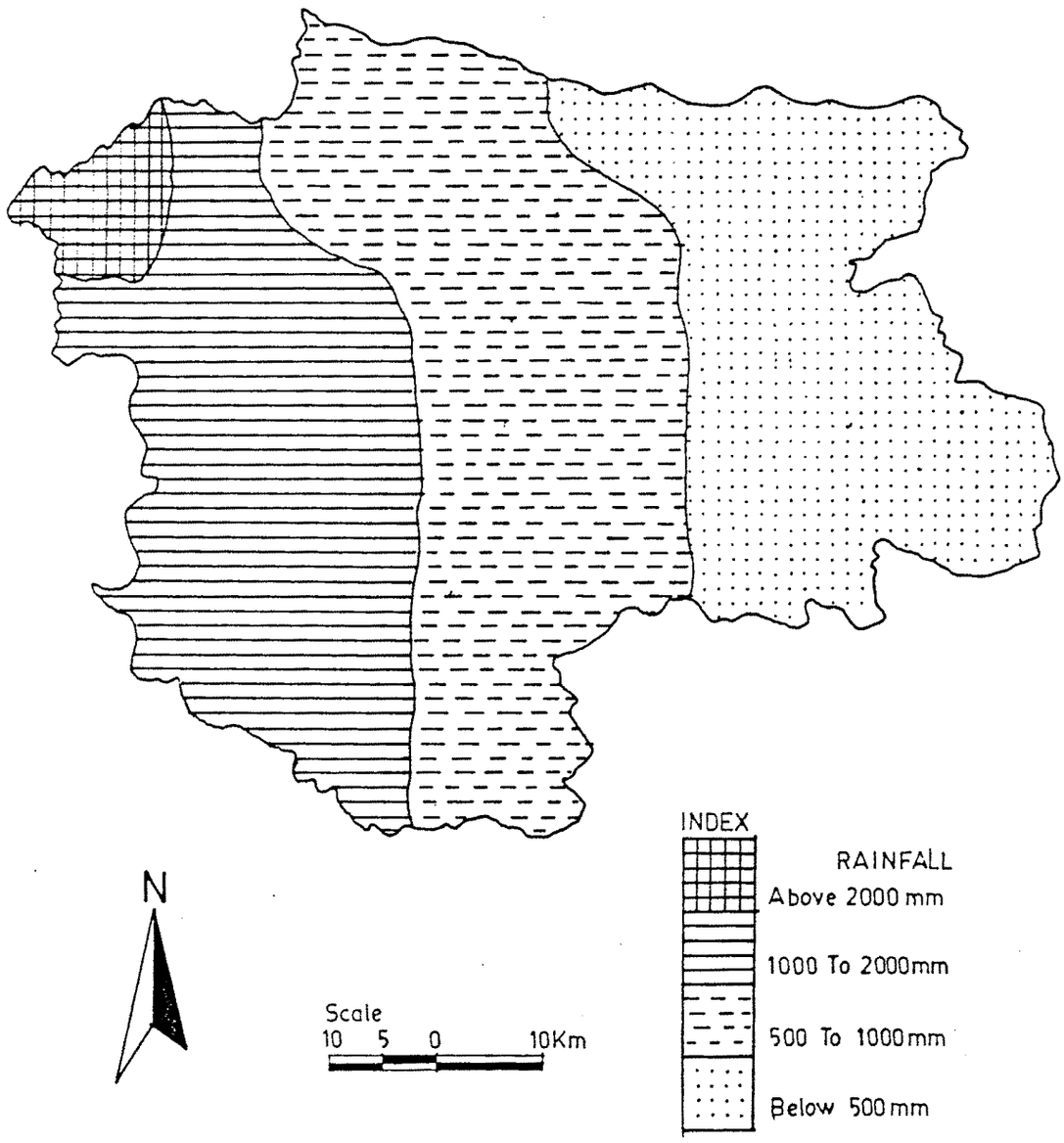


Fig-3.3

T A B L E [III-III]

SATARA DISTRICT

RAINFALL AND DISTRIBUTION OF RURAL SETTLEMENTS

Sr. No.	Rainfall Distribution	Area covered in sq.km	Percentage to total area	No.of Rural settlement	Percentage to rural settlement
[1]	Below 500 mm	3320	33	321	21
[2]	500 to 1000mm	3510	35	486	31
[3]	1000 to 2000mm	3150	30.5	689	45
[4]	Above 2000mm	150	1.5	51	03
	Total ..	10130	100%	1547	100%

In general, it is observed that in the western part of the study region, where more amount of rainfall is found the number of rural settlements also found more. In the east--ern part of the study region, where the amount of rainfall is observed the low, density of rural settlements is also observed less.

3.4] LAND UNDER FOREST AND DISTRIBUTION OF RURAL SETTLEMENTS :

Forests are the most precious resource than any other resources. In the study region, nearly 44 percent of the land which is covered by forest and grass land. The forest and grass land is most influencing factor on the distribution of rural settlements. The study region is

divided into sizeable grids (10 x 10 km). The land under forest has been calculated in percentage grid-wise and the isopleth map has been prepared for this and the land under forest has been categorized into five groups.

Here, an attempt has been made to analyse percentage of land under forest and distribution of rural settlements. It is observed that, in the north-eastern part, south-east part and some central part of the study region, which has less than 5 percent of land under forest covers an area nearly 29 percent of the total and accounts for 19 percent of rural settlements. This area is mostly covered by fallow and grass land where land under agriculture is less, low rainfall which affects on the distribution of rural settlements.

The land under forest between 5 to 10 percent is found in northern part, central part and some eastern part of the study region, which covers an area about 27 percent of the total and accounts for 21 percent of the total rural settlements.

The southern part of the Mahadeo hill ranges, western part of the Sahyadrian hill ranges and south part of the study region, where the land under forest is found between 10 to 20 percent, covers an area about 32 percent of the total and accounts for 34 percent of the total rural settlements. This area has positive co-relationship between land under forest & distribution of rural settlements (Fig.3.4).

The western part of the Sahyadrian hill ranges and its foot hill region which has found 20 to 40 percent of the land under forest, covers an area abou t 10 percent of the total which accounts for 22 percent of the rural settlements. Here, it is observed that, the land under forest is more and number of settlements are also more but the size of the rural settlements is very small.

The land under forest above 40 percent is observed in the north-western part and western part of the study region, which is the part of the main Sahyadri range, covers an area about 2 percent of the total and accounts for 4 percent of the rural settlements, where the area which is covered by dense forests, more number of small settlements or hamlet type of settlements are found.

T A B L E [III-IV]

SATARA DISTRICT

PERCENTAGE OF LAND UNDER FOREST & DISTRIBUTION OF RURAL SETTLEMENTS

Sr. No.	Percentage of Land under Forest	Area covered in sq.km	Perce-ntage to area	No.of rural settle-ments	Perce-ntage to rural settle ments.
[1]	Less than 5%	2,970	29	294	19
[2]	5 to 10%	2,700	27	331	21
[3]	10 to 20%	3,200	32	523	34
[4]	20 to 40%	1,010	10	337	22
[5]	Above 40%	250	02	62	04
	Total ..	10,130	100%	1,547	100%

It is observed that, in the study region, there is co-relation between land under forest and distribution of rural settlements.The percentage of land under forest between 5 to 20%, which covers nearly 59% of the total area and accounts for 55% of the total rural settlements. The percentage of land above 20 percent of forest which occupies 12 percent of the land of the total study region which accounts 27 percent of rural settlements. Here, it is observed that the percentage of land under forest is more, which occupies less land of the study region but accounts for more percentage of rural settlements. It means that, the area under forest,which is high & No.of rural settlements are also more,it shows positive corelationship.

SATARA DISTRICT

LAND UNDER FOREST

IN PERCENTAGE

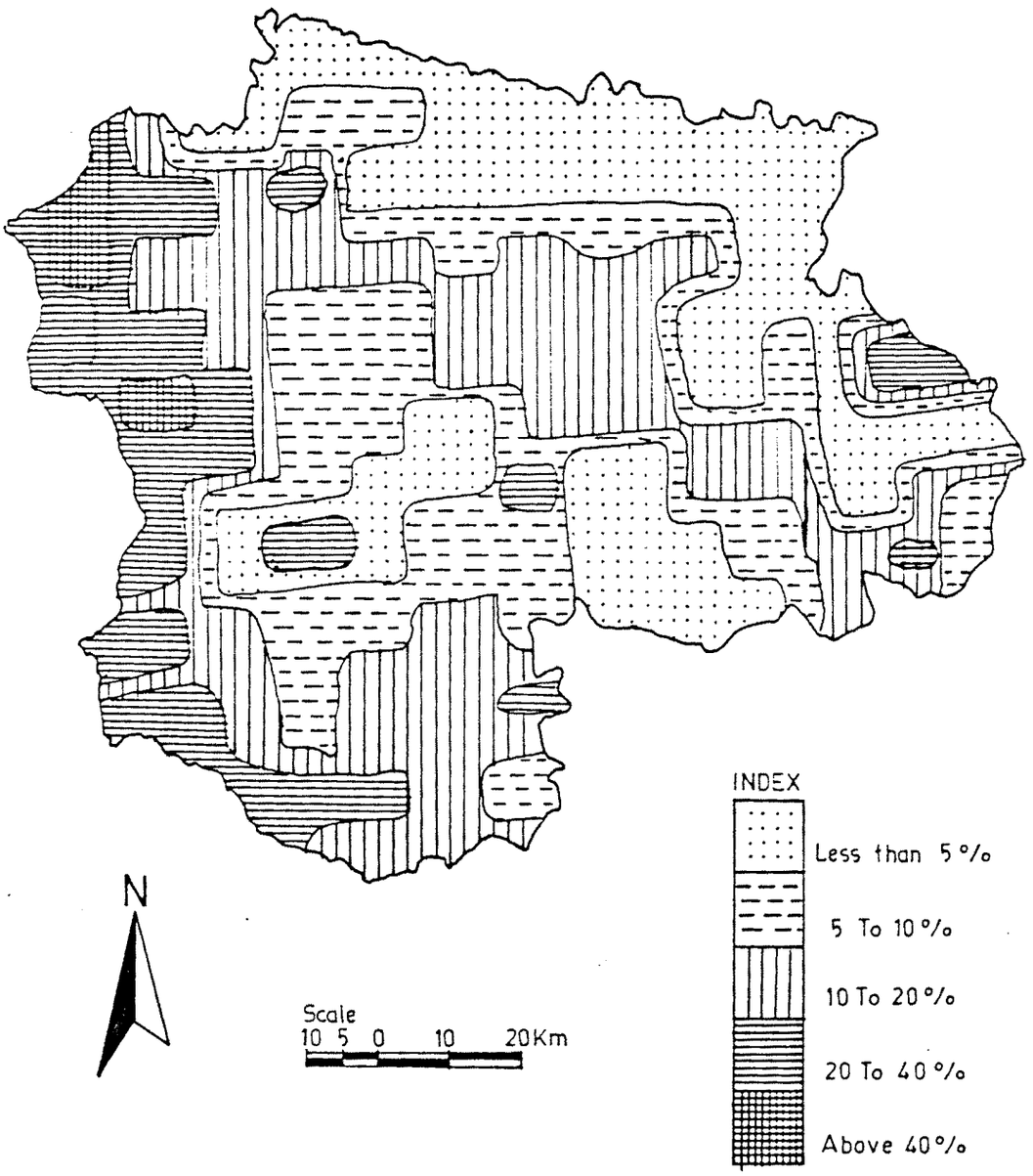


Fig-3·4

3.5] DENSITY OF RURAL POPULATION AND DISTRIBUTION OF RURAL SETTLEMENTS :

The density of rural population and distribution of rural settlements in the study region indicates a typical type of relationship. In general, it is observed that in the hilly areas, where the density of rural population is low, the number of small size settlements are more and in the areas where the high density of population is observed, the density of rural settlement is low, but the size of settlements is large.

The density of rural population is calculated grid-wise and it is categorized into 5 groups, then the isopleth map has been drawn for the study region. The table No. III-V and Fig. 3.5 indicates the density of rural population and the distribution of rural settlements.

T A B L E [III-V]

SATARA DISTRICTA

DENSITY OF RURAL POPULATION AND

DISTRIBUTION OF RURAL SETTLEMENTS 1991

Sr No.	Density of Rural population	Area covered in sq.km.	% to total area	No.of rural settle-ments	% to rural settle-ments.
[1]	Below 100	2700	27	209	13
[2]	100 to 200	3580	35	432	28
[3]	200 to 300	2450	24	321	21
[4]	300 to 400	1100	11	374	24
[5]	Above 400	300	03	211	14
	Total ..	10130	100%	1547	100%

In the study region, it is observed that where density of rural population below 100 persons per sq.km. is found in the western part, eastern part and few part of the northern area of the study region, which covers an area nearly 27 percent of the total and accounts for 13 percent of the total rural settlements. In this area the size of rural settlements is very small.

The density of population between 100 to 200 persons per sq.km. is observed mainly in eastern part and western part of the study region which covers an area about 35 percent of the total & accounts for 28 percent of the total rural settlements. The western part of the study region is mainly covered with Sahyadrian hill ranges and eastern part

which is covered by Mahadeo hill ranges and its off-shoots which has low population density and low rural settlement density.

The central part, north-eastern part, north-western part and few part of the south where the density of rural population is observed between 200 to 300 persons per sq.km. covers an area about 24 percent of the total which accounts for 21 percent of the total rural settlements. This area has got better soil, irrigation facilities, So it is agriculturaly prosperous region, where road network is also developed. So the density of population is more and more number of rural settlements are also observed in this region.

The density of rural population between 300 tO 400 persons per sq.km. is observed in the central-west zone of the study region, which is occupied by mainly Krishna river system, covers an area nearly 11 percent of the total and accounts for 24 percent of the rural settlements. The more fertile soil, irrigation facilities, developed agricultural techniques which attracts more number of population.

The southern part of the study region and some part of the north-central region which has rural population density above 400 persons per sq.km., covers an area only 3 percent of the study region, which accounts 14 percent of rural settlements of the total. Here, it is observed that, this is the part of more fertile land of the study region, where more than 80 percent of the land is under irrigation and is also agriculturally prosperous region, where the density of population and the density of rural settlement is

SATARA DISTRICT

DENSITY OF RURAL POPULATION PER SQ.KM. 1991

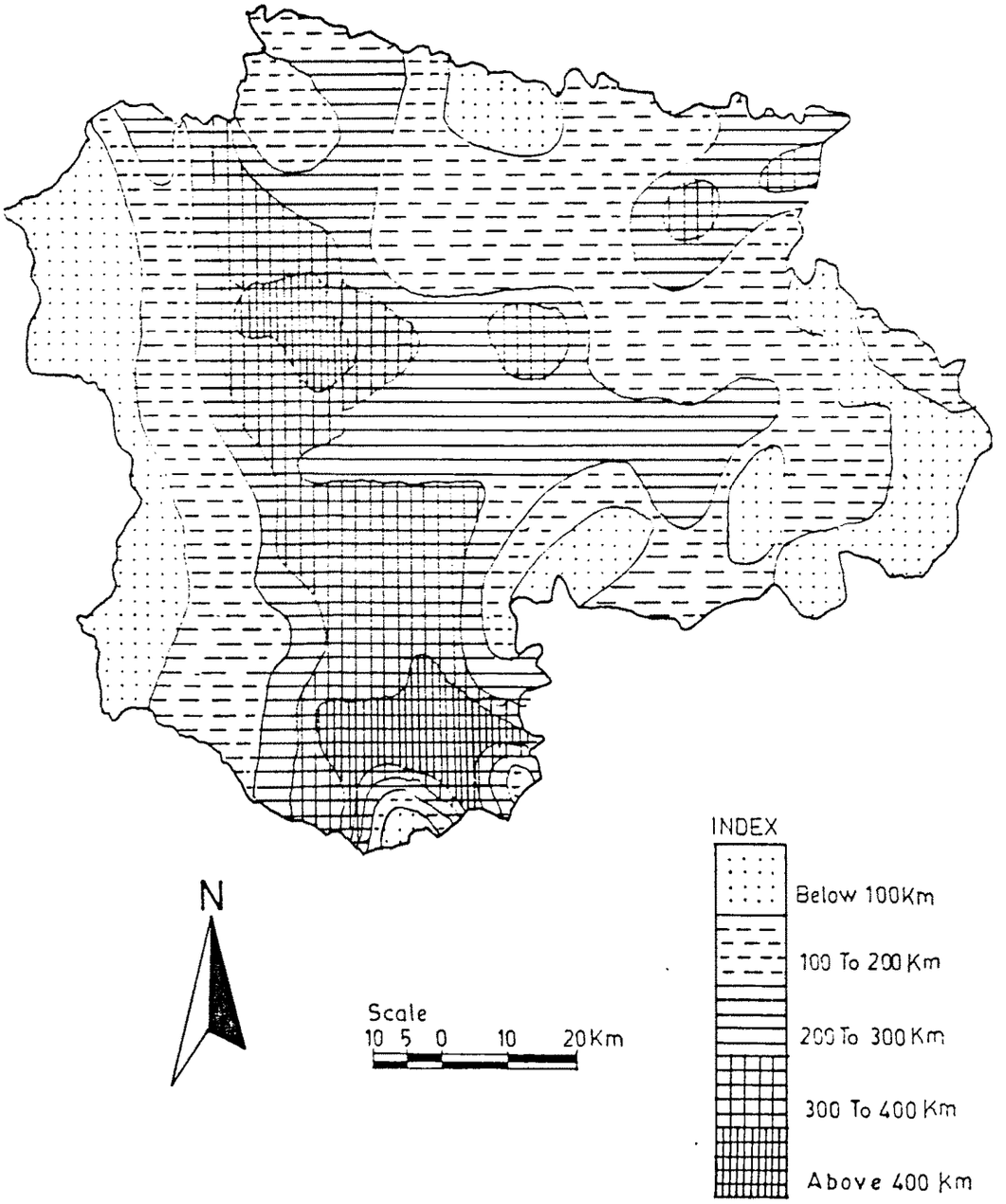


Fig-3.5

also found more.

It is observed that, in the study region where the density of rural population is found less than 200 persons per sq.km. covers an area about 62 percent of the total, which accounts for 41 percent of rural settlements. It is also observed that, the density of rural population above 300 persons per sq.km. covers an area about 14 percent of the total, which accounts for 38 percent of the rural settlements. It means that the density of rural population is more which covers less percentage of area & accounts more number of rural settlements (38 percent) of large and medium size because agriculturaly & economically prosperous area.

3.6] LAND UNDER AGRICULTURE AND DISTRIBUTION OF RURAL SETTLEMENTS :

The development of agricultural practices plays an important role in the distribution of rural settlements. To study the distribution of rural settlements and percentage of land under agriculture, the study region is divided into sizeable grids (10 x 10km) and the percentage of land under agriculture is calculated grid-wise then it is grouped into four categories and the isopleth map has been drawn for the analysis of distribution of rural settlements.

The table III-VI and Fig. 3.6 indicates the percentage of area under cultivation and the distribution of rural settlements.

T A B L E [III-VI]

SATARA DISTRICT

LAND UNDER AGRICULTURE AND DISTRIBUTION OF RURAL SETTLEMENTS

Sr. No.	Percentage of land under agriculture	Area covered in sq.km	% to total area	No.of rural settle-ments	% to rural settle-ments
[1]	Below 20	300	03	85	06
[2]	20 to 40	1330	13	115	07
[3]	40 to 80	5460	54	788	51
[4]	Above 80	3040	30	559	36
	Total ..	10130	100	1547	100%

The north-west, the south-west, south and few part of the south-east part of the study region where the percentage of land under agriculture is below 20 percent, covers an area about 3 percent of the total and accounts for 6 percent of the total rural settlements.

The southern part, north and north-east part and north-western part of the study region, where the land under agriculture is found between 20 percent to 40 percent covers an area about 13 percent of the total and accounts for 7 percent of the total rural settlements.

The central part, eastern part, southern part, western part and north-west part of the study region, where

SATARA DISTRICT

LAND UNDER AGRICULTURE IN PERCENTAGE

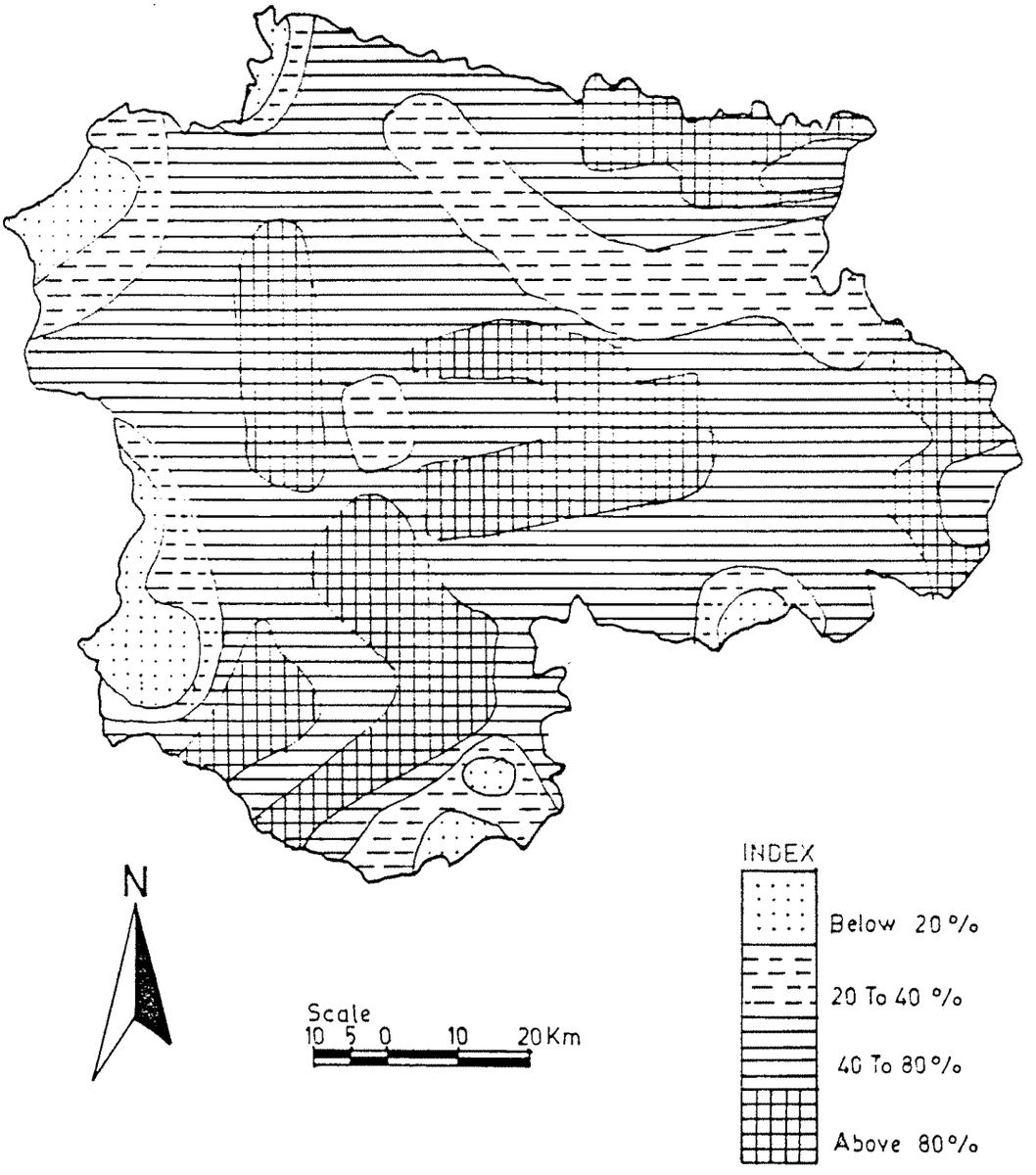


Fig-3.6

the land under agriculture is found between 40 to 80 percent covers an area about 54 percent of the total and accounts for 51 percent of the total rural settlements. The central part,the south part, western part and north-eastern part of the study region, where land under agriculture is found above 80 percent, covers an area about 30 percent of the total and accounts for 36 percent of the total rural settlements.

In the study region, it is observed that there is a close relationship between land under agriculture and distribution of rural settlements.

3.7] LAND UNDER IRRIGATION AND DISTRIBUTION OF RURAL SETTLEMENTS :

The land under irrigation influences on the distribution of rural settlements, it is also an important factor which affects on the distribution of rural settlements in the study region. The study region which is occupied by various hill ranges spurs and scarps.

For the analysis of land under irrigation and distribution of rural settlements, the study region is divided into sizeable grids (10 x 10 km) and the percentage of land under irrigation is calculated, then the isopleth map has been prepared. The land under irrigation is grouped into 5 categories and related to the distribution of rural settlements.

The table III-VII, and Fig.3.7 indicates the percentage of land under irrigation and their relationship with the rural settlements.

T A B L E [III-VII]

SATARA DISTRICT

LAND UNDER IRRIGATION AND DISTRIBUTION OF RURAL SETTLEMENTS

Sr. No.	Percentage of land under irrigation	Area covered in sq.km	% to total area	No.of rural settle-ments	% to rural settle-ments
[1]	Below 5	4557	46	581	38
[2]	5 to 10	3573	34	749	48
[3]	10 to 20	900	09	119	08
[4]	20 to 40	800	08	79	05
[5]	Above 40	300	03	19	01
	Total ..	10130	100	1547	100%

In the study region, the land under irrigation less than 5 percent is observed in the western part, central part and eastern part of the study region which occupies nearly 46 percent of the total area and accounts for 38 percent of the rural settlements. The western part of the study region, which is occupied by main Sahyadrian range, covered with dense forest and water reservoir of the Koyana dam, hence, the land under irrigation is less and the number of rural settlements are also very less and small in size. In the central part of the study region which is occupied by Mahimangad range, so the irrigation facilities are less developed. The eastern part of the study region, which comes under drought-prone area, where rainfall is less than 500 mm, so

SATARA DISTRICT

LAND UNDER IRRIGATION IN PERCENTAGE

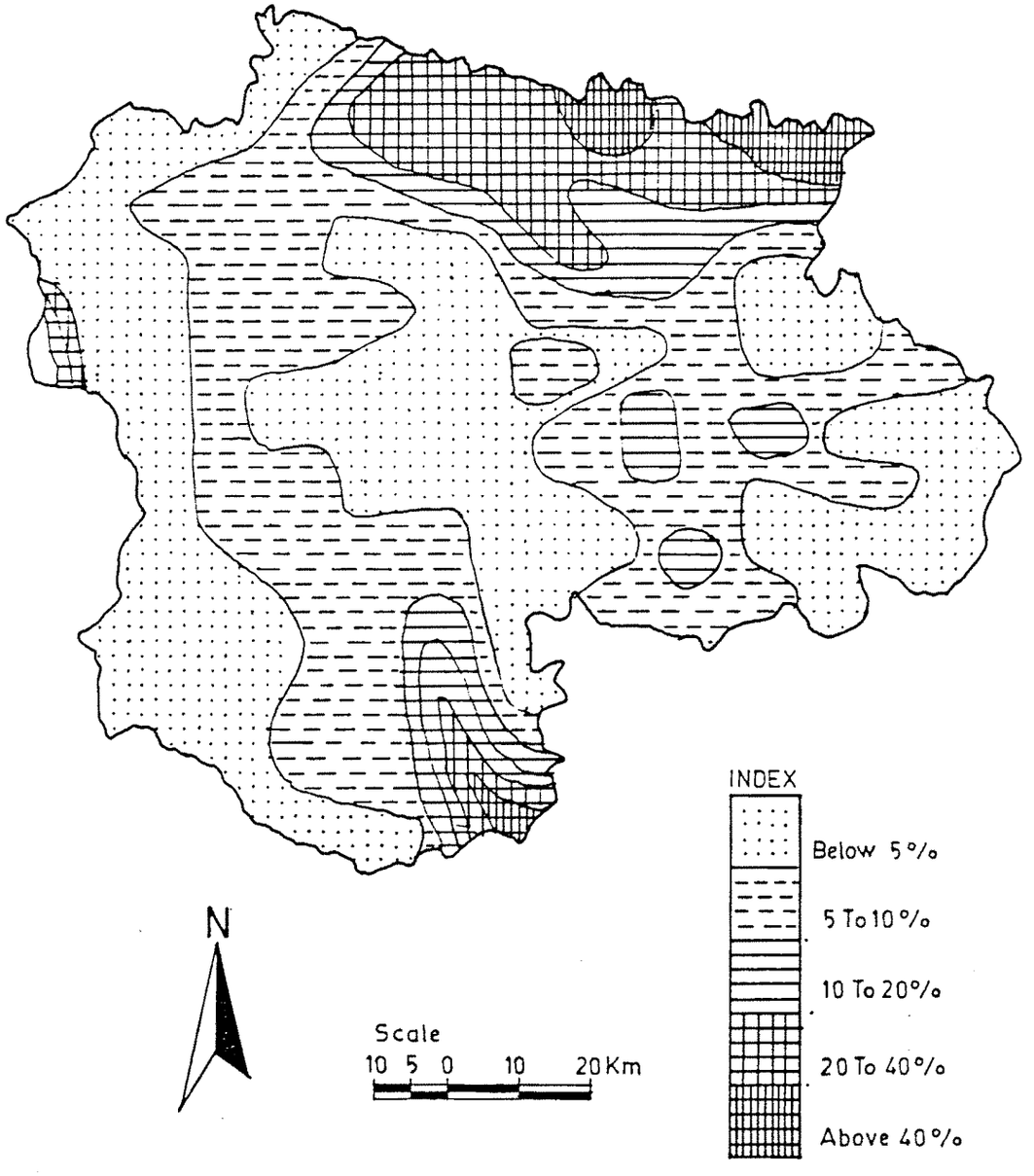


Fig-3.7

there is absence of irrigation facilities.

The west central part and south eastern part of the study region where the land under irrigation is found between 5 to 10 percent, covers an area about 34 percent of the total and accounts for 48 percent of the total rural settlements. This area is occupied by various tributaries of the Krishna river, so irrigation facilities are developed and more number of rural settlements are found in this region.

The central _ north part, south part and some scattered region of the eastern part of the study region where land under irrigation is found between 10 to 20 percent, covers an area about 9 percent of the total and accounts for 8 percent of the total rural settlements.

The north part and the southern part of the study region where the percentage of land under irrigation is found between 20 to 40 percent, covers an area about 8 percent of the total & accounts fornearly 5 percent of the total rural settlements.

The north-eastern part and southern part of the study region, where the percentage of land under irrigation is found above 40 percent, covers an area about 3 percent of the total and accounts for only one percent of the total rural settlements of big size.

3.8] **DENSITY OF ROAD & DISTRIBUTION OF RURAL SETTLEMENTS:**

To analyse the density of road & distribution of rural settlements in the study region, the study region is divided into sizeable grids (10x10km) and density of road is

calculated per sq.km. and it is grouped into four categories.

The west central part, north-western part and very few part of the south of the study region, where the density of road is observed less than 0.2 km.per sq.km., covers an area about 7.5 percent of the total and accounts for 17 percent of the total rural settlements. The western part of the study region which is hilly and occupied by dense forest so the density of road is very less.

The western part, northern part and few eastern part of study region where the density of road per sq.km. is between 0.2 to 0.3 km. per sq.km., covers an area of about 40 percent and accounts for 36 percent of the rural settlements. The central, eastern, southern parts and few part of the northern part of the study region, where the density of road between 0.3 to 0.5 km. per sq.km., is observed, covers an area about 51 percent of the total and accounts for 46 percent of the rural settlements. This area experiencesthe network of Highway, State Highway and other district Highways, so in this area the road network is well developed.

The road density above 0.5 km. per sq.km., is found in south-eastern part of the study region which occupies only 1.5 percent area of the study region and accounts for 1 percent of the total rural settlements.

The Table III-VIII and Fig. 3.8 gives details about density of road & distribution of rural settlements in the study region.

SATARA DISTRICT
ROAD DENSITY
PER 100 SQ. K.M.

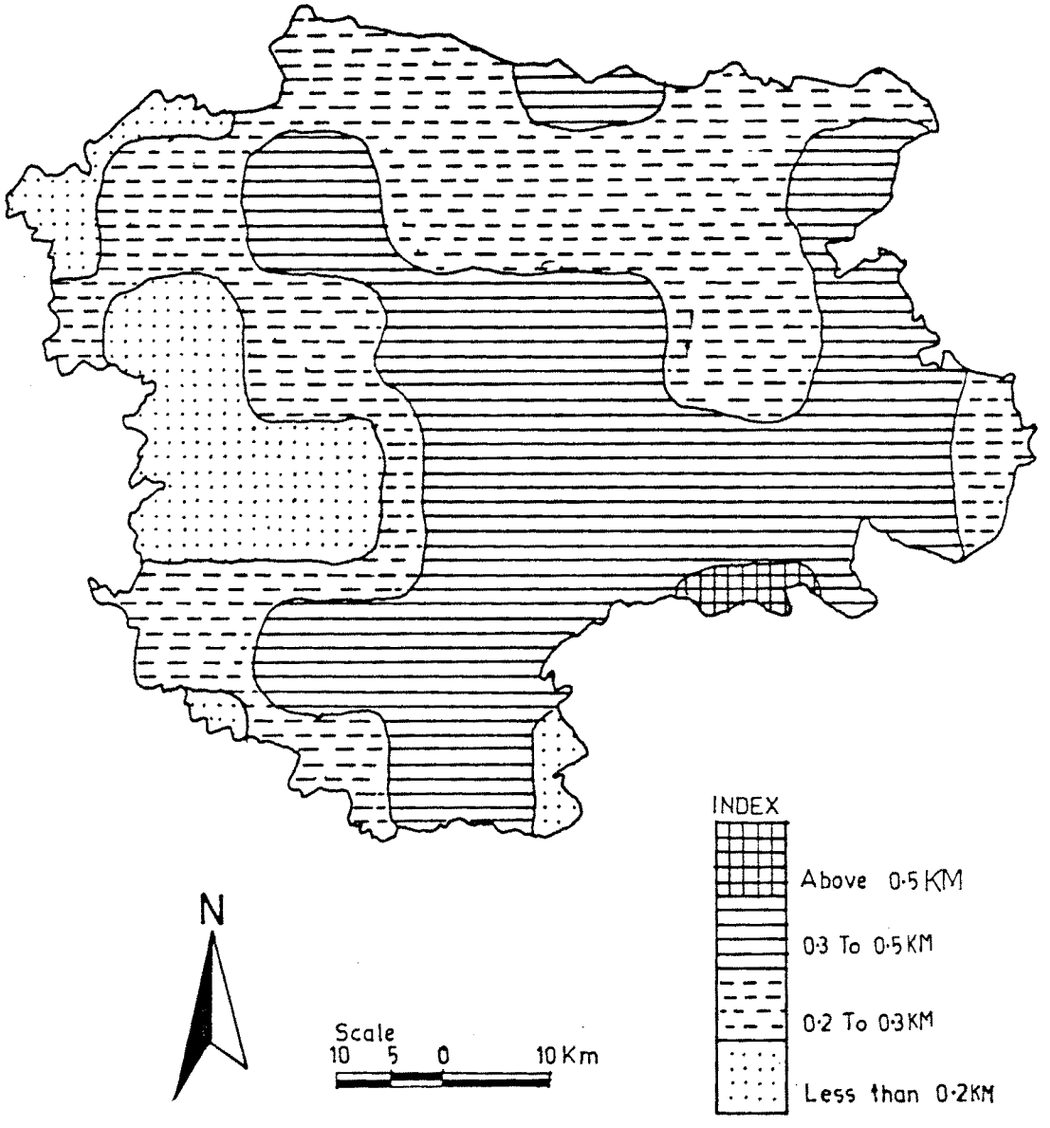


Fig-3·8

T A B L E [III-VIII]

SATARA DISTRICT

DENSITY OF ROAD & DISTRIBUTION OF RURAL SETTLEMENTS

Sr. No.	Road Density per sq.km. in km	Area covered in sq.km	% to total area	No.of rural settle-ments	% to rural settle-ments
[1]	Below 0.2	760	7.5	257	17
[2]	0.2 to 0.3	4100	40	559	36
[3]	0.3 to 0.5	5110	51	719	46
[4]	Above 0.5	160	1.5	12	01
	Total ..	10130	100%	1547	100%

3.9] SPATIAL PATTERN OF RURAL SETTLEMENT DISTRIBUTION :

In the above description, we have tried to show how the various factors influence on the distribution of rural settlement. Here, an attempt has been made the study the existing pattern of rural settlements with the help of Quantitative technique 'Nearest-Neighbour-Analysis'.

The entire study region has been divided into sizeable grids (10 x 10km) and the 'Rn' values from the rural settlements have been calculated.

To find out the 'Rn' values, following formula has been used.

$$\bar{D}ran = \frac{1}{2\sqrt{(N/A)}}$$

Where,

'N' is the number of rural settlements.

'A' is the area of the grid or spatial unit.

With the help of above formula we have calculated 'Rn' values grid-wise and the isopleth map has been drawn to show the spatial distribution of rural settlements.

The table III-IX, Fig. 3.9 gives clear idea about the various 'Rn' values, area covered, its percentage, number of rural settlements and their percentage.

T A B L E [III-IX]

SATARA DISTRICT

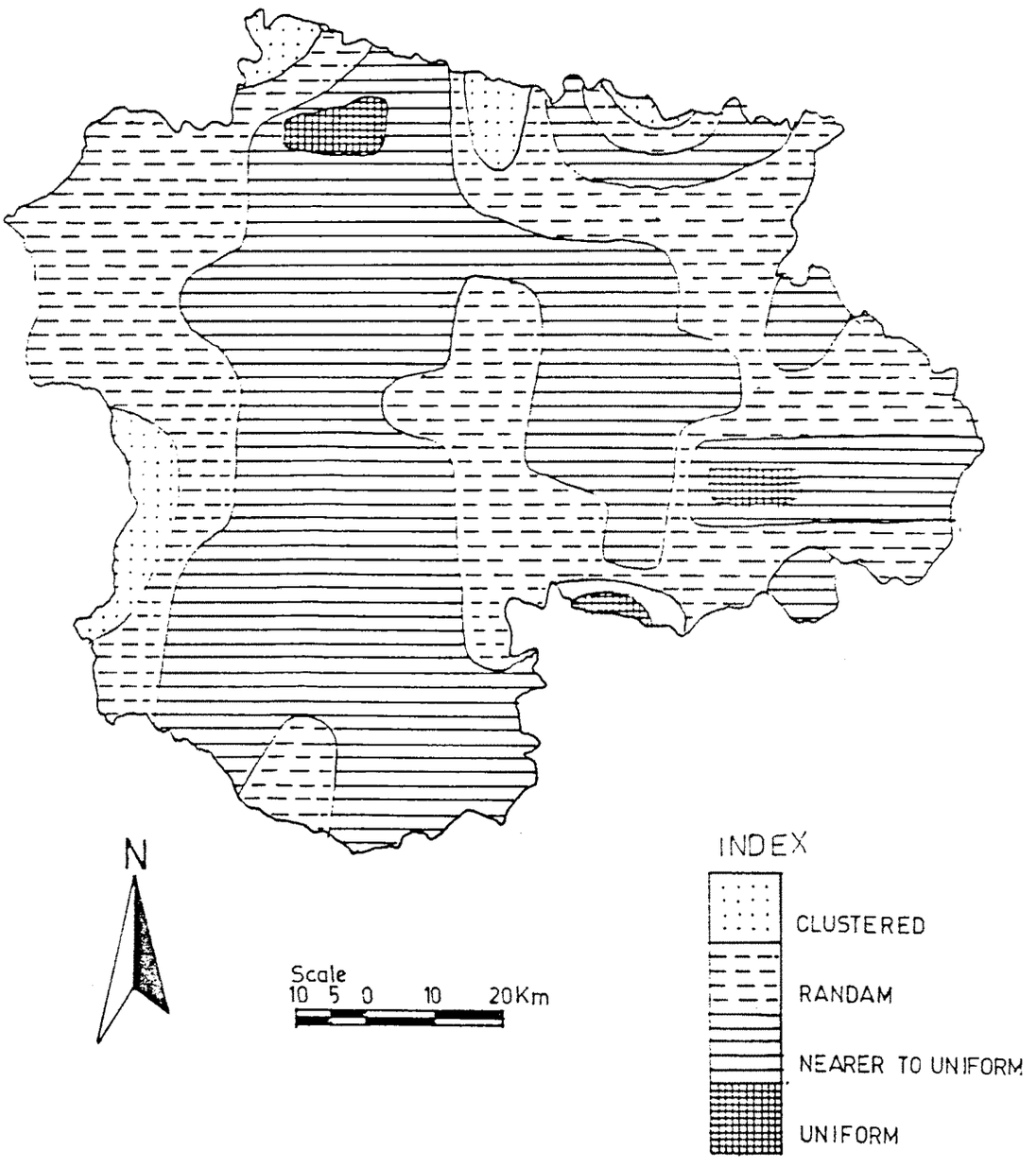
THE RN VALUES, AREA COVERED, ITS PERCENTAGE NO.OF RURAL SETTLEMENT AND THEIR PERCENTAGE

Sr. No.	'Rn' Values	Area covered in sq.km	% to total area	No.of rural settle ments	% to rural settle ments
[1]	Below 0.50	600	5.9	45	3.0
[2]	0.50 to 1.0	3580	35.3	875	56.5
[3]	1.0 to 1.5	5700	56.3	602	38.9
[4]	Above 1.5	250	2.5	25	1.6
	Total ..	10130	100%	1547	100%

SOURCE - > AUTHOR

The south-western part, some part of north and north-west of the study region, which covers an area about 5.9 percent of the total and accounts for 3 percent of the total rural settlements have clustered type of distributional

SATARA DISTRICT
SPATIAL DISTRIBUTION OF RURAL SETTLEMENTS



Fig~3·9

pattern. The western part, south-central part and eastern part of the study region which covers an area about 35.3 percent of the total and accounts for 56.5 percent of the total rural settlements have random type of distributional pattern.

The central part, north-east part and few part of the eastern side of the study region which covers an area about 56.3 percent of the total and accounts for 38.9 percent of the total rural settlements have a near to uniform type of distributional pattern.

The north-eastern part and some part of south eastern part of the study region, which covers an area about 2.5 percent of the total rural settlements have a uniform type of distributional pattern. In the study region, it is observed that, the area which covers an area about 58.8 percent of the total and accounts for 40.5 percent of the total rural settlements have uniform and nearer to uniform type of distributional pattern.

3.10] **CHANGES IN MEAN POPULATION SIZE, MEAN AREAL SIZE AND AVERAGE SPACING OF RURAL SETTLEMENTS** :

Now a days, most of the geographers have given their attention to study the changes in mean population size of rural settlements and their mean areal size. The average spacing between the rural settlements is also one of the important aspect of the study of rural settlements.

[A] THE CHANGES IN MEAN POPULATION OF RURAL SETTLEMENTS:

Here, an attempt has been made to study the changes in mean population size of rural settlements for the decade 1981 and 1991. The ratio between population and area is called mean population size of the rural settlements. The population size for the study area has been calculated talukwise and it is observed that the mean population size of all the talukas have increased. In general, the population size of the rural settlements in the decade 1981 was 175 persons. It increases to 211 persons in the decade 1991. The mean population size of the rural settlements of Satara, Karad and Mahabaleshwar have increased comparatively more than the other talukas of the study region. Table III-X Fig. 3.10 gives details about the mean size of rural settlements based on population.

SATARA DISTRICT

MEAN POPULATION SIZE

1981-91

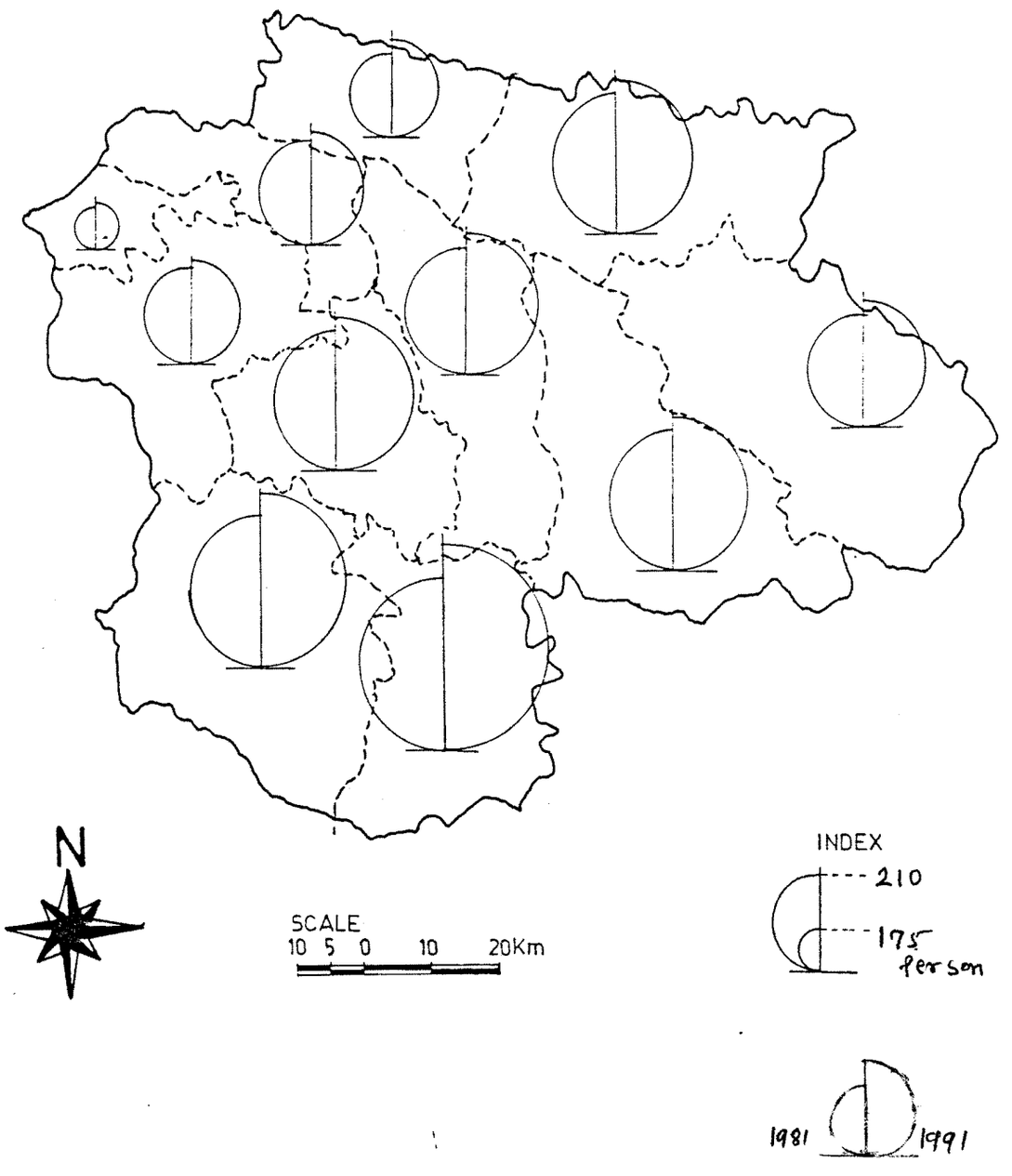


Fig-3-10

T A B L E [III-X]

SATARA DISTRICT

CHANGES IN MEAN POPULATION SIZE OF THE RURAL SETTLEMENTS

Sr. No.	Taluka	Area in sq.km	Population 1981	Mean population size	Population 1991	Mean population size
1]	Satara	907	209299	230.75	273691	301.75
2]	Wai	590	118556	200.94	141243	239.39
3]	Khandala	526	82574	156.98	101105	192.21
4]	Koregaon	862	153478	178.04	181162	210.16
5]	Phaltan	1170	190159	162.52	229034	195.75
6]	Man	1352	130474	96.50	166456	123.11
7]	Khatav	1319	202701	153.67	234120	177.49
8]	Karad	1087	328313	302.03	403136	370.87
9]	Patan	1357	233265	171.89	264105	194.62
10]	Jawali	893	105287	117.90	117988	132.12
11]	Mahabaleshwar	67	8779	280.28	23380	348.95
	Total ..	10130	1772885	175.01	2135532	210.81

[B] **THE CHANGES IN AVERAGE AREAL SIZE OF THE RURAL SETTLEMENTS** :

The changes in mean areal size of the rural settlements have been calculated the decade 1981-91. It is observed that the average areal size shows decrease in all

talukas because of emergence of new settlements with bifurcating the parent settlements. The mean areal size of the rural settlements have found large in Man, Khatav, Phaltan and Khandala talukas. The Man and Khatav talukas are from drought-prone areas, where poor soil, less rainfall and less agricultural development is observed. So there are large size rural settlements which are widely spaced over the region while the talukas of the western part of the study region have small mean areal size of rural settlements because the number of rural settlements are more but the population size of the rural settlements are small, so they have spaced very closely.

The Fig. No.3.11 and Table III-XI gives talukawise mean areal size of the rural settlements.

T A B L E [III-XI]

SATARA DISTRICT

THE CHANGES IN AVERAGE AREAL SIZE OF THE RURAL SETTLEMENTS

Sr. No.	Talukas	Area in sq.km	No.of village 1981	Mean size	No.of village 1991	Mean size
1]	Satara	907	183	4.95	200	4.53
2]	Wai	590	100	5.9	113	5.22
3]	Khandala	526	60	8.76	65	8.09
4]	Koregaon	862	99	8.70	110	7.83
5]	Phaltan	1170	116	10.08	120	9.75
6]	Man	1352	91	14.85	98	13.79
7]	Khatav	1319	95	13.88	132	9.99
8]	Karad	1087	162	6.70	178	6.10
9]	Patan	1357	256	5.30	269	5.04
10]	Jawali	893	200	4.46	207	4.31
11]	Mahabaleshwar	67	55	1.21	55	1.21
	Total ..	10130	1417	7.10	1547	6.54

SATARA DISTRICT
AVARAGE SPACING
IN
1981-91

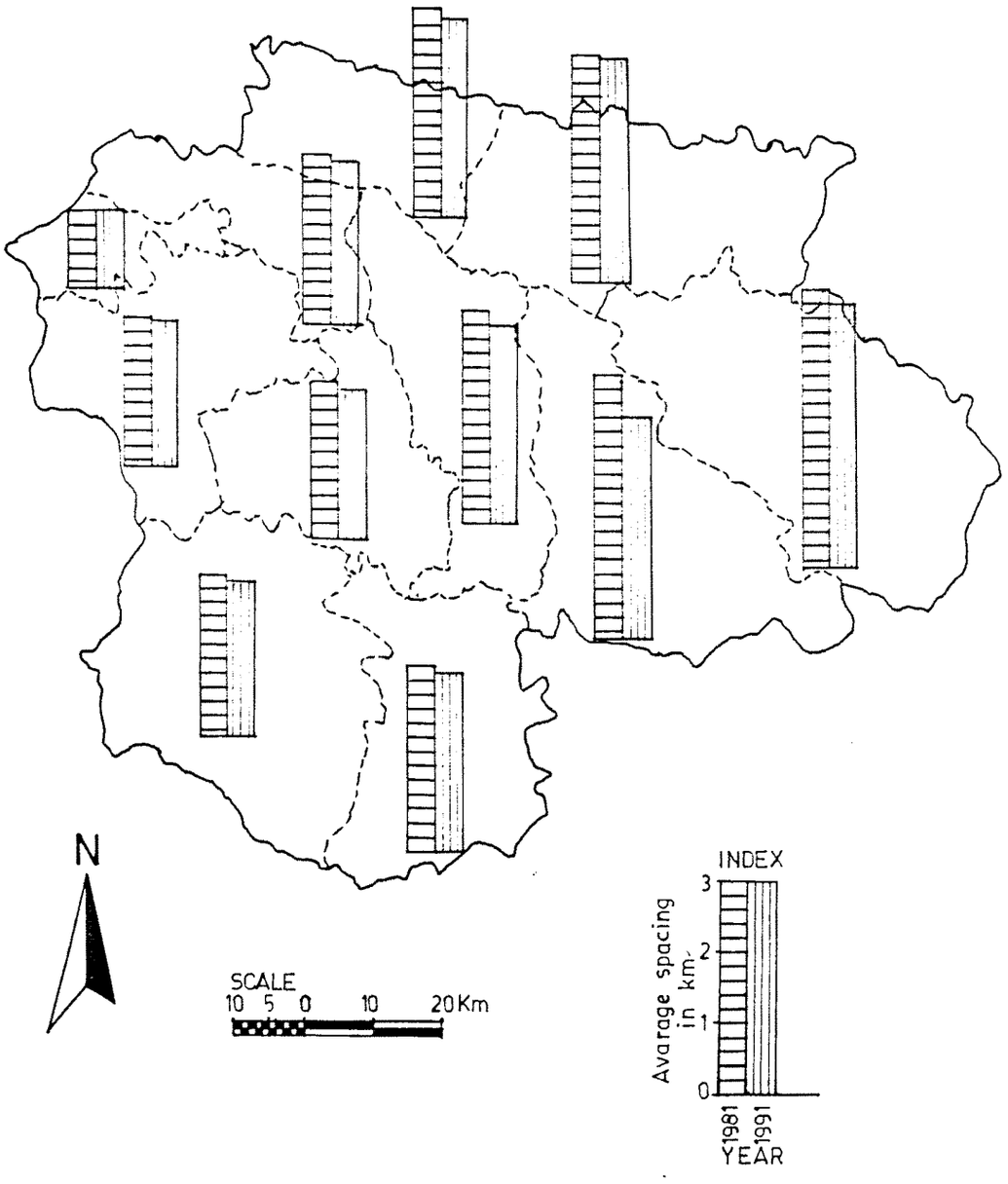


Fig-3·11

[C] THE CHANGES IN AVERAGE SPACING BETWEEN THE RURAL SETTLEMENTS :

The average spacing between the rural settlements have been calculated with the help of the method which is suggested by Walenty-Winid. The average spacing between the rural settlements has been calculated talukawise and it is observed that the spacing between rural settlements has decreased in all talukas except Mahabaleshwar taluka. The table III-XII and gives clear idea about the average spacing between the rural settlements of the study region.

T A B L E [III-XII]

SATARA DISTRICT

THE CHANGE IN AVERAGE SPACING BETWEEN THE RURAL SETTLEMENTS

Sr. No.	Talukas	Area in sq.km	No.of rural settle-ment 1981	Ave-rage spac-ing	No.of rural settle-ment 1991	Avera-ge spac-ing
1]	Satara	907	183	2.22	200	2.12
2]	Wai	590	100	2.42	113	2.28
3]	Khandala	526	60	2.96	65	2.84
4]	Koregaon	862	99	2.95	110	2.79
5]	Phaltan	1170	116	3.17	120	3.12
6]	Man	1352	91	3.85	98	3.71
7]	Khatav	1319	95	3.72	132	3.16
8]	Karad	1087	162	2.59	178	2.47
9]	Patan	1357	256	2.30	269	2.24
10]	Jawali	893	200	2.11	207	2.07
11]	Mahabaleshwar	67	55	1.10	55	1.10
	Total ..	10130	1417	2.67	1547	2.55

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