

CHAPTER NO.-V

**“ TYPES AND PATTERNS OF RURAL
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CHAPTER NO.-V

“ TYPES AND PATTERNS OF RURAL SETTLEMENTS”

5.0 INTRODUCTION

The study of rural settlement is basic to human geography because the form settlement in any particular region reflects man's relationship with the environment. Settlements have gradually grown up and evolved over along the period of time and by studying the site , pattern and arrangement of settlement (Leong and Morgan , 1982).

Rural settlements indicate the complex relationship between the human occupance of land and the environment. The type of settlement is a system of functionally inter-related settlements . Each village is a part of total system and as a part of total system of each centre and it performs certain functions . Throughout the human history settlements have evolved a close relationship between topography and resources (Kumbhar , 1997).

In fact almost the endless variety of settlements can be classified in several different ways .The settlements can be grouped into two categories as town and village. The basic characteristics of settlement are most of the people engaged in agricultural work, some other occupations are in villages such as fishing , mining and lumbering etc. and less availability of shopping centres and lack of industries (Leong and Morgan , 1982).

5.1 FACTORS AFFECTING THE TYPES OF RURAL SETTLEMENTS

While studying the factors affecting the organization of rural settlements, the land is significant because

any type of occupations are concerned to land. As man has developed more and more, advanced techniques or methods of living, he is able to depend more and more on a single place to provide his livelihood, but the basic requirements must be present. If these needs are provided the factor such as planning can play an important role and affecting the site of settlements.

It is a complicated matter for the siting of rural settlements because there are various factors such as physical and socio-economic etc. But these are inter-related to each other to form the types of rural settlements. In physical factors the water supply, cultivable land, dry land, shelter and defense are included while in, socio-economic factors the land use, land tenure, crop associations, means of transportation and density of population are included.

Many people have studied settlement types. Demangeon (1962) tried to explain why rural settlements are dispersed or agglomerated. According to him, on plains settlements tended to the concentration where as in rugged or broken area disperse settlements are more common.

The physical aspects are the significant or more influenced the pattern of settlements. In general, river side settlements are in the form of linear types settlements, availability of resources are formed the nucleated settlement types, around the dam or lake, it is sited in the manner of cluster type. The river and its tributaries (nallas) where fertile land is available, it gives rise to disperse type of settlements.

Socio-economic factors such as land tenure, transport network and density of population also control the settlement types. Along the road and railway route the linear types of rural settlements are formed. The density of population concerned mostly with the organization of agglomerated type of settlements.

When the above factors control the types of rural settlements, the development of technology accelerate the development in agriculture which influences on the rural settlement types in the study region. Similarly political, religious and social considerations are also important in the study of rural settlement types.

5.2 TYPES OF RURAL SETTLEMENTS

The types of rural settlements as per as concern to the habitants and distance among the settlements, on this basis rural settlements can be classified into the following types.

- i) Compact or clustered settlements.
- ii) Composite settlements.
- iii) Disperse settlements.
- iv) Fragmented settlements.

Above four types of settlements are influenced by various physical, social and cultural factors.

1) Compact Settlement

The people may prefer to live close together in compact or nucleated settlement. In his type of settlement houses are built close to each other, some times it's walls are common, width is too much small and poor drainage system . Compact settlements are also called as agglomerated settlements. Compact type settlements are generally found in densely populated area, concentration of resources and fertile agricultural land.

2) Composite Settlement

One major settlement have been surrounded by the other small villages or hamlets. According to Kumbhar (1997), composite type settlement have one main single village attached with two to five small hamlets and wadis .All types of needs like goods and services are completed by the main centre village , some times it is called as a central place.

3) Disperse Settlements

In the most area, however, the village has typical form of rural settlement ,disperse settlement also known as

isolated settlement, some people are living or built houses apart from other settlements because villagers want to live in their own land , regarding to this ideal hamlets, farmstead or wadi settlements, Central and Western U.S.A. and Canada where a grid-iron pattern was rigidly applied.

4) Fragmented Settlements

In some region or area houses are built away from each other or houses are dispersed manor but they having unity in each other, though these all group of houses formed one village so that it is called fragmented settlement. In fragmented settlements a socio-economic organization .is observed.

5.3 METHODOLOGY

To identify the rural settlement types in the study region, the two methods are used . The topographical maps (1:50.000) show the clear picture of rural settlements and other method is statistical method which is used to study the rural settlement types. The dispersion index has been calculated by the formula used by Mandal (1977).

To find the settlement type , the entire area has been divided into sizable grids of 4 kms x 4 kms and the index of dispersion has been calculated for each grid by the following formula .

$$DI = \frac{RP_i \times V_i}{A_i^2}$$

Where

DI = Dispersal Index

RP = Total Rural Population of 1st grid.

V_i = No. Of Villages in 1st grid.

A_i = Area of the grid.

After calculating the index of dispersion, the region has been classified into four types of rural settlements they are:

- 1) Compact type of rural settlements.
- 2) Composite type of rural settlements.
- 3) Disperse type of rural settlements.
- 4) Fragmented type of rural settlements.

Above four types of rural settlements have been identified by using statistical techniques like mean and standard deviation values in order to determine the validity of formula and to find out the relationship between the number of settlements and rural population in each grid.

TABLE NO. V-I

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SETTLEMENT TYPES, AREA COVERED, NO.OF SETTLEMENTS AND MEAN POPULATION SIZE – 1991

Sr. No.	Dispersal Index value	Type of Settle.	Area in Sq. km.	% of area	No. of Settle	% to total	Mean Pop. size
1	< 20	Fragmented	264.5	50.23	15	23.07	1232
2	20 to 35	Dispersed	86.0	16.34	13	20.00	1565
3	35 to 50	Composite	98.0	18.62	21	32.30	1230
4	> 50	Compact	78.0	14.81	16	24.63	2279
Total			526.5	100.00	65	100.00	

5.3 REGIONAL ANALYSIS

The dispersal index have been plotted in fig 5.1 which clearly show that the whole area classified into four major types of rural settlements. The table no V-I give the details of area and number of settlement in different classes of settlement types.

1) The Compact Type of Rural Settlements

The compact type of rural settlement is observed at western, central and eastern side of the study region. It covers 14.81 percent land of Khandala taluka, where the total settlements are 24.63 percent. An average size of rural settlements are medium, the houses are built close to each other. The average population of this zone is 2279.

2) The Composite Type of Rural Settlements

In Khandala taluka composite type of rural settlement zones are located at three places, one is at western side, another at north east and third patch of composite rural settlements is located at southern boundary of the study region, which is covered 18.62 percent of the total land and 32.30 percent of the settlements having mean population is 1230.

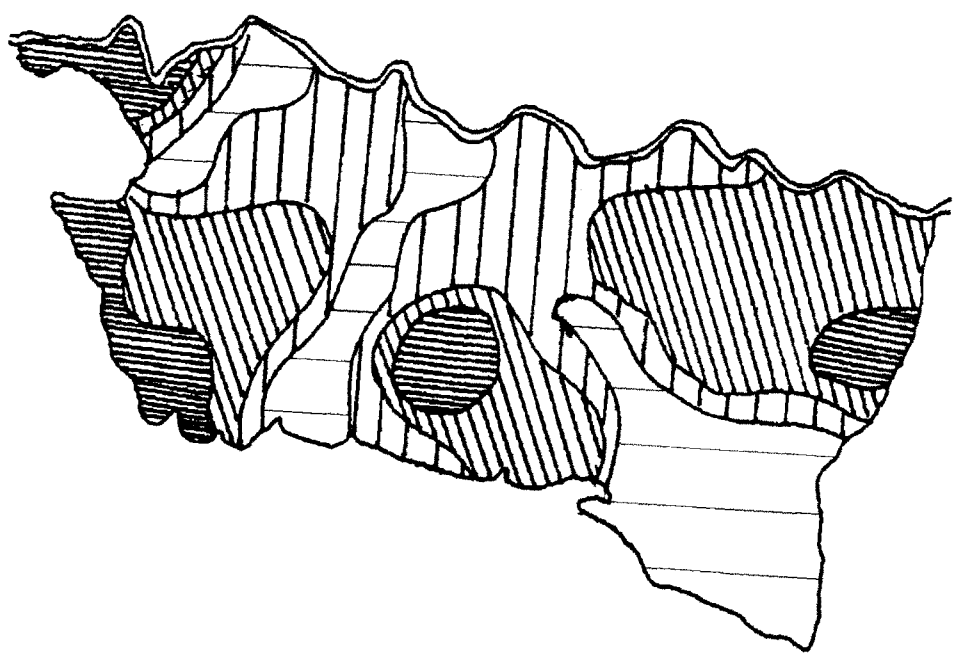
3) The Disperse Type of Rural Settlements

The disperse type of rural settlements are found at northern side of Khandala taluka, which is covered 16.34 percent land and 20.00 percent of the rural settlements and mean population is 1565 where the water and fertile land is available. The major elements governed the disperse type of rural settlements.

4) The Fragmented Type of Rural Settlements

The maximum area is covered by the fragmented type of rural settlements of the study region, occupies nearly 50.23 percent of the total area and 23.07 percent of the total rural settlements and have mean population of 2133 persons. The same category also found in the southern, central and north western side, where the physiography is mostly influenced the organization of fragmented type of rural settlements.

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TYPES OF RURAL SETTLEMENTS



INDEX

[Horizontal lines]	<20	Fragmented Type
[Vertical lines]	20 to 35	Dispersed Type
[Diagonal lines]	35 to 50	Composite Type
[Cross-hatching]	> 50	Compact Type

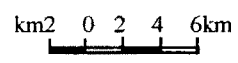


Fig. no 5.1

OBSERVED TYPES OF RURAL SETTLEMENTS

The general form of rural settlements have been observed from the statistical analysis. There are various forms of rural settlements showing in the scale 1:50000 toposheets, therefore one inch toposheet has been used. The deep observation of topographical map indicates the following types of the rural settlements in the study area.

1) THE COMPACT TYPE OF RURAL SETTLEMENTS

The toposheet No.47 F/16 covers several compact settlements, in which Karnawadi, Jawale, Loham, Kanheri, Jhagalwadi, Ghadgewadi, Atit Kanhawadi, Mirje and Mirajewadi ect. shown in fig no 5.2 except them other compact settlements are in same topographical map are Asavali, Naygaon, Kesurdi, Palshi and Wing.

The toposheet No. 47 j / 4 has locating the compact settlements are Bavda, Bhadvade, Shivajinagar, Mavshi, Ahire, Morve, Bhade, Wathar, Sukhed, Bori, Dhawadwadi and Harali are the important compact type of rural settlements.

2) THE COMPOSITE TYPE OF RURAL SETTLEMENTS

The toposheet No. 47f/16 and 47j/4 show several examples of the composite form of rural settlements in which Shirwal, Khandala, Wathar, Colony and Lonand are the best examples. The fig. No.5.3 indicates the composite type of rural settlements. This type of settlements are dominantly found in the areas of river side.

3) THE DISPERSE TYPE OF RURAL SETTLEMENTS

This type of rural settlement are found along the southern mountain region and north western side, in this area Bhatghar Hartalwadi, Wadwadi, Rajewadi, Wing etc.

COMPACT TYPE OF RURAL SETTLEMENTS

NO.47 $\frac{F}{16}$

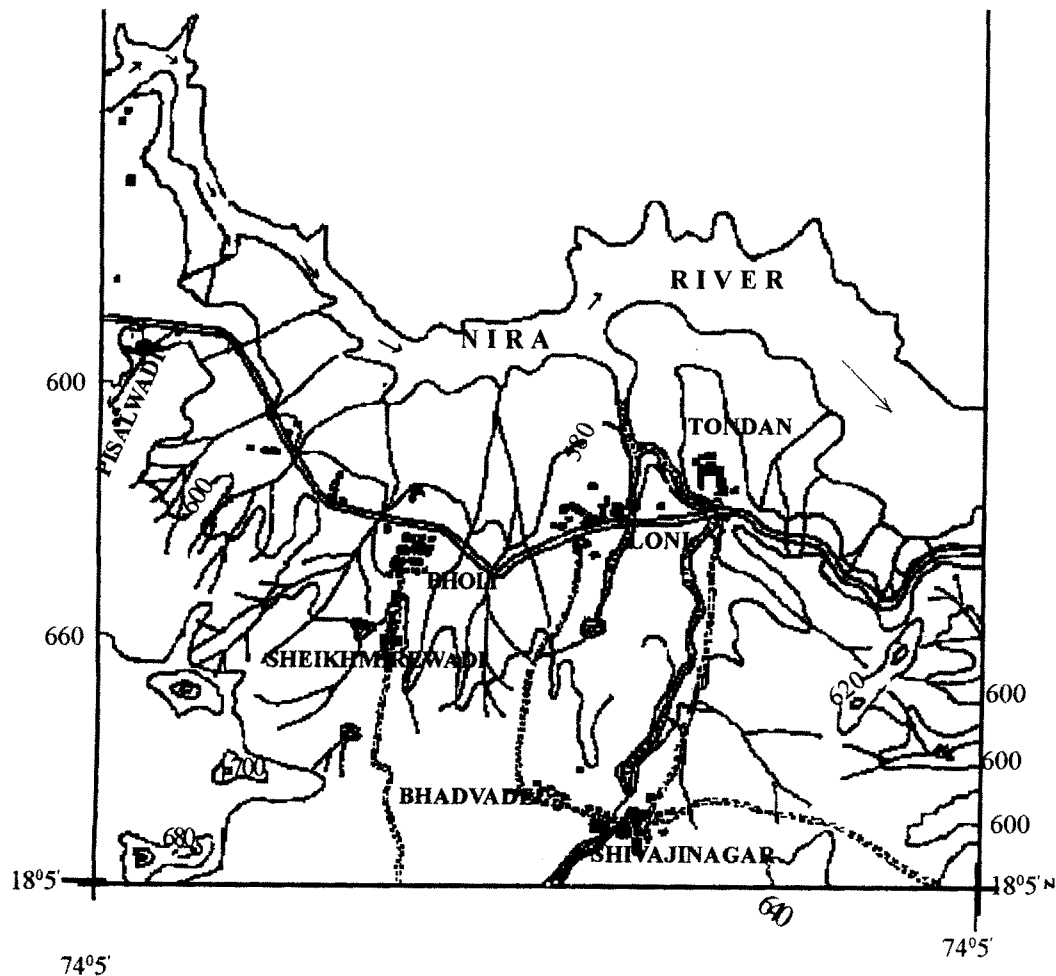


FIG.NO.5.2

COMPOSITE TYPE OF RURAL
SETTLEMENTS

NO. 47 $\frac{J}{4}$

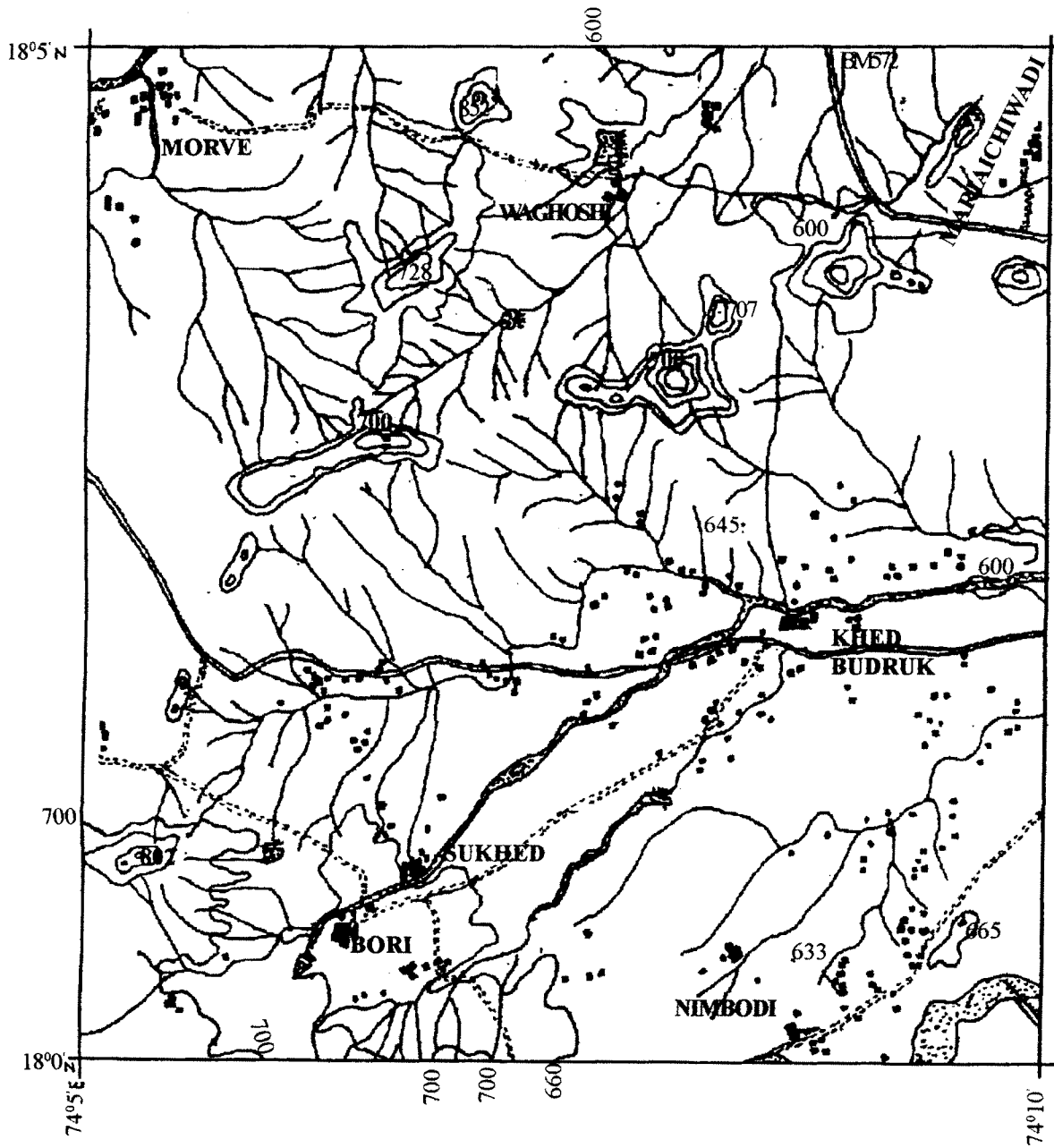


Figure No.5.3

DISPERSED TYPE OF RURAL SETTLEMENT

NO.47 $\frac{F}{16}$

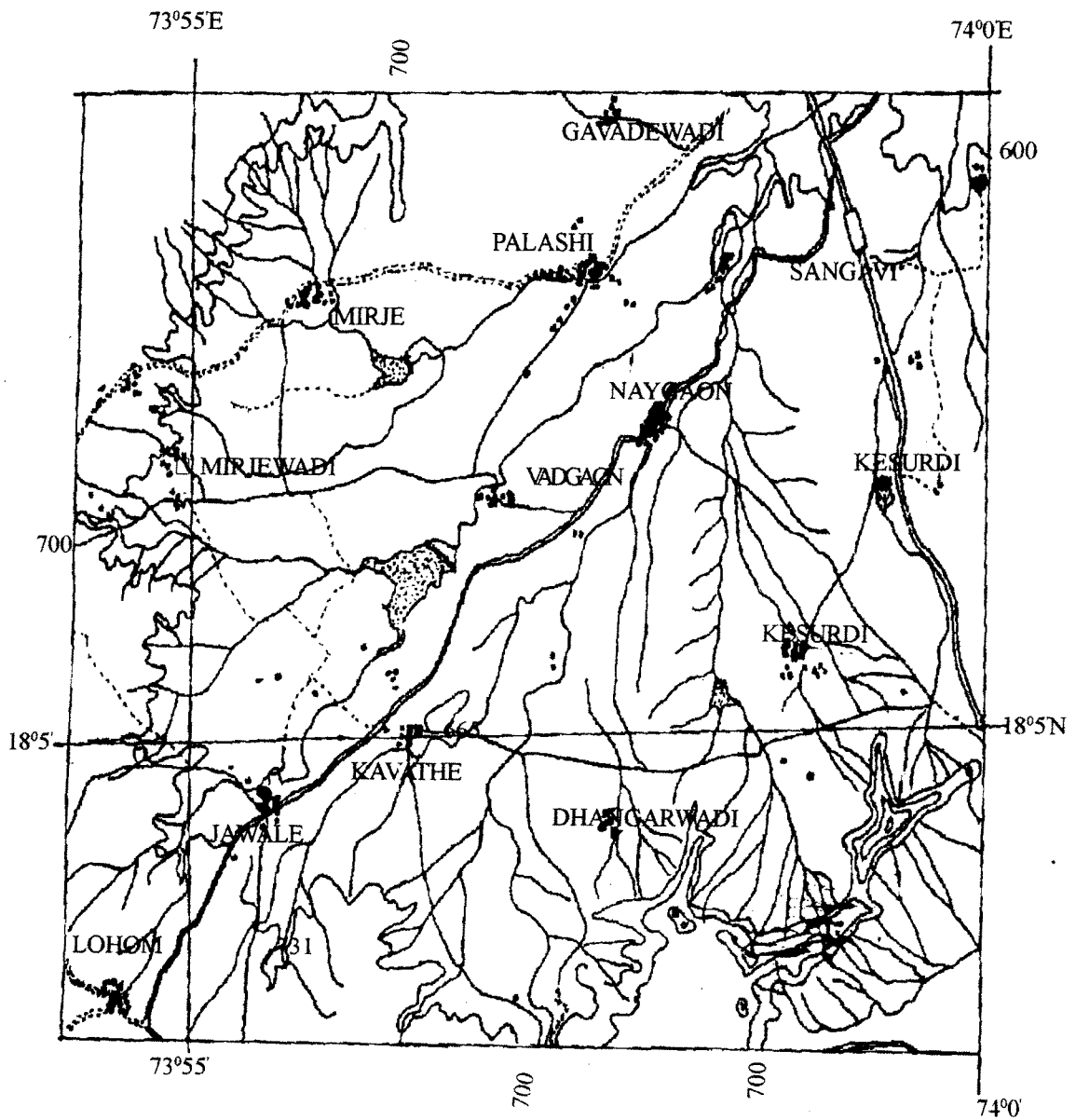


Figure No.5.4

FRAGMENTED TYPE OF RURAL
SETTLEMENTS

NO. 47 $\frac{F}{16}$

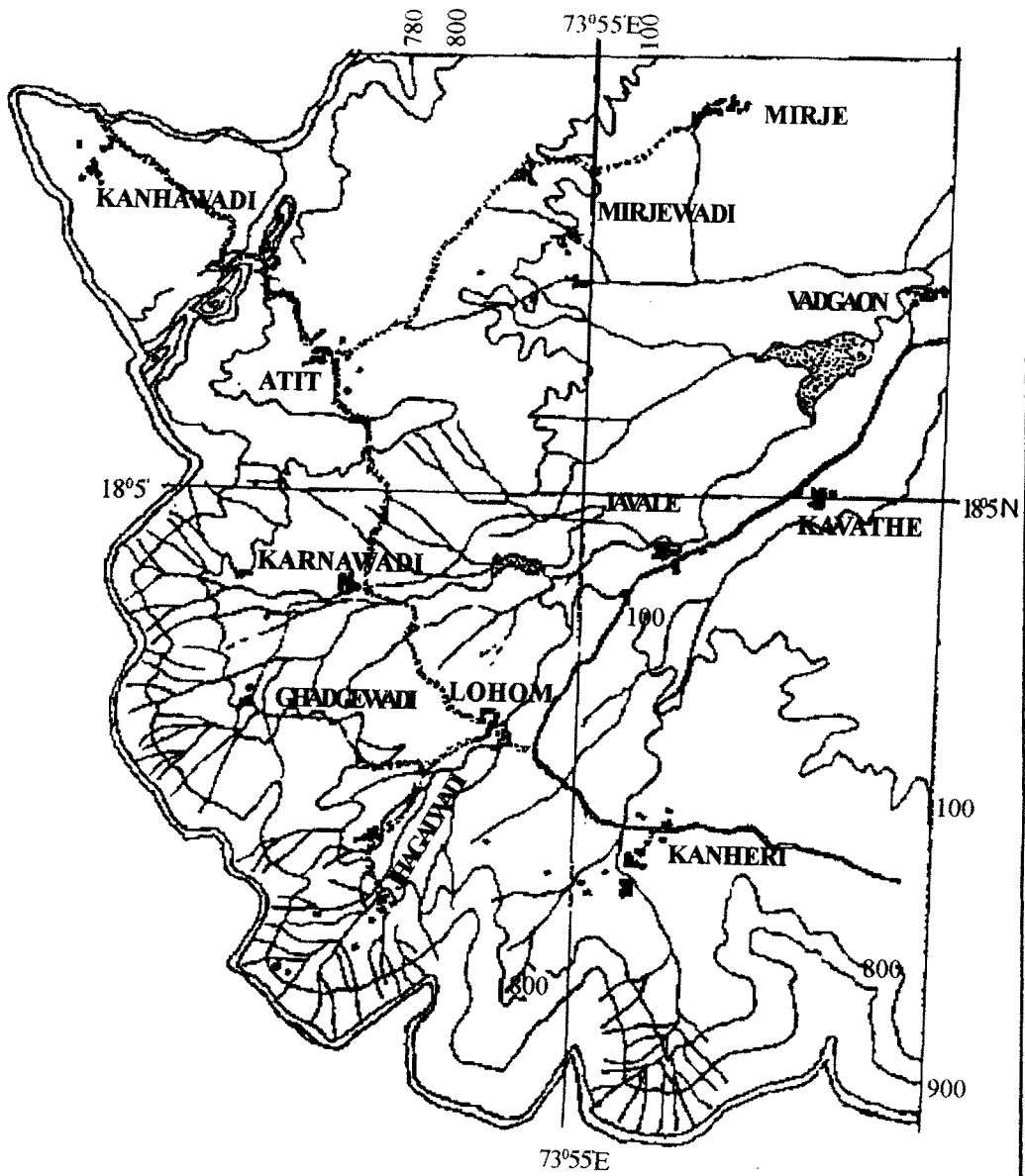


Figure No.5.5

are found, several foot-hill settlements in the hilly areas of the study region are of disperse type of rural settlements.(Fig.5.4).

4)THE FRAGMENTED TYPE OF RURAL SETTLEMENTS

The fragmented type of rural settlements are most commonly found on the margins of spurs or in the small nallas. In topomap No. 47j/4 the fragmented type of rural settlements like Khed Bk., Nimbwadi, Ahire are the best examples fig. No. 5.5

5.4 PATTERNS OF RURAL SETTLEMENTS

The rural settlement geography has been concerned to the various aspects of rural settlements. Rural settlements are governed by the physical and cultural elements. The patterns of rural settlements can be approached in two ways. We can observed size of village and shape of village with respect of environments. The patterns of villages can be studied under two Sub-heads.

- i) Internal form
- ii) External form.

Internal and External aspects are closely related to various geographical and cultural conditions. The village site, water availability, nature of soil, vegetation, agricultural practices and farm size are the important aspects which influence the pattern of rural settlements. However, physical conditions, historical background and cultural traditions are the other aspects which play an important role in molding and shaping the village form. The arrangement of houses, roads, provision of facilities also influence the form of village (Sinha 1976).

Human habitations are governed by the tradition and culture of the time and form of an important element of cultural landscape and their patterning have spatial as well as temporal variation owing to the variations in the stage of politico- cultural and socio- economic organization of the

community . The morphology of settlement includes its layout , arrangement of buildings, street patterns, which are viewed as the expression of their origin, evolution and function. The physical and historico-cultural process are involved in bringing about the shape and pattern of settlement.

(Kumbhar, 1997).

The rural settlements nucleus develops at the most accessible place from where the surrounding agricultural land can be easily observed (Duggal , 1961). Almost all villages are related to the types of soils, field pattern and other cultural elements like temples, mosques etc. (Singh, 1955).The present work has concerned to the form of houses, structure of roads, and expansion of villages.

VILLAGE PATTERNS

The morphology of any settlement has been moulded by the physical and cultural factors. Availability of natural resources , location and site and climatic conditions are the physical factors and cultural factors are historical background, land tenure system, religious dominance , caste system and political situation play considerable role in forming the various patterns of rural settlements with the physical and cultural factors, similarly population growth also responsible for the molding the layout of the villages. The nature of rural settlements are broadly similar to geometrical shapes. The geographical condition and historical background formed the various rural settlement patterns in Khandala taluka.

1) SQUARE PATTERN

The square pattern is divided into two sub types i) completely covered and ii) hollow square pattern. This form of rural settlement is normally found in the plains at the crossing of cart-tracks or roads, having strong agglomeration with prosperous of agricultural region. The entire village is divided into small squares of houses occupying the people of different castes. In Khandala taluka Pawarwadi and Padegaon have the similar pattern of settlement.

Hollow square pattern is similar to square pattern, only difference between the two lines in the centre of the village. The centre of the village in a hollow square patterns occupied by square ,tank , temple, mosque, or a open market space. Jhagalwadi is the best example of hollow square pattern of rural settlement.

2) RECTANGULAR AND HOLLOW RECTANGULAR PATTERN

This common pattern of rural settlements are mostly found in plain region having fertile land, which is agriculturally prosperous and side of nallas and roads. The difference between the square and rectangular pattern is in the alignment of dwellings. Normally houses are extending in particular direction. In study region rectangular form of villages are found at Ghatdare and Mirje.

Hollow rectangular pattern is found at Bhade, in hollow rectangular pattern, central land of settlement is used for temple, mosque or open space.

3) CIRCULAR PATTERN

The circular pattern of rural settlements is looking like 'Horse shoe' shape. The circular pattern is found near the foot hills. The best examples of circular pattern are Asaawali and Palshi etc.

4) FAN PATTERN

The fan pattern of village develops in fan shape with a focal point. This focal point is road or a river side. This pattern also develops at the convergence of roads or rivers. In the study area Khed Bk. is the best example of fan pattern settlement.

5) LINEAR PATTERN

The physical and cultural conditions of the topography formed the linear pattern of rural settlement. Similar

pattern of settlement mostly common found in study region, along the road and river side villages are developed. The best examples of linear pattern settlements are at Bhadvade, Loni and Sheikhmirewadi.

6) SHAPELESS AGGLOMERATION PATTERN

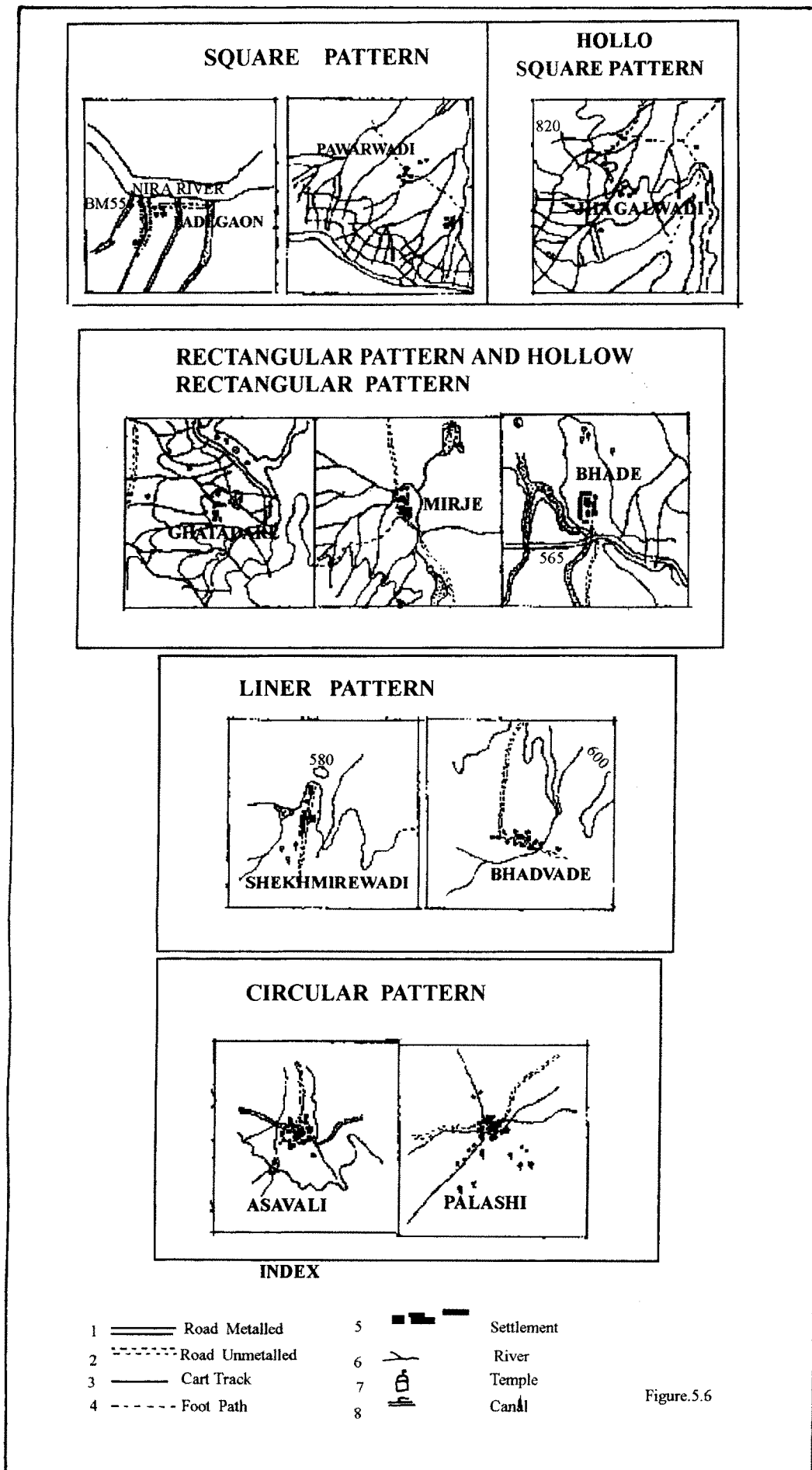
Above agglomeration is the most common form of village pattern found in several parts of all over the study region, it is commonly observed. Shirwal, Khandala, Pargaon, Bholi etc. are the best examples of irregular or shapeless pattern of villages.

7) AMORPHOUS PATTERN

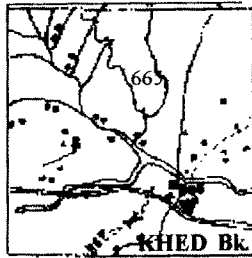
The amorphous form of rural settlement is found in the areas where several 'wadi' settlements and farmstates found which scattered and connected by foot- paths and cart tracks, such as irregular pattern is known as amorphous pattern of settlements. In the study area amorphous pattern is found at Nimbodi , Ahire, Sukhed and Bori.

Other than above patterns of rural settlements ' T' shape pattern is found at Chavanvasti , radial pattern at Shivajinagar, triangular pattern at Kanhawdi.

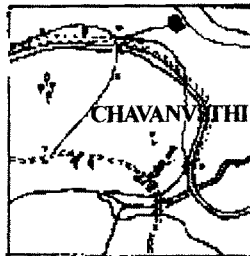
It is observed that compact and composite types of rural settlements show variety of patterns as compared to disperse and fragmented type of rural settlements. In spite of physical factors the dominance of caste system, the patterns of land holding, development of canal irrigation and transport network also play an important role in shaping village patterns in the study region.



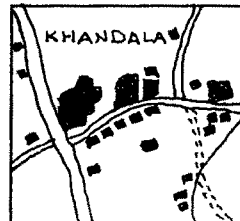
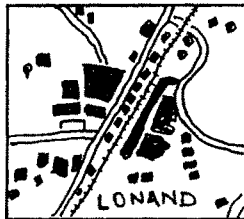
FAN PATTERN



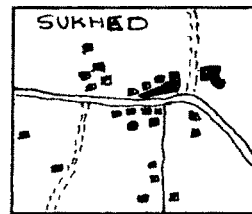
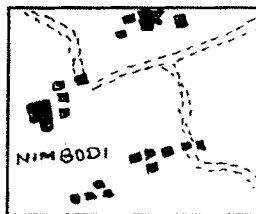
'T' TYPE PATTERN



SHAPELESS AGGLOMERATION PATTERN



AMORPHOUS PATTERN



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