

**CHAPTER - VI**  
**TYPES AND PATTERNS**  
**OF RURAL SETTLEMENTS**

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## **CHAPTER - VI**

### **TYPES AND PATTERNS OF RURAL SETTLEMENTS**

#### **6.0      INTRODUCTION :**

Rural settlement is a relatively small and simple agglomeration of houses at a favourable site, primarily associated with agriculture and related phenomena (Lal, 1989). 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 it performs certain functions.

Aurousseau (1920) has used the expression 'arrangement of rural settlements as geographical entities to express the grouping of dwellings and their inter-relationship, makes the different types of rural settlements.' Rural settlement is mainly an agricultural workshop and, as such, it can not be separated from the land. Its form and arrangement are often related to the type of work and agricultural practices of the people. (Perpillou, 1966).

## **6.1 FACTORS AFFECTING THE TYPES OF RURAL SETTLEMENTS :**

There are two sets of factors which affect settlement types in rural areas. The factors may be called the physical factors and the cultural factors.

The physical factors have a greater control over the pattern of settlements. Agglomerated rural settlements, which is closely related to the uniformity of relief, fertility of soil and moderate rainfall. There is close relationship between the configuration of land and the dispersal of settlements. The ruggedness of the topography determines the intensity of dispersal. The intensity of slope, nature of terrain, character of rocks and their erosional features influence the types of rural settlements.

Cultural factors such as land tenure, transport network, irrigation, security and density of population also control the settlement types. Lines of communication give rise to linear type of rural settlements. Conditions of insecurity and need of protection create compact villages and agglomerated settlement type. High density of population tends to create agglomerated type of settlement. Political, religious and social

considerations are also important in the study of rural settlement types.

## **6.2 TYPES OF RURAL SETTLEMENTS :**

In the analysis of rural settlements, it is also essential to study the physical patterns of their occupance which may be identified by their particular type.

The settlements of a region may be classified on the basis of their size (large, medium, small etc.), Shape (circular, elongated, square-shaped etc.) and siting (hill side, road side, valley side, lake side, river side etc.). The types of rural settlements can be based on the distance between the dwellings in the settlement. On this basis rural settlements can be divided in to following four types.

- 1) Disperse settlements
- 2) Compact or Clustered settlements
- 3) Composite settlements
- 4) Fragmented settlements

### **1) DISPERSE SETTLEMENTS :**

Disperse settlements can also be called as isolated settlements, such settlements include farmstead, homestead and wadi settlements.

## **2) COMPACT SETTLEMENTS :**

The term 'Compact Settlement' according to Ahmad (1952) signifies 'the concentration of almost all the dwellings of a 'MAUZA' in one central site.' Blache (1962) defines such settlements as clustered settlements, while Flinch and Trewartha (1946) called them nucleated settlements. Such compact settlements are found in different sizes where the houses are very closely spaced, in certain areas such clustered settlements are so compact that the houses share common walls. Compact types of settlements are normally found in the plain or fertile agricultural regions.

## **3. COMPOSITE SETTLEMENTS :**

Composite types of settlements have one main single village attached with two or more small hamlets. Such settlements consisting of a main village and most frequently an outlying hamlet (Singh, 1975), closely linked with the main village by foot-path or cart-tracks. These hamlets totally depend on the main settlements. Hamlets consists of people different castes and classes.

#### **4. FRAGMENTED SETTLEMENTS :**

In such settlements houses are away from each other but the entire group of houses makes one village. In Maharashtra, particularly in Konkan area such settlements are found. In these settlements, the entire villages has a common social organization. It has a common division of labour and common community life.

#### **6.3 METHODOLOGY :**

There are two methods of classification i.e. observation and statistical methods, have been predominantly used in determining the types of rural settlements. The most successful methods have been based on personal observation study of settlement types from topographic maps and a detailed knowledge of their variation. The author has used both observation and statistical methods in studying the types of settlements.

In the present study, an attempt has been made to study the dispersion of settlements. The index of dispersion has been calculated by the formula used by Mandal (1981) in the study of 'Planned Development of Rural Settlements In North Bihar.'



To find out the settlement types, the entire areas has been divided in to sizable grids of 10 kms x 10 kms and the index of dispersion has been calculated for each grid by the following formula.

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

Where,

DI = Dispersal Index

R<sub>Pi</sub> = Total Rural Population of a <sup>i</sup><sup>th</sup> grid.

V<sub>i</sub> = No. of Villages in <sup>i</sup><sup>th</sup> grid.

A<sub>i</sub> = Area of the grid.

After calculating the index of dispersion for all grids, the region has been classified into four types of rural settlements. They are :

- 1) Compact Type.
- 2) Composite Type.
- 3) Dispersed Type.
- 4) Fragmented Type.

#### **6.4 REGIONAL ANALYSIS :**

The types of rural settlements in Sindhudurg district (Fig. No. 6.1) has been determined here after considering the dispersal index of all grids of the area. The arraying of the value

of dispersal index in descending order it has been decided to demarcate four major types of rural settlements, e.g., compact, composite, dispersed and fragmented in Sindhudurg district. The table VI.I gives the details of area and number of settlements in the different classes of settlement types.

**TABLE NO. VI.I**  
**SINDHUDURG DISTRICT**  
**SETTLEMENT TYPES, AREA COVERD,**  
**NUMBER OF SETTLEMENTS AND MEAN POPULATION SIZE**  
**1991.**

Sr. No	Dispersal Index Values	Types of Settle-ment	Area in sq.km.	% of Area	No. of settle-ments	% of Settle-ments	Mean pop. size
1	Below 15	Fragmented	1706	32.76	157	21.33	893
2	15 to 25	Dispersed	1775	34.09	231	31.39	1029
3	25 to 35	Composite	793	15.23	116	15.76	1403
4	Above 35	Compact	933	17.92	232	31.52	984
	District	-	5207	100.00	736	100.00	-

Source : Compiled by author.

### 1. THE COMPACT TYPE OF RURAL SETTLEMENTS :

The compact type of rural settlements is observed in the south western part of the Sindhudurg district. It covers nearly 17.92 per cent area of the study region, where 31.52 per cent of the total rural settlements are located. Such areas

SINDHUDURG DISTRICT  
TYPES OF RURAL SETTLEMENTS

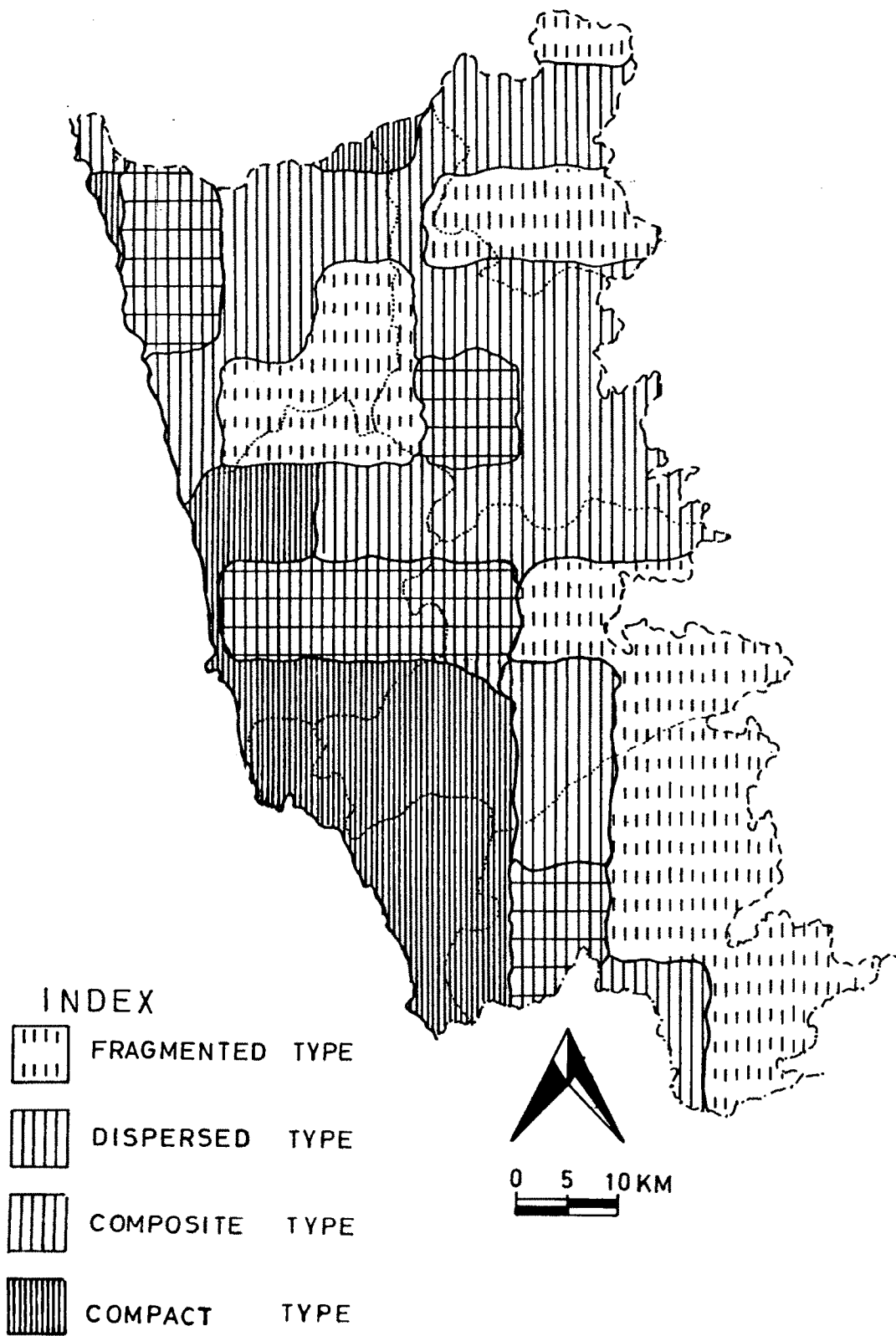


FIG- 6-1

mainly occupy by the Vengurla taluka, Western part of Malvan and Kudal talukas and on the border of area of Devgad, Sawantwadi and Kankavli talukas. The average size of rural settlements is comparatively small. Most of the settlements located in the area have dense population with close spacing between the houses. The compact form of settlements is located in the agriculturally prosperous area of the district.

## **2. THE COMPOSITE TYPE OF RURAL SETTLEMENTS :**

The composite form of rural settlement type covers about 15.23 per cent of the area, 15.76 per cent of total rural settlements and 21.16 per cent of total rural population of the district. This area has the dominance of medium to large size settlements. It covers mainly a part of Sawantwadi, Malvan, Kudal, Kankavli and Devgad talukas.

## **3. THE DISPERSE TYPE OF RURAL SETTLEMENTS :**

The disperse type of rural settlements are found in Sawantwadi, Kankavli, Kudal, Malvan and Devgad talukas, where various physical and cultural factors responsible for the development of disperse type of rural settlements. This type covers about 34.09 per cent of the area, 31.39 per cent of total rural settlements and 30.90 per cent of total rural population of

the district. The mean population size of rural settlements is comparatively large.

#### **4. THE FRAGMENTED TYPE OF RURAL SETTLEMENTS :**

The fragmented type of rural settlements are located in the hilly region of Sawantwadi and Kudal talukas and a part of Devgad, Malvan and Vaibhavwadi talukas, where availability of dense forest, high rainfall, hilly region and land under cultivation is less which give rise to the development of fragmented type of rural settlements. It covers 32.76 per cent area and accounts for only 21.33 per cent rural settlements. The mean population size of rural settlements is small and most of the hamlets or wadi form of rural settlements are found dominant.

#### **6.5.0 OBSERVED TYPES OF RURAL SETTLEMENTS :**

In the present study one inch topographical sheets of the study area have been used. The careful observation of topographical maps clearly indicates that there are following types of rural settlements found in the study region. It is observed that physical factors have a greater control on settlement type.

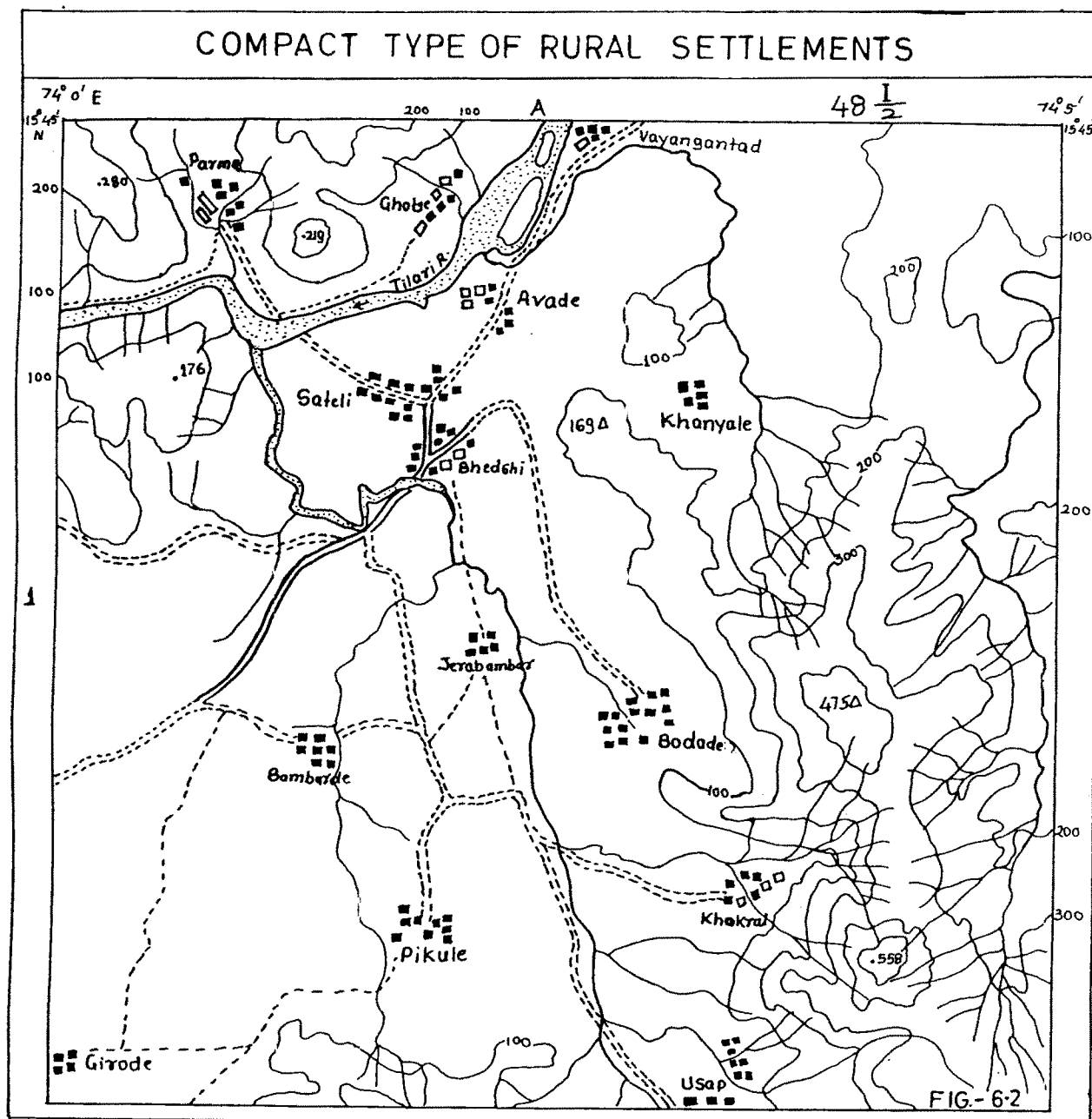
### **6.5.1      THE COMPACT TYPE OF RURAL SETTLEMENTS :**

The toposheet No. 48 I/2 covers several compact settlements, in which Parme, Sateli, Bhedshi, Bambarde, Pikule, Khokaral, Bodade, Talekhol, Viridi, Mangeli and Girode are the important compact type of settlements shown in Figure No. 6.2. Gele from toposheet No. 47 L/4 is the compact type of rural settlement. The compact type of rural settlements are dominant in the areas where agriculture is developed and accessibility is high.

### **6.5.2      THE COMPOSITE TYPE OF RURAL SETTLEMENTS :**

The toposheet No. 48 E/9 and E/5 covers several composite settlements, in which Shiroda, Arawali, Ajgaon, Tiroda, Gulduve, Malewad, Vajrat, Hodawada and Matond are the important composite type of settlements.

Shirange and Vazare from toposheet No. 48 I/2 are the composite type of rural settlements. The figure No. 6.3 indicates the composite form of rural settlements. The composite type are rural settlements are dominantly found in the plain fertile region of Vengurla, Kudal, Malvan and Sawantwadi talukas.



COMPOSITE TYPE OF RURAL SETTLEMENTS

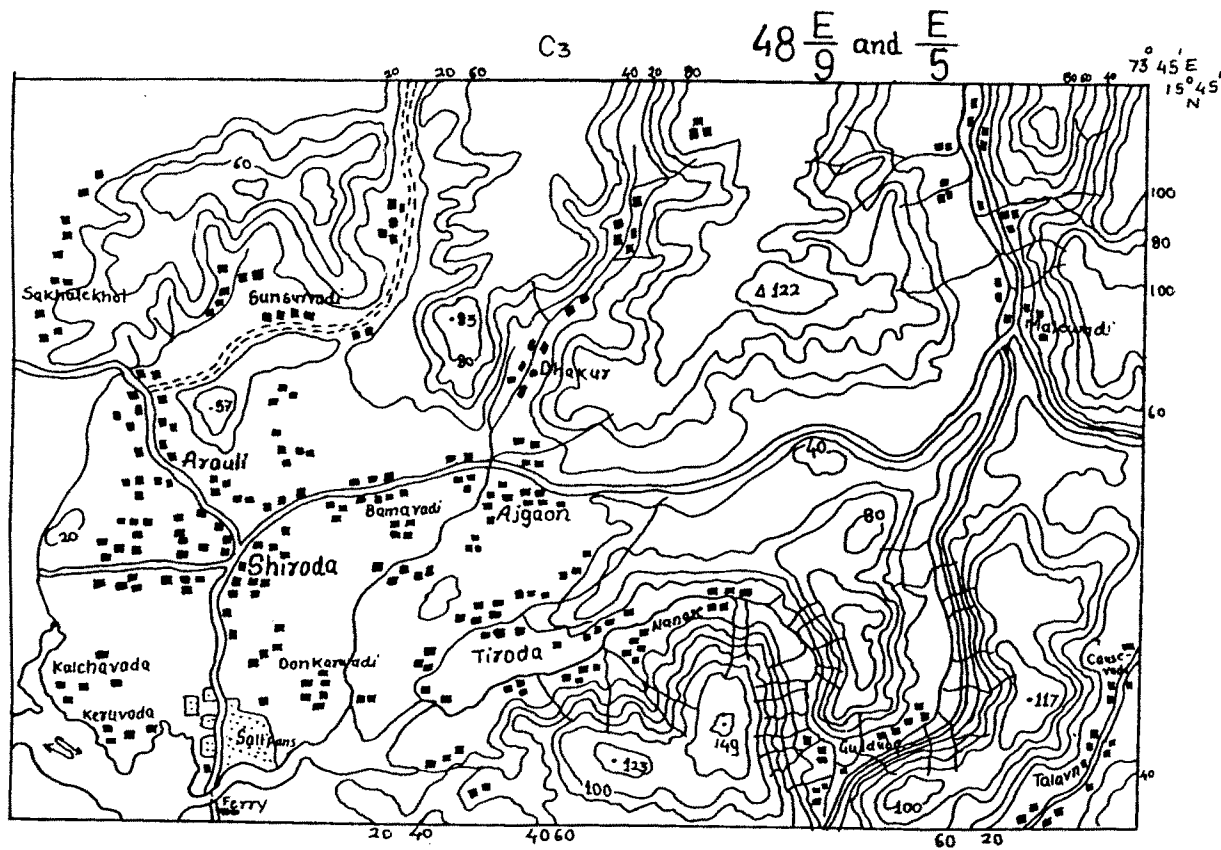


FIG.- 6-3



### **6.5.3 THE DISPERSED TYPE OF RURAL SETTLEMENTS :**

The dispersed type of rural settlements are commonly observed in Kankavli, Sawantwadi and Vaibhavwadi talukas, where most of the area is covered by rigid topography. Most of these dispersed settlements are located on small streams. The toposheet No. 47 H/16, 48 E/9, and E/5 and 48 I/1 show several examples of disperse type of settlements, in which Shirval, Shivdav, Tendoli, Munagi, Ghotagewadi, Konal, Patye, Aynode, Pal, Sargave, Hewale, Sonawal and Tervan are the best examples of disperse form of rural settlements. The figure No. 6.4 indicates the disperse form of rural settlements.

### **6.5.4 THE FRAGMENTED TYPE OF RURAL SETTLEMENTS :**

The fragmented form of rural settlements has developed in the interior parts of Kudal, Kankavli, Devgad and Malvan talukas. In these settlements houses are scattered, farm size is small and land available for cultivation is limited. The fragmented type of rural settlements are most commonly found in the small river valley.

The toposheet No. 47 H/16 and 48 E/9 and E/5 indicates several examples of such types of settlements, in which Avalegaon, Kadawal, Kusagaon, Pangrad, Bhadgaon Bk.,

## DISPERSED TYPE OF RURAL SETTLEMENTS

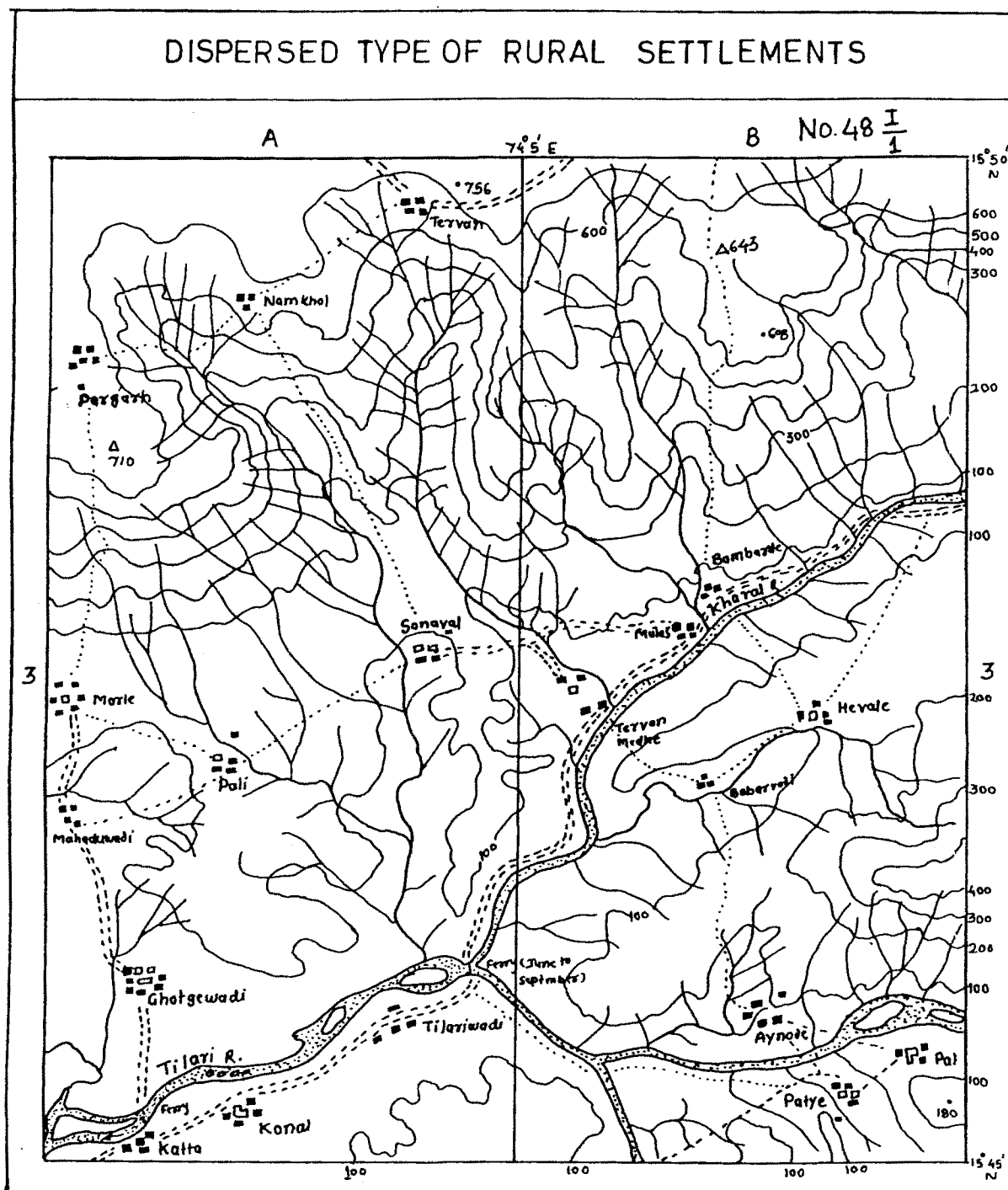


FIG.- 6-4

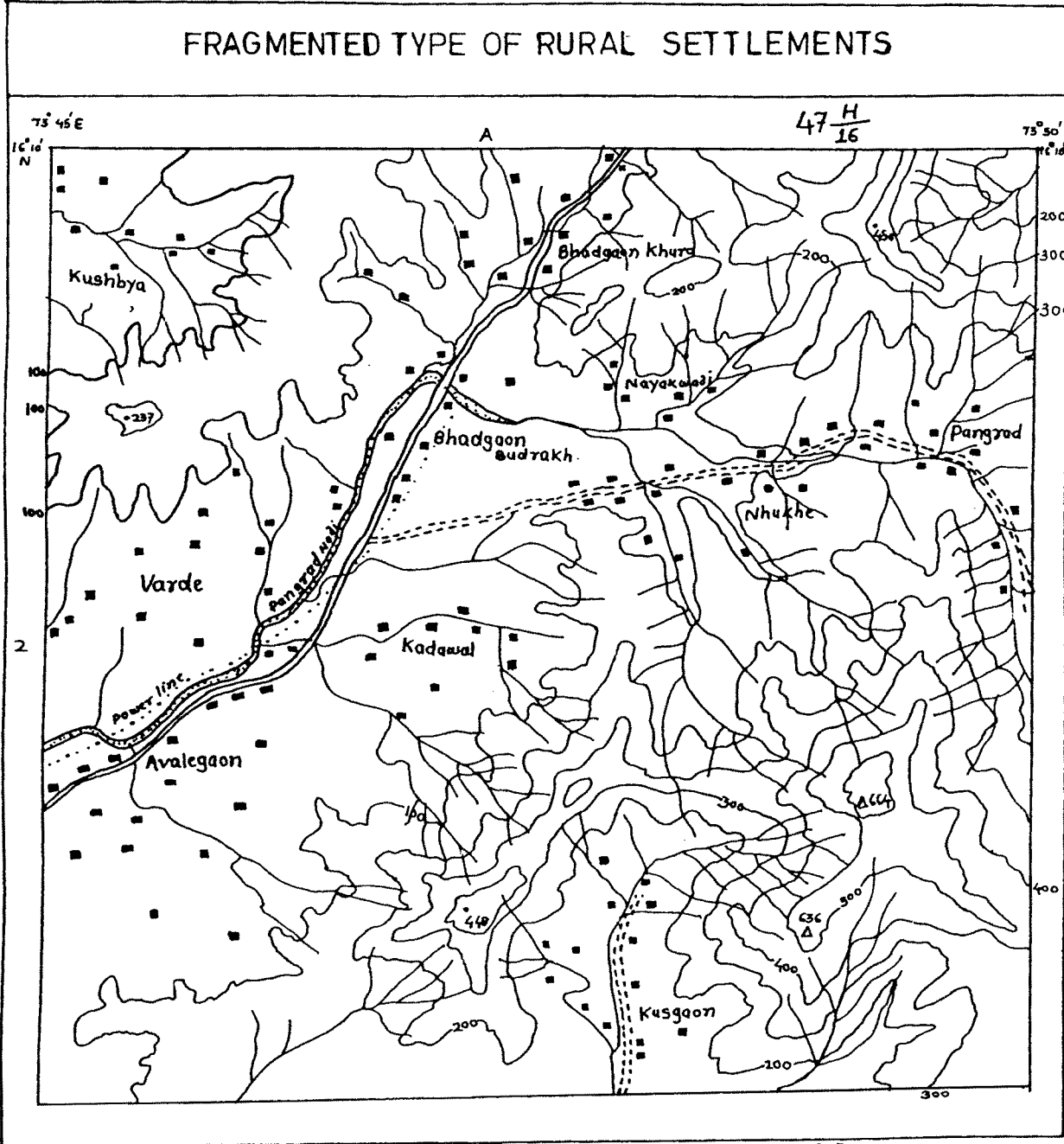


FIG.- 6-5

Bhadgaon kh., Varde, Kupavade, Hirlok, Nivaje, Wados, Vetore, Pat and Humalmala are the fragmented type of rural settlements. (Figure No. 6.5).

#### **6.6.0 VILLAGE PATTERNS :**

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 a settlement. The layout means external and internal form of villages which in turn depend upon the physical and cultural conditions of the landscape and the society. (Mandal, 1979).

The form of villages depend upon various geographical phenomena. The village site, water availability, nature of soil, vegetation, agricultural practices, farm size, field pattern, roads and religious institutions are the important aspects which influence the pattern of rural settlements.

Several geographers have tried to study the settlement patterns. Mukherjee (1923), through his study of North Indian villages, described the different patterns of villages on the basis of their origin and evolution. Bowen (1926),

presented an account of regional patterns of rural settlements and their characteristics in the South Wales. Ahmad (1952) while describing the rural settlement type in Uttar Pradesh, pointed out that the rural dweller is at a minimum economic distance from his scattered field. Singh, (1955) analysed the regional types and patterns of rural settlements in the Middle Ganga Valley. Jain (1972) has studied rural settlements of Vidarbha region and analysed the role of cultural factors in shaping the patterns of rural settlements. Kumbhar (1997) makes an analysis of various pattern of rural settlements in the Nira valley, where he has given more importance to physical and cultural factors. Apart from these important contributions, several other geographers have also contributed in the study of rural settlement patterns.

The morphogeneses of rural settlements refer chiefly to the agglomerated settlement because the arrangement of houses, roads, streams and lanes in compact rural settlements can give rise to typical village pattern. Hence, the study of village patterns involves only those villages which have compact or semi-compact form. Scattered or fragmented villages are difficult to classify since the analysis can be made roughly.

In the present study examines in detail the various patterns of villages found in the various part in relation to the significant physical and cultural features of the region. The patterns of villages have been identified after a study of villages forms from one inch toposheet.

Taking into account the layout, patterning and arrangement of buildings in a village following broad patterns may be identified in the study area.

#### **6.6.1      SQUARE PATTERN :**

The most common form of the nucleated settlements in the Sindhudurg district is the square pattern. The square pattern is the beginning stage of rectangular pattern. Square villages often turn in to rectangular after slight growth in certain direction. The square shape is generally caused by the sites having crossing of cat-tracks or roads and other cultural feature. The best examples of such village patterns are Vazare, Ghotagevadi, Sonval and Pali lying along the intersections of cart tracks and associated with adjacent lowlands and water bodies in the talukas of Sawantwadi and Kudal (Figure No. 6.6).

### **6.6.2      HOLLOW SQUARE PATTERN :**

Hollow square pattern is similar to square pattern, only difference between the two lies in the centre of the village. The centre of the village in a hollow square pattern is occupied by square, tank, temple, mosque, church or a open market space. The best example of hollow square pattern is Bhekurli.

### **6.6.3      RECTANGULAR PATTERN :**

It is the most common form of compact rural settlements found in the plain fertile part of the study region. The general factor influencing this pattern is the rectangular form of the cultivated fields. Most of the houses remain rectangular with their main axis from north to south and east to west so that they may get maximum sunlight and fresh air. One of the best examples of such village is Ubhadanda. (Figure No. 6.6)

### **6.6.4      HOLLOW RECTANGULAR PATTERN :**

The hollow rectangular pattern in which the centre part of the villages is occupied by temple, church or open space. One of the best example of such village is Viridi.

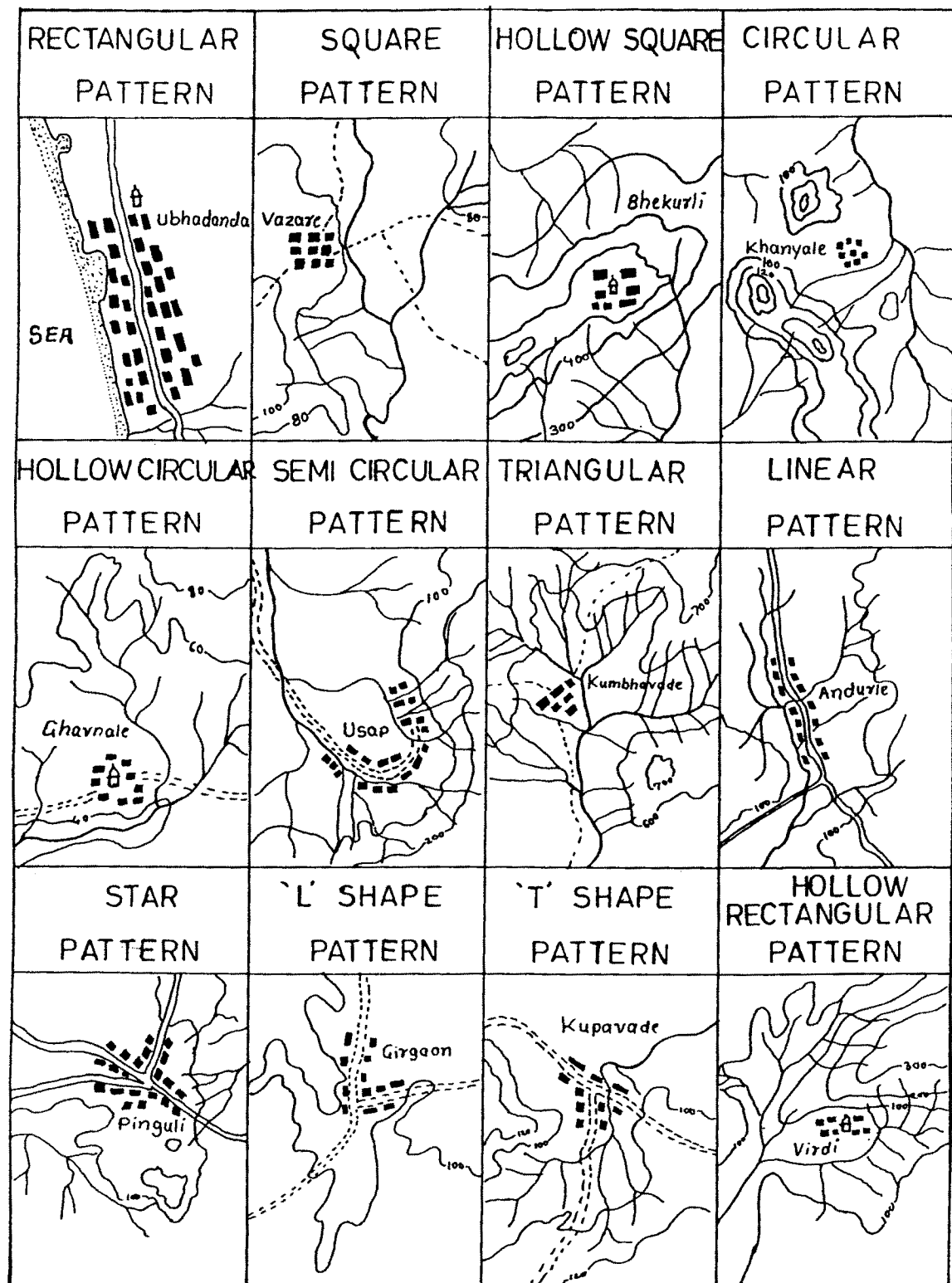


FIG-6-6



#### **6.6.5      CIRCULAR PATTERN :**

Circular pattern is rarely found in this region. Wherever such villages occur they occupy mostly agglomerated settlements. This villages pattern is caused by maximum aggregation for certain facilities such as defense, and easy accessibility from some central attraction such as temple, church and pond etc. There are a few circular villages but their circular form is related to some cultural and physical features. In the study area a Khanyale and Mangeli are the best examples of circular pattern.

#### **6.6.6      HOLLOW CIRCULAR PATTERN :**

The hollow circular pattern in which the centre part of the village is occupied by temple, church or open space. One of the best examples of such villages is Ghavnale.

#### **6.6.7      SEMI-CIRCULAR PATTERN :**

The semi-circular village pattern is the premature growth of circular pattern. But its half growth is obstructed by certain unfavourable geographic conditions such as depression, water bodies etc., and remains unoccupied by habitation. Consequently such settlements appear semi-circular in shape. Such crescent shaped villages grow along the meander bank,

bend of a stream, circular tank, cart-track or temple. An example of such village is Usap where the nucleation is guided by the bend of cart-track due to the existence of well.

#### **6.6.8      TRIANGULAR PATTERN :**

Triangular pattern occurs on those sites where growth of settlement is restricted from three sides. Sometimes three physical elements combined together restrict the growth of village from three sides in a triangular form such as waterbodies, nala, river etc. At certain places cart-tracts, road district the expansion. There are two suitable example of such villages such as Kumbhavade and Majgaon. (Figure No. 6.6)

#### **6.6.9      LINEAR PATTERN :**

The linear pattern is a most common form of the rural settlements found in the varied physical and cultural conditions. Normally, such pattern developes along the roads, rivers, nallas and on hill terraces. In such settlements the houses form a single row all along the road or river banks. In the study area Andurle, Choukul and Konalkatta are the best examples on linear pattern.

#### **6.6.10     STAR PATTERN :**

It is one of the most typical village pattern in Sindhudurg district. When the circular settlement extends in several directions along the footpaths and roads, the village assumes this shape. The best examples are Pinguli, Malewad, Tarele, Nandgaon and Dodamarg in Sindhudurg district.

#### **6.6.11     'L' SHAPE PATTERN :**

The L-shaped pattern villages is the common feature found at several sites where two linear forces meet at right angles to each other (Singh, 1955). These two forces may be two roads and cart-tracks or a road and a water front meeting at right angles. The Girgaon Village contains its 'L' shape due to two roads meeting at right angle.

#### **6.6.12     'T' SHAPE PATTERN :**

The T-shaped pattern village is an uncommon feature. This village comes in to existence due to modification of the rectangular pattern. The houses develop along the main road and the subsidiary road. In the study area Humarmala and Kupavade are the best examples of T shape pattern.

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