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## **CHAPTER – 5**

# **TYPES AND PATTERNS OF RURAL SETTLEMENTS**

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## INTRODUCTION

Rural settlements are an important aspect of settlement and human Geography, because they show the complex relationship of human occupancy of land and the environment. According to Enayat Ahmad (1965) 'type' mean the characteristics grouping of rural dwellings in that well defined parcel of ground which is known as 'Mauza', but this definition is useful only in local consideration. In a regional framework the term type indicates 'the relationship between settlements within the space' (Doxiadis, 1968). M. Aurrousseau (1920) expressed it as 'arrangement of rural settlements as geographical entities to express the grouping of dwellings and their interrelationship'. These rural settlements are comparatively small and simple agglomeration at favourable and convenient site, primarily influenced by environmental factors and later on by socio-economic development of human groups. Generally every settlement is different from the other, but with some generalization it is possible to classify them into many groups. Thus it is interesting to study different types and patterns of rural settlements as well as factors affecting them.

## **FACATORS AFFECTING THE TYPES OF RURAL SETTLEMENTS:**

There are two factors, physical and cultural, responsible for various settlement types in rural areas. They are also known as agglomerating factors or degglomerating factors. In physical factors relief, fertility of soil, amount of rainfall, dry land and defense are included, while in cultural factors landuse, land tenure, cropping pattern, clan and caste system, social relationships and means of transportation are included.

The compact farm villages are common features of great fertile river valley plains. Similarly in flood affected area, few elevated sites are also have compact settlements. Settlements are generally found near water bodies. Availability of different sources of water gives rise to compact settlements. In low water table area where the construction of wells is costly, settlements around these wells are compact. However in the high water table area where wells can be dug easily, hamlets, semi-compact settlements are commonly found.

On uniform relief, the settlements tended to concentrate in compact form, while in rugged land dispersed settlements are found. Also in the areas of harsh climate and infertile soil dispersed settlements are more common.

Cultural factors such as land tenure system of agriculture, peaceful conditions, social customs in relation to untouchable give rise to dispersion. Rail road network attract the settlers to settle in dispersed manner. Similarly modern technology, development in agricultural, political or administrative decisions, religious or social conditions are also important in the study of settlement types.

The settlements of a region may be classified on the basis of their size, shape, siting, time and function. Rural settlements are usually classified into two extreme types i.e. compact and dispersed with number of intermediate stages. In the former settlement type, houses are piled at one place or well knit along streets while in the latter every family residence remains scattered in the village in association with its respective form (Metizen, 1895). In the present study, two methods of classification, personal observation and statistical method have been used in determining rural settlement types.

The topographical maps (1:50000) of the study region have been used and various settlement types have identified from observation method. Secondly Debouverie's statistical method is used to study rural settlement types. The index of concentration has been calculated by simple formula used by Debouverie (1943). This formula, used for distinguishing types of nucleation is as follows:

$$K = \frac{X \times L}{H}$$

- K = Index of concentration  
 X = Total No. of dwellings per settlement  
 L = Total No. of settlements in the region  
 H = Total no. of dwelling in the region

After calculating the index of concentration for each settlement, the region has been classified into four types of rural settlements, they are

- (1) Compact type (Concentration Index above 1.50)
- (2) Semi-Compact types (Concentration Index 1.00 – 1.50)
- (3) Hamleted (Concentration Index 0.50 – 1.00)
- (4) Dispersed (Concentration Index below 0.50)

**Table 5.1.**  
**TYPES OF SETTLEMENTS**

Sr. No.	Concentration index value	Types of sett.	Area of km <sup>2</sup>	% of area	No. of sett	% of total	Mean pop. size.
1.	Above 1.50	Compact	2934.57	30.34	89	14.10	6220
2.	1.00 – 1.50	Semi compact	1755.53	18.13	89	14.10	3064
3.	0.50 to 1.00	Hamleted	2747.89	28.41	95	15.00	3894
4.	Below 0.50	Dispersed	2237.08	23.12	359	56.80	673
			9673.07	100.00	632	100.00	

*Source: Compiled by the Author.*

## **REGIONAL ANALYSIS:**

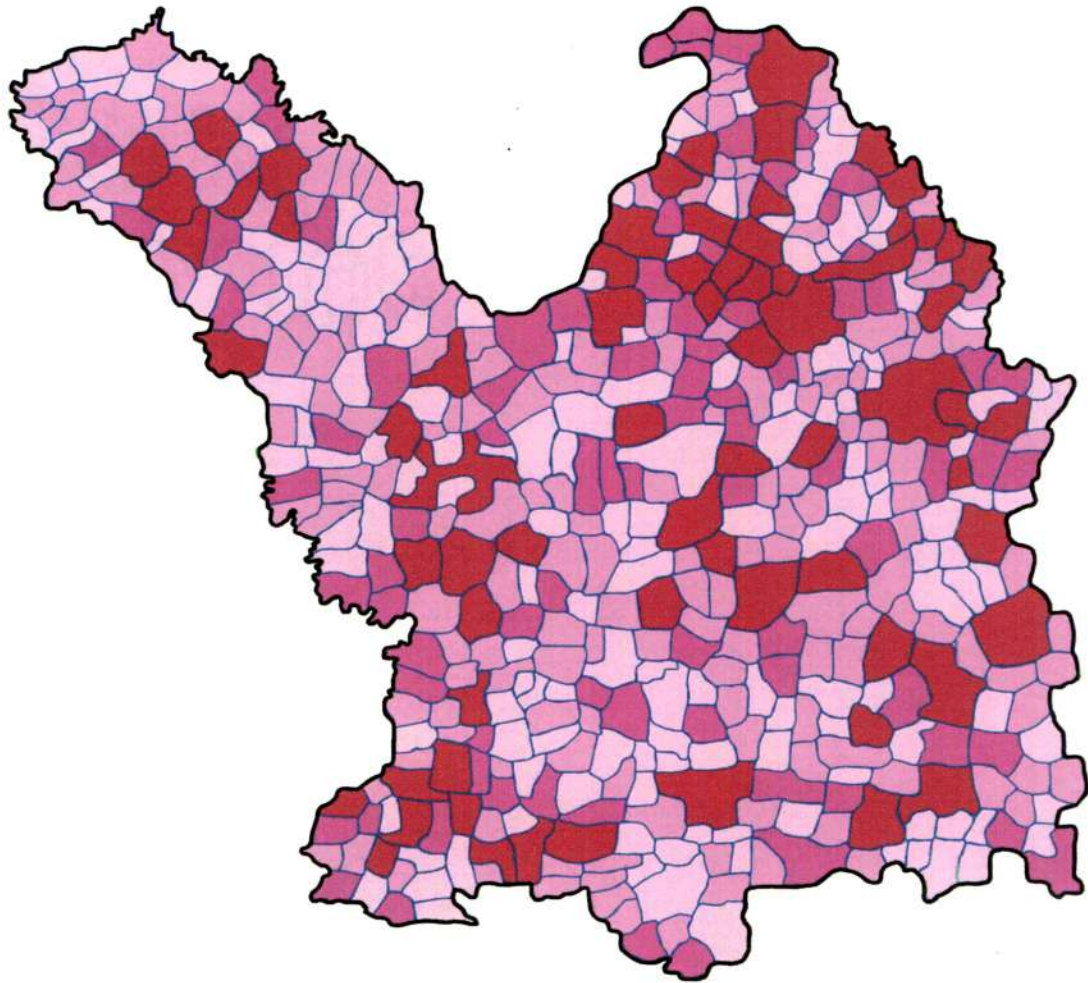
The concentration index have been depicted in figure 5.1 which clearly shows that whole area is classified into four major types of rural settlements. The table 5.1 indicates the details of area covered and number of settlements in different classes of settlement types.

### **A) TYPES OF SETTLEMENTS**

#### **1) Compact Settlements:**

This type of rural settlement is characterised with agglomeration of almost all the dwellings of the mouza or village in one place (Ahmad, 1952). The concentration of houses varies from 30 to 40 in small hamlets to a hundred or thousand of houses in large villages. In the study region, main concentration of compact villages are found in central part of Man, Sangole and Kavathe Mahankal taluka, in the North and south part of Pandharpur. Compact settlements also found in Jath and Atpadi taluka. It covers 30.34 per cent (2934.57 sq km) of the total rural area, 14.10 per cent (89 villages) of the total rural settlements and 38.50 per cent of its rural population. The average size of rural settlement is comparatively large (6260 person). Most of the compact settlements located in the dense populated area, where houses are built very close to each other. The causes of agglomeration are related to concentration of water point, types of agriculture, means of transportation, economic activity (Fig. 5.1)

### MAN BASIN Types of Settelments



#### INDEX

- Compct Settelments
- Semi-Compct Settelments
- Hamleted Settelments
- Dispersed Settelments

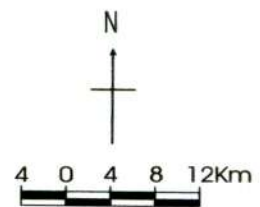


Fig. 5.1

**2) Semi-Compact Settlements:**

The semi-compact settlements represents an intermediate type between compact and hamleted settlements. It is marked by the presence of one easily recognisable site (main village) and one or two or more small hamlets closely linked with the main site by foot paths or cart tracks (Blach, 1952). This types covers about 18.13 per cent (1,753.53 sq km) of the rural area, 14.10 per cent of the total villages and 18.97 per cent of total rural population of the region. The mean population of this region is 3,064. The distribution of this type of settlement mainly occure in Pandharpur, Sangole, jath and Kavathe Mahankal taluka and in some parts of Atpadi, Man and Mangalvedhe taluka. The attached hamletes formed by the outgrowth of main villages and derives its name from the predominant caste residing therein. The development of transportation encouraged the growth of such hamlets.

**3) Hamleted Settlements:**

These settlements are characterized by the presence of several smaller hamlets and separate individual habitations spreading over the entire mouza (Singh, 1965). These scattered hamlets are connected each other by footpaths or cart-tracks and closely related with each other in terms of cultural and social activities. This types of rural settlement occupy 28.41 per cent total rural area (2747.89 sq km), 15.00 per cent of villages and 25.73

per cent rural population of the region having mean population 3894.

#### **4) Dispersed Settlements:**

These settlements type cover very limited area, where scattered huts or homesteads found all over the village area and relatively long distance between dwellings. The dispersed type of rural settlements are found all over in the study region. Availability of water and arable land and means of transport are some of the factors responsible for the dispersal. It covers nearly 23.12 per cent rural area (2237.08 sq km) of the study region, where 56.80 per cent rural settlements (359) and 16.79 per cent of rural population are located.

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

A study of the topographical maps on scale of 1:50000 of Man region reveals that there are wide variations in the settlement types. Several physical and cultural factors influence the distribution and types of rural settlements. The keen observation of topographical maps indicates the following types of rural settlements in the region.

#### **(1) The Compact Type of Rural Settlements:**

The topographical map no. 47 K/5, 47 K/14 and 47 K/16 show several compact settlements in which Atpadi, Dighanchi,

### COMPACT SETTLEMENTS

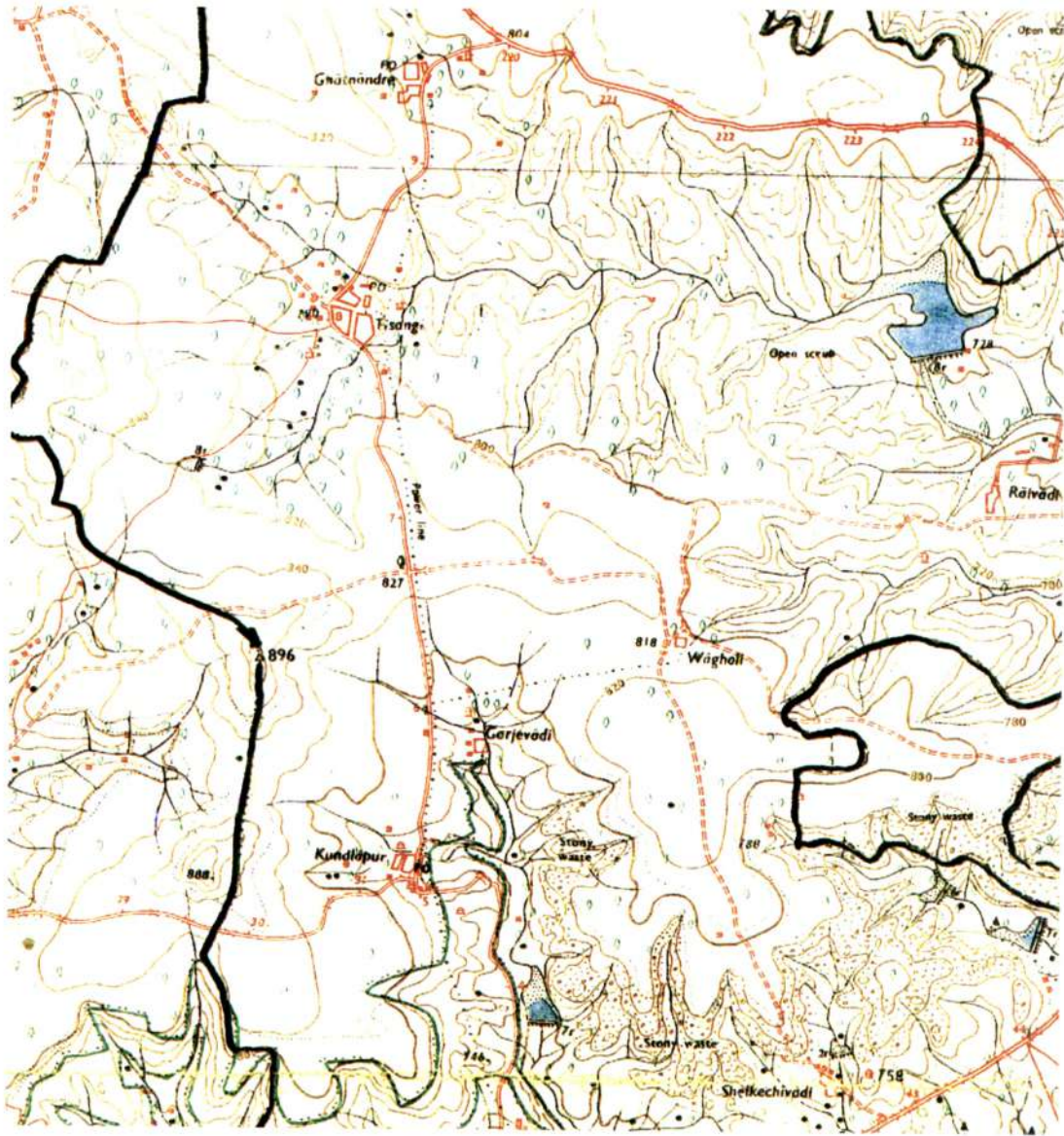
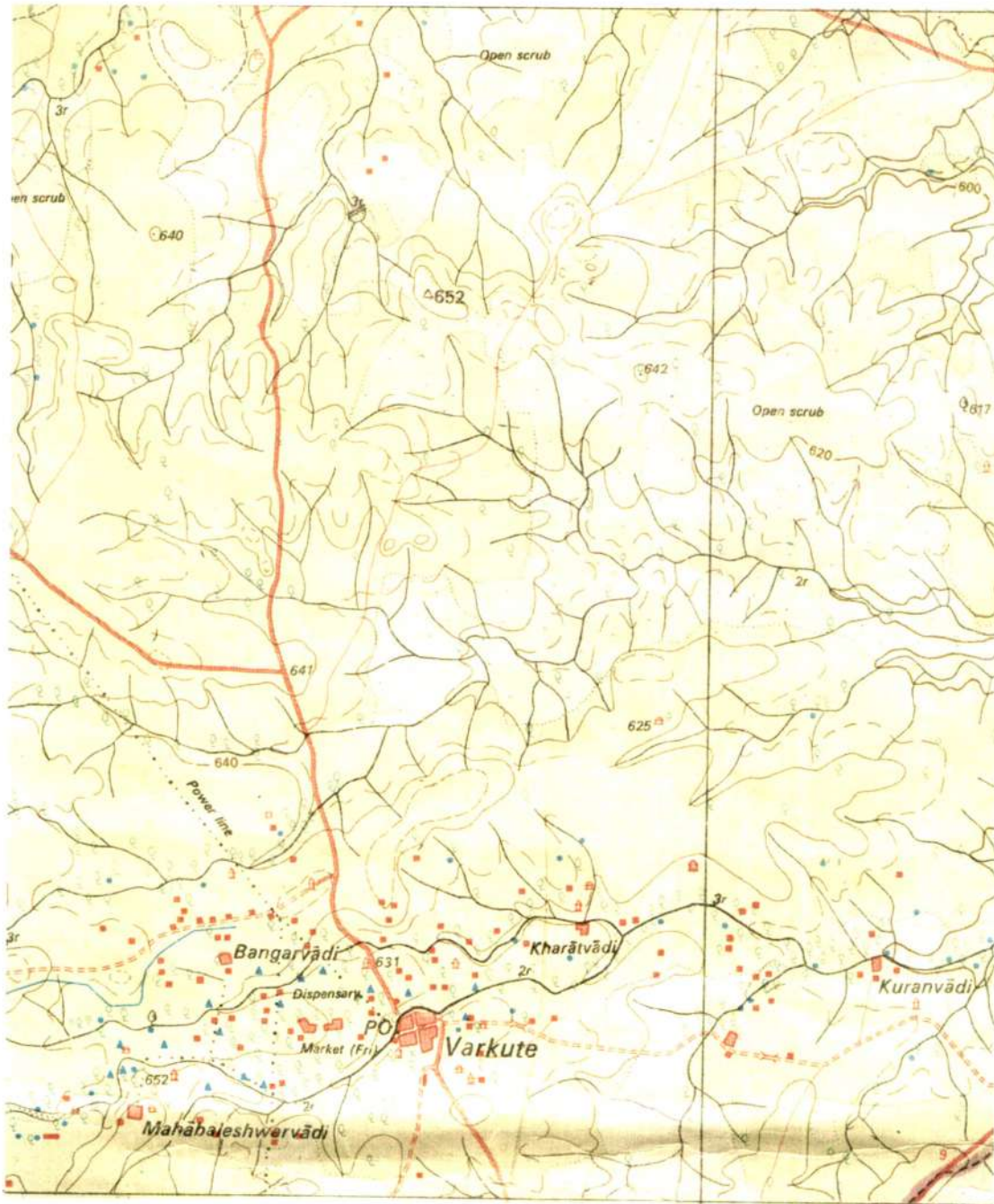


Fig. 5.2

**SEMI COMPACT SETTLEMENT****Fig. 5.3**

Bhalwani, Bhoose, Alegaon, Javala, Umadi, Dahivadi, Tisangi, Kundalpur, Wagholi, Raiwadi, Ghatnadre are the best examples. It is observed that most of these settlements are located near the hill slopes or near the streams (Fig. 5.2).

**(2) Semi-Compact Rural Settlements:**

This type of rural settlements are generally observed in Man, Atpadi and Sangole taluka. Varkute, Malavadi, Pingali Bk. Kauthali, Kumbhari, Balgaon, Banali, Kosari are good examples of semi-compact rural settlements. The figure 5.3 indicates this types rural settlements. Most of these settlements are located on small streams.

**(3) Hamleted Settlements:**

The topographic maps no. 47 K/14, 47 K/15 and 47 K/5 indicate several examples of Hamleted settlements in which Maptemala, Bhingewadi, Masalawadi, Lotewadi, Sherewadi, Umbargaon are the best examples of Hamleted settlements. The figure 5.4 shows the hamlated type of settlements in the region.

**(4) Disperse type of Rural Settlements:**

The topographic maps no. 47 K/9, 47 K/14 and 47 K/15 cover several dispersed type of settlements in which Hawaldarwadi, paryanti, Sambhukhed, Lingivare, Galvewadi, Malewadi, Khanjonwadi, Awalai, Yamaji Patilwadi, Lonar Khadaki are the best examples of this type of settlements (Fig. 5.5).

## HAMLETED SETTLEMENT

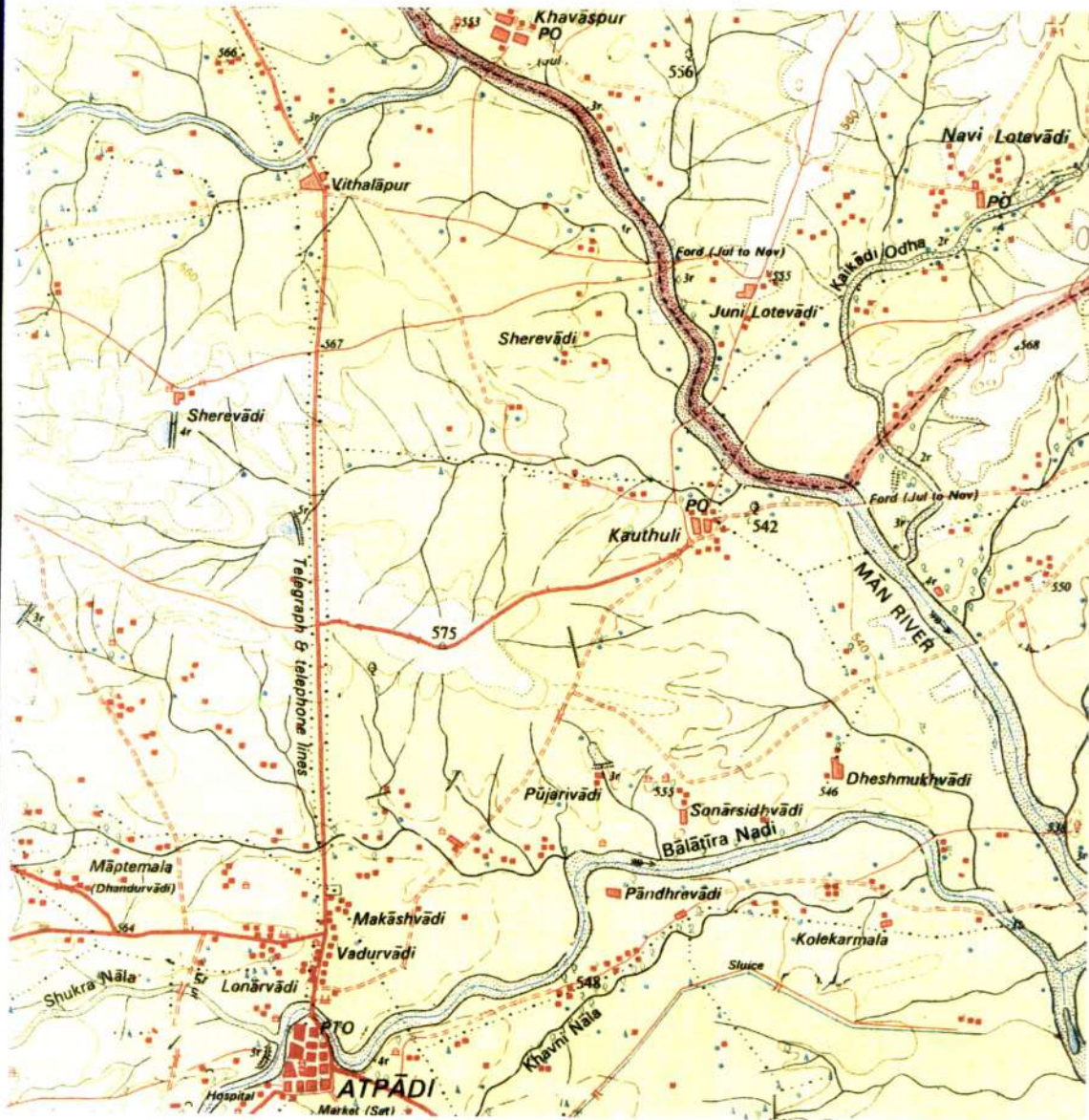
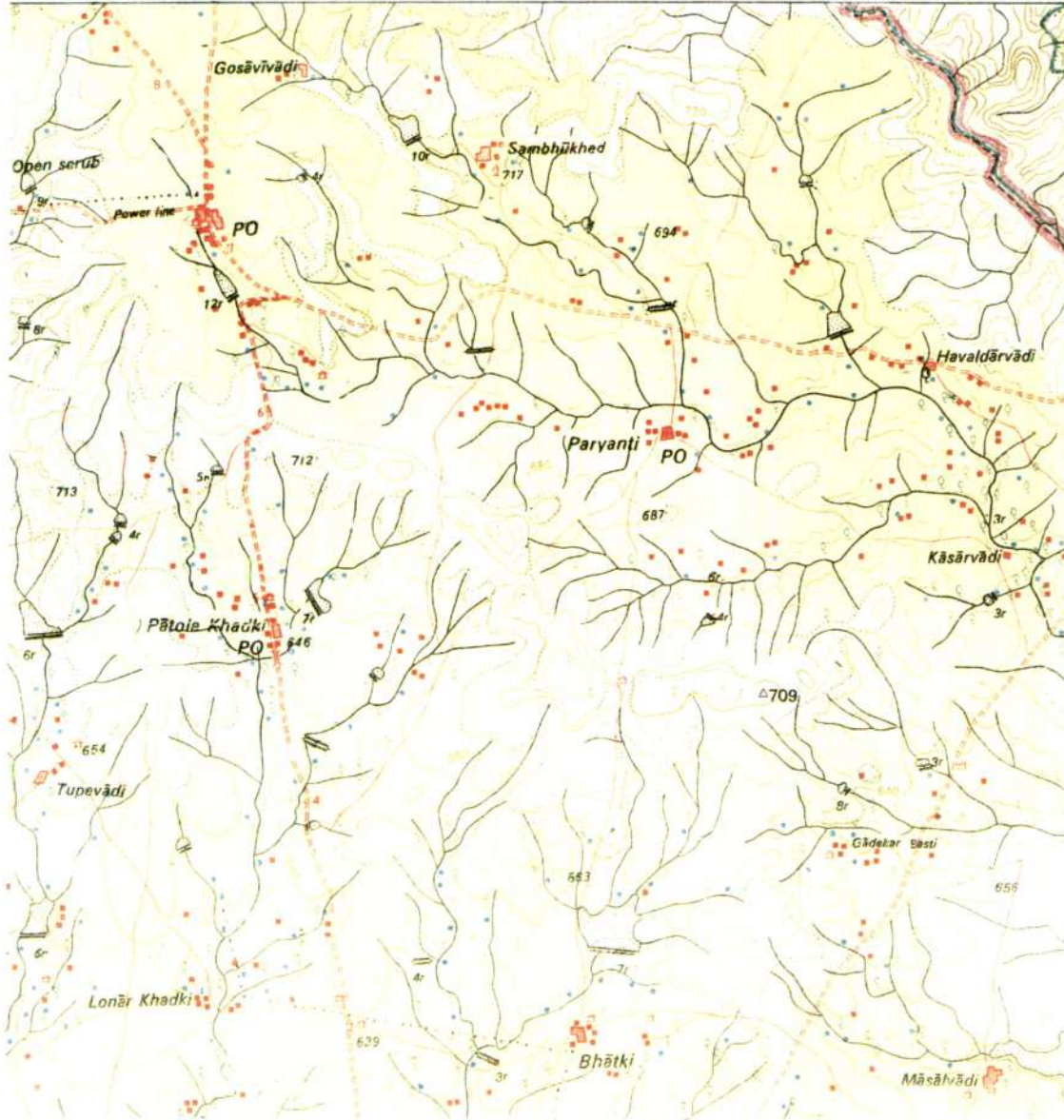


Fig. 5.4

**DISPERSED SETTLEMENTS****Fig. 5.5**

**B) VILLAGE PATTERNS:**

The morphogenesis of rural settlements becomes interesting as various forms evolve depending upon various geographic factors. The pattern of villages can be studied under two Subheads (i) external layout and (ii) Internal plan. Both aspects are intimately related to various physical and cultural factors. Physical factors include configuration of the size, surface water, the nature of soil, cultivation, vegetation cover and shape of cultivated fields (Sinha, 1976) Among the Cultural factors, historical events, cultural traditions, caste system, pattern of roads, political situation also exert their influence. The village cart-tracks and lanes form the skeleton of the internal layout of the village. The buildings located in the space within skeleton determines the shape and form of the village (Dickinson, 1924) Settlement geographers have tried to analyse the physical characteristics of village space through qualitative methods but new quantitative techniques have given them additional tools to measure it more precisely and suggest suitable guideline for better socio-economic planning. An attempt has been made to analyse the shape characteristics of the villages of study area both by qualitative as well as quantitative techniques.

### **QUALITATIVE APPROACH:**

The analysis of the village shape has been the main concern of the scholars since long. The Epics (Ramayana and Mahabharat), Jatkas, Puranas present descriptions of villages with rectangular, square, oblong, semi-circular, semi-elliptical or lotus shaped plans (Tiwari, 1981) But Meitzen (1895) firstly introduced the scientific analysis of village shapes in the field of settlement geography. Later on similar attempts were made by Hewitt (1899), Bowen (1926), King (1927), Hall (1931), Demongeon (1933), Trrewartha (1946), Ahmad (1952), Singh (1955), Sinha, V.N.P. (1976), and several others. Based on these techniques following broad patterns can be identified in the study area.

#### **(1) Square Pattern:**

The square pattern of villages is normally found in agricultural region. In such type of villages houses are arranged in two or more rows with streets running parallel to each other. Such villages are found having strong agglomeration. Sometime villages are protected by walls. The entire village is divided into small square of houses occupying the people of different castes. In the study area Jat, Sangole and Mangalvedhe, Pandharpur and Atpadi Talukas have square pattern of villages, of which Shegaon, Hunnar,

### TYPES OF SETTLEMENT

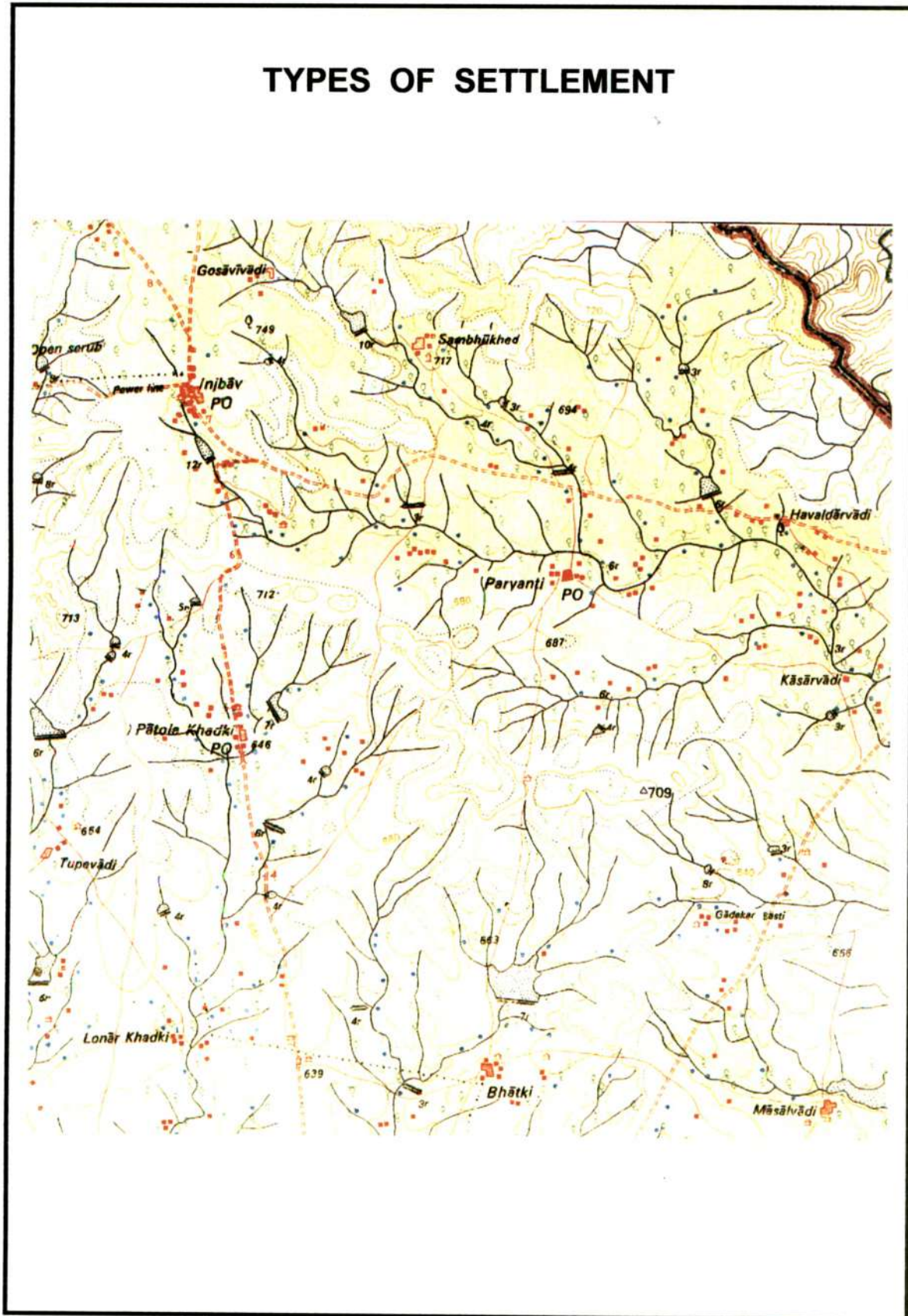


Fig. 5.6

Shirasi, Kuni Konur, Kumbhari, Manegaon, Chincholi, Machnur and Shetphal villages may be cited as examples of this pattern (Fig. 5.6, A-3, A-4, B-1, B2).

Hollow square pattern of village is characterized by the presence of mound, old fort, village pond, temple mosque or church etc. in the central part of the village. The village like Mahud BK., Kumbhari, Achkanhalli, Hivare present good examples of this pattern (Fig. 5.7, A1-A2).

**(2) Rectangular Pattern:**

This is also most common type of village shapes in the study area. In such type of houses most of the houses remain rectangular with their main axis from north to south and west to east so that they may get maximum sunlight and fresh air. In the study area Sangole, Jath, mangalvedhe, Man and Kavathe-Mahankal have rectangular pattern of villages. Villages Mohi, Palashi, Mundewadi, Tandore, Jambhulni, Pare, Nazare, Harkar Mangewadi can be cited as examples to make point clear. (Fig. 5.7,C1-C4).

Hollow rectangular is similar to rectangular pattern except for an unbuilt open space in the middle of the villages. It is marked by the presence of mound, ruins of an old fort, temple, mosque, village pond, shaddy trees. A few villages have a place of worship in the centre around which dwelling have developed. Similar

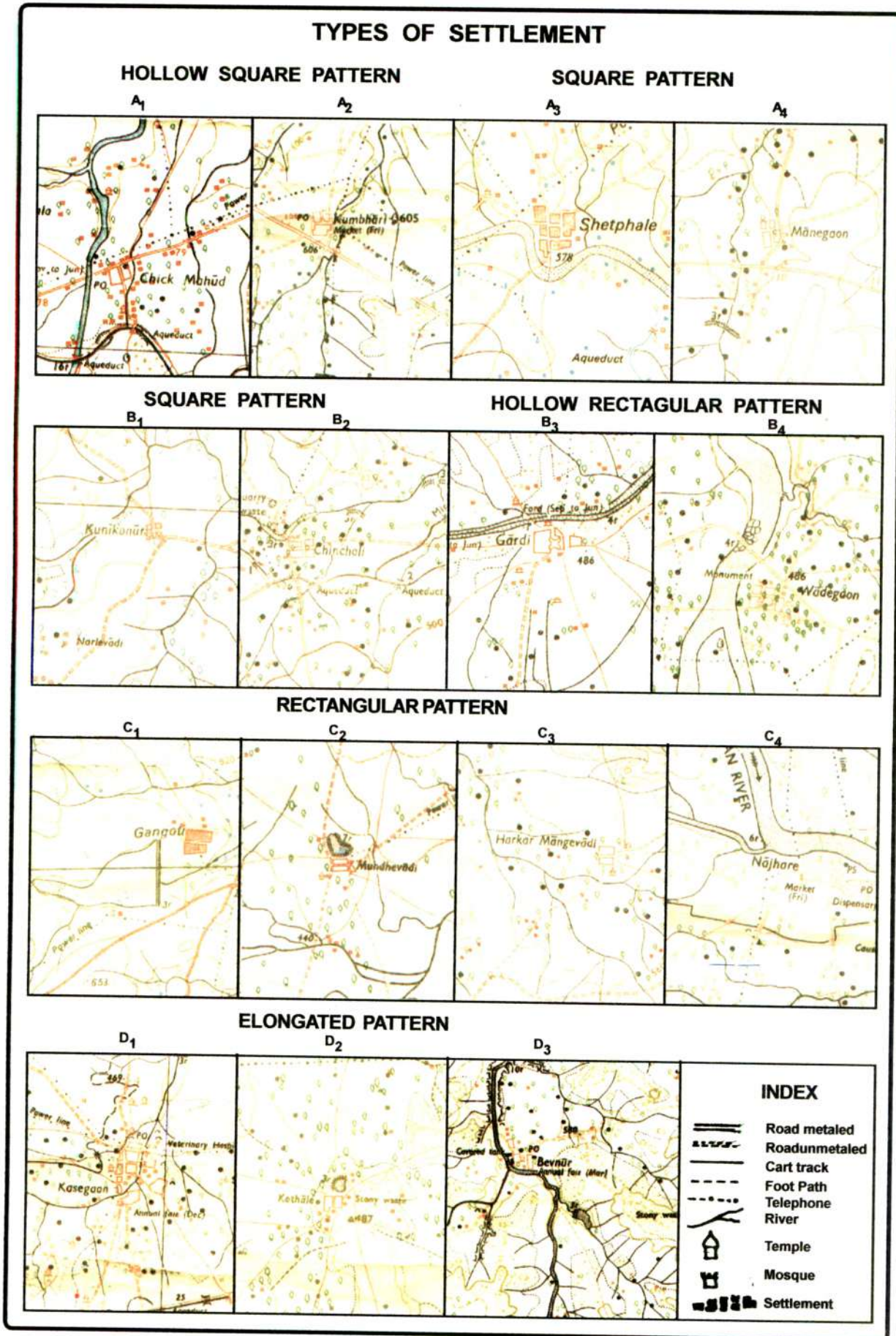


Fig. 5.7

several villages have educational institutions and field in the middle. Gardi and Wadegaon villages in Sangola taluka and Karanjangi in Jath taluka and Banewadi in Kavathe Mahankal taluka are the best examples of hollow rectangular pattern. The village Wadegaon has a temple at the center, while Gardi and Karanjangi villages have ruined fort at the centre (Fig. 5.6, B-3, B-4).

### **(3) Elongated Pattern:**

Another common village pattern found in the study region is elongated pattern, which is easily recognized by the simple arrangement of houses along a river bank, lake shore or road. This elongated settlement pattern prolongs in one direction and restricts in another direction due to certain physical and cultural features (Singh, 1958). Generally such village pattern is found on the lavelle of a river in the flood affected area while in the other areas where there is no danger of flood, the advantages of the proximity of the river for drinking water causes elongation of the settlement. Villages like Siddapur, Brahmapuri, Bathan and Uchethan from Mangalvedhe Taluka; Sonand and Chick Mahud from Sangole taluka; Sarkoli, Kouthali and Kasegaon from Pandharpur taluka and Kokale and Bevnur from Kavathe-Mahankal taluka are the examples of elongated patterns of the settlements (Fig. 5.6, D1, D2, D3).

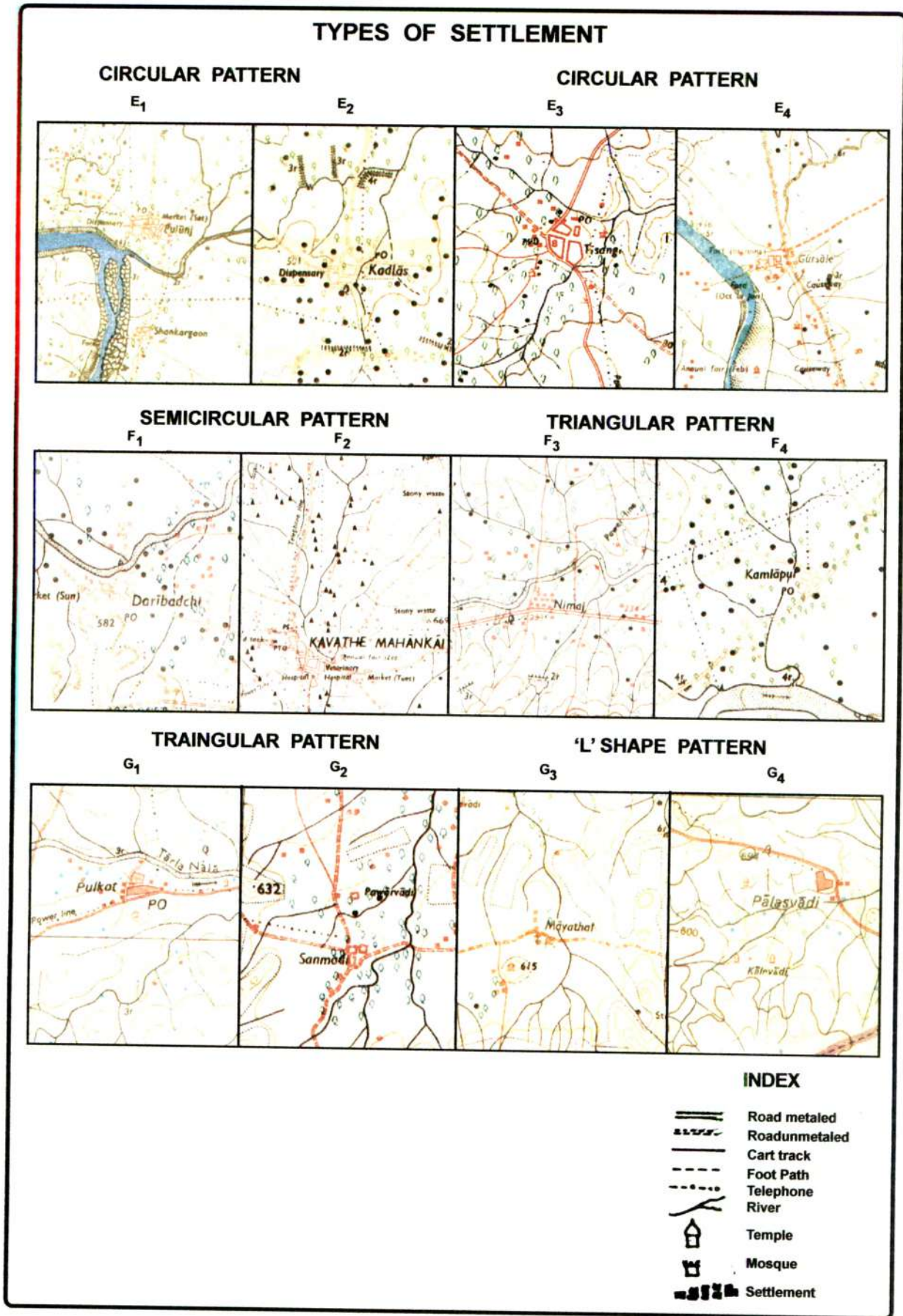


Fig. 5.8

**(4) Circular and Semi-Circular Pattern:**

A circular village may have several variations, which are caused by an attempt to build a maximum number of houses at one site (Mandal, 1989). In this type of village houses are built around the mansion of the local zamindar, religious buildings, pond and market places. In the study area villages like Kadlas and Gherdi in Sangole taluka present circular and semi- circular pattern. Tisangi in Kavathe-Mahankal and Pulunj and Gursale in Pandharpur also exhibit such pattern (Fig. 5.7). The villages like Daribadchi in Jath taluka and Kavathe-Mahankal in Kavathe-Mahankal taluka and Borale in Mangalvedhe taluka are the fine examples of semi-circular pattern on the bend of the stream (Fig. 5.7, F1, F2).

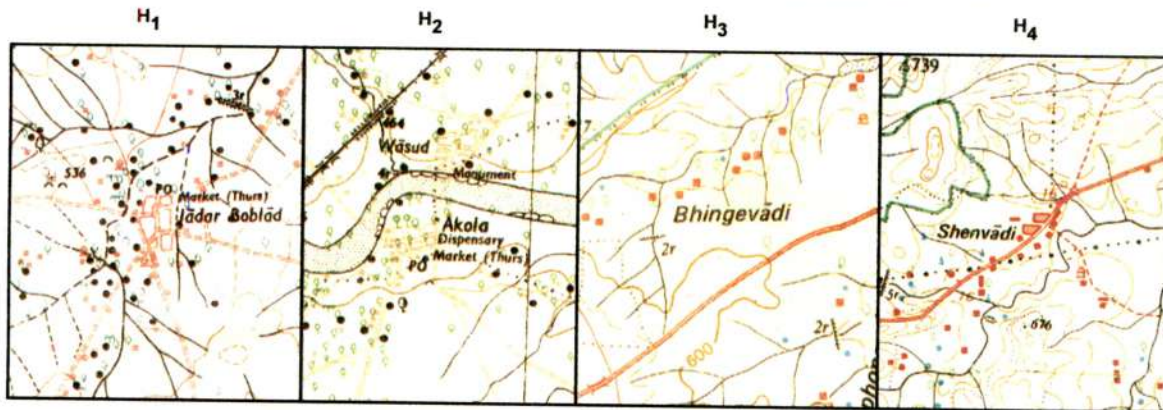
**(5) Triangular Pattern:**

Triangular pattern occurs on those sites where growth of settlement is restricted from three sides. Due to topographical barriers village may assume the shape of triangle or hollow triangle. At certain places cart-tracks, roads also prevents the expansion. Sometime triangular pattern of rural settlement develop at the confluence of river. Kognoli, Kamalapur, Nimaj, Pachvad, Pulkoti, Deshing, Sanmadi, Shedyal are the best examples of triangular pattern (Fig. 5.7, F3-F4, G1-G2).

**TYPES OF SETTLEMENT**

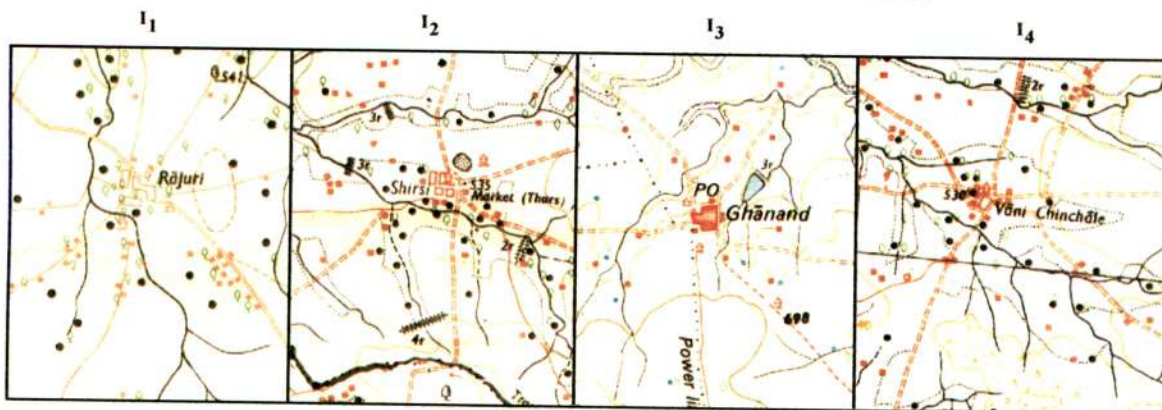
**CHESS - BOARD PATTERN**

**LINEAR PATTERN**



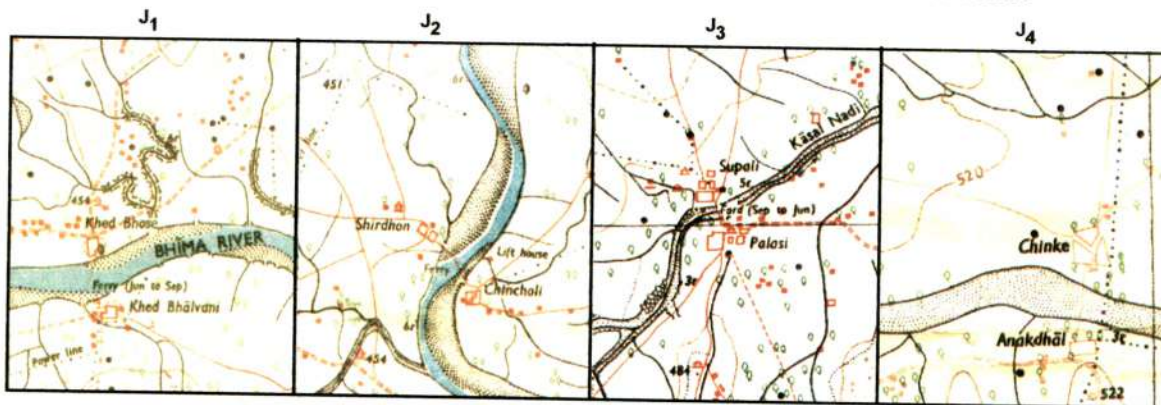
**RADIAL PATTERN**

**RADIAL PATTERN**



**TWINNUCLEI PATTERN**

**TWINNUCLEI PATTERN**



**INDEX**

- Road metaled
- Road unmetaled
- Cart track
- Foot Path
- Telephone
- River
- Temple
- Mosque
- Settlement

Fig. 5.9

**(6) 'L' Shape Pattern:**

The 'L' shape pattern villages are found at the junction of a main road and a minor street or track, when the rectangular blocks of houses meet at right angles. This village pattern is a subsidiary pattern of the rectangular or square form. Palsavade, Khanjodwadi, Hingani, Chinchale and Maithal are the best examples of this pattern (Fig. 5.7, G3 – G4).

**(7) Checkerboard/Chess-board Pattern:**

The chess board or grid iron pattern denotes a right angled mesh of streets with or without a central rectangular market place (Dickinson, 1924). In this village pattern two or more streets meet each other at right angles and a few other subsidiary lanes run parallel to the main street. Daphalapur, Bilur, Jadra-bobalad, Sordi in Jath taluka, Akole in Sangole, taluka; Gomewadi, Kharsundi in Atpadi can be cited as examples for chess-board pattern (Fig. 5.8, H1-H2).

**(8) Linear Pattern:**

In linear settlements the houses form a single row all along the roadside or river bank or railway line or canal. In mountainous area mountainous tops or hill slopes are occupied by such settlements, where houses are arranged in a single or double row. Sokasan, Dhanwalewadi, Kalchondi, Patole Khadaki, Shenwadi in

### TYPES OF SETTLEMENT

#### AMORPHOUS PATTERN

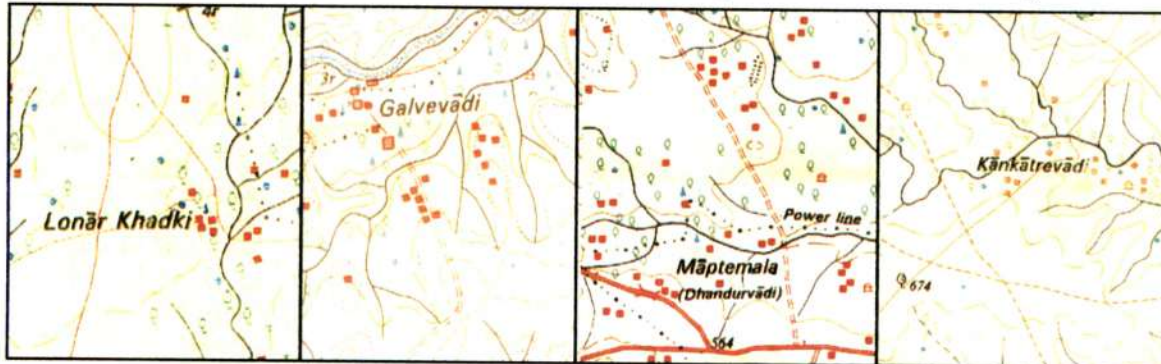
#### AMORPHOUS PATTERN

K<sub>1</sub>

K<sub>2</sub>

K<sub>3</sub>

K<sub>4</sub>

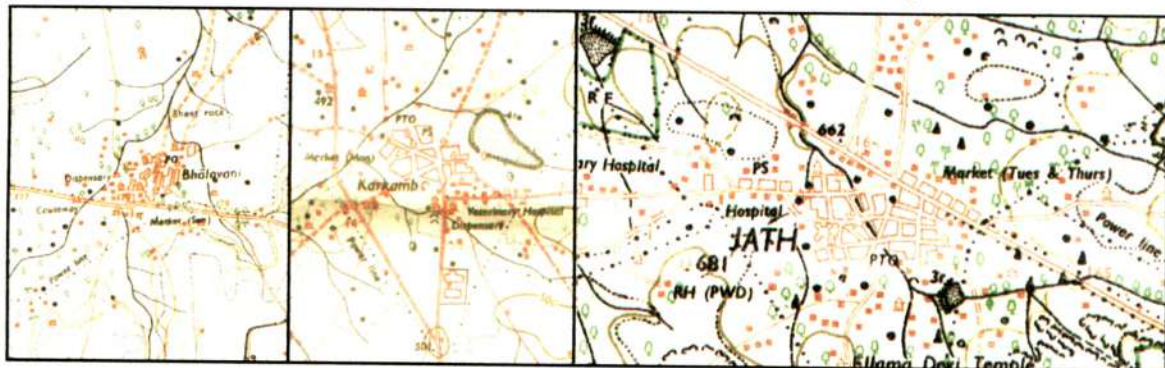


#### SHAPELESS AGGLOMERATION PATTERN

L<sub>1</sub>

L<sub>2</sub>

L<sub>3</sub>



#### INDEX

- Road metaled
- Road unmetaled
- Cart track
- Foot Path
- Telephone
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- Settlement

Fig. 5.10

Man taluka; Kharsing, in Kavathe-Mahankal and Kamth and Gomewadi in Atpadi taluka are good examples of linear pattern village (Fig. 5.8, H3-H4).

**(9) Radial Pattern:**

In radial pattern village, the number of streets or paths converging in its centre, the nucleus occupied by landlord's house, temple or religious institutions. Bijawadi from Man taluka; Ranjani, Hangiragi, Valsang, Nigadi Khurd from Jath; Karagani, Nimbavade, Ghanand from Atpadi; Bhose, Ropale, Karkamb from Pandharpur; Andhalgaon, Laxmi-Dahiwadi, Nandeshwar, Huljanti from Mangalvedhe and Rajuri, Gherdi from Sangole taluka are the best examples of Radial pattern (Fig. 5.8, I<sub>1</sub>, I<sub>2</sub>, I<sub>3</sub>, I<sub>4</sub>).

**(10) Double Nuclei Pattern:**

The double village (double-dorfer) is a group of two settlement unit grown up simultaneously or one after another at a place (Ahmad, 1965). In this village pattern nallah, stream, river, roads, act as a boundary between the two settlements. These villages occupy similar geographic conditions but their revenue and administration dealt separately. There are several double nucleated villages in the study region along the side of Man and Bhima river. Supali-Palashi, Wasud-Akole, Tavashi-Marapur, Devake-Methavade, Shetfal-Mahmadabad, Nepatgaon-Dharmgoan, Sidhevadi, Chinake-Anakadhal, Shirdhone-Chincholi, Khed Bhose-

Bhalawani villages from Sangole; Mangalvedhe and Pandharpur taluka are best examples of twin-villages (Fig. 5.8, J<sub>1</sub>, J<sub>2</sub>, J<sub>3</sub>).

#### **(11) Amorphous Pattern**

In some villages the entire village territory is dotted with a number of hamlets and farmsteads, all being very small rectangular linked with the central hamlet by crude paths (Singh, 1965). Such an irregular pattern may be termed as amorphous pattern. This village pattern is a common type throughout study region. Kankatrewadi, Galvewadi, Talewadi, Maptemala, Havaldarwadi, Lonar Khadaki, Kasarwadi and Karjal may be cited as examples of this pattern (Fig. 5.9, K<sub>1</sub>, K<sub>2</sub>, K<sub>3</sub>, K<sub>4</sub>).

#### **(12) Shapeless Agglomeration Pattern:**

Shapeless or irregular village pattern is a most common village pattern in the study region. Generally such type of village pattern is found in larger and dispersed settlements where dwelling in a scattered fashion in the whole village follows no definite plan. Karkamb, Jath, Maravade, Nandur, Sonand and Javala are the good examples of this village pattern (Fig. 5.9, L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>).

### **QUANTITATIVE APPROACH:**

The quantitative approach of shape analysis is based on the 'elementary packing theory' which analyses the village shape in two ways (i) having efficiency of movement and (ii) having

efficiency of boundaries. Here circles are preferred to other geometrical figures owing to their large packing capacity, more compactness and better accessibility. But 'packing' on area of circles either leaves 'unserved' gaps or overlapping. Hence, three other geometrical figures (regular triangle, square and hexagon) may be utilized to overcome these difficulties. Of these, hexagon is preferred because it retains most of the characteristics of the circle and does not leave unserved gaps.

(i) **Measurement of shape** – The concept of shape measurement was first initiated by Thompson in biological sciences (1917). Later on it was adopted by Miller (1953) in case of river basin. The same method was used by Hagget (1965) in the shape analysis of Brazilian countries. Rasheed (1972) also adopted this method for the district of Bangladesh. Similarly other researchers like Simmons (1962), Boyce and Clark (1964), Wilkins and Shaw (1971) analysed the shape of urbanised areas. Rana P.B. Singh (1977) used this method for shape analysis of clan settlements in the Saran plain, while U.P. Singh (1980) used this, for Gorakhpur district.

According to Hagget the shape index (S) of a village can be expressed as the ratio of the area of that village (A) to the area of the circle with the longest axis (L) as a perimeter ( $\pi R^2$ ), so that

$$S = \frac{A}{\pi R^2} \text{ or } \frac{4A}{\pi L^2} \text{ or } S = 1.27 \frac{A}{L^2}$$

Where,

- S = Shape Index
- A = Area of the county/village in km<sup>2</sup>
- L = The longest axis of the county drawn as a straight line connecting the two most point on the parameter.

Here the constant 1.27 is so adjusted that the circle would have an index of unity while 0.0 would represent the elongated shape. The shape index (S) values for the three theoretical lattices, area 0.55 for triangular, 0.64 for square and 0.83 for hexagonal arrangements (Boots 1978) Millers formula adopted by Hagget has been used in the present investigation for determining the shape indices of all 632 villages in the study region. The data is presented in table 5.2.

**TABLE 5.2**  
**SHAPE CHARACTERISTICS OF VILLAGES**  
**SHAPE INDEX**

Sr. No.	Class of shape index	Man	Atpadi	Jat	Kavathe Man	Sangole	Managal vedhe	Pandhar pur	Total	%
1.	<0.10	1	-	-	-	-	-	1	2	0.30
2.	0.11-0.20	2	2	3	2	3	2	1	15	2.40
3.	0.21-0.30	14	1	7	6	4	5	3	40	6.30
4.	0.31-0.40	11	6	7	4	13	9	1	51	8.10
5.	0.41-0.50	26	13	22	6	9	15	15	106	16.80
6.	0.51-0.60	17	17	32	11	25	10	29	141	22.30
7.	0.61-0.70	12	8	24	10	21	14	24	113	17.90
8.	0.71-0.80	7	8	19	7	17	13	17	88	13.90
9.	0.81-0.90	5	2	5	6	5	12	5	40	6.30
10	> 0.91	9	3	6	8	5	1	4	36	5.70
	<b>Total</b>	104	60	125	60	102	81	100	632	100.00

*Source: Compiled by Author.*

The figures clearly show that 70.88 per cent of the villages lie between the shape index 0.41 to 0.80. A table 5.1 shows that 22.30 per cent and 13.90 per cent village represent near square and near hexagonal shapes respectively. There are only 10.00 per cent

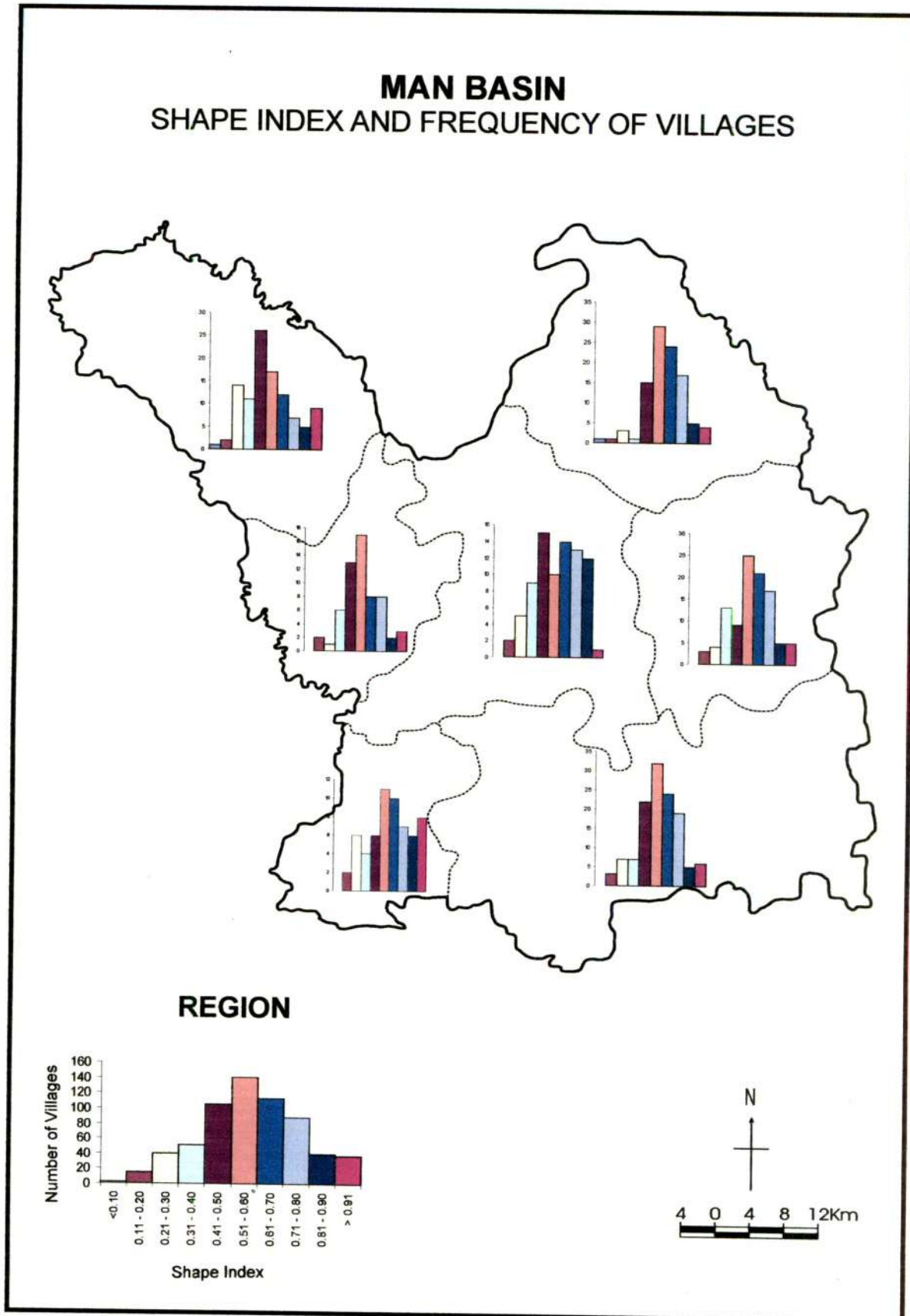


Fig. 5.11

villages showing near elongated shape and over 5.70 per cent villages with near circular shapes. Mankarnwadi (Man taluka) and Venunagar (Pandharpur taluka have the most elongated shapes  $S = <0.10$ ). The value ranging from 0.41 to 0.50 is observed for 16.80 per cent villages. The rough square form is observed for 22.30 per cent villages, while near hexagonal shape is observed for 13.90 per cent villages in the study area. The frequency of the villages in different shape groups is plotted in fig. 5.10 which also shows the sequence of triangular, square and hexagonal lattices.

The second characteristics of the shape analysis is related with the number of contacts between a village and its neighbouring villages. The mean contact number for the villages in the study area is 4.95. The analysis of contact table number in the study area indicates that out of 632 villages, 371 villages (58.70%) have contact numbers between 3 and 5. Four contacts are observed for 24.50 per cent villages. More than 7 contacts are observed for only 8.00 per cent village in the study area.

Table No. 5.3

**Man Basin : Contact Numbers and Number  
of villages in each taluka**

Sr. No.	Contact numbers	Man	Atpadi	Jat	Kavathe Mahankal	Sangole	Mangal vedhe	Pandhar pur	Total	%
1.	2	5	4	9	6	4	3	5	36	5.70
2.	3	17	8	10	9	9	5	12	70	11.10
3.	4	22	14	30	17	26	19	18	146	23.10
4.	5	24	15	25	15	25	24	27	155	24.50
5.	6	19	12	25	9	18	17	19	118	18.70
6.	7	13	2	9	3	13	9	9	57	9.00
7.	8	4	1	9	--	4	3	6	28	4.40
8.	9	2	2	4	1	3	1	2	15	2.40
9.	10	--	2	4	--	--	--	2	7	1.10
		106	60	125	60	102	81	100	632	100.00

*Source: Compiled by Author.*

Physio-cultural factors affected the settlement types in Man basin. The compact farm villages are commonly observed in fertile river valley plains. As the basin occurs in the rain shadow zone of Sahyadri, wells are the main source of water. Settlement around wells are compact. Most of the compact villages are observed in

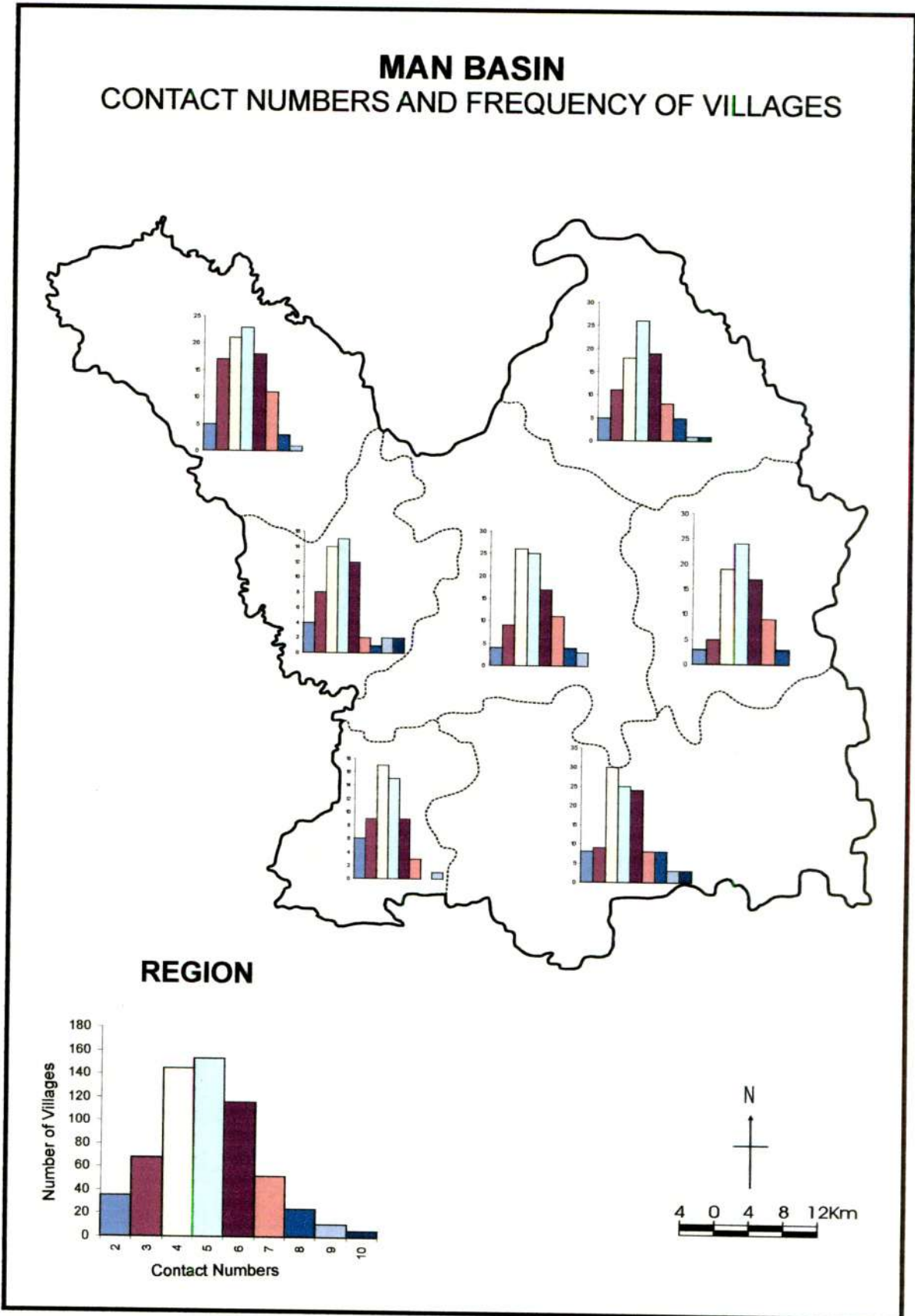


Fig. 5.12

densely populated area. Out growth of the big villages gives rise to semi compact villages. Dispersed villages are found in rugged topography. Several examples of square, rectangular, circular radial, linear or double nuclei patterns are observed in the Man basin. The frequency of villages in different shapes shows that 22.30 per cent and 13.90 per cent villages represent near square and near hexagonal shapes respectively. The analysis of contact table number in the Man basin shows that out of total 632 villages 58.70 per cent villages have contact number between 3 and 5.

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