

CHAPTER - I

INTRODUCTION TO THE STUDY AREA AND APPROACH
TO PRESENT STUDY

- 1.1 Introduction
- 1.2 Historical background
- 1.3 Physiography
- 1.4 Geology
- 1.5 Drainage pattern
- 1.6 Climate
- 1.7 Famine and scarcity
- 1.8 Soil
- 1.9 Land utilisation
- 1.10 Occupational structure and economy
- 1.11 Settlements
- 1.12 Transport and communication
- 1.13 Population
- 1.14 The weekly market centres
- 1.15 Approach to the present study
- 1.16 Data base and Methodology

References

第 二 章 第 一 节 第 三 款 第 四 项

1.1 INTRODUCTION :

The area under investigation is Karmala tahsil of Solapur district. The study area is one of the economically and culturally developing tahsils of Solapur district of Maharashtra. It is situated in the northern part of district. It lies entirely in Bhima-Sina doab region. Karmala tahsil is situated between $74^{\circ}36'$ E to $75^{\circ}20'$ E longitudes and $18^{\circ}5'$ N to $18^{\circ}36'$ N latitudes. It is bounded by river Bhima on west and southwest; and by river Sina towards northeast and east. Karmala tahsil is adjoined by Madha tahsil on south and southeast; Ahmednagar district on northern side; Osmanabad district on eastern side; and Pune district on southwestern side (Fig.1.1). Though of an irregular shape, the tahsil lies roughly 60 kms eastwest and 48 kms northsouth direction.

The tahsil has a total geographical area of 1609.70 sq. kms and had a population of 165,714 in 1981 which constitutes 10.7 percent and 6.35 percent of districts figures respectively. The Karmala tahsil comprises of six administrative blocks; they are Karmala, Arjunnagar, Kem, Jeur, Pomalwadi and Korti. Out of the total geographical area of the tahsil, 1578.90 sq.km is rural and 30.8 sq.km is urban area. And out of total population of the region 148,985 is rural and 16,729 is urban population. The tahsil population composed of 84,974 males and 80,740 females in 1981.

KARMALA TAHSIL (SOLAPUR DISTRICT) LOCATION & EXTENT

- DISTRICT BOUNDARY
- TALUKA BOUNDARY
- DISTRICT H.Q.
- TALUKA H.Q.
- STUDY REGION

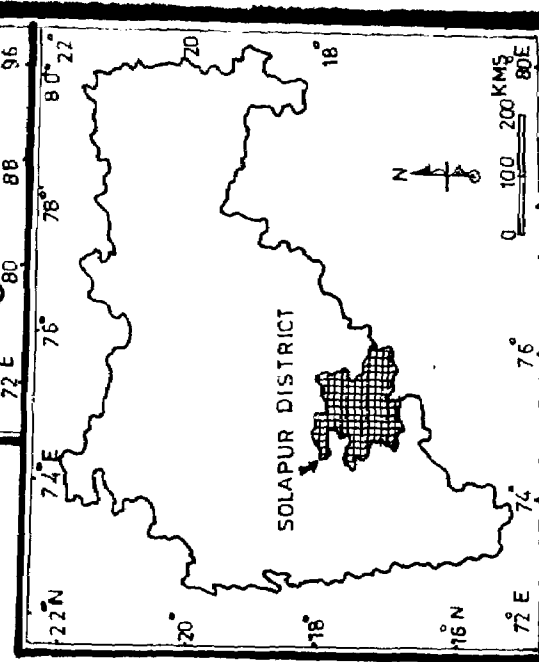
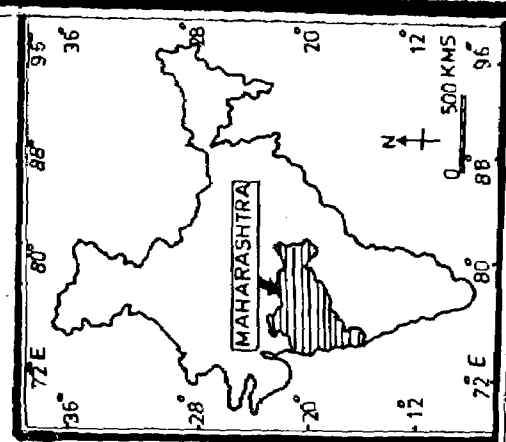
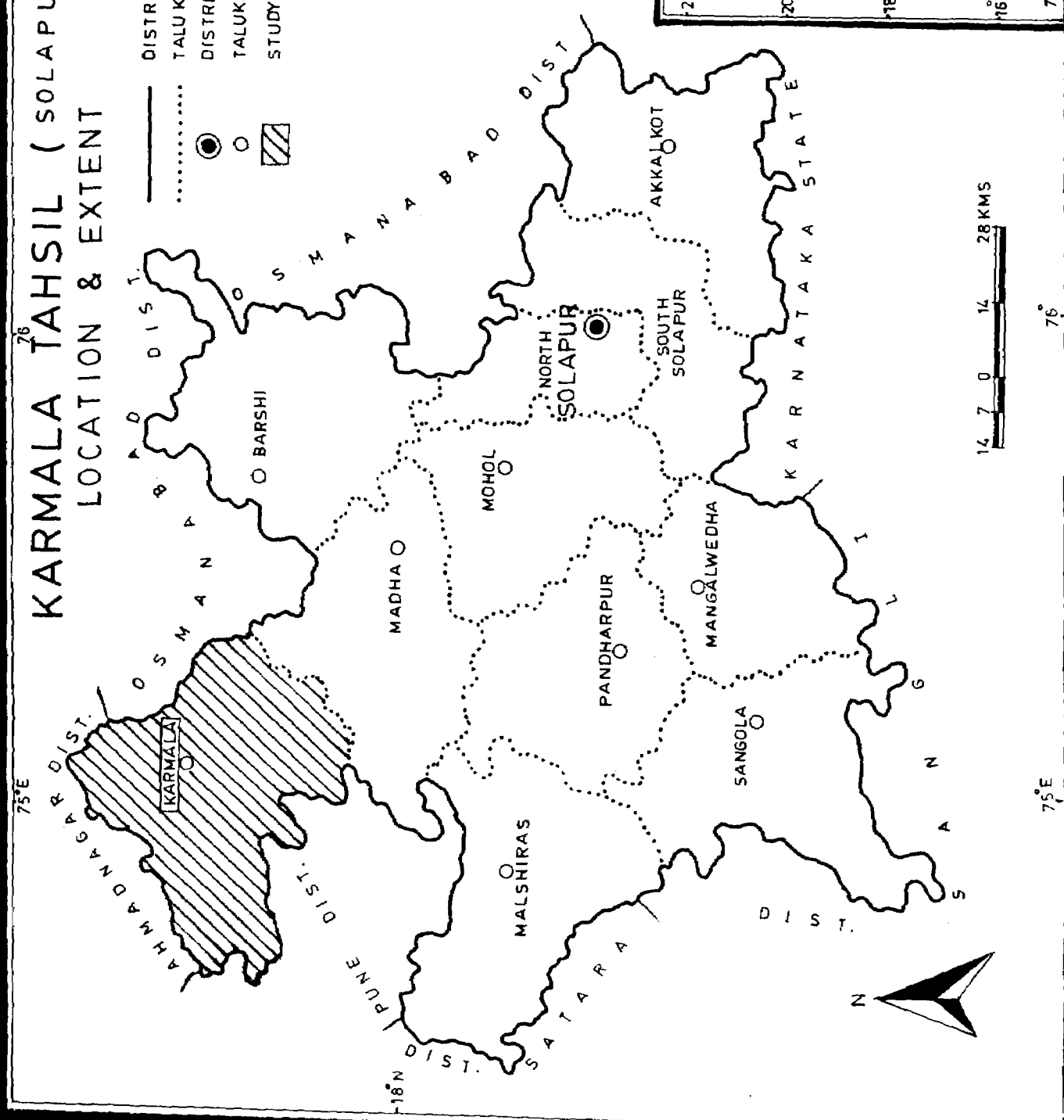


FIG 1.1

Administratively the tahsil comprises 118 villages and a town as per 1981 census. But according to 1971 census there were 96 villages and a town in tahsil. This change in the number of village during the span of ten years is the result of some of individual small settlements (wadies) have got the full-flaged status of village with the office of Gram Panchayat. Hence, there is a net addition of 22 villages during a decade.

The population density of tahsil has not considerable variations. The general density in tahsil is 103 persons per sq.km. Karmala tahsil ranks tenth in general density of Solapur district. Urban density is 544 persons per sq.km and rural density is 94 persons per sq.km.

Karmala is a headquarter of tahsil bearing the same name, which is eighteen kilometers away from Jeur railway station and about 135 kilometers away from the Solapur railway station.

1.2 HISTORICAL BACKGROUND :

The Solapur district was not separately shown on the map of Maharashtra State upto 1837. The area which now constitutes Solapur district was originally a part of Ahmednagar, Pune and Satara district. Karmala tahsil was in Ahmednagar district. The sub-collectorate of Solapur was within the jurisdiction of Ahmednagar district in 1830 and a new district of Solapur was carved out in 1838 - consisting of sub-division of Solapur, Barshi, Mohal,

Karmala and also Indi, Hippargi, Muddebinal which are presently in Karnatak State.

With the reorganization of states in 1956, the Solapur district was included in the larger bilingual Bombay State and since May 1960, it forms a part of the State of Maharashtra. For administrative purpose, the district is presently divided into eleven tahsils. The Karmala tahsil is one of the eleven tahsils of Solapur district.

Before formation of Solapur district, Karmala tahsil was in Ahmednagar district. The town came to known as Karmala after one Mahammedan Maulavi named Karme - Maula, who propogated the teaching of Islam; when Karmala was under the Nizamshahi kingdom of Ahmednagar. Though, no early history of Karmala is available it definetly formed part of the Bahamani empire. After disintegration of the Bahamani rule into five sultanates of Golkonda, Bijapur, Bidar, Ahmednagar and Berar. Karmala formed a part of the sultanate of Ahmednagar. However, the town come to limelight only at the beginning of the 18th century; after it was conferred upon Rao Rambha Nimbalkar as Jagir and Rao Rambha settled at Karmala in 1727.

1.3 PHYSIOGRAPHY :

The overall shape of the study area is irregular with Bhima river in the west and southwest and Sina river in the northeast and east and Waghoba, Bodaki hills in the central

part of the Karmala tahsil. The lowest contour 460 mtrs of the area is along with river Bhima and Sina and the highest point of the area is located in northeast portion at Alsunde (648 mtrs).

Karmala tahsil is a part of Deccan plateau which is a rocky and undulating in nature. Near about Karmala town, the country is about 550 mtrs above mean sea level; except central part of Karmala tahsil which is hilly. The Karmala tahsil lies in the basins of Bhima and Sina rivers. The Bhima which flows southeast through and drains western part of Karmala tahsil and Sina which flows roughly southeast and drains eastern portion of Karmala tahsil. Central part of Karmala tahsil is hilly. It is flat and waring. Most of the surface comprises long and shallow soil covered uplands which are suitable for pastures and deep soiled lowlands for cropping. In study area the watershed between the Bhima and the Sina is marked by tableland and a dotting of individual residual knolls. The chief knolls are Waghoba and Bodaki. The slope of the area is north-south and centrally hilly area towards west and east. The central part of study area is gently slopping towards Bhima river in the west and Sina river in the east.

All the streams and stream segments are originated at the central hilly region and flows towards the Bhima and the Sina rivers. Both Bhima and Sina rivers developed their meanders. There is a upland and plain area located in the doab region of Bhima and Sina river (Fig.1.2).

KARMALA TAHSIL (Physiography)

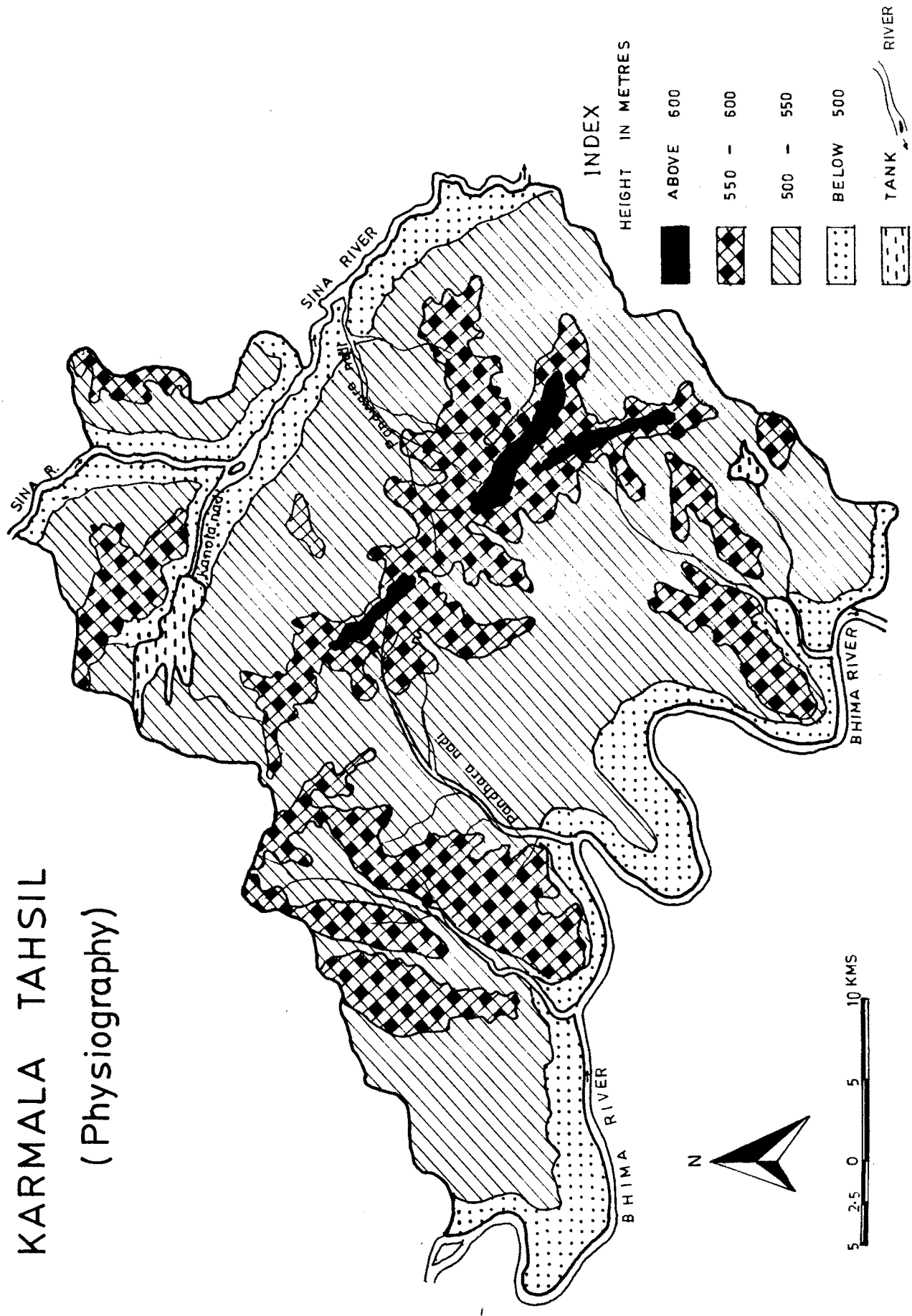


FIG 1-7

Hills

There are several scattered hills in study region.

A broken hill range forming a low tableland and a watershed between the drainages of the Bhima and the Sina; runs in the southwest and southeasterly direction to the east of Daund-Kurduwadi railwayline; particularly between Jeur and Kem and later crossing it to develop a southerly trend just south of Kem. It rises to a bare 600 mtrs above mean sea level and about 50 to 60 mtrs above the level of the adjoining valley floor. Small buttes rising to slightly higher elevations. It roughly divides the tahsil of Karmala into two equal halves namely - i) The Western Bhima Valley and ii) The Eastern Sina Valley.

These hills divides the countryside into a succession of rises and valleys with a good deal of highlying tableland which in some places is strewn with tors and boulders but is otherwise generally level and has a thin cover of soil.

The central part of Karmala tahsil form a rough broken ground, highly dissected. Except the Waghoba and Bodaki hills (595 mtrs) near Kem, there are a very few hill ranges. The Waghoba hill is about 60 metres in height and the Bodaki hill is about 50 metres height above the surrounding plateau level and lies about 25 kms southeast of Karmala. The slopes of the hills are covered with stunted grass. In their flat tops lie untilled wastes. The hills rise through a succession of structural levels

indicative of the horizontal lava flows and are on the surface covered by a fairly deep layer and red murum or borken trap.

Physiographic units in the study area :-

Broadly the study region may be divided into three physiographic units -

- i) The Bhima Valley (Western Karmala tahsil).
- ii) The Central Uplands (Middle Karmala tahsil).
- iii) The Sina Valley (East Karmala tahsil).

1.3.1 The Bhima Valley :

The Bhima valley includes weastern area of study region and form the western boundary of the region. The villages like Wangi, Pangri, Vadshivane, Jeur, Kavitgaon, Shelgaon, Umbrad, Chikhalthan, Sogaon, Rajuri, Savdi, Kumbhargaoon, Jinti, Pomalwadi, Katraj, Takali and Parewadi are included in the Bhima Valley area.

The Bhima Valley area is by and large covered by medium deep murum and black soils that are fairly stiff and loamy in Karmala tahsil. In the Bhima Valley area, the lift irrigation and well irrigation assumes significant properties. Oil engines and electrical pumps are commonly used in this valley area for irrigation purposes. Food crops accounts for almost the entire area under cultivation and rabi jowar is practically the sole crop covering 80 percent of the food crop area. Since, the last decade, government of Maharashtra has permitted the lift irrigation schemes from Ujani dam which had changed the cropping pattern. The cash

crops are more cultivated in this valley area. Tur and gram amongst pulses, groundnuts, onion and kardai as well as sugar-cane amongst cash crops are of secondary importance.

1.3.2 The central uplands :

It lies in the central part of Karmala tahsil in south-north orientation and accounts 20 percent area of tahsil. It stretches from Kem in south and passes through Malvadi, Nimbore, Lave, Sarpdoh, Warkuthe, Gulsadi, Devalali, Veet to north of Hulgewadi and Alsunde. The highest spot of this range is Alsunde (648 mtrs) and lowest is Kem (576.5 mtrs).

The central upland of study region form a low tableland at an elevation of about 650 M rising through fairly steep slope by about 50 M above floor level of the adjoining Bhima and Sina river valleys. These form the low tertiary watershed, separating the west flowing drainage of the Bhima system and from the east flowing drainage of the Sina system.

The plateau somewhat higher in elevation and somewhat rugged in the north, rising to higher level mesas and buttes have generally rolling and waving topography, with stony soils. The intensity of soil erosion is more.

1.3.3 The Sina valley :

The Sina valley occupaid roughly 33 percent area of the study region. The valley is narrow and more rugged in the eastern part of the Karmala tahsil. The soil is highly productive.

The Sina river is seasonal river. It has lot of water in monsoon season and become dry in summer season. Lift irrigation and well irrigation schemes are developed in this area. Food crops are cultivated in the entire area. A percolation tank is also used for irrigation purposes. Mangi water tank is constructed at Mangi village on a Kanola nadi, which joins the Sina river near Nilaj village.

This is a plain area which is irrigated by right and left bank canals of Mangi tank. Irrigation scheme of Mangi tank covers an area of Mangi, Pothare, Nilaj, Khambewadi, Wadachiwadi, Karanje and Bhalewadi villages. This is a fertile and irrigated area. Due to the denudation and weathering processes the area is characterised with red soils spreaded predominantly along with river streams.

Except lift and canal irrigation, mostly the crops of the region are rainfed; rabi jowar, no doubt constitutes the main crop; as well as wheat, maize, tur, kardai, sugarcane and pulshes are important crops of this area. Betel and vegetable gardens rising onion and chillis farms are locally significant in wet farming.

1.4 GEOLOGY :

No systematic geological mapping has been carried out in this tahsil. The information available is only passing references made to the local geology of some proposed dam site and ground water survey work pertaining to the same.

The tahsil as a whole is monotonously covered by Deccan trap basaltic lava flows, which are covered by a thin mantle of soil almost every where. These flows on account of differential weathering, give rise to undulating relief. The region is characterised by typical Deccan trap. The topography is covered with granite and sedimentary rocks. Sedimentary rocks consisted sandstone, shale along with river streams. Basalt is very common rock in Karmala tahsil.

1.5 DRAINAGE PATTERN :

The Sina is a main river in the east. River Bhima drains the western part of the tahsil. Except these, several streams and segments are traversing the area and functions as subsidiary local drains in which - Kanola nadi, Pandwara nadi, Pandhara nadi and Bopala are important (Fig.1.2).

Only two tanks are built in the tahsil at Mangi and Vadshivane. Mangi tank is built across the natural stream namely Kanola nadi, Mangi tank is important for canal irrigation and also for water supply to Karmala town. Comparatively Vadshivane tank is small; built for local irrigation purpose. There are several percolation tanks but very few of them are able to store the water.

River Bhima is a main water source of Karmala tahsil. It rises at Bhimashankar in Pune district and runs southeast through Pune, Ahmednagar, Solapur and Bijapur districts before

falling into Krishna about 25 kms north of Raichur. It enters near the village Jinti in Karmala tahsil and flows in a south easterly direction upto Kandar to leave the tahsil and enter into Madha tahsil near village Surli. The Bhima river course has developed meanders at Sogaon, Chikhalthan, Dahigaon and Bitargaon (Wangi). The total length of Bhima river in study region is about 84 kms. The river flows between high alluvial and tilled banks 200-500 meters apart. At certain places it is rocky but as a rule the bed is gravelly or muddy. The entire Bhima valley 400-600 metres high above mean sea level, is dotted with isolated buttes - scattered with fragmental quartz. During the rains, flood-water overflows the steep earthy banks. It remains with full of water throughout the year.

River Sina is second most important water source of Karmala tahsil which rises 22 kms west of Torna in Ahmednagar district and runs southeast through Ahmednagar and Karmala to fall into Bhima near village Kudul about 25 kms south of Solapur, on the Maharashtra Karnatak boundary. The Sina is one of the large left bank feeder of the Bhima. It enters in the Karmala tahsil near the village Khadki and flows in the south-easterly direction upto Avhati. Total length of Sina river within study region is about 50 kms. The Sina is about 100-200 metres broad and has steep bank. The bed is generally sandy but occasionally rocky. It drains most of the area by its right bank through lift irrigation.

1.6 CLIMATE :

The climate is healthy and agreeable except from March to May. Climatically there are three seasons in the tahsil viz. the rainy season (mid June to the end of October). It is followed by winter (cold) season (November to February) and summer (hot) season (March to the mid June). During winter season the air is generally bright, clear and branching. Karmala tahsil is comparatively hotter tahsil in Solapur district.

1.6.1 Rainfall :

The rainfall all over the study region is uncertain and scanty. The annual rainfall during last 50 years, ranges between 520 to 560 mm and annual average of 540 mm. Similarly the numbers of rainy days are varies from 30 to 50 days and average numbers of rainy days are 40. The study region also receives the post-monsoon rainfall during the month of October and November. Agro-climatically the entire tahsil falls into rainfall shadow zone. The tahsil witnesses recurrent scarcity conditions.

1.6.2 Temperature :

Records of temperature and rainfall in the study region are available at Jeur station only. The temperature is generally mild and even except the hot months of March to May. The temperature rises upto 39.7°C in the month of May and decreases upto 12.9°C in the month of December. The average annual maximum temperature of study region is about 33.4°C and average annual

minimum temperature is about 19°C. Annual range of temperature is about 14 to 16°C. Local cyclonic winds are caused to thunder storm and lighting occur during the period March to October. Dust storms occurs occasionally during the hot season.

1.6.3 Humidity :

The humidity is high during the rainy season in this tahsil. Relative humidity of study region is about 70 to 83 percent in June to September. It goes upto 83 percent in the month of September and decreases upto 42 percent in the month of March. The average annual humidity of tahsil is about 63 percent.

1.7 FAMINE AND SCARCITY :

Evaporation exceed the rainfall and entire tahsil is frequently subject to drought prone conditions. Agro-climatically the entire study region falls in the rainfall shadow zone. Since the average annual precipitation is very low (540 mm) and subject to a large amount of uncertainty this tahsil is exposed to frequent scarcities and occasional famines. The irrigation Commission (1962) after considering the data on rainfall and annewari had also recognised entire study region as drought prone area.

1.8 SOIL :

The geographical foundation of soils prevailing in the tahsil is mainly of Deccan trap of volcanic origin. The soil

is partly decomposed basaltic rock, locally known as 'Murum' which over lies percent material. The soil in the tahsil can be classified in the three types, viz. i) black soil ii) coarse gray (red-brown) soil and iii) reddish soil.

Black soil is mainly confined to the bank of river and large streams. The soils of upland are shallow and more suitable for sheep grazing than cultivation. In study region, it is broadly estimated that out of the total cultivated area, black soils occupy 50 percent of the area and remaining is red brown or grayish black and shallow. There is also small quantity of alluvial land in this region. It is chiefly found along the banks of the Bhima river. Except alongwith the banks of river and nadis where holding capacity. Crops in this area, therefore, suffer the most during the drought conditions.

1.9 LAND UTILISATION :

The data regarding classification of the total area of the study region according to the various heads of land utilisation not only reflects the extent of development of agricultural activities in the tahsil but also represent the cultivation potential of the area. The total geographical area of the study region in 1981 was 167,611.02 hectares. Table 1.1 shows the classification of the total geographical area under different landuse categories.

The study of the landuse pattern of the area under study shows that out of the total geographical area nearly 80 percent of

area is net sown area. Barren and culturable waste is 7.50 percent; forest followed by 3.51 percent area and other current fallow is only 0.30 percent area. Other fallow area is 1.67 percent; culturable waste land is 4.72 percent; land put on non-agriculturable uses is 1.25 percent and only 1.19 percent area is under permanent pastures and other grazing.

TABLE 1.1 : Land utilization in Karmala tahsil 1981.

| Sr. No. | Landuse categories | Land in hect. | Percentage |
|---------|---|---------------|------------|
| 1. | Area under forest | 5,886.74 | 3.51 |
| 2. | Barren and uncultivable land | 12,570.50 | 7.50 |
| 3. | Land put on non-agricultural uses | 2,100.35 | 1.25 |
| 4. | Permanent pastures and other grazing land | 2,000.20 | 1.19 |
| 5. | Culturable waste | 7,903.77 | 4.72 |
| 6. | Current fallow | 495.58 | 0.30 |
| 7. | Other fallow land | 2,800.74 | 1.67 |
| 8. | Net sown area | 13,3,853.14 | 79.86 |
| Total | | 16,7,611.02 | 100.00 |

SOURCE : Socio-economic Abstract of Solapur District and Census Handbook of Solapur 1981.

1.10 OCCUPATIONAL STRUCTURE AND ECONOMY OF THE REGION :

Occupational structure of the study area consists of three categories of occupations viz. i) Primary ii) Secondary and iii) Tertiary. Out of the total population of the study area 90 percent population is rural and 10 percent is urban. Out of rural population 87.02 percent population is engaged in agricultural activities, 2.35 percent population is engaged in secondary activities and 10.63 percent population in tertiary activities. This shows that the agricultural activity is dominant occupation in the study area.

The economy of the study region is mainly based on agriculture. There are various agro-based occupations in Bhima and Sina basin. Transportation network of State highway, South Central Railway line and other district roads play an important role in the development of region. Various small scale and cottage industries are developed at localities such as Kem, Jeur, Jinti, Wangi, Korti, Kandar and Karmala. Agricultural goods are sold in market centres viz. Karmala, Kem, Jeur and Jinti etc.

1.11 SETTLEMENTS :

The study area comprises 118 villages and a town in 1981 (Fig. 1.3) (Table 1.2). According to 1971 census there were 96 villages and a town in study area. The increase of 22 villages is only because of the fullflaged village status to small Wadi type settlements in 1981. The settlements of the tahsil can be classified on the basis of population size as shown in Table 1.3. & Fig. 1.3.

KARMALA TAHSIL

SETTLEMENTS WITH CODE NOS.

- TALUKA H.Q.
- SETTLEMENT
- ▨ TANK

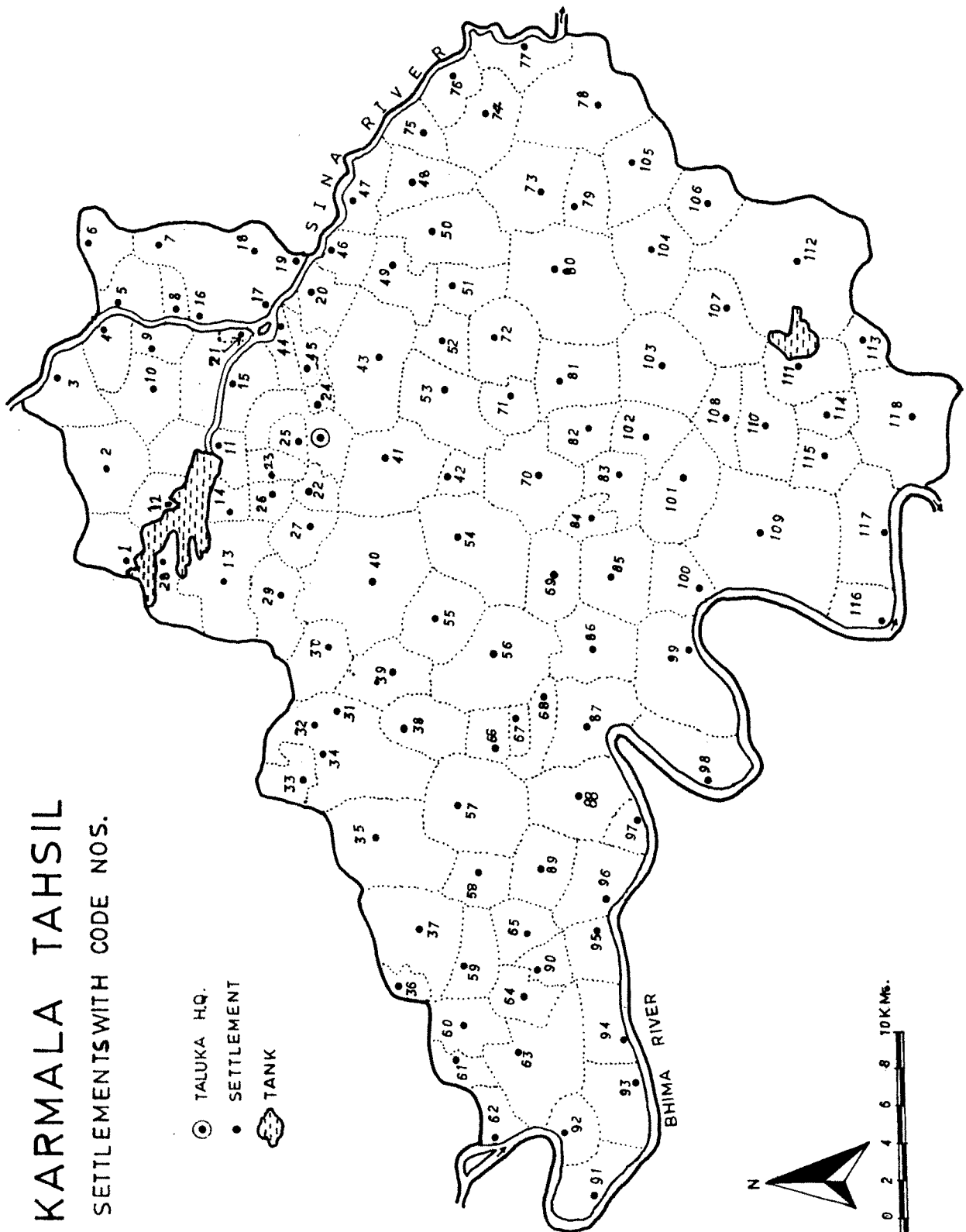


FIG. 1-3

TABLE 1.2 : Settlements of Karmala tahsil with code numbers.

| Code No. | Village | Code No. | Village |
|----------|--------------------------|----------|---------------|
| 1 | Punwar | 21 | Nilaj |
| 2 | Jategon | 22 | Roshewadi |
| 3 | Khadki | 23 | Hivarwadi |
| 4 | Aljapur | 24 | Devichamal |
| 5 | Taratgaon | 25 | Karmala Rural |
| 6 | Padli | IX | Karmala Urban |
| 7 | Gharggaon | 26 | Bhose |
| 8 | Balewadi | 27 | Pimpalwadi |
| 9 | Bitargaon (Shrigonda) | 28 | Limbewadi |
| 10 | Kamone | 29 | Vanjarwadi |
| 11 | Mangi | 30 | Morwad |
| 12 | Wadgaon | 31 | Kuskarwadi |
| 13 | Raogaon | 32 | Hulgewadi |
| 14 | Wadgaon Kh. | 33 | Gorewadi |
| 15 | Pothare | 34 | Korti |
| 16 | Potegaon | 35 | Savadi |
| 17 | Borgaon | 36 | Gharatwadi |
| 18 | Wadachiwadi | 37 | Kumbhargson |
| 19 | Dilmeshwar | 38 | Pondhavadi |
| 20 | Karanje | 39 | Vyahal |

Conti..

Table 1.2 conti..

| Code No. | Village | Code No. | Village |
|----------|------------------------|----------|------------------|
| 40 | Veet | 60 | Bhilarwadi |
| 41 | Deolali | 61 | Kavalwadi |
| 42 | Khadkewadi | 62 | Ranwadi |
| 43 | Pande | 63 | Jinti |
| 44 | Khambewadi | 64 | Bhagatwadi |
| 45 | Dhaykhindi | 65 | Hingani |
| 46 | Bhalewadi | 66 | Manjargaon |
| 47 | Mirgavhan | 67 | Ritewadi |
| 48 | Hivare | 68 | Undargson |
| 49 | Arjunnagar | 69 | Pophalaj |
| 50 | Hisare | 70 | Kumbhej |
| 51 | Phisare | 71 | Sarapdoh |
| 52 | Shelgaon (Kadewadi) | 72 | Saunde |
| 53 | Gulsadi | 73 | Salse |
| 54 | Zare | 74 | Gaundare |
| 55 | Anjandoh | 75 | Kolgaon |
| 56 | Umradi | 76 | Nimgaon (Haveli) |
| 57 | Rajuri | 77 | Avhati |
| 58 | Divegavhan | 78 | Nerle |
| 59 | Delwadi | 79 | Alasunde |

Conti..

Table 1.2 conti..

| Code No. | Village | Code No. | Village |
|----------|-------------------|----------|-------------------|
| 80 | Sade | 100 | Dahigaon |
| 81 | Warkatne | 101 | Shelgaon (Wangi) |
| 82 | Kondhej | 102 | Lave |
| 83 | Jeur | 103 | Nimbhore |
| 84 | Jeurwadi | 104 | Ghoti |
| 85 | Shetphal | 105 | Warkute |
| 86 | Kedgaon | 106 | Pathurti |
| 87 | Sogaon | 107 | Malvadi |
| 88 | Washimbe | 108 | Bhalvani |
| 89 | Parewadi | 109 | Wangi |
| 90 | Gulmarwadi | 110 | Pangare |
| 91 | Kondhar chincholi | 111 | Wadshivane |
| 92 | Katraj | 112 | Kem |
| 93 | Takali (Rasin) | 113 | Satoli |
| 94 | Khatgaon | 114 | Kavitgaon |
| 95 | Pomalwadi | 115 | Sangavi |
| 96 | Ketur | 116 | Dhokari |
| 97 | Goyegaon | 117 | Bitargaon (Wangi) |
| 98 | Kugaon | 118 | Kandar |
| 99 | Chikhathan | | |

SOURCE : District Census Handbook, Solapur 1981.

On the basis of Table 1.3 a comparative study of settlements within the region shows that, there are very large number (58) of small size settlements ($< 1,000$ population), medium number (39) of medium size settlements (1000 to 2000 population) and a few number (16) large size settlements (2000 - 3000 population) and a very few number (6) of very large size settlement ($> 3,000$ population) (Fig. 1.4).

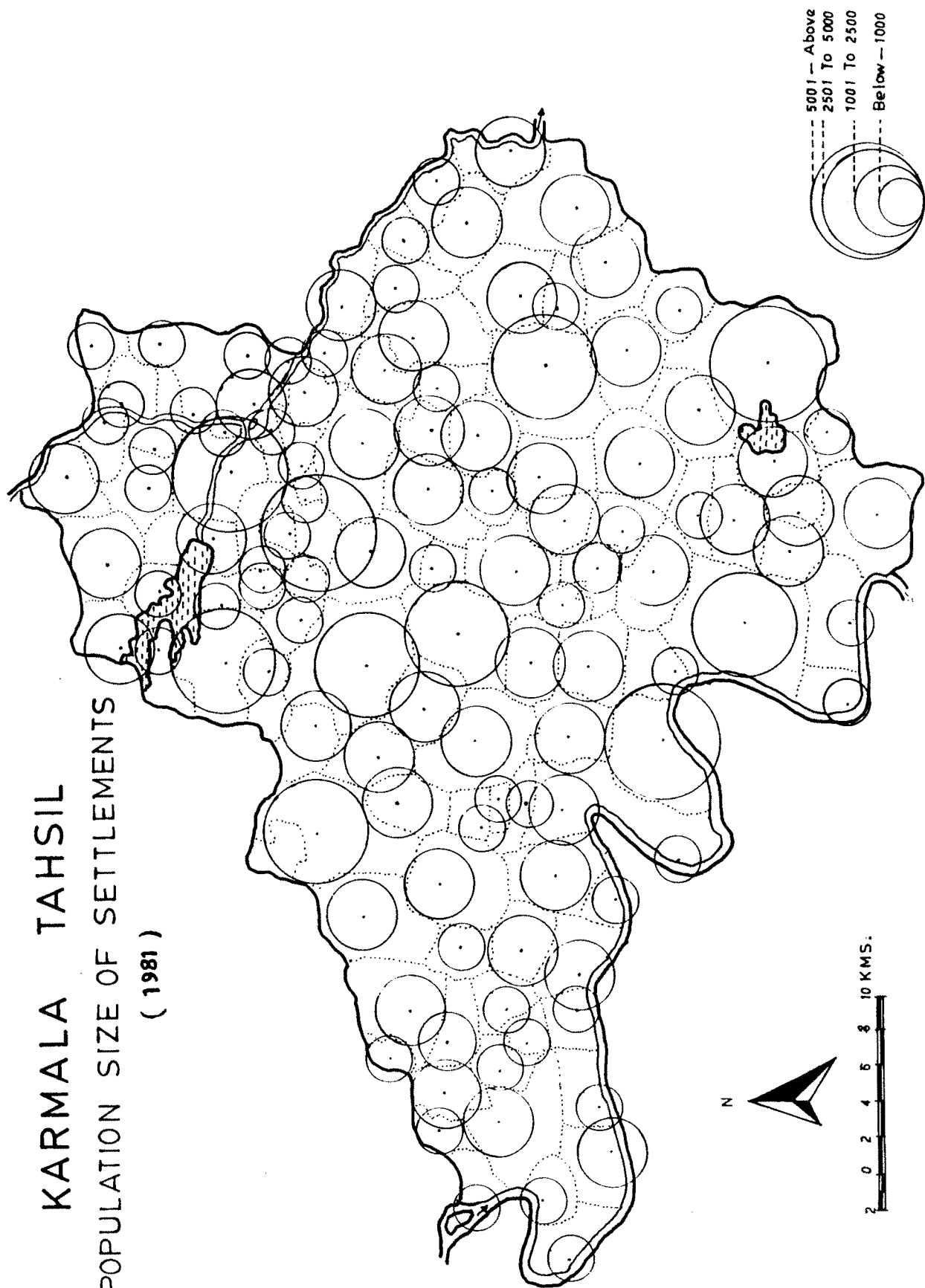
TABLE 1.3 : Population size, number of settlements and their population share (1981).

| Sr. No. | Population size | No. of settlements | Percentage share of regional settlements | Total population | Percentage share of regional population |
|---------|-----------------|--------------------|--|------------------|---|
| 1 | < 1000 | 58 | 48.74 | 36,684 | 22.14 |
| 2 | 1000 - 2000 | 39 | 32.77 | 52,226 | 31.52 |
| 3 | 2000 - 3000 | 16 | 13.45 | 37,405 | 22.56 |
| 4 | > 3000 | 06 | 05.04 | 39,399 | 23.78 |
| Total | | 119 | 100.00 | 165,714 | 100.00 |

SOURCE : Compiled by the Author.

Out of the total settlements nearly 50% are small size settlements which accomodate 22.14 percent of the total population of the region (Table 1.3). Medium size settlements accounts

KARMALA TAHSIL
POPULATION SIZE OF SETTLEMENTS
(1981)



for 1/3rd share of the total settlements and accomodate 31.52 percent of total population. Large size settlements (13.45%) accomodates 22.56 percent population. It is very interesting to mention that very large size settlements accounts only for 5 percent of the total settlements and provides the home for 23.78 percent of the total population of the study area (1981). Out of the 119 settlements 118 settlements are villages and only one is an urban settlement.

1.12 TRANSPORT AND COMMUNICATION :

Transport and communication is one of the important factors in the infrastructure of the economy. A well planned network of roads and other means of communication help in bringing out economic development of the region. There has been no change in the rail length since its opening in tahsil. However, the road length has undergone considerable change, since last two decades. The road length per 100 square kilometres in Karmala tahsil was 24.15 kms in 1968. The ratio rose up to 27.8 kms in 1971 and 31.5 kms in 1977. This shows that the road length has increased considerably. Karmala tahsil ranks 5th in Solapur district in road length.

Out of the total villages, 64 villages have the facility of bus stops and 8 villages have the availability of railway stations. They served about 62 percent of the rural population of study region. The South Central Railway line passes through

southern portion of study area. It lies in between Katraj and Kem villages. It is a broadgauge railway line. Jeur is one of the most important and nearest railway station to Karmala town. The total length of the south central railway line in study area is about 62 kms having 8 railway stations with average distance of 7.75 kms. The south central railway line connects the places like Bombay, Poona, Solapur and Madras.

All the market centres within the study region, are connected by mettaled and unmettaled roads to tahsil and district headquarters. There are two state highways in the study area, one is (Ahmednagar-Karmala-Pandharpur) state highway No.32 lies between Aljapur and Kandar. The length of this state highway No.32 is 51 kms within the study region. Second state highway No.33 (Shrigond-Karmala-Paranda) lies between Korti and Avhati. The total length of the state highway No.33 is about 52 kms within the study area.

There are two major district roads spread in the study area. One is Karmala-Karjat road which joins Karjat, the taluka headquarters in Ahmednagar district and Karmala. The total length of this road in the study area is 13 kms, it passes through Raogaon village. Another major district road is Karmala-Jamkhed road with 16.5 kms. It passes through Pothare, Aljapur and Padli villages. Besides these district roads other several short distance and approach roads connects the settlements (Fig.1.5).

KARMALA TAHSIL TRANSPORTATION NETWORK

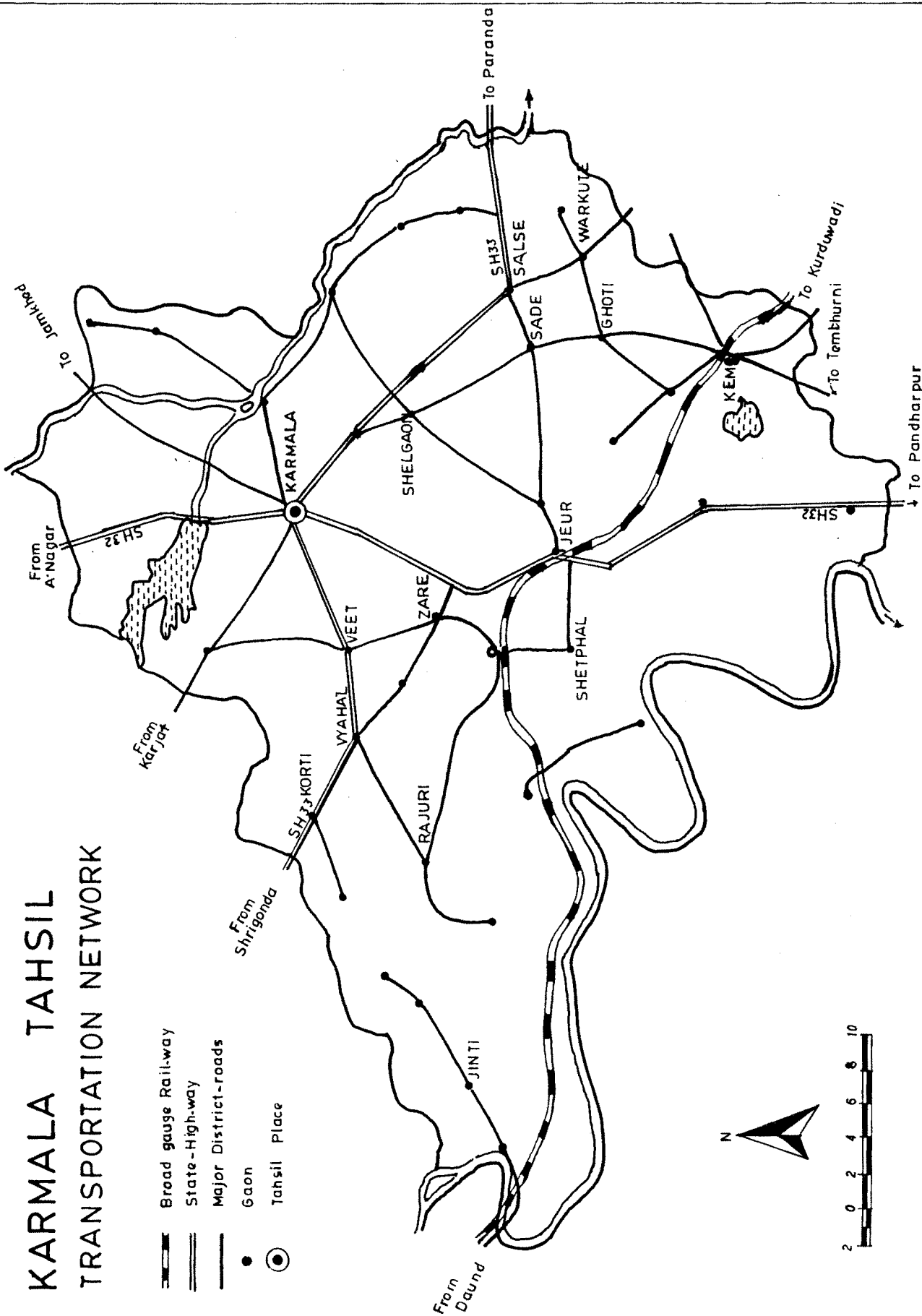


FIG. 1-5

So far as communication facilities are concerned, 48 villages have post offices, 3 villages have post and telegraph offices, and 8 places have telephone connections.

1.13 POPULATION :

Karmala tahsil ranks 2nd in area and 8th in population in Solapur district. According to 1971 census the population of the study region was 151,493 persons with 78,097 males and 73,396 females. However, it become 165,714 persons in 1981 constituting 84,974 males and 80,740 females.

1.13.1 Population variations :

From the year 1951 to 1981, there has been a considerable variations in population. Among, the major factors that promote the changes in population figures are natural growth of population and migration. Table 1.4 shows the variations in the population figures since year 1951.

TABLE 1.4 : Population variations (1951-1981).

| Year | Population | Decade variation | Rate of variations |
|------|------------|------------------|--------------------|
| 1951 | 100,089 | - | - |
| 1961 | 128,345 | + 28,256 | + 28.23 |
| 1971 | 151,493 | + 23,148 | + 18.04 |
| 1981 | 165,714 | + 14,221 | + 09.38 |

SOURCE : Socio-Economic Review and Statistical Abstract of Solapur district 1976-77 and District Census hand book Solapur 1981.



The population of the study region increased by 28.23 percent in the decade 1951-1961. In the decade 1961-1971 the population has increased with lower rate viz. 18.04 percent. During the last decade (1971-1981) the study region experienced population growth with a still lower rate of 9.38 percent.

From the population figures it is worth mentioning that though the population of the study area is increasing, the rate of growth is consequently decreasing during the last three decades (Table 1.4).

1.13.2 Density of population :

The population density of tahsil is 103 persons per square km as compared to 174 persons per sq.km of Solapur district. Out of total 165,714 population 148,985 persons are living in rural areas (accounts 90 percent) and only 16,729 persons (10 percent) are living in the urban area. The population density of rural area is 94 persons per sq.km as against 126 persons per sq.km in Solapur district and urban density is 543 persons per sq.km as against 2,265 persons per sq.km in Solapur district. Fig.1.6 shows general density of population in the study area.

The sex ratio in the study area is 950 females per 1000 males. The blockwise density in study region shows that, the Karmala block has 85 persons per sq.km. Arjunnagar block 105 persons; Kem block 96 persons, Jeur block 99 persons, Pomalwadi block 89 persons, and Korti block 84 persons per sq.km.

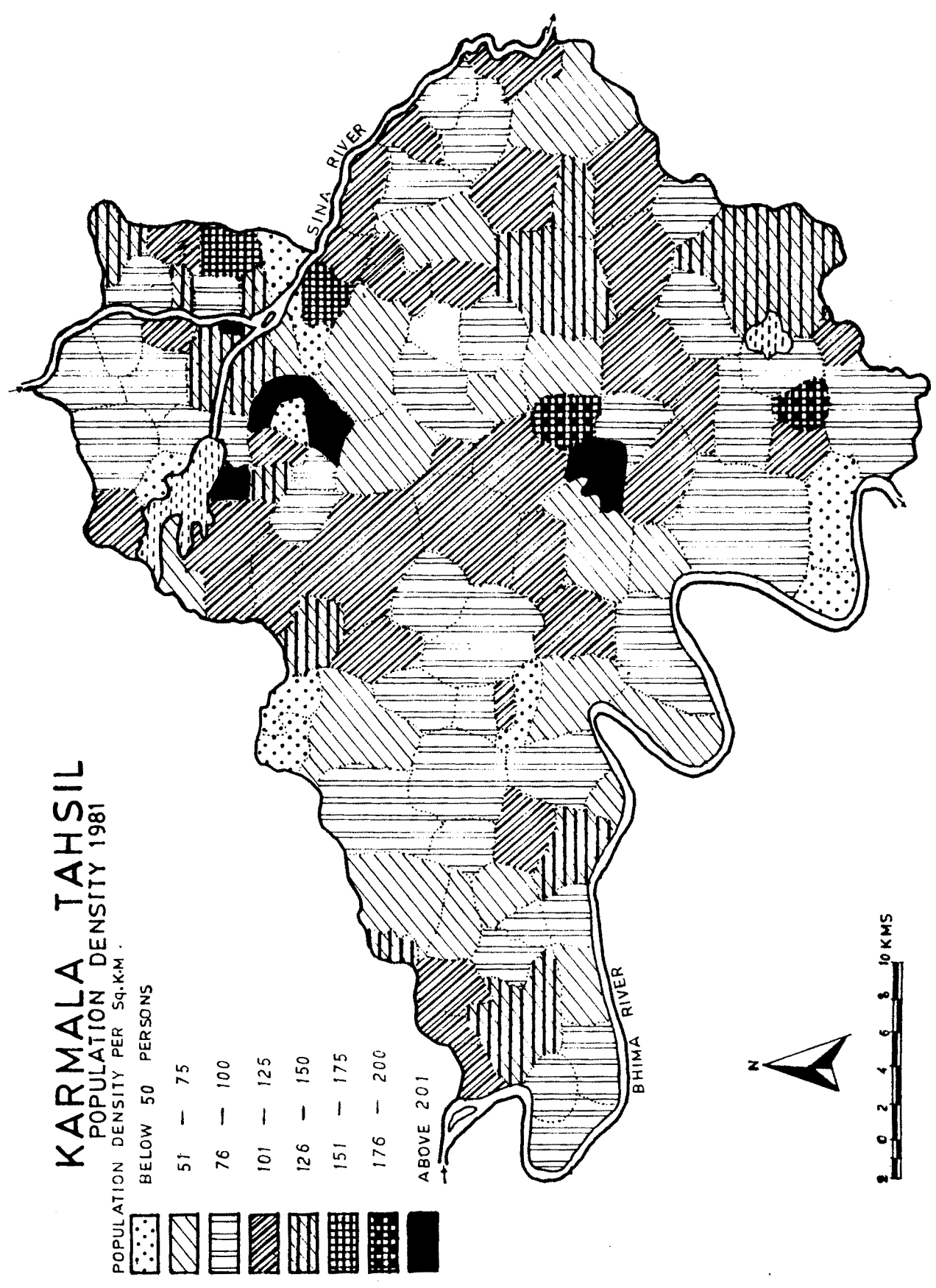


FIG. 1.6

1.13.3 Literacy :

Out of the total population 36.35 percent persons are literates and remaining 63.65 percent persons are illiterates. Male literacy (68.8 percent) is more than that of female (31.2 percent) literacy. The rate of literacy is found less in hilly and economically backward area.

1.14 THE WEEKLY MARKET CENTRES :

In defining the weekly market centres in a country like India, which is undergoing the process of development and where socio and economic bonds of the society are very rigid; one has to be careful to define a market centre. A market centre is as an authorised public gathering of buyers and sellers of commodities meeting at an approved place at regular intervals (Hodder, 1965).

The word market is derived from the Latin word 'Mercatus' which refers to a place where buyers and sellers meet. Markets are spatial units. Markets, as defined, are sites with social, economic, cultural and other reference marks; where there are a number of buyers and sellers, where the price offered and paid by each is affected by the decisions of the others (Belshaw, 1969).

The term 'Market' is one of the most loosely used words in the marketing literature. The concise Oxford Dictionary defines 'Market' as 'a gathering of people for purchase and sale

of provisions, livestock etc. Open space or covered building in which cattle etc. are exposed for sale. Chamber's twentieth Century Dictionary, 1961, defines 'Market' as 'a periodic concourse of people for the purposes of buying and selling, a building, square or other public place used for such meeting, a shop, a region in which there is a demand for goods etc! In Webster's New International Dictionary of English Language, 1914, it is defined that, 'Market' is a meeting together of people, at stated time and place, for the purpose of traffic (as in cattle, provisions, wares etc.) by private purchase and sale, and usually, not by auction, also, the people assembled at such meeting, as a market is held in the town every week.'

The Bombay Provincial Banking Enquire Committee says, 'Broadly speaking, every village is a market for export and for perishable crops, as buyers and sellers meet there and settle bargains. The term market is, however, popularly applied only to village bazzars and to village, town or city centres where crops of all kinds or of any particular kind are brought for sale. The weekly bazzars or markets held at villages and towns which are a common feature of the Deccan plateau. Markets are both collecting and distributing centres (Census of India 1961, Vol.X, Maharashtra, Part VII C).

Markets are classified on the basis of their periodicity and can be grouped into i) Daily ii) Bi-weekly iii) Weekly and iv) Special markets (S.B.Singh,1982).

Rural markets are not only facilitate economic transactions, but also brings about a flow of ideas. People from different villages comes to a market place with goods and news. These periodic gathering, thus, provide a medium of mass communication in addition to their primary functions of presenting a channel for the agricultural commodities (Bhowmik and Chaudhari, 1972).

1.14.1 Weekly market centres in study area :

An attempt has been made in this work to study the weekly market centre with certain attributes. A permanent settlement with certain central functions, which provide the socio-economic needs of the surrounding area is treated as a market centre. In present work markets are identified on the basis of the following five criterias :-

- 1) Population size - The settlement must have at least 650 population.
- 2) Percentage of tertiary population - At least 10 percent of the working population of the centre should be engaged in tertiary activities i.e. trade and commerce, transport and communication and other services.
- 3) Availability of at least four central functions of the following -
 - 1) A definate place for exchange of commodities and services.

- ii) Availability of commercial establishments either permanent or temporary not less than ten (i.e. kirana store, cloth store, readymade cloth store, grainshop, vegetable stall, sweetmate stalls and stationary stores) etc.
- iii) Post office / post and telegraph office
- iv) Primary health centre / dispensary / hospital
- v) Floor mills and chilly grinding mills
- vi) Banks / co-operative / scheduled banks
- vii) Storage facilities
- viii) Having at least 10 retail shops.
- 4) The centre should be well connected with either by kacha or pacca road network.
- 5) The centre should be independent foci.

On the basis of the above criterias and availability of said facilities eighteen settlements of the study area are considered as weekly market centres for study purpose (Fig.1.7) (Table 1.5). Of these 18 weekly market centres, one is urban in nature and 17 are rural in character.

1.14.2 Market centres :

Out of 119 settlements Karmala is only one important urban centre, and a tahsil headquarter. It has a daily vegetable market, as well as regulated market for agricultural production with market yards facilities. Jeur, Kem and Jinti have also a sub-market yard.

TABLE 1.5 : Weekly market centres - location in Karmala tahsil.

| Sr.No. | Name of Market centre | Market day |
|--------|-----------------------|------------|
| 1 | Karmala | Friday |
| 2 | Korti | Thursday |
| 3 | Savadi | Tuesday |
| 4 | Kumbhargaoon | Friday |
| 5 | Divegavhan | Friday |
| 6 | Jinti | Wednesday |
| 7 | Hingani | Friday |
| 8 | Manjargaon | Thursday |
| 9 | Sade | Monday |
| 10 | Jeur | Monday |
| 11 | Kadgaon | Monday |
| 12 | Sogaon | Wednesday |
| 13 | Pomalwadi | Friday |
| 14 | Ketur | Thursday |
| 15 | Kugaon | Sunday |
| 16 | Chikhalthan | Monday |
| 17 | Dahigaon | Monday |
| 18 | Kem | Sunday |

SOURCE : Compiled by the Author.

KARMALA TAHSIL
WEEKLY MARKET CENTRES
LOCATION & MARKETDAY

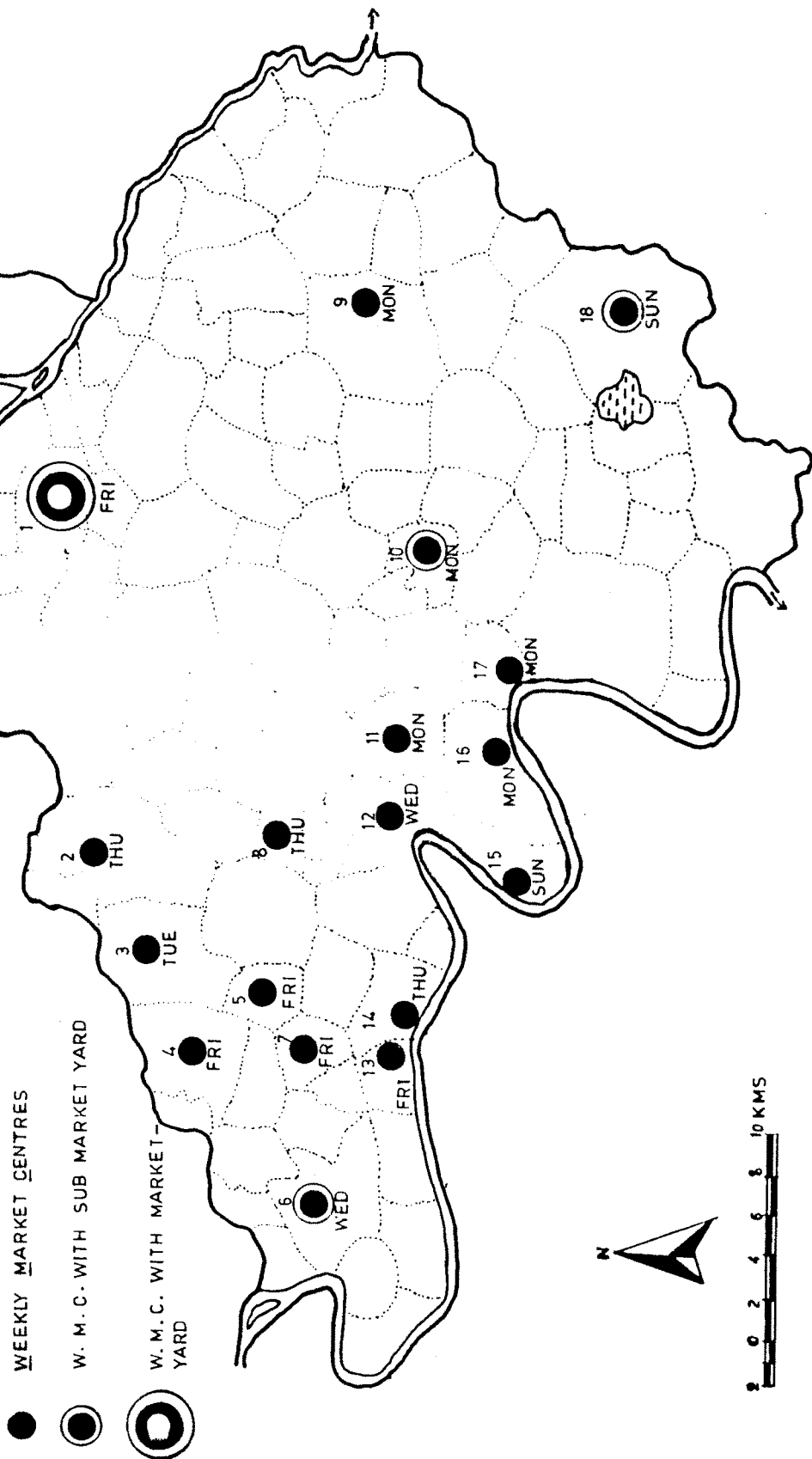


FIG. 1-7

Rural weekly markets are organized in 17th settlements of the study area. They are important places for offering goods and services to the surrounding area. The rural weekly market centres are located at Korti, Savadi, Kumbhargaoon, Divegavhan, Jinti, Hingani, Manjargaon, Sade, Jeur, Kedgaon, Sogaon, Pomalwadi, Ketur, Kugaon, Chikhalthan, Dahigaon and Kem village (Fig.1.7) (Table 1.5).

1.15 APPROACH TO THE PRESENT STUDY :

The present study attempts to examine the significant role played by weekly market centres in economic development of study area. Particularly attempts are made in the direction of studying of the weekly market centres, and their spatial pattern of distribution. The weekly market centres are evaluated in terms of their functional centrality and are organised in a hierarchic orders. The study also attempt to highlights on the complementary area (service area) of the weekly market centres and their role in rural development.

1.16 DATA BASE AND METHODOLOGY :

The basic data pertaining to the weekly market centres are collected through intensive field work. The secondary sources i.e. district census handbook of Solapur district and socio-economic abstracts of Solapur district published in 1980-81 have been referred for population figures and other relevant statistical information.

The required necessary data regarding weekly market centres have collected through a questionnaire circulated to Gram Sevakas (village officers) and also to my college students, those who are natives of weekly market centres. It is worth mentioning that 100 percent questionnaire received back with duly filled.

The records of the Block Development Officers and Statistical Officers were referred with the intention of cross checking the questionnaire data. Whenever there is discrepancy in the data, author has carried out an intensive field work.

Methodology

The collected data have been processed on electronic calculator and presented in the revised form. The processed data have been rearranged in the form of tables and indices. Maps have been prepared by applying the revised tabular data and interpreted in the form of text. It is not necessary here to list the techniques used in the present study. The details regarding the methods and techniques are described at appropriate places in the text.

REFERENCES

1. Belshaw, C.S. (1969) : Traditional Exchange and Modern Markets. Prentice Hall, New Delhi.
2. Bhowmik, K.L. and Chaudhari, K.K. (1972) : Rural Markets and System of Mass Communication, "Market Towns and Spatial Development". NCAER, New Delhi, 1972, p.139.
3. Census of India (1961) - Vol.X, Maharashtra Part VII C. Weekly Markets in Maharashtra, prepared by - The Maharashtra Census Office, Bombay, 1968.
4. Census of India (1981) : Census Handbook of Solapur District.
5. Census of India 1961 Vol.X : Maharashtra Part VII B Fairs and Festivals in Maharashtra, prepared by - The Maharashtra Census Office, Bombay 1969, p.393.
6. Gazetteers of India (1977) : Maharashtra State, Solapur District, Government of Maharashtra, Bombay.
7. Hodder, B.W. (1965) : " Distribution of Markets in 'Yorubaland'", Scottish Geographical Magazine, Vol.81, pp.48-58.
8. Saxena, H.M. (1984) : Geography of Marketing. Sterling Publisher, New Delhi.
9. Singh, S.B. (1982) : Periodic Markets and Rural Development - A Case Study. N.G.J.I., Vol.28 1/2 March-June 1982, pp.86-92.