

## CHAPTER [II]

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## C H A P T E R [II]

### 2.0] GEOGRAPHICAL SETTING :

#### 2.1] L O C A T I O N :

The study region i.e. Satara District is one of the districts of Maharashtra State. It lies between 17° 05' North to 18° 11' North latitude and 73° 33' East to 74° 54' East longitude. The total area of the study region is about 10,484 sq.km. which is 3.4 percent of the Maharashtra State, consists of eleven talukas (Fig.No. 2.1).

#### BOUNDARIES :

The Satara District has a slight circular shape, with an East-west stretch of about 144 km and North-south about 120 km. Administratively, it is bordered by the Pune District on the whole of the northern side, by the Solapur District on the east by the Sangli District on the south-east & south & by the Ratnagiri district on the west, only over a length of 44 km, the Raigadh district borders on the north-west. Although the boundaries of the district are mainly administrative, along several lines these coincide with physical features..

#### 2.2] PHYSIOGRAPHY :

The Sahyadries and the Mahadeo are the two major ranges, which form the main element of landscape in the Satara District. There are several transverse branches together with many isolated hill features and knolls. Towards the west, the Sahyadrian scarp with its major peaks,

# SATARA DISTRICT LOCATION MAP

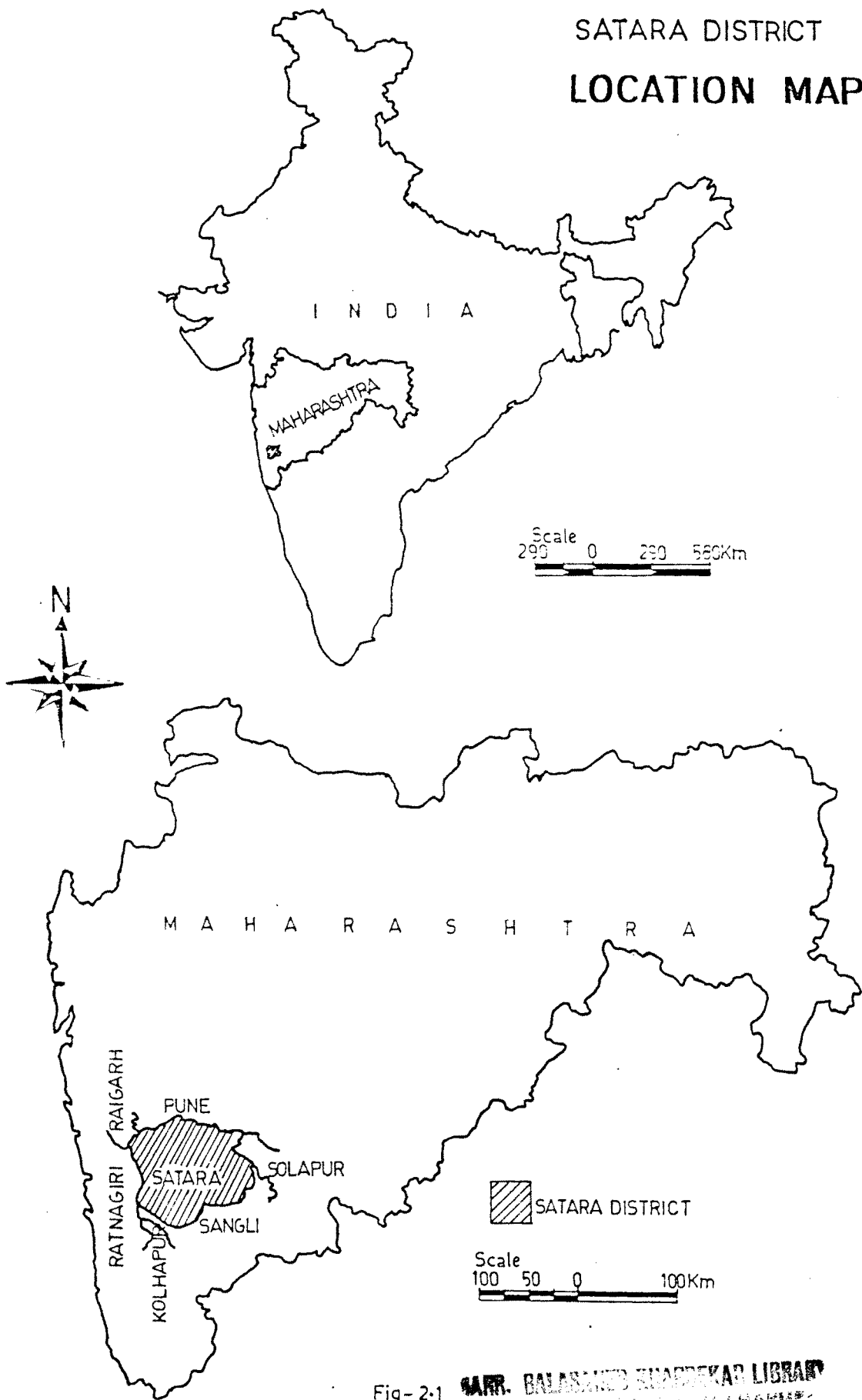


Fig- 2.1

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KOLHAPUR

usually flat to open intervening saddles. The next major Mahadeo range, which is well developed range, begins as an off-shoot of Sahyadries, in the north-western part of the district. To the east ward side it runs as a main range and sends off several minor ranges south-east ward and south ward.

#### THE SAHYADRIAN RANGE :

The Sahyadrian system includes the main range of the Sahyadries which through its entire length of about 96 km from north to south forms the western boundaries of the district. There are several peaks on the Sahyadri range, out of which two are the major forts namely Pratapgad (1074 m) and Makarandgad (1229 m).

The main line of the Sahyadries within Satara limits, develops several cols and saddles of which the more accessible ones have become major Ghat routes. The Ambinali pass, Par pass, Halot pass, Amboli pass, the north Tivara pass, Mala pass and Kumbharli pass are the important passes. Of these passes Fitz Gerald or Ambinali and the Kumbharli allow major routes from the plateau to the Konkan.

There are several leading spurs pass east and south-east from the Sahyadries. Beginning from the north, these spurs may be named the Kamalgad, Vairatgad, Hatgegad-Arle, Bamnoli-Gheradategad and Bhairavgad-Kandur, the last two are the large ranges. The Bamnoli-Gheradategad range consists of Kamalgad, Vairatgad, Hatgegad-Arle spurs. The Bhairavgad-Kandur range consists of Satara, Kelvali-Sonapur and Jalu-Vasantgad spurs (Fig.2.2).

# SATARA DISTRICT PHYSIOGRAPHY

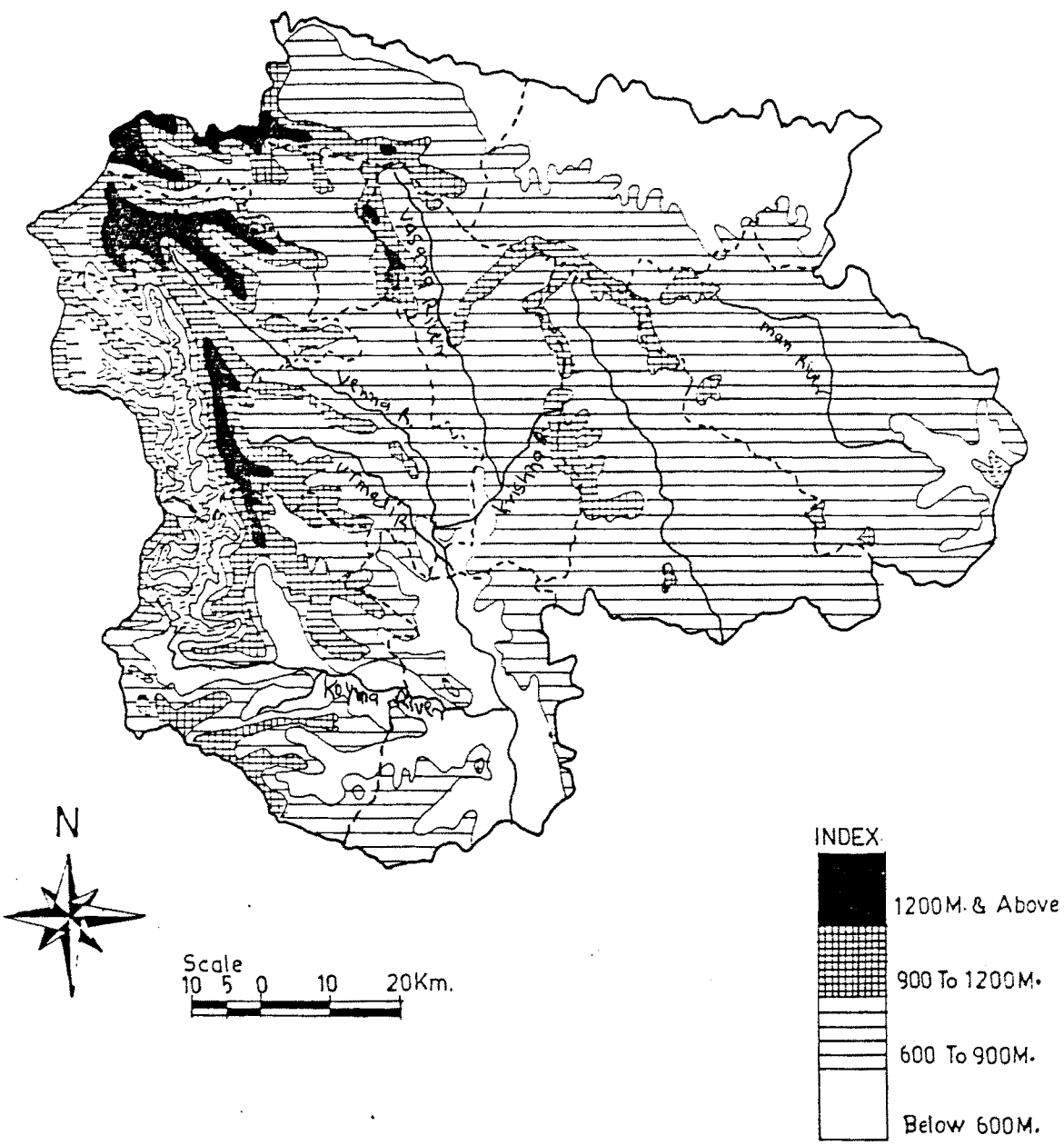


Fig-22

### THE MAHADEO RANGE :

The second important major range is the Mahadeo range. In the north of the district the range bifurcates from the Sahyadrian complex from about 16 km north of Mahabaleshwar and stretches east and south-east across the whole breadth of the district. There are only three major forts namely Ghera or Kelanja, Tathvada or Santoshgad and Varugad. Besides many small saddles and Khambatki, Adarki and Tathvada are the important passes.

Three principle spurs stretches from the main Mahadeo range towards south, the Chandan-Vandan spur in the west which runs about half across the district and the Vardhangad and Mahimangad spurs further east which stretch right across the district.

The tops of the main Sahyadries and of the Mahadeo hills, especially in the north-western tracts of Wai, Jawali and Patan, look like a succession of fortress raised on a series plateaus plied one over the other, the whole surmounted by a wall of rock. From the western edge of the Sahyadri crest great forms stand out from the Konkan with bold outlines and cliffs. The north face of the Mahadeo range falls sharply into the Nira valley, the distance from the crest of range to the river not more than 16 to 20 kms. To the south the hills fall much more gently to the valley of the Krishna.

There are several important hills and hill forts in the study region. The major hills in the Khandala-Wai tract

are Baleghar, Dhamna, Harli, Kamalgad, Kenjalgad, Mandhardev Panchagani, Pandavgad, Pipli, Sonjai, Vagdara, Vandan, Vairatgad and Eruli. The main hill features in Jaoli - Mahabaleshwar tract are Mahabaleshwar (1428 m), Makrandgad (1229 m), Pratapgad (1074 m). Within the Satara tract the Satara Fort or Ajinkyatara (1005 m), Yewteshwar (1340 m), Parli Fort or Sajjangad (910 m), Petoro, Ghatjai, Pateshwar and Sulpani are the most important hill ranges.

The five Koregaon hills, Harneshwar, Charaneshwar, Jaranda, Nandgiri and Chandan, vary from 1110 m to 1200 m. above sea level. The slopes are bare and steep and are climbed by difficult footpaths. The five Patan hills consist of Chandoli, Dategad, Gunvantgad, Bahiravgad, Jangli-Jaygad all except the first are fortified. The four Karad hills are, Agashiv, Pal, Sadashivgad and Vasantgad, of which the Sadashivgad and Vasantgad are fortified. The major Man hills are Varugad, Khokada, Shikhr-Shingnapur, Tathawada, Jire-Padhar, Kulakjai and Mahimangad. The Varugad, Tathavada and Mahimangad are fortified. The Khatav hills consist of Solaknath, Bhapshah, Vardhangad and Bhushangad. The Vardhangad and Bhushangad are fortified.

### 2.3] D R A I N A G E

There are four distinct drainage systems in the study region. The Nira in the entire northern belt, the Man in the south-east, the Yerala and the Krishna in the south.

The Krishna rises on the eastern brow of the Mahabaleshwar plateau. It flows towards east about 22 km.

till it reaches the town of Wai, from its source. It receives the Kudali, from the right about 3.2 km south of Pachawad. As the confluence of the Krishna and Venna, Manuli is the sacred spot. In Koregaon taluka, Krishna receives the Vasna from the left about 1.6 km east of Mangalapur. About 3.2 km south east of Venegaon, it receives the Urmodi from the right. In the Karad, taluka, the river flows nearly south which receives from the right two tributaries, the Tarali near Umbraj and the Koyna near Karad.

The Yerala is the largest left bank tributary river of the Krishna, which rises in Solakhnath hills in the extreme north of Khatav. Two main feeders of the Bhima river are Nira and Manganga. The Nira river forms the northern boundary of the Satara district. The Manganga, a tributary of the Bhima rises in the Tita hill in the north-west of Man. The bed is standing and the banks highly eroded.

#### 2.4] C L I M A T E :

The climate of the Satara district is very healthy through out the year. The year may be divided broadly in to four seasons. The cold season (December-February), the hot season (March-May), the rainy season (June-September) and the retreat monsoon season (October-November).

In the study region, the temperature varies from west to east. The maximum temperature in the month of April and May is between 34°C to 36°C and minimum temperature is 12°C to 15°C. The maximum rainfall gets in the month of June, July, August and September from south-west monsoon. The



average rainfall in the study region is about 1000 mm, which decreases towards the east. In the western part of study region, at Mahabaleshwar rainfall is highest (6226 mm), in the central part, it is more than 500 mm while in the eastern part, it is less than 500 mm. The table No. II-I and gives the details of the average annual rainfall of the important stations which shows clear picture of rainfall distribution in the study region.

T A B L E [II-I]  
SATARA DISTRICTA  
AVERAGE ANNUAL RAINFALL OF  
IMPORTANT STATIONS

Sr No.	Name of the station	Average Annual rainfall in mm.
[1]	Satara	1025.1
[2]	Koregaon	706.3
[3]	Wai	710.4
[4]	Karad	713.1
[5]	Dahiwadi	462.9
[6]	Mhasawad	472.5
[7]	Vaduj	512.2
[8]	Pusesavali	636.0
[9]	Khandala	503.8
[10]	Phaltan	473.0
[11]	Aundh	670.4

Sr.No.	Name of the Station	Average Annual Rainfall in mm.
[12]	Mahabaleshwar	6226.3
[13]	Pachagani	1865.0
[14]	Medha	1723.5
[15]	Patan	1831.6

### 2.5] SOILS :

The Deccan traps are mainly basalts which are generally uniform in composition and texture, Laterite occurs extensively covering almost all the plateau of the Western Ghats and also in the north and central portions of the district. The Deccan trap is usually characterised by a rich and fertile black soil, generally called as Regur. In the central part of the study region, mainly in the river basin the soil is very rich and fertile, while in the eastern part, it is poor and less fertile.

### 2.6] POPULATION CHARACTER :

It is very essential to study the population character of the study area for knowing the economic level of the people. The income and production efficiency of the people from the different sources is based on different factors. The Development of natural resources and the level of economic development of the region mainly depends on the development of the region.

The total population of Satara district according to 1991 census is 24,45,300 persons, which is increased by 19.93

percent than the 1981. The annual growth rate of the population is nearly 2 percent. The density of population in the year 1991 was 233 persons per sq.km. In the year 1981, the density of population was 195 persons per sq.km.

RURAL URBAN POPULATION RATIO :

There are eleven Urban centres in the study region according to 1991 census. Out of the total population nearly 87.1 percent population was rural and 12.9 percent was urban. When we compared the rural-urban population to previous decade i.e. 1981, it observes very little change in rural-urban population ratio (Table II-II). The densities of rural and urban population have also increased than the previous decade. The sex ratio for the study region is 1035 females to 1000 males, which is always higher in the rural areas as compared to urban areas.

The table II.II shows the rural-urban population, growth rate, percentage to total population, density of population per sq.km. with sex ratio.

**T A B L E [II-II]**  
**SATARA DISTRICT**  
**RURAL URBAN POPULATION, GROWTH RATE IN PERCENT,**  
**DENSITY OF POPULATION PER SQ.KM.& SEX RATIO 1971 to 1991**

Sr No	Particulars	< Year >		
		1971	1981	1991
1]	Total population	1727,376	2038,677	2445,000
2]	Rural population	500,119	1772,885	2129,407
3]	Urban population	227,257	265,792	315,593
	<b><u>PERCENTAGE TO TOTAL</u></b>			
4]	Rural population	86.84	86.96	87.1
5]	Urban population	13.16	13.04	12.9
6]	Growth in percent	20.8	18.02	19.93
	<b><u>DENSITY PER SQ.KM</u></b>			
	Rural	165	175	210
	Urban	594	751	892
7]	Sex Ratio	1037	1061	1035

2.7] **OCCUPATIONAL STRUCTURE :**

The economic life of the people of any region depends upon the working class people, which plays an important role in the development of the region. So the study of occupational structure of any region has got more importance.

In the study region, it is observed that, out of the total population nearly 36.7 percent population is engaged

in various activities. Out of the total working population nearly 71.3 percent population is engaged in agricultural activities as cultivators and agricultural labourers. Nearly 10 percent of working population is engaged in secondary activities such as manufacturing, repairing, processing and construction etc.. Tertiary activities accounts for 8.2 percent of the population engaged in trade, commerce, transport, stores and communication. A few percent of working population i.e. 8.2 percent is engaged in other activities.

The table II-III and Fig. 2.3 gives the details about the people engaged in various fields.

It is also observed that more number of female population is engaged as agricultural labourers because most of the male population is migrated to Greater Bombay for various activities.

# SATARA DISTRICT OCCUPATIONAL STRUCTURE 1991

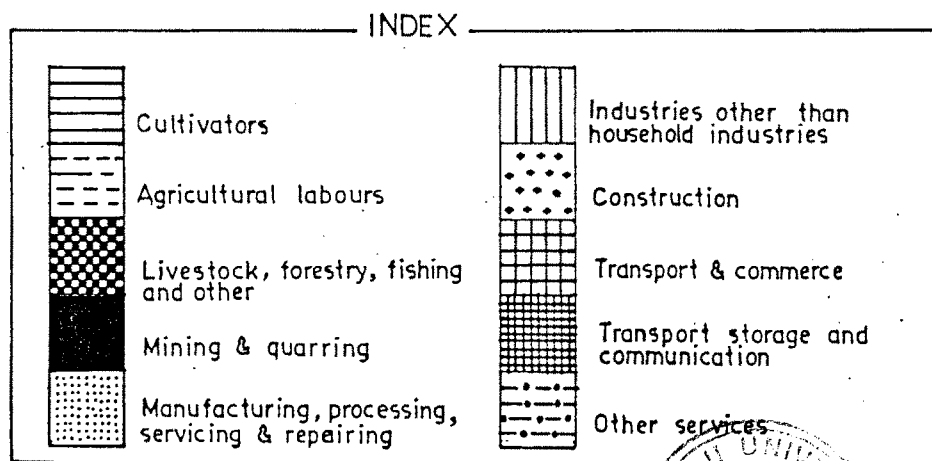
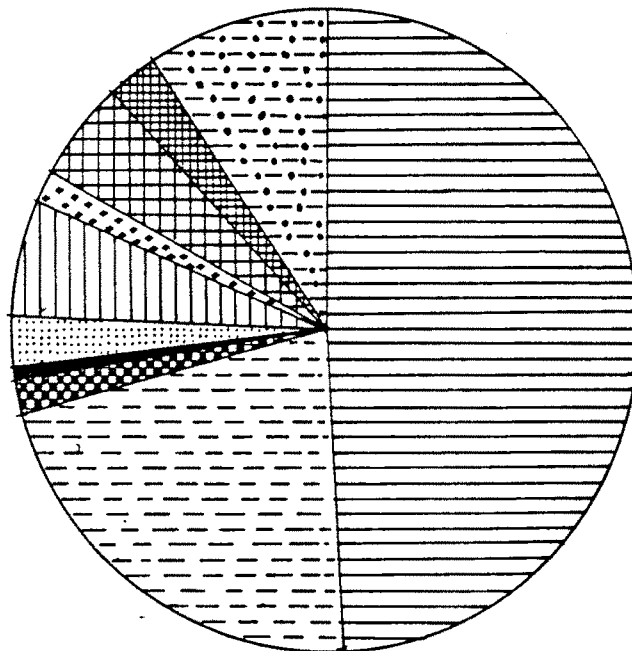
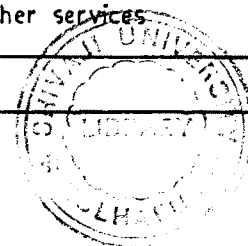
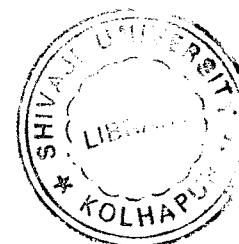


Fig-2.3



T A B L E [II-III]  
SATARA DISTRICT  
OCCUPATIONAL STRUCTURE - 1991

Sr.No.	Occupation	Male	Female	Total	% to total
[1]	Cultivators	277,491	164,272	441,763	49.8
[2]	Agricultural Labourers	85,295	108,114	193,410	21.5
[3]	Livestock Forestry, Fishing and Other	13,370	2,794	16,164	1.7
[4]	Mining and Quarrying	1,441	478	1,923	0.2
[5]	Manufacturing processing, servicing and repairing.	14,680	5,209	19,889	2.1
[6]	Industries other than household Industries	48,921	6,490	55,411	6.1
[7]	Construction	14,667	1,350	15,997	1.8
[8]	Trade and Commerce	44,080	4,873	48,995	5.5
[9]	Transport storage and Communication	23,967	415	24,348	2.7
[10]	Other services	64,350	14,157	78,501	8.6
	Total..	588,249	318,146	896,395	100.00



2.8] LAND USE PATTERN :

The land under different uses has got importance in the economic of any region. In the study region, the land under cultivation is about 58.4 percent of the total geographical area. The economy of the study region depends upon the land under agriculture, the agricultural activity has got more importance in the study region. The land under forest is above 20 percent, but in the eastern part of the study region, it is very low. Over all the land under forest is 13.7 percent. The eastern part is mostly covered by non-agricultural land and grassing land. The study region is a part of Sahyadri ranges and covered by Mahadeo hill ranges, so the land under cultivation is less. In the central part of the study region, particularly in the Krishna river basin the land under cultivation is more. Table II-IV and Fig. 2.4 gives the details about the land use pattern of the study region.

T A B L E [II-IV]SATARA DISTRICTLAND USE PATTERN - 1991

Sr No.	Land Utilisation	Area in ha.	% to total
[1]	Forest	144901	13.7
[2]	Cultivable land	618102	58.4
[3]	Cultivable waste	41248	3.9
[4]	Non-agri.& grassing land	172249	16.3
[5]	Barren & follow land	81743	7.7
	Total ..	1058243	100.00



# SATARA DISTRICT LAND USE PATTERN 1991

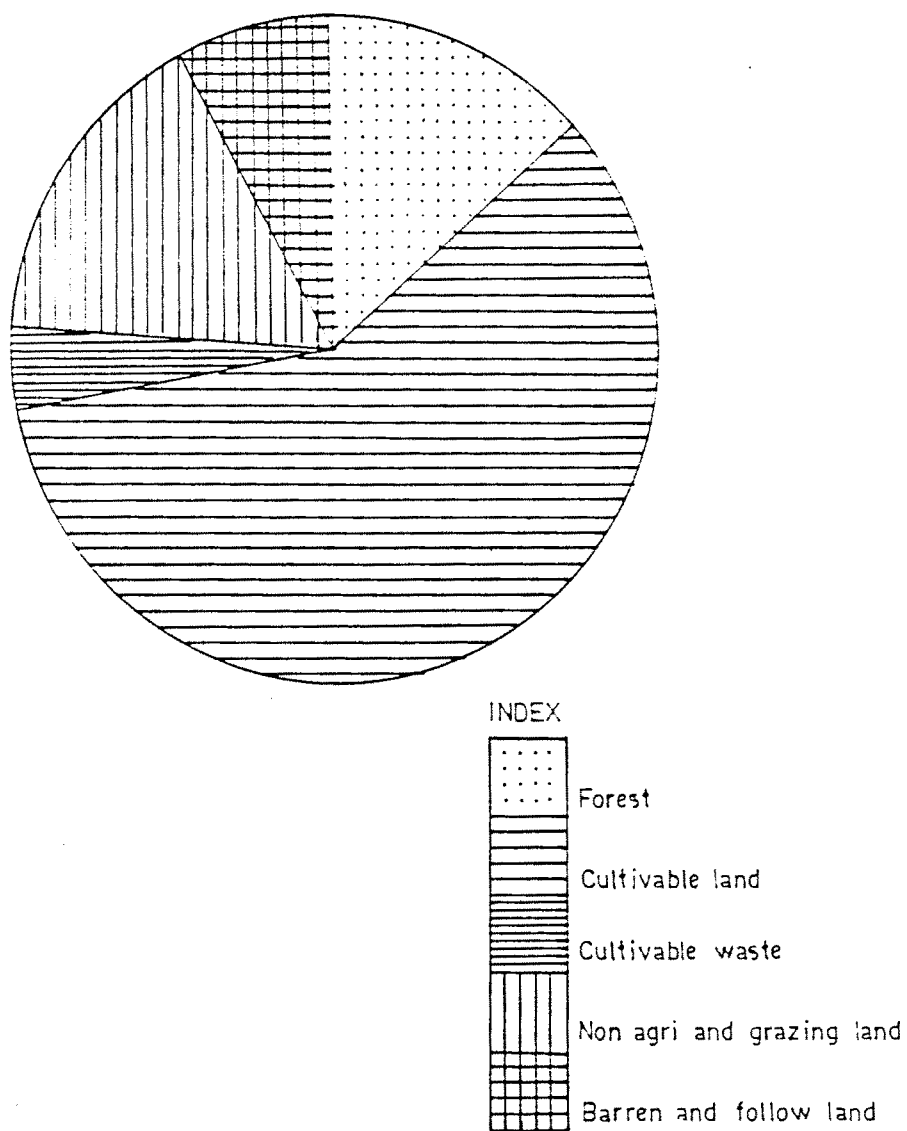


FIG. 2.4

## 2.9] AGRICULTURE :

In the study region, agriculture is one of the most important occupation because nearly 71.3 percent of the working population is directly engaged in agricultural activities so the economy of the study region is mainly depends on agriculture activity. The modern agricultural implements, improved seeds, use of different pesticides and irrigation facilities have increased the agricultural production of the study region. The agriculture is more prosperous in the areas of the various river basins i.e. Krishna, Koyna, Yerala and Nira.

The cropping pattern and the agrarian economy of the district has changed because the land under cash crops is increased while the land under food crops decreased, but the production have increased due to introduction of canal irrigation. In the study region, rice jowar and pulses are the main staple foods of the people. In the western part of the study region rice is the main food crop, in the central part the Jowar and wheat, while in the eastern part the bajara, jowar and pulses are the main food crops.

In the study region nearly 64.5 percent area is under cereal crops and nearly 11 percent area is found under pulses. Sugarcane and oil seeds covers an area about 5.1 percent and 10 percent respectively. Now a days, the sugarcane production is increased due to irrigational facilities.

The table II-V and Fig.2.5 shows the detail about the cropping pattern of the study region for the year 1989-90.

# SATARA DISTRICT CROPPING PATTERN 1989-90

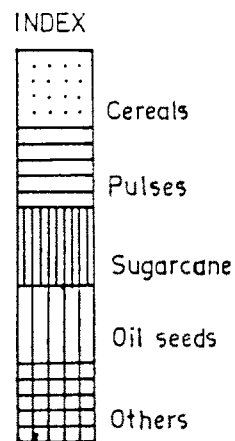
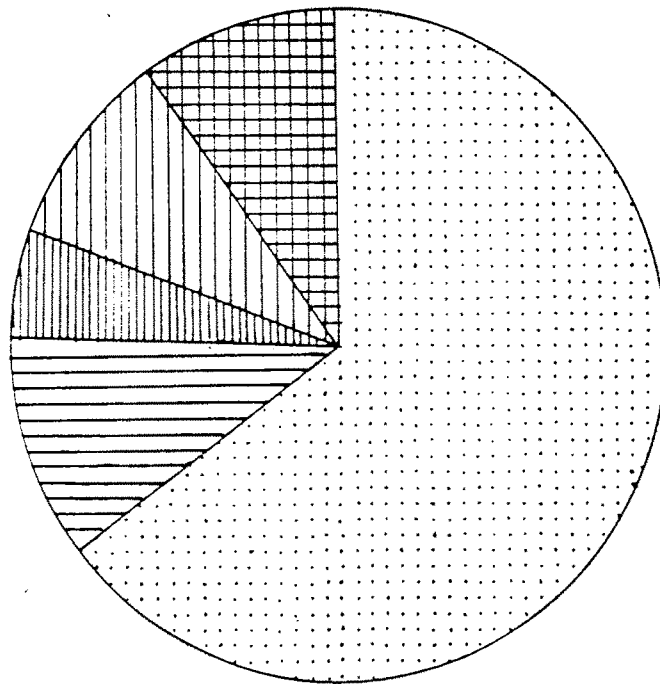


Fig-2-5

T A B L E [II.V]  
SATARA DISTRICTA  
CROPPING PATTERN 1989-90

Sr No.	Crops	Area in ha.	% to Total
[1]	Cereals	443870	64.5
[2]	Pulses	75820	11.0
[3]	Sugarcane	35468	5.1
[4]	Oil seeds	68512	10.0
[5]	Others	64037	9.4
	Total ..	687707	100.0

2.10] IRRIGATION :

The irrigation plays an important role in the development of any region. In the study region, the canal, lift irrigation and well irrigation has got prime importance. In the year 1989-90 the land under irrigation was 1,30,142 hectares out of which nearly 60.7 percent land was under well irrigation and nearly 39.3 percent land was under canal irrigation. The canal and lift irrigation facilities have changed the cropping pattern of the district in recent years.

The Table II-VI shows the source and area under irrigation.

T A B L E [II-VI]  
SATARA DISTRICT  
LAND UNDER IRRIGATION 1989-90

Sr No.	Source	Area in ha. Hectares	% of total
[1]	Canal	51,127	39.3
[2]	Well	79,025	60.7
	Total ..	1,30,142	100.0

2.11] TRANSPORT AND COMMUNICATION :

The economy development of the region depends on the development of transport and communication system. In the study region, the road network is well developed, if it has got rigid topography. The Pune-Bangalore Broad gauge railway route stretches north to south about 124 km. from the central part of the study region. The National Highway No.4, Pune-Bangalore also stretches from north to south direction about 137 km. parallel to Krishna river course. The Mahabaleshwar-Pandharpur, Phaltan - Miraj and Bijapur - Chiplun are the State highways which accounts for 939 km in length. The District roads connect the taluka and important places of the study region.

The table II-VII and Fig. 2.6 gives clear idea about the road network of the study region:

**T A B L E [II-VII]**  
**SATARA DISTRICT**  
**TRANSPORT ROUTES 1991**

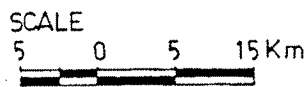
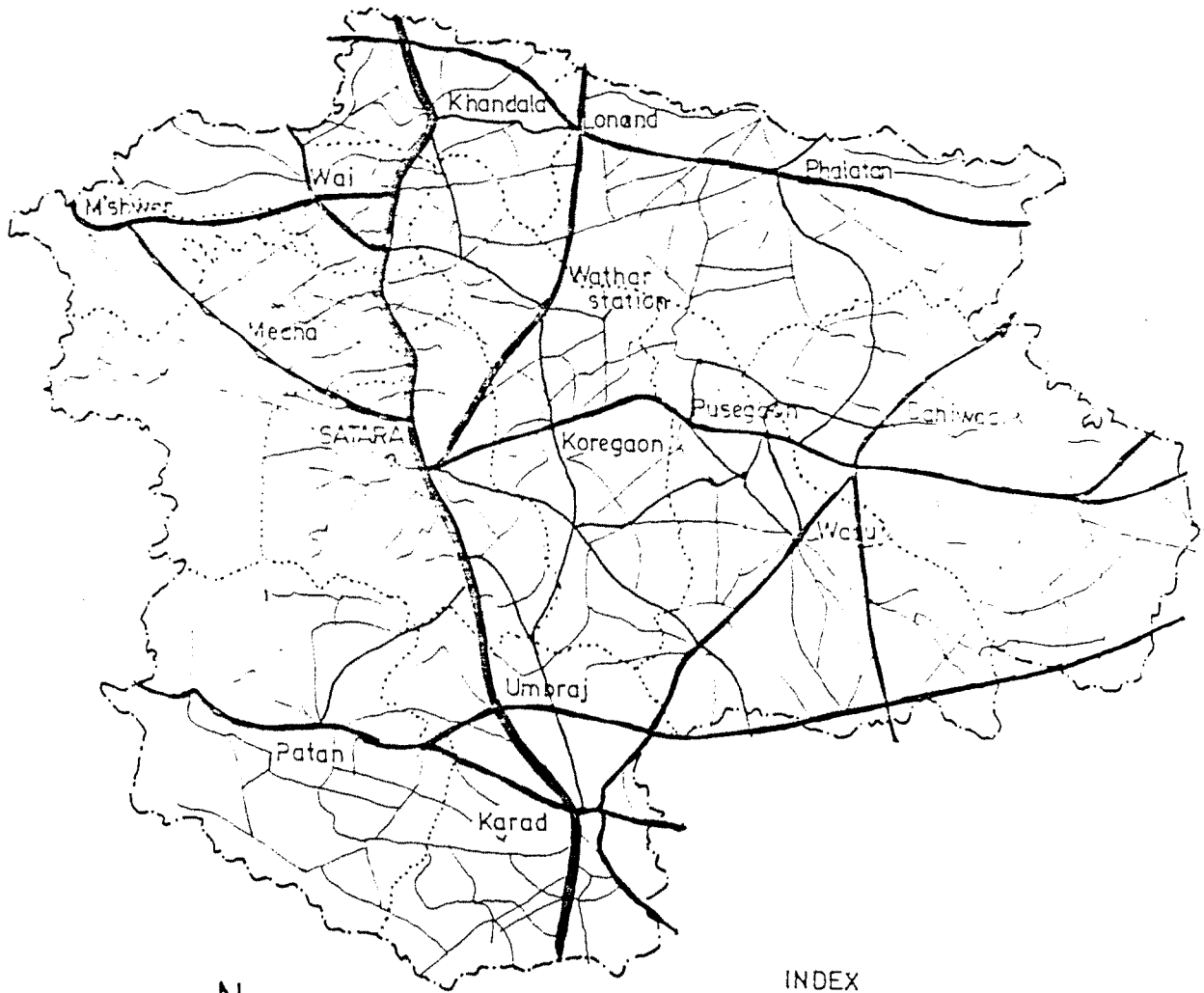
Sr. No	Means of Transport	Length in kms.
1]	Broad gauge railway	120.
2]	National Highway No.4	137.
3]	State Highway	939.
4]	District Highway	1861.
5]	Other District Roads	1757.
6]	Village Roads	4063.
7]	Others	578.
8]	Metelled roads	2368.
9]	Un-metelled roads	3574.
10]	Others	3380.

The communication system is also well developed in the district and links with important places of Maharashtra State. The Post and Telegraphs offices provide facilities to the people.

2.12] **AGRO-BASED INDUSTRIES :**

The study region is one of the agriculturally prosperous district of the Maharashtra state, where the agriculture is one of the major occupation of the people. The fertile soil, irrigation facilities, use of fertilizers and pesticides, better seeds have increased the agricultural production. In the western part of the study region, due to

# SATARA DISTRICT ROAD NETWORK







- INDEX
-  National Highway
  -  State Highway
  -  Main district route
  -  Other district route

Fig-2-6

high monsoonal rainfall the rice cultivation is dominant. But in the river basins due to canal irrigation and private irrigation schemes, the land under irrigation has increased. The sugarcane is the major cash crop along the river side. So the Sugar factories are located in the river basin. There are 8 Sugar Factories in the district.

The ground-nut production and other oil seeds are produced more in the district, So some oil mills are located in the district mainly at taluka places particularly at Karad, Koregaon, Phaltan, Satara etc. There are 27 agricultural commodity processing centres in the district.

The dairy industry is the major subsidiary occupation of the people. There are 855 co-operative centres of milk collection in the study area and 22 fisheries co-operative societies. Now a days, the poultry industry is also growing because of Governmental facilities Various types of industries are located at Satara, Karad, Phaltan, Shirval and other tahsil places.

## 2.13] THE STUDY OF RURAL SETTLEMENTS OF

### THE STUDY REGION :

Here, an attempt has been made to study only rural settlements of the study region. There are 1547 rural settlements according to 1991 census. The Table II-VIII gives Talukawise distribution of rural settlements and the Fig.2.7 gives a real distribution of rural settlements in the study region.

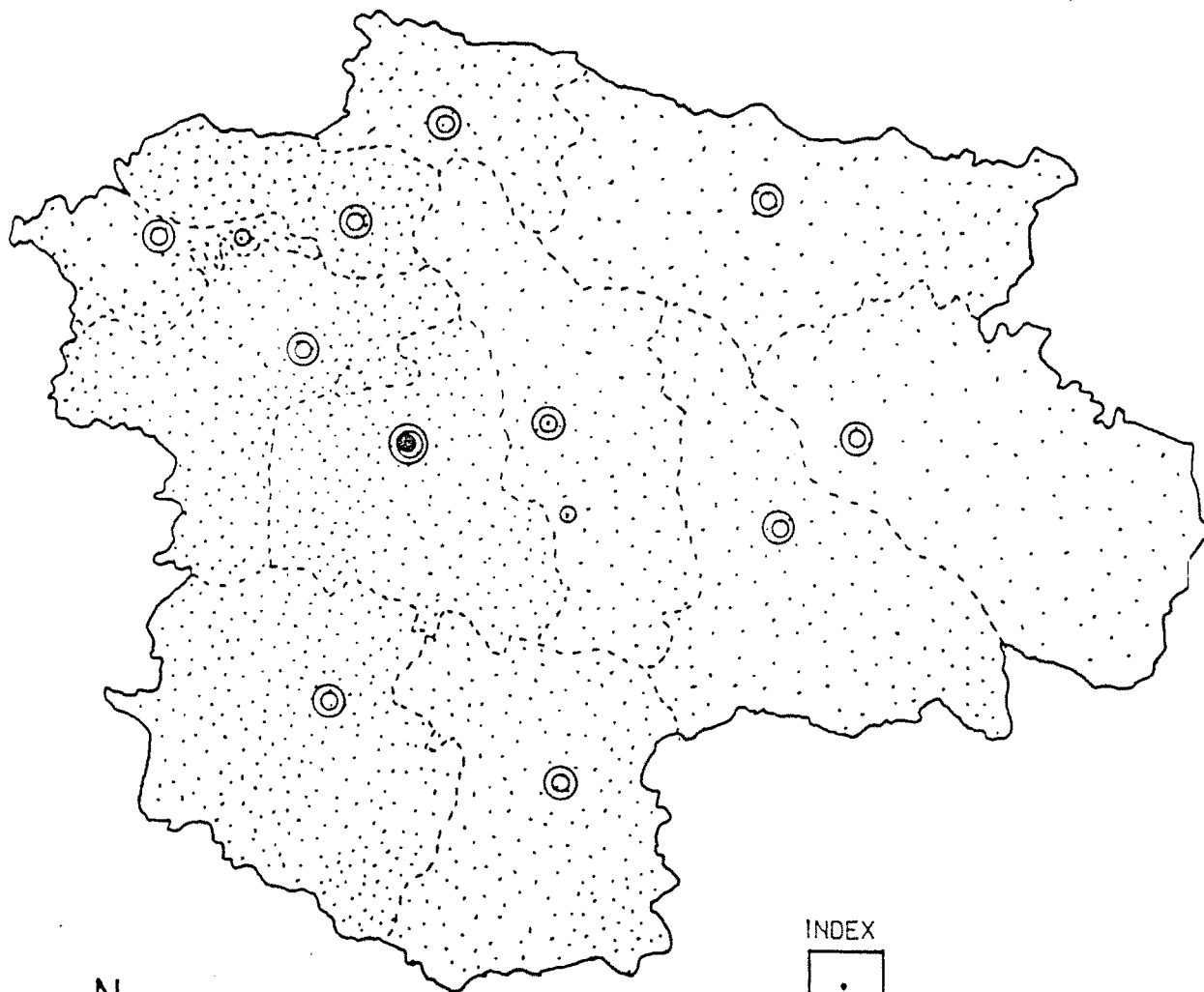


T A B L E [II-VIII]SATARA DISTRICTTALUKAWISE DISTRIBUTION OF RURAL SETTLEMENTS

Sr. No.	Taluka	Rural settlement 1991
1]	Satara	200
2]	Wai	113
3]	Khandala	65
4]	Koregaon	110
5]	Phaltan	120
6]	Man	98
7]	Khatav	132
8]	Karad	178
9]	Patan	269
10]	Jawali	207
11]	Mahabaleshwar	55
	Total ...	1547



### SATARA DISTRICT DISTRIBUTION OF RURAL SETTLEMENTS 1991



INDEX

•	Rural settlements
○	Urban settlements
⊙	Taluka head quarters
⊚	District head quarters

Fig ~2.7

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