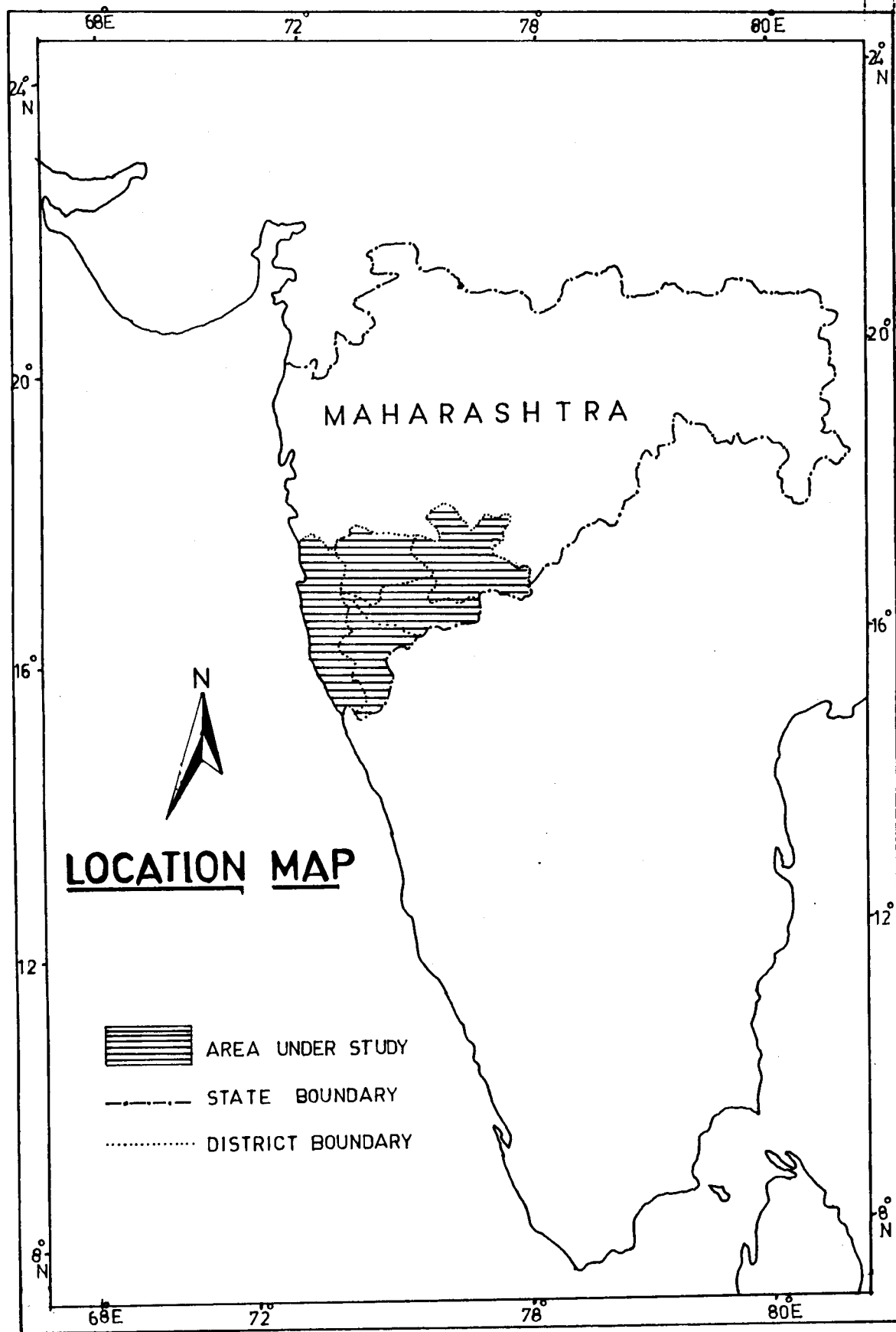


The region under investigation forms the southern part of Maharashtra. It stretches from 15°36' North to 18°35' North latitudes and 73°5' East to 76°25' East longitudes. The region covers 55,174 sq.km of geographical area where according to 1981 census a population was 11,104,418 persons in 6,008 villages and 53 urban centres. Administratively it covers 58 talukas of six districts namely Kolhapur, Solapur, Sangli, Satara, Ratnagiri and Sindhudurg of Maharashtra. The region occupies 17.88% of the total area of the state and shares 17.77 percent of the total population of the state. Out of the total population of area 20.30 percent population is urban. It accounts for 10.11 percent share of the states urban population (Fig.1.1).

The western boundary of the area is defined by the west coast of Maharashtra. The southern fringe runs along the inter state boundary of Goa, Maharashtra and Karnataka state. In the north the study region is demarcated by the course of west flowing Nira river which joins the river Bhima near Akulj. The boundary of Solapur distric separates the region from Marathwada area. To the eastern side of the region lies districts of Karnataka (Fig. 1.2).

1.1 PHYSICAL SETTING OF STUDY REGION :

Depending on the topography, the area can be resolved into five sub-regions. They are as follows -




(FIG.1.1)

- 1) West coast region
- 2) Upland hilly region
- 3) Upper Krishna valley
- 4) Central dry plateau
- 5) Upper Bhima basin

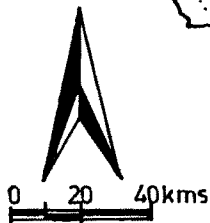
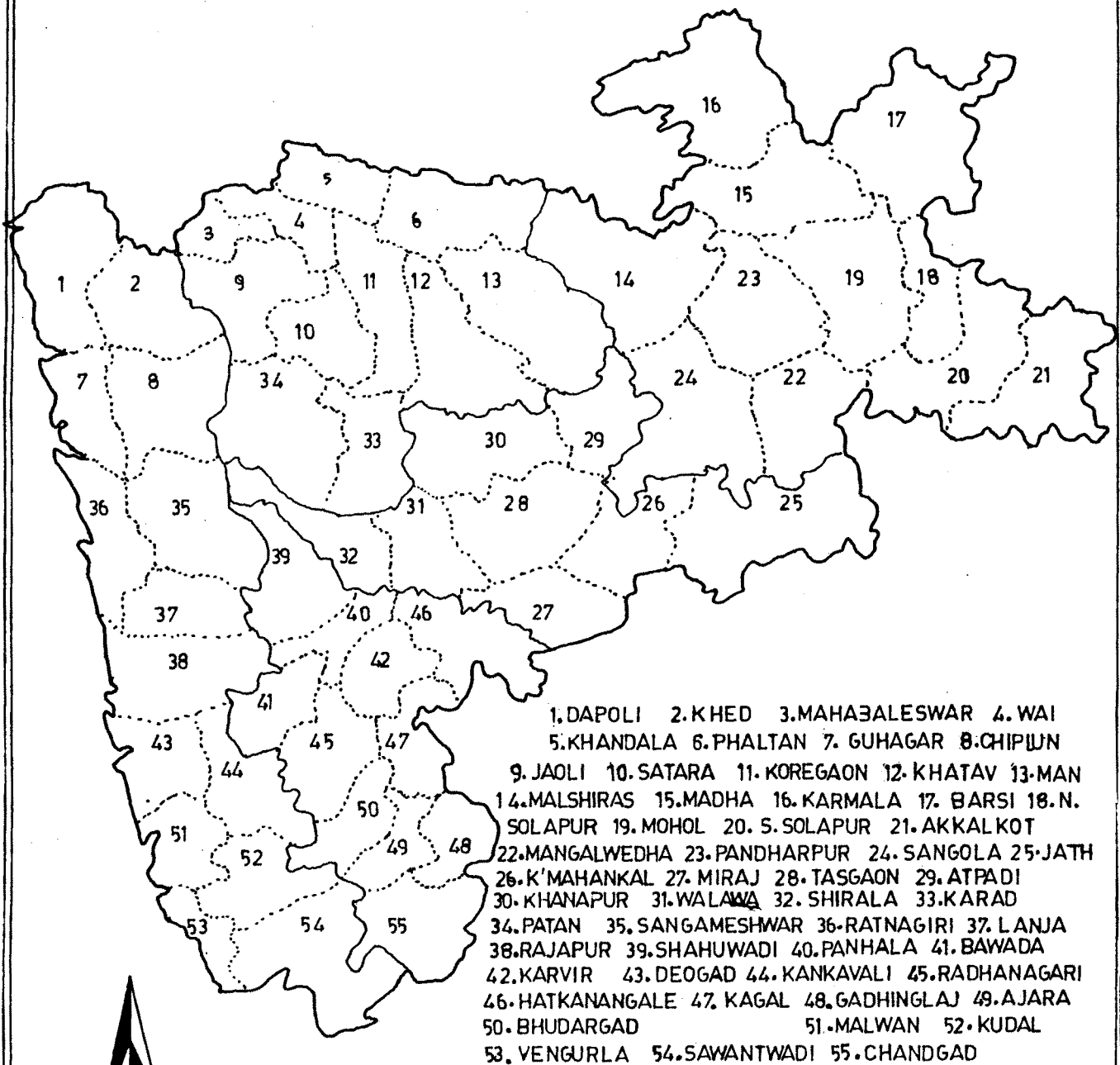
1) West coast region :

The western part of the study region is a coastal region of Konkan. This region is demarcated by Arabian sea to the west, the Sahyadries on the east, the river Savitri on the north and river Terekhol to the south. The region coincides with Ratnagiri and Sindhudurg coastal region. Longitudinally the region can be divided into the piedmont plains at the foot of the Sahyadri, the lateritic plateau and the narrow coastal plain, a few hundred meters wide, abatted by the lateritic plateau (Fig.1.3).

The longitudinal piedmont plain developed as a result of the recession of the Sahyadrian scarp, is a relatively low land with an average height of less than 200 metres above sea level. The weathering of the mountain fronts, their recession, and the amphitheatres made by the valley heads given rise to these plains, which are of recent origin. In fact these plains are younger and different from the lateritic plateau further west and belonging to past lateritic phase. The weather material brought from the mountains and spread in these plains, has led to the development of narrow enclosed basin plains associated



SOUTH MAHARASHTRA ADMINISTRATIVE UNITS



STUDY REGION _____
DISTRICT BOUNDARY _____
TALUKA BOUNDARY _____

with major west flowing streams. The Mahad plain on Savitri Chiplun plain on Vashisti, Deorukh plain on Shastri.

It covers 22 percent area of study region where the soils are poor and annual rainfall is 2000 to 3000 mm.

2) Upland hilly region :

To the east of lowland coastal region there lies main Sahyadrian scarp with 900 to 1100 metres in height. This hilly region covers 17 percent land of the study region. It included eastern edge of Konkan district and western talukas of Satara, Sangli, Kolhapur districts. Sahyadri runs almost north-south direction with its major peaks.

South of Mahabaleshwar the height of Western Ghats in Maharashtra lingers around 1000 metres and often it is less, in situation where the rivers have reached the crestline by headward erosion, the height of Ghat is lowered to 800 metres.

There are a number of such passes which provide the site for laying of roads and railways, linking the coast with the upland. The important passes are :-

- i) Rantodi Ghat - Mahad - Mahabaleshwar
- ii) Kumbharli Ghat - Chiplun - Karad
- iii) Amba Ghat - Ratnagiri - Kolhapur
- iv) Phonda Ghat - Devgad - Ratnagiri - Kolhapur
- v) Amboli Ghat - Vengurla - Sawantwadi - Nipani

This region presents heaviest rainfall zone of South Maharashtra (about 2000 mm). Some higher parts receiving more than 5000 mm rainfall. Mahabaleshwar and Amboli receive 6226 and 7477 mm of rainfall.

3) Upper Krishna Valley :

The Krishna basin is the region of Maharashtra plateau occupying its western periphery. This valley is between Sahyadrian spurs on the west and Mahadeo plateau on the east. Upper Krishna basin with an average height of 600 metres above mean sea level and covers 16.5 percent area of study region. This valley have extended in parts of Satara, Sangli and Kolhapur districts of the area. This region has medium and deep black soil and annual rainfall of 600 to 1000 mm.

4) Central dry plateau :

This plateau covers 20 percent area of study region. It included northern and eastern parts of Satara and Sangli districts, Sangola taluka of Solapur district. Mahadeo and Phaltan are the two important hill ranges. Khanapur - Jath plateau stands as a divide between Bhima and Krishna valleys. Plateau slope is gently eastward and average height is 700 metres. Mahadeo range height is 1400 metres. This plateau carries thin soils that permit only kharif crops. Rainfall is about 55 mm.

5) Upper Bhima basin :

Down the Bhima-Nira confluence, extending right upto confluence with Krishna, on Karnataka-Andhra Pradesh border, the region is named Bhima valley with wide riverine plains, insignificant relief. It covers 24.5 percent land of study area and covers major part of Solapur district excluding Sangola taluka, northern and eastern part of Barsi taluka, central parts of Madha and Karmala taluka and southern part of Malshiras taluka is hilly.

DRAINAGE :

The drainage of study area is influenced by two groups of rivers a) The Konkan rivers and b) The Plateau rivers.

a) The Konkan Rivers :

The Konkan streams flow east-west roughly parallel to each other Kundalika, Savitri, Vashisti, Shastri, Kajvi, Waghothan and Gad are the principal rivers. It is paradoxical that in this heavy rainfall zone, the coastal streams are reduced to a thread of water. These rivers have carved deep valleys. Some of them have developed amphitheater like basins under Ghats. Most of the Konkan rivers have creeks at their mouth.

b) Plateau Rivers :

The Bhima and Krishna are two main rivers of South Maharashtra. Both of them have their well developed drainage system and broad valleys graded to their base level.

The river Krishna emerging from the Western Ghats near Mahabaleshwar. Krishna has length of 364 kms in study area. Venna, Urmodi, Tarali, Koyana, Warana, Panchaganga, Dudhaganga, Vedganga and Hiranyakeshi are the right bank tributaries of the Krishna. The river Yerla rising in Mahadeo range and flowing to southern direction is the only left bank tributary of Krishna.

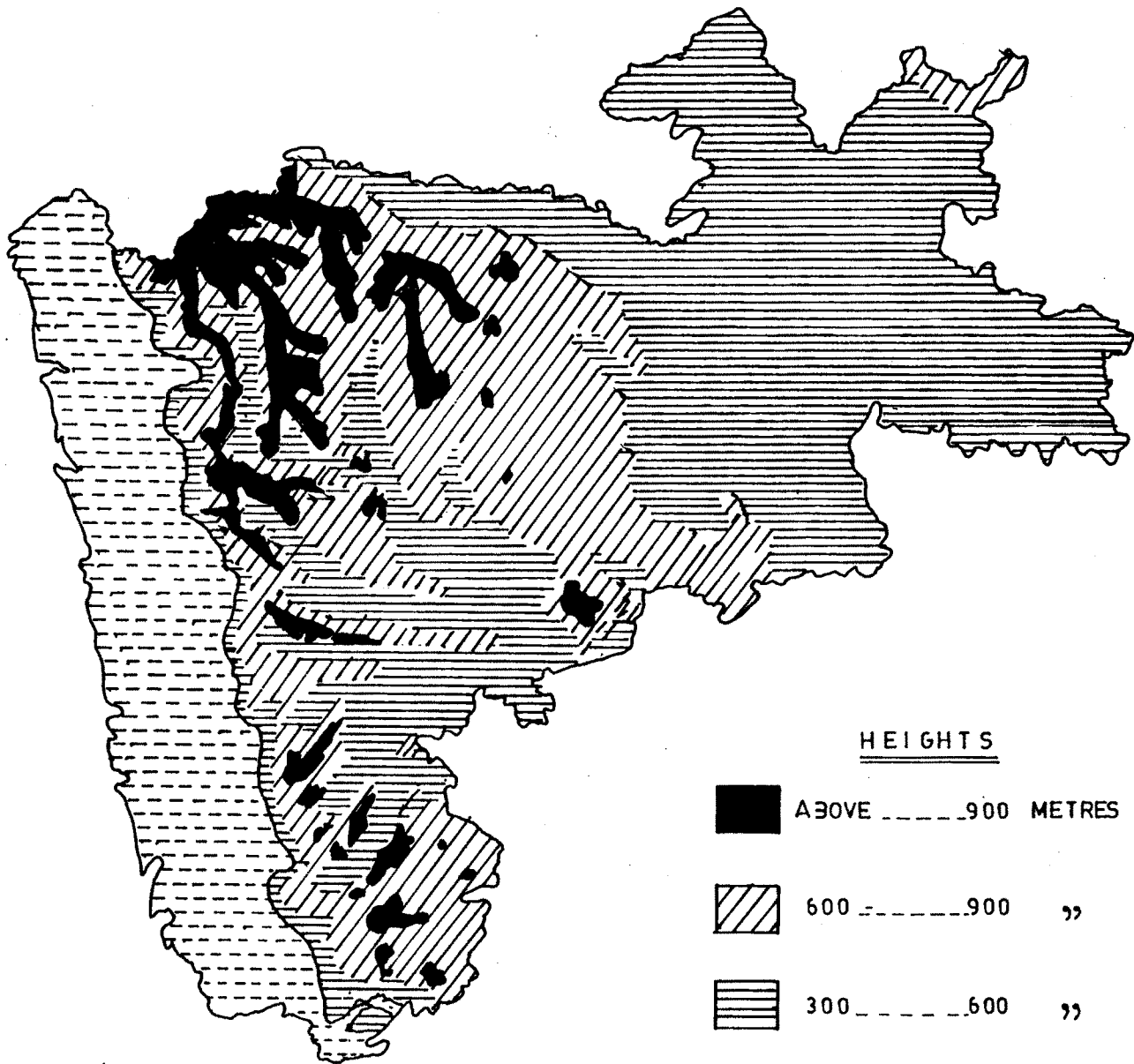
The Bhima river draining whole of Solapur district and parts of Satara and Sangli district flows in south eastern direction. Nira and Man rivers are main right bank tributaries of Bhima while Sina is its main left bank feeder in the study area.

1.2 ECONOMY OF THE REGION :

Agriculture is the main stay of the economy of the region. The diffusion of agriculture innovation has brought significant change in agricultural system of the area. In study region dominance of food crops is found in western hilly area, central dry plateau, the Bhima valley region and coastal plains of South Konkan. In these parts nearly seventy percent of the cultivable land is under food crops. The Mahad plain on Savitri, Chiplun plain on Vashisti, Deorukh plain on Shastri and Kankavali plain on Gad are important in western coastal region. Rice is important crop in western hilly zone. Nearly thirty percent of land is under rice. In central dry plateau region jowar, bajara, groundnut and pulses are important crops. In Bhima basin the important producer is of

SOUTH MAHARASHTRA PHYSIOGRAPHY

*****SSSSSSSSSS*****



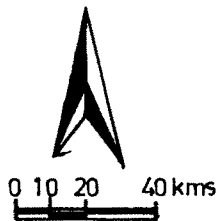
HEIGHTS

ABOVE 900 METRES

600 900 "

300 600 "

BELOW 300 "



(FIG.1-3)

jowar and cotton. The Krishna valley carries rich alluvial soil. It is most prosperous region of the state. Double cropping is common in the irrigated tracts. Sugarcane is principal cash crop followed by tobacco, chillies, turmeric. In Konkan horticulture has developed during last 20 years. Coconut cultivation, cashewnuts, mangoes, condiments and spices are important. Recently pineapple and rubber plantation is introduced in the area.

1.3 FOREST :

The forest covers an area of 4.13 lakh hectare. Most area lies in western parts of Satara, Sangli, Kolhapur districts and eastern hilly area of Konkan districts.

1.4 MINERAL WEALTH :

Kolhapur and Konkan districts are rich in minerals. Konkan is rich in minerals with reserves of iron, manganese, bauxite and large quantity of silica. Iron ore occurs at Redi, Tak, Asola, Ajgaon, Shiroda and Nanos in Vengurla taluka. Manganese occurs in Sawantwadi and Vengurla taluka. Bauxite is found in Radhanagari and Chandgad talukas of Kolhapur district.

1.5 INDUSTRIES :

The study region has various areas with rich infrastructure where industries have developed. There are also

several areas where due to their poor economic background the development of industries could not take place. Krishna valley region and Solapur regions have developed several industries in which cotton and textile industry is very important. Other industries include iron and steel, automobile and engineering goods. The part also made remarkable progress in developing agro-based industries like spinning mills, groundnut oil industry and sugar factories. This region has more than sixteen sugar factories. The Konkan region of the study area shows very poor development in respect of industrial growth.

1.6 EVOLUTION AND DEVELOPMENT OF CITIES

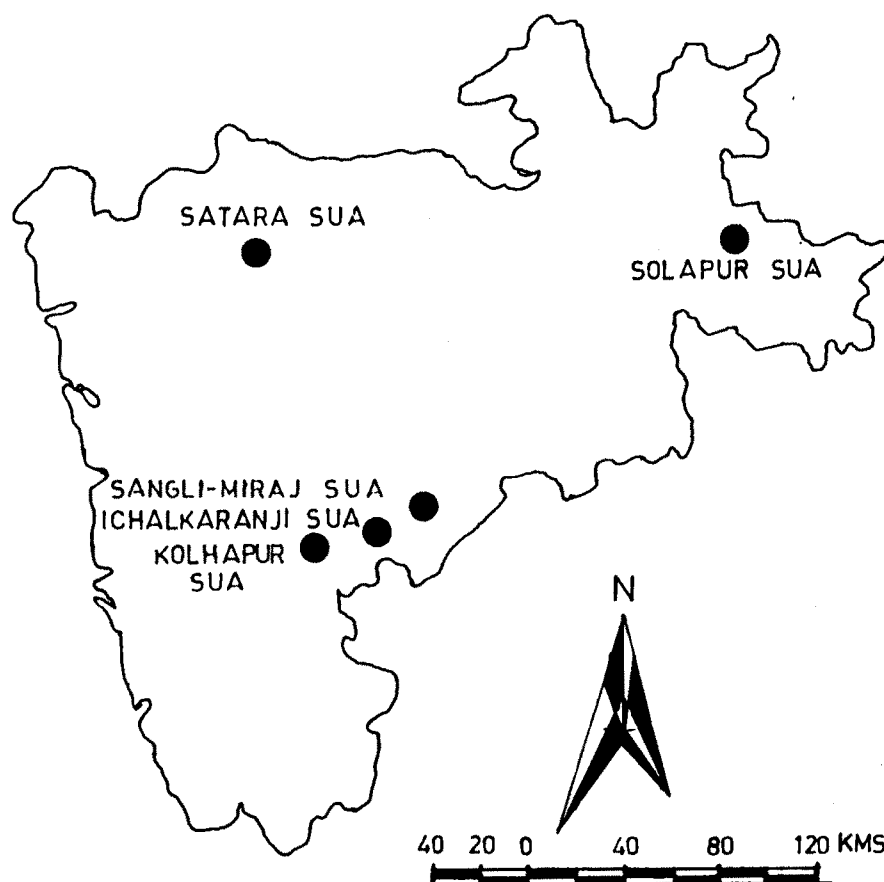
AND STANDARD URBAN AREAS :

In order to find out regional setting and phases of development of cities which have developed as important urban centres of the region, it is essential to study their historical account and growth of population. Considering this, an attempt has been made to study all those cities who have developed SUA's in the year 1971. The Fig.1.4 shows the location of SUA's under study.

1.6.1 Solapur city and SUA :

Solapur the fourth largest city of Maharashtra is situated on latitude 17°40' N and 75°50' E longitude, located on 610 metres above sea level. The city located in the extensive plain between the Adila and Sina rivers.

LOCATION MAP OF
STANDARD URBAN AREAS
UNDER STUDY



(FIG. 14)

Origin and Growth

The ancient history of Solapur goes back to the 10th century, Solapur was small village during early Rastrakutas and Chalukya periods. Solapur begin to florish during 11th and 12th century. During 1318 A.D. Alauddin Khilji opened the way to the south. The fort of Solapur was built by Adilshahi Sultan of Bijapur in 1578. In 1674, Rajaram captured the fort of Solapur. In 1724 Nizam recaptured it and donated to Mughal empire. In 1758, fort handed over to Peshwa for Rs.25,000. Britishers captured this fort in 1880 and Solapur was included in Poona collectorate. The area of Solapur was 8 sq.km and population was 54,744 in 1883.

Regarding the spatial growth of city, very little information for the period prior to the 16th century is available. Correct information regarding the growth of the city limits is available since 1852. In 1853, the city had small nucleus located on the northern side of the tank. In 1872, the area of city ^{has} almost doubled. In 1913, the extention took place towards west and south of city. In 1938, the city limits were extended towards northeast. In 1955, shape of city become almost circular and extention took place towards westward and southwards. During last ten years the Solapur city has extended towards the Akalkot road and towards Bijapur side. In future the limit of Solapur city will extend towards Hotgi and Bijapur road.

Population Growth

As mentioned in the district gazetter, the first local census of Solapur city was taken in 1851-52 and population of city was recorded as 30,819 persons. In 1872, it was 54,744 persons. In 1925 the population was 119,581 persons and in 1971 it was 399,361, it become 513,956 in 1981.

TABLE 1.1 : Solapur city - population growth (1901-1981).

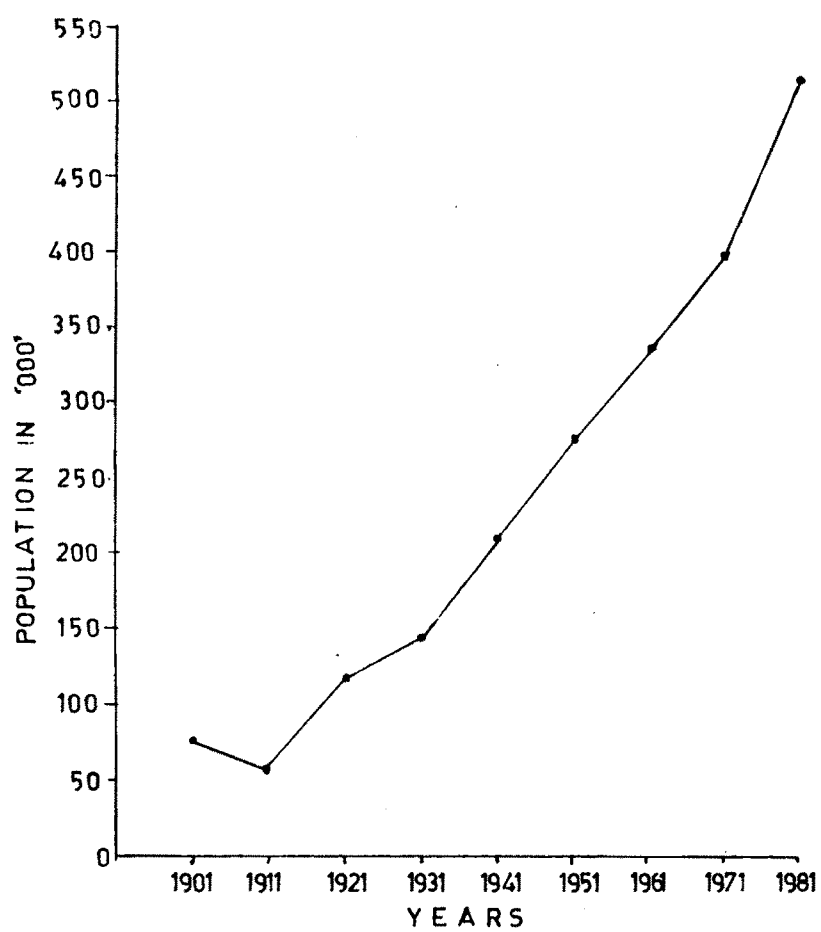
Sr. No.	Year	Population	Growth in %
1	1901	75,238	-
2	1911	61,345	18.53
3	1921	119,581	94.93
4	1931	144,654	20.91
5	1941	212,620	46.98
6	1951	277,087	30.32
7	1961	337,122	21.83
8	1971	399,361	18.16
9	1981	513,956	28.29

SOURCE : Census of India (1981), Series 12, Maharashtra, Part XIII, Solapur Dist. handbook.

Table 1.1 shows the growth of population of Solapur city. In 1911-21, the growth rate of increase was very high and it was low in 1961-71. But, in during 1971-81 the growth of population of Solapur city again increases (Fig.1.5).

SOLAPUR CITY POPULATION GROWTH

(1901 - 81)



VERTICAL SCALE

1 CM = 50,000 POPULATION

Industrial and Economic set up of Solapur

Cotton textile is main industry in Solapur. It is an important centre of power and handloom industry. The first weaving mill was established in 1877. Today there are five large textile mills. The structure of industry comprises cotton textile mills, powerlooms and handlooms, readymade garments industry, art silk industry, bidi manufacturing and dal processing industry.

Solapur Standard Urban Area

According to 1971 census, Solapur standard urban area was covering 97.47 sq.km area. In this SUA, there was one urban component namely Solapur city and Solapur rural was only one rural component. The area of urban component was 23.23 sq.km and area of rural component was 74.24 sq.km in 1971. In same year Solapur SUA has 409,285 persons including 214,090 male and 195,195 female. The density of population was 4,199 persons per sq.km. The urban component of Solapur SUA, the population was 398,361 in 1971 including 208,266 male and 190,095 female. The density of urban component was 17,149 persons per sq.km. The rural component population was 10,924 persons including 5,824 male and 5,100 female, with density of population was 147 persons per sq.km.

In 1981, the area of Solapur standard urban area was 105.22 sq.km. There were two urban components namely Solapur city and Solapur out growth, and the number of rural component was four,

namely Solapur rural, Manjerewadi, Salagarwadi and Neharunagar. The population of Solapur SUA, was 524,723 persons including 271,464 male and 253,259 female in 1981. The density of population was 4,987 persons per sq.km. The population of urban component of Solapur SUA, was 514,860 persons including 266,344 male and 248,516 female in 1981. The density of population in urban component was 20,326 persons per sq.km. The area of urban component was 25.33 sq.km. On the other hand the population of rural component was 9,863 persons including 5,120 male and 4,743 female with the density of 123 persons per sq.km. The area of rural component was 79.89 sq.km.

1.6.2 Sangli-Miraj cities and SUA :

Sangli City :

Sangli is prospering urban centre of South Maharashtra is located on the bank of river Krishna at the height of 545 metres from mean sea level. The geographical location of the city is 16°52' N latitude and 73°34' E longitude. At present, the city has an area of 20.90 sq.km and population is 152,389 persons.

Origin and Growth

The city has a considerable historical significance which also has a reflection on the present urbanization of city. The origin of Sangli city is due to political events. On 10th June 1764, this Sangli village was given to Govind Hari Patwardhan by

Madhavrao Peshva I to maintain 800 horsemen. During this time the area of this village was 1.5 sq.km. In 1807, Sangli town established by Pathwardhan family having area of 2.4 sq.km. In 1831 first printing press was opened. In 1844, Ganesh temple was constructed on the bank of Krishna river. In 1907, state railway has connected Sangli to Miraj junction. In 1917, first college was opened. After independence with the help of five year plans this city started its economic development.

Population Growth

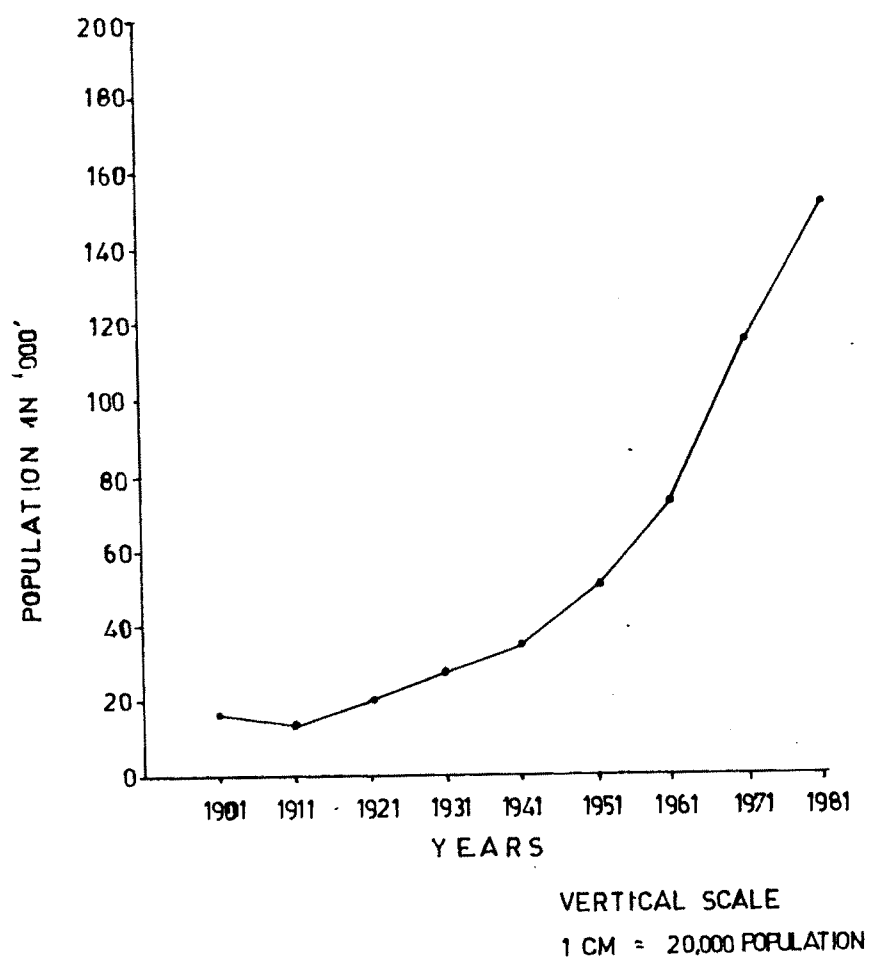
Table 1.2 shows the decadewise population and its growth rate of population.

TABLE 1.2 : Sangli city - population growth (1901-1981).

Sr. No.	Year	Population	Growth in %
1	1901	16,829	-
2	1911	16,141	-04.08
3	1921	20,366	26.17
4	1931	27,376	34.42
5	1941	34,781	27.04
6	1951	50,287	44.58
7	1961	73,838	46.83
8	1971	115,138	55.93
9	1981	152,389	32.35

SOURCE : Census of India (1981), Series 12, Maharashtra, Part XIII, Sangli District handbook.

SANGLI CITY
POPULATION GROWTH
(1901 - 81)



(FIG. 1-6)

Table 1.2 shows how the population of Sangli city increases from 1901 to 1981. During 1961-71 the growth rate of population was high (55.93%) and it was less during 1901-1911 (-4.08%). The growth rate of population again decreased in 1971-81 decade (Fig.1.6).

Miraj City :

Miraj is also important city of South Maharashtra. The city was ruled by Jattiga II during 1000 to 1020 A.D. During 12th century it flourished as trade centre. At present it is an important trade and commercial centre of Maharashtra.

Population Growth

Table 1.3 shows the growth of population of Miraj city from 1901 to 1981.

TABLE 1.3 : Miraj city - population growth (1901-1981).

Sr. No.	Year	Population	Growth in %
1	1901	18,425	-
2	1911	21,168	14.89
3	1921	21,424	01.21
4	1931	26,465	23.53
5	1941	32,455	22.63
6	1951	40,224	23.94
7	1961	53,345	32.62
8	1971	77,606	45.48
9	1981	105,455	35.89

SOURCE : Census of India (1981), Series 12, Maharashtra Part - XIII, Sangli District handbook.

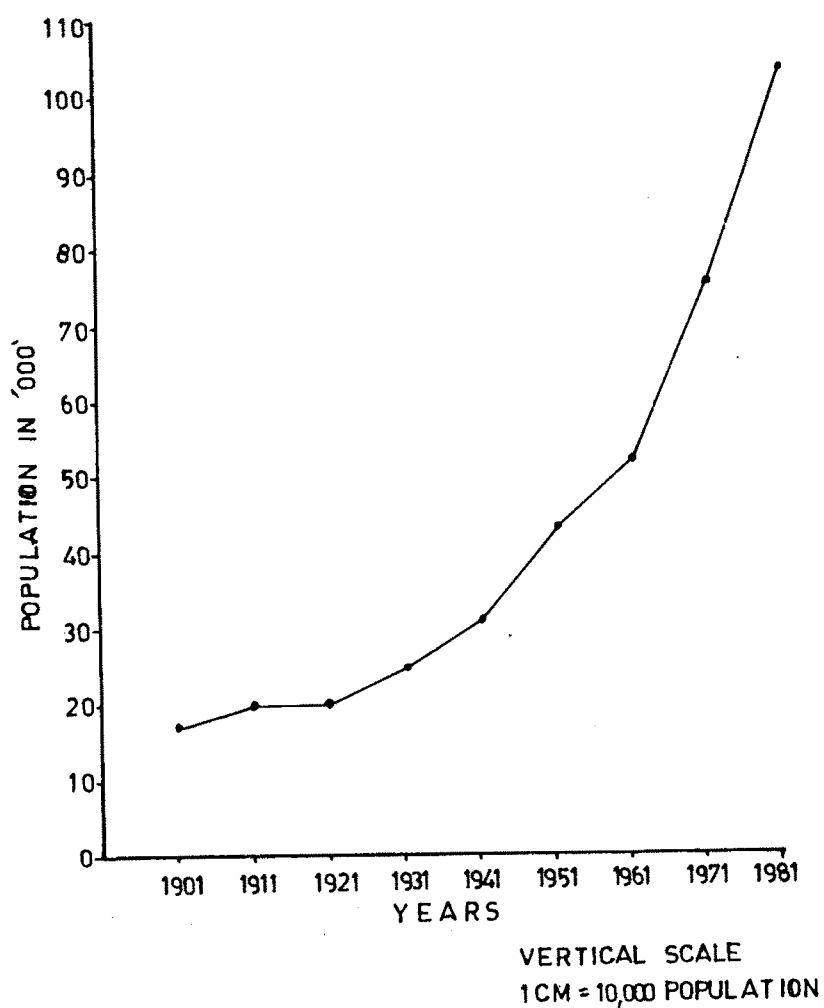
Fig.1.7 shows how the population of Miraj city is growing from 1901 to 1981. The growth rate of population in this city was high during 1961-71 (45.48%) and it was less during 1911-21 (1.21%).

Sangli-Miraj Standard Urban Area

In 1971, the area of Sangli-Miraj standard urban area was 190.33 sq.km. In urban component there were three components namely Sangli city, Miraj and Madhavnagar. The area of urban component was 63.82 sq.km. The area of rural component of this SUA was 126.51 sq.km. There were six villages included in rural component namely Savali, Kupwad, Miraj rural, Sangliwadi, Sangli rural and Budhagaon. The total population of this SUA was 224,198 persons including 118,761 male and 145,437 female in 1971. The density of population was 1,178 persons per sq.km. The urban component population was 201,597 persons including 106,587 male and 95,010 female. On the other hand the population of rural component was 22,601 persons including 12,174 male and 10,427 female in 1971.

In 1981, the area of Sangli-Miraj standard urban area was 196.52 sq.km. The total population of this SUA was 294,784 persons including 154,379 male and 140,405 female in 1981. The density of population was 2,429 persons per sq.km. In urban components there were three groups namely Sangli city, Miraj city and Madhavnagar. The area of urban component was 87.17 sq.km. with the population of 268,988 persons including 140,296 male and 128,492 female in 1981.

MIRAJ CITY
POPULATION GROWTH
(1901 81)



(FIG. 1-7)

The density of urban component was 3196 persons per sq.km. The rural component of Sangli-Miraj SUA, having an area of 37.19 sq.km in 1981. There were five villages in rural component namely Budhagaon, Kupwad, Savali, Vanleswadi, Babnoli. The Vanleswadi and Babnoli these were new villages merged as rural component of this SUA in 1981. The population of rural component was 25,796 persons including 13,883 male and 11,913 female. The density of population in rural component was 694 persons per sq.km in 1981.

1.6.3 Kolhapur city and SUA :

In the urban system of South Maharashtra, Kolhapur city is one of the important industrial and commercial centre.

The Kolhapur city located on 16°42' N latitude and 74°14' E longitude at an altitude of 650 metres above mean sea level. The city stands on the right bank of the river Panchaganga a tributary of the Krishna.

Origin and Growth

The Kolhapur is an ancient city. This place was the capital of king Vilvayakura during 150 A.D. It witnessed the rise and fall of several dynasty's among which Kadam, Chalukya, Rastrakutas, Shilakaras, Yadav, Bahamani, Adilshahi, Maratha and British. The Kolhapur city known as 'Dakshin Kashi'. The ancient temple of Mahalaxmi was constructed during 12th century.

In 1828, the Mahalaxmi temple was the centre of Kolhapur and around this core the expansion of the city began. In 1828, the city was very small and most of the population was living in the closed area of the city. In 1862, another phase of expansion began.

In the recent period from the year 1950, the city has been expanding towards the railway station and to the east including Rajarampuri, Khasbag and Shahupuri. At present, after the establishment of corporation in 1977, the city limits have expanded in all directions and an area of 66.82 sq.km has been included within the city limits.

Growth of population

According to 1981, Kolhapur rank fifth in Maharashtra. Table 1.4 shows decadewise population growth.

TABLE 1.4 : Kolhapur city - population growth (1901-1981).

Sr. No.	Year	Population	Growth in %
1	1901	54,373	-
2	1911	48,122	-11.50
3	1921	55,594	15.53
4	1931	72,492	30.40
5	1941	95,918	32.31
6	1951	136,835	42.66
7	1961	187,442	36.98
8	1971	259,050	38.20
9	1981	340,625	31.49

SOURCE : Census of India (1981), Series 12, Maharashtra, Part XIII, Kolhapur District Handbook.

During 1901 to 1911, the growth of population was -11.50 percent. On the other hand it was 42.66 percent during 1941-51. The growth rate of population during 1961-71 was 38.20 percent but during 1971-81 it was 31.49 percent (Fig.1.8).

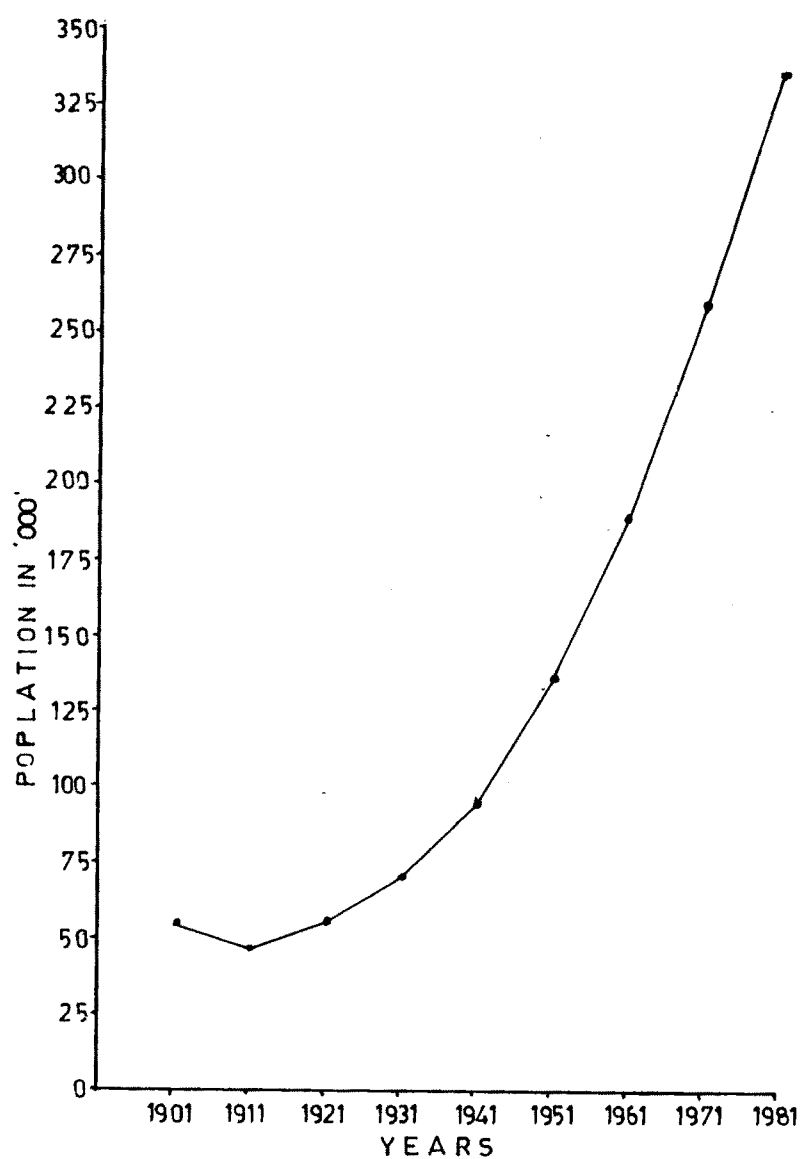
Industrial and Economic set up

The surrounding region of Kolhapur comprises of deep fertile black soil and five important rivers flowing in the district have brought overall prosperity to the entire umland of city with the range of 30 kilometer. There is one sugar factory and one cotton mill. Ghatage-Patil transport industry is also important in Kolhapur. Since 19th century Kolhapur has been recognised as important religion and commercial centre of the region. The city has well transport facilities, it is connected by rail and roadways with interior part of country.

Kolhapur Standard Urban Area

In 1971, the area of Kolhapur standard urban area was 144.05 sq.km. There were two urban components in this SUA namely Kolhapur city and Gandhinagar. The rural component of Kolhapur SUA included eight villages namely, Mudshingi, Sarnobatwadi, Ujaliwadi, Shirol, Shiye, Top, Nagaon and Unchagaon. The area of urban component and rural component were 72.78 sq.km and 71.27 sq.km respectively in 1971. The population of Kolhapur standard urban area was 292,402 persons including 154,485 male

KOLHAPUR CITY
POPULATION GROWTH
(1901 - 81)



VERTICAL SCALE
1CM = 25,000 POPULATION

and 137,918 female with the density of population 2,030 persons per sq.km in 1971. The population of urban component was 267,513 persons including 141,585 male and 125,928 female. The density of urban component population was 3,676 persons per sq.km in 1971. On the other hand the population of rural component was 24,889 persons including 12,899 male and 11,990 female, with the density of 349 persons per sq.km.

According to 1981 census the total area of Kolhapur standard urban area was 147.63 sq.km. The area of urban and rural components were 67.24 sq.km and 80.39 sq.km respectively in 1981. The urban component included Kolhapur city and Gandhinagar and rural component included villages namely Shiye, Top, Sarnobatwadi, Nagaon, Ujalaiwadi, Sambhapur, Shirol, Unchagaon, Mudshingi and Kasarwadi. The Sambhapur and Kasarwadi villages which were newly merged as new villages in Kolhapur standard urban area. The total population of Kolhapur standard urban area was 395,270 persons including male and female. The density of Kolhapur SUA population was 2,677 persons per sq.km in 1981. The urban component of Kolhapur SUA was 351,392 persons including 184,874 male and 166,518 female with the density of 5,226 persons per sq.km. On the other hand total population of rural component was 43,878 persons including 22,773 male and 21,105 female with the density of 546 persons per sq.km in 1981.

1.6.4 Satara city and SUA :

Satara is also an important ancient city of South Maharashtra. It's geographical location is 17°24' N latitude and 74°02' E longitude.

Origin and Growth

Satara city was ruled by Andhra Bhrytyas i.e. 90 B.C. upto 1000 A.D. It was also ruled by Chalukyas and Rashtrakutas. During 1190 A.D. Silahara king Bhoj II built the fort of Satara. In the first half of medieval period, Satara was ruled by Bahamani King and Adilshahi. It's important as an administrative centre increased in second half of medieval period when Shivaji conquered it. It's location is commanding in Upper Krishna Valley. During Shahu's regime Satara was the capital of Maratha State. From British period Satara's importance declined. In the last twenty years industrialization is going on here with fair rate. More than 80% population engaged in tertiary activity.

Growth of population

According to 1901 census the population of Satara was 26,022 persons and it became 83,336 persons in 1981. Table 1.5 shows the decadalwise population and its growth of Satara city.

The growth rate of population was very less (-26.43%) in Satara city during 1901-11 and it was very high (38.01%) during 1931-41. Fig.1.9 shows the population and population growth of Satara city from 1901 to 1981.

TABLE 1.5 : Satara city - population growth (1901-1981).

Sr. No.	Year	Population	Growth in %
1	1901	26,022	-
2	1911	19,145	-26.43
3	1921	22,454	17.28
4	1931	26,379	17.48
5	1941	36,405	38.01
6	1951	41,070	12.81
7	1961	48,709	18.60
8	1971	66,433	36.39
9	1981	83,336	25.44

SOURCE : Census of India (1981), Series 12, Maharashtra, Part XIII, Satara District Handbook.

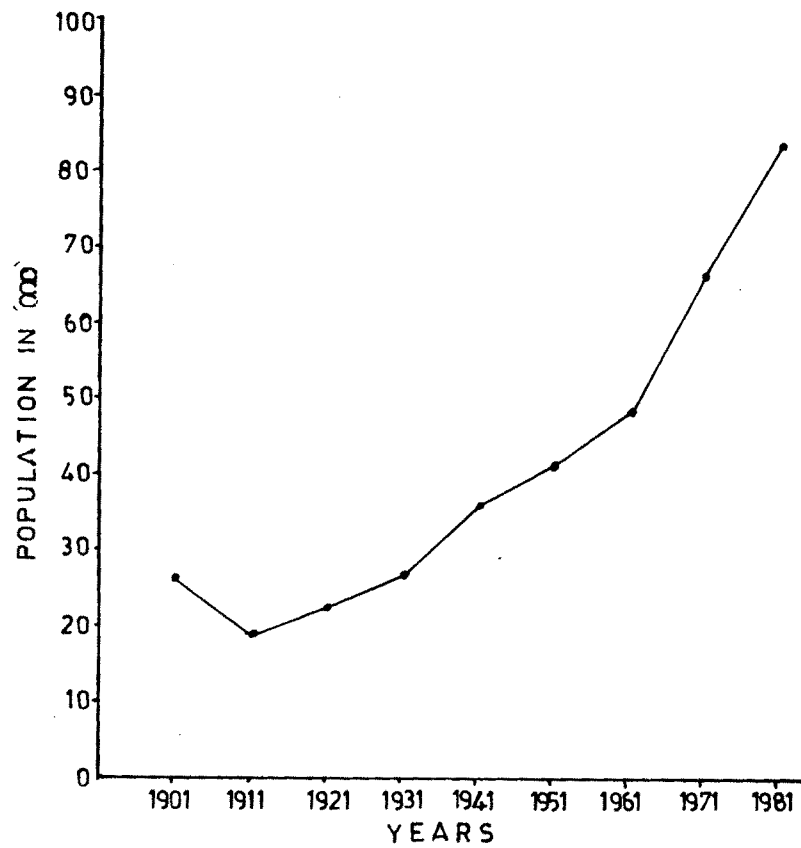
Industrial and Economic set up

Satara is important industrial town of South Maharashtra. In Satara, there is one sugar mill and one cotton mill. There are some agro-based industries. It is also commercial centre.

Satara Standard Urban Area

Satara standard urban area (SUA) is small SUA as compared with other SUA's of South Maharashtra. According to 1971 census, the area of Satara standard urban area was 25.14 sq.km. In this SUA Satara city was only one urban component. The area of urban

SATARA CITY
POPULATION GROWTH
(1901 ~ 81)



VERTICAL SCALE
1 CM = 10,000 POPULATION

component was 8.16 sq.km in 1971. The Godoli and Karanje T. Satara, these villages were included in rural component. The area of rural component was 16.98 sq.km. In 1971, the population of Satara SUA was 67,955 persons including 36,503 male and 31,452 female with the density of 2,703 persons per sq.km. On the other hand the population of urban component of this SUA was 66,435 persons including 35,732 male and 30,701 female with the density of 8,141 persons per sq.km. The population of rural component was 1,522 persons including 771 male and 751 female in 1971. The density of population of rural component was 90 persons per sq.km.

In 1981, the area of Satara standard urban area was 26.58 sq.km. The urban component of this SUA, Satara city itself included as urban group. On the other hand Godoli and Karanje T. Satara these villages were included in rural component. The area of urban component and rural component was 8.16 sq.km and 18.42 sq.km respectively. The total population of Satara SUA was 89,511 persons including 47,205 male and 42,306 female with the density of 3,368 persons per sq.km in 1981. The population of urban component of this SUA was 83,336 including 43,972 male and 39,369 female. The total population of rural component was 6,175 persons including 3,233 male and 2,942 female. The density of population in urban and rural component was 10,213 and 335 persons per sq.km in 1981.

1.6.5 Ichalkaranji city and SUA :

Ichalkaranji is important industrial city of South Maharashtra. This city is known as the ' Manchester of Maharashtra.'

Origin and Growth

The town has developed during the Peshwa regime, but real growth of the town as industrial centre started in the British period. It is most flowershing township area originated in 18th century. Chh.Shahu of Satara granted this small village to Naro Mahadeo Joshi (Ghorapade) in 1730. It has become capital of Ichalkaranji Jahagir in 1848. During British period it began to gain importance as weaving centre.

Population Growth

The main character of population of this city is that, the growth rate of population from 1901 to 1921 was negative. Table 1.6 shows the growth rate of population from 1901 to 1981.

TABLE 1.6 : Ichalkaranji - population growth (1901-1981).

Sr. No.	Year	Population	Growth in %
1	1901	12,970	-
2	1911	10,239	-20.75
3	1921	10,211	-00.27
4	1931	11,904	16.31
5	1941	18,573	56.02
6	1951	27,423	47.65
7	1961	50,978	85.90
8	1971	87,731	72.10
9	1981	133,751	52.46

SOURCE : Census of India (1981), Series 12, Maharashtra Part - XIII, Kolhapur District Handbook.

In 1901, the population of Ichalkaranji was 12,920 and it became 133,751 in 1981. The growth rate of population was high (85.90%) during 1951-61, but during 1961-71 and 1971-81, the growth of population was decreased (Fig.1.10).

Industrial and Economic set up

Today Ichalkaranji is known as ' Manchester of Maharashtra.' Since independence the city has developed several manufacturing and household industries. Now the city has nearly 35,000 power looms. At present the city has three spinning mills. It is an important cotton textile industrial centre of Maharashtra.

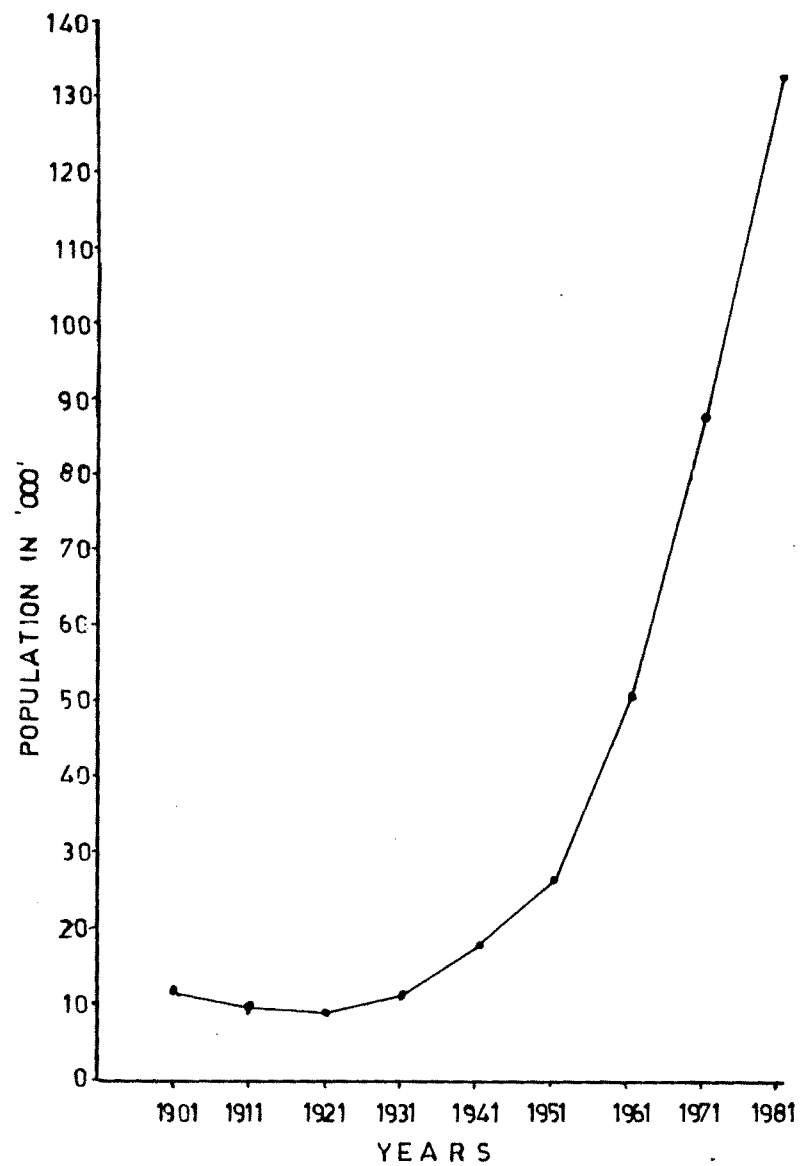
Ichalkaranji Standard Urban Area

Ichalkaranji standard urban area is the second standard urban area (SUA) of Kolhapur district. In 1971, the area of Ichalkaranji SUA was 33.78 sq.km. In this SUA Ichalkaranji itself was urban component. The area of urban component was 18.33 sq.km. The villages like Kabnur and Shahapur were included in rural component. The area of rural component was 15.65 sq.km. The population of Ichalkaranji standard urban area was 101,818 persons in 1971. There were 55,228 male and 46,590 female and density of population was 3,014 persons per sq.km. In urban component total population was 87,731 persons including 47,689 male and 40,042 female. The density of population in urban component was 4,839 persons per sq.km. On the other hand, the total population of rural component was 14,087 persons including 7,539 male and 6,548 female in 1971.

ICHALKARANJI CITY

POPULATION GROWTH

(1901 - 81)



VERTICAL SCALE
1 CM = 10,000 POPULATION

The density of population in rural component was 900 persons per sq.km.

According to 1981 census, the area of Ichalkaranji standard urban area was 38.12 sq.km. The population of Ichalkaranji SUA was 170,416 persons including 91,913 male and 78,503 female in 1981. The density of population in this SUA was 4,471 persons per sq.km. In urban component of this SUA Ichalkaranji and Kabnur were included. Kabnur village which was rural component in 1971, merged as urban component in 1981. The area of urban component was 32.80 sq.km. The population of urban component was 164,026 persons including 88,480 male and 75,546 female. The density of population in urban component was 5,001 persons per sq.km. On the other hand the area of rural component of Ichalkaranji SUA was 5.32 sq.km. The population of rural component was 6,390 persons including 3,433 male and 2,957 female. The density of population in rural component was 1,201 persons per sq.km in 1981. The Shahapur village was only rural component of this SUA in 1981.

1.7 SHAPE'S OF STANDARD URBAN AREA'S OF SOUTH MAHARASHTRA :

The Nature of Shape :

The economic and administrative efficiency of the area is closely connected with the shape of the area. Some simple

measures have been evolved in human geography to describe briefly the shape's of the phenomena studied. Haggett has developed and applied two indices to measure the shape of countries in Brazil. They are contact numbers and shape index (s). The contacts between areas, shape index gives as an idea wheather the shape of the area is nearer to quadri lateral, pentagen or hexagon or circular shape.

Bunge (1962, pp.73-78) has discussed the problem of shape at length and suggested a method for overcoming them. This method is based on two terorems, it is recognised by all that the ideal and useful shape of any area is a circular shape.

Gibbs (1966, pp.99-106) has made use of S_4 index in describing the shape of American cities. This index is related to the area of the circle that would be generated by the longest axis to the actual area, so that values of 100 indicates a circular shape.

With the help of following formula shape indexes of standard urban areas in South Maharashtra has been calculated.

$$S = \frac{1.27 \times A}{t^2}$$

Where, S = Measure of circularity

A = Area of SUA

t = Length of longest axis in SUA

With taking into consideration above formula Kolhapur
SUA's shape index is calculated as follows -

$$S = \frac{1.27 \times 147.63}{441}$$

$$= 0.42$$

In this way, all SUA's shape index of study region have
been calculated. These indexes are shown in Table 1.7.

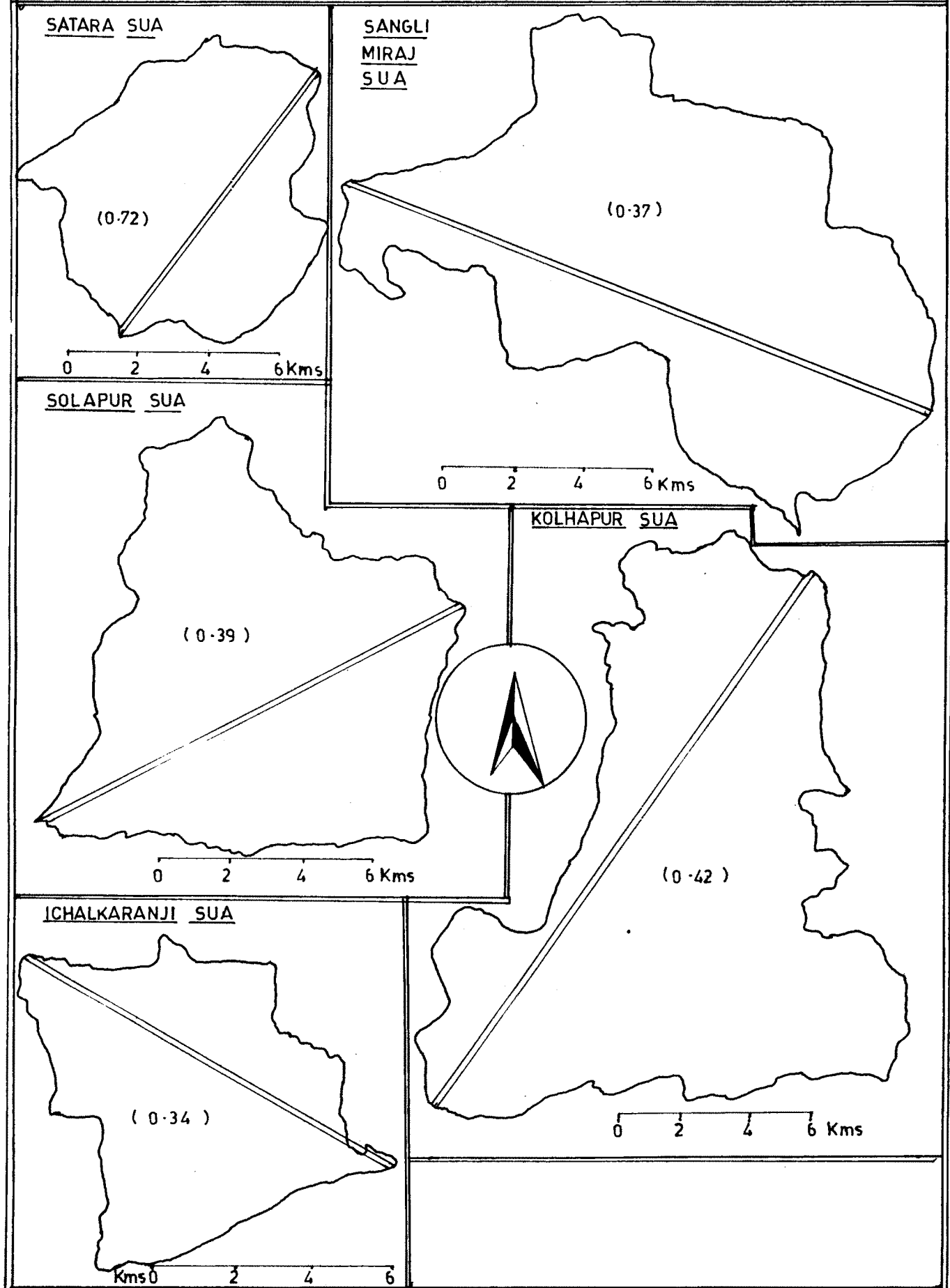
TABLE 1.7 : Shape Index of SUA's.

Sr. No.	Name of SUA	Index
1	Kolhapur SUA	0.42
2	Solapur SUA	0.39
3	Sangli-Miraj SUA	0.37
4	Ichalkaranji SUA	0.34
5	Satara SUA	0.72

The Analysis of Shapes

The shapes of different SUA's are indicated in Fig.1.11.
It is observed that the Satara SUA's has more ideal shape as
compared to other SUA's. The shape of Sangli and Ichalkaranji
SUA's are showing very low index of efficiency.

SHAPE INDEX OF STANDARD URBAN AREA'S SUA



(FIG. 1-11)

1.8 FRINGE ZONE AND STANDARD URBAN AREA :

The relationship of standard urban area and fringe zone of city is very complex. When we try to compare the fringe zone and SUA, we find that the SUA has a wider expansion and it includes an area which will be developed as urban in near future. On the other hand fringe zone of city is an area which is directly supported by the exploitation of land resources. It is mix zone where the common characteristic of rural and urban landuse are found. It is an dynamic area, where the common characteristics of rural and urban landuse are found. It is an area of transition between well recognised urban landuse and the area purely devoted to agriculture. This fringe zone area is much smaller than umland of city and some times it is even smaller than the commuting area of the city.

According to Golledge (1960), fringe area has seven important characteristics. They are as follows :-

- 1) In the fringe area the pattern of land occupance changes constantly.
- 2) Most of the land holding area is small.
- 3) Cultivation of land is intensive.
- 4) As compare to urban population density, this area has low density and the population is mobile.
- 5) This area shows rapid expansion of residential zone.
- 6) Services and public facilities are less in this area.
- 7) Land values are fast increasing in this area.

As compare to this, standard urban areas have following important characteristics :-

- 1) Permanent urban landuse, high interaction between the SUA and urban centre. This is with the help of telephone, bus service, truck and railway transport.
- 2) Variety of items and goods from rural area are transported to main urban centre while several finished products and services from urban area are offered to the rural component of SUA.
- 3) Due to the locational importance most of the villages in standard urban area indicate high growth rate and they also develop industry, market, transport and communication.
- 4) Rural component of SUA has several big villages, it's large proportional working force engaged in non-agricultural activities.

In the light of above discussion one can understand that fringe zone is one area of mix landuse located on the border of city limit. On the other hand SUA is an area having potentials of urban growth in the near future, mainly of the SUA rural component may have pure rural landuse.

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