

CHAPTER -II

**“ GEOGRAPHICAL SETTING OF
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CHAPTER -II

“ GEOGRAPHICAL SETTING OF THE STUDY REGION ”

1.0 INTRODUCTION

The physical setting of any region is an important aspect, which plays a significant role not in influencing its past history but also the climate, land-use, means of transportation, distribution of settlements and distribution of population etc. Therefore, the study of geographical setting in relation to man and his needs are vital (Gopal Singh , 1983).

Although the study of physical elements deal with natural phenomena, people are always involved – as evaluators, users and modifiers. When people till the soil, irrigate a crop, extract a mineral deposit, build shelters from the cold, dam or fowl streams, starve from drought, clear the forests from half of continent, pour toxious gases into the air, introduce new crops into a region or avoid huge sections of the earth as being too costly or too trying to handle, they are living with and are a part of the physical elements of the earth (Raman, 1994).

2.1 LOCATION

The Khandala taluka is one of the taluka of the Satara district, which is situated on the nothern boundary of the Satara district, lies between 17°50 North to 18°32 North latitude and 73°10 East to 74°12 East longitude, covers an area about 526.5sq. Kms, and has total population of 101105 persons, according to the 1991 census, residing into 65 rural inhabitants. The density of the population per sq. km. according to the 1991 is 191 persons, out of the total area nearly 63.4 percent land is found under cultivation because most of the southern area is occupied by Mahadeo range and its off shoots. Out of the total geographical area only 25.34 percent of land is under irrigation, but it is found that nearly 60 percent of the cultivable land has got irrigation facility.

LOCATION OF STUDY REGION

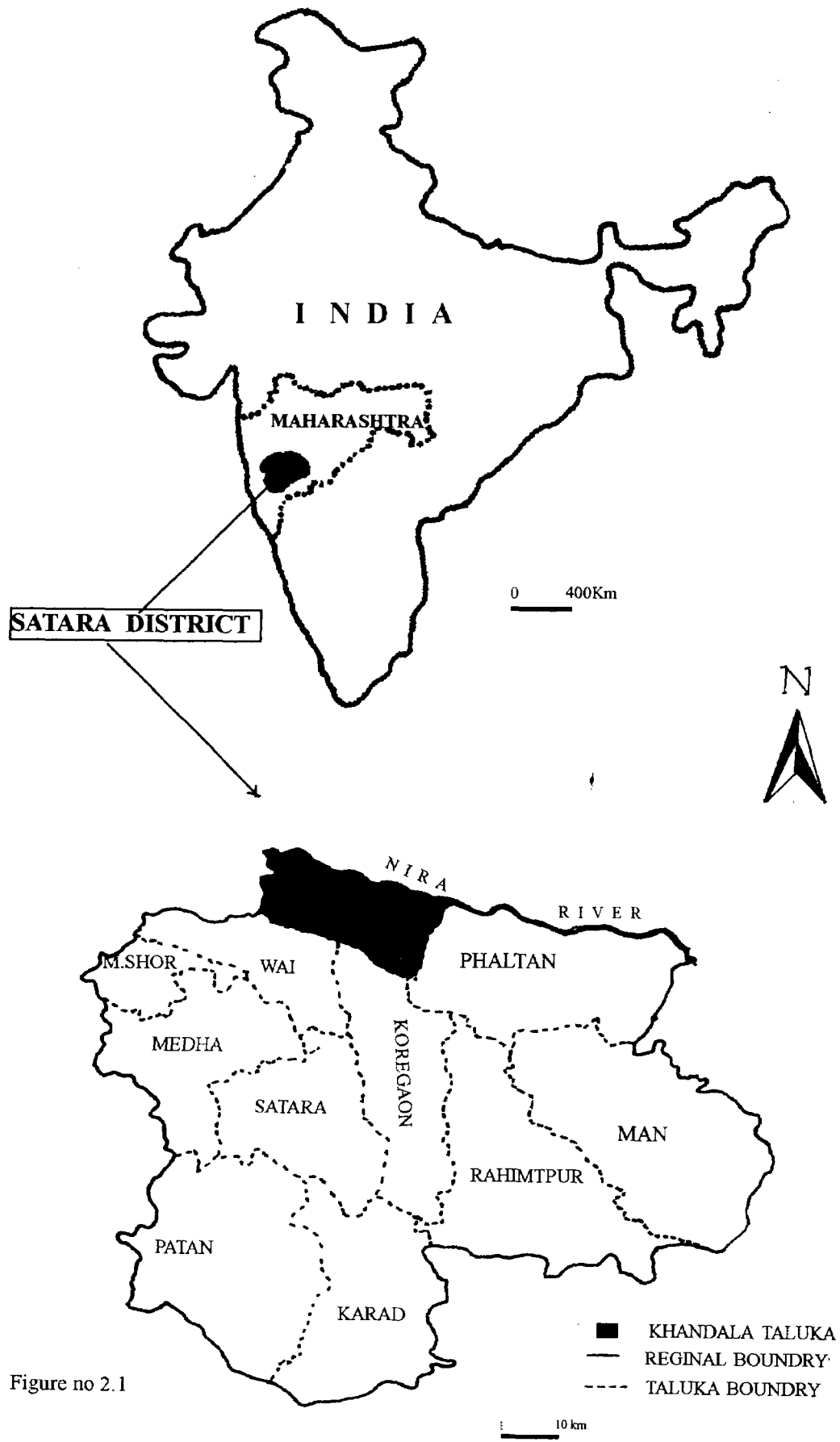


Figure no 2.1

Khandala taluka is located in northern part of the Satara district. The forside boundaries of the study region are demarcated at Wai in the south, Phaltan in the east, these are the two tahasils of Satara district, and Pune district located on the northern and western side. The Nira river is formed the natural northern boundary of Khandala, the boundaries of eastern and southern are man made. (fig.2.1)

2.2 PHYSIOGRAPHY

The Mahadeo range is an important range of Sahyadrian mountain. The study region is covered by its off shoots which are stretching into different directions from the main Sahyadrian range. The entire study region can be divided into four categories on the basis of variation in heights as follow :

- 1) Mountain Region (above 1200 m.)
- 2) Hilly Region (900 to 1200 m.)
- 3) Plateau Region (600 to 900 m.)
- 4) Plain Region (below 600 m.)



1) Mountain Region (Above 1200 m.)

There are two distinct areas of the study region having height 1200m. above mean sea level. The first is located in south west part of the study region, and other is in the middle part. The Mandardevi, Harali and Khambatki peaks are the important features of the region. (Fig.2.2)

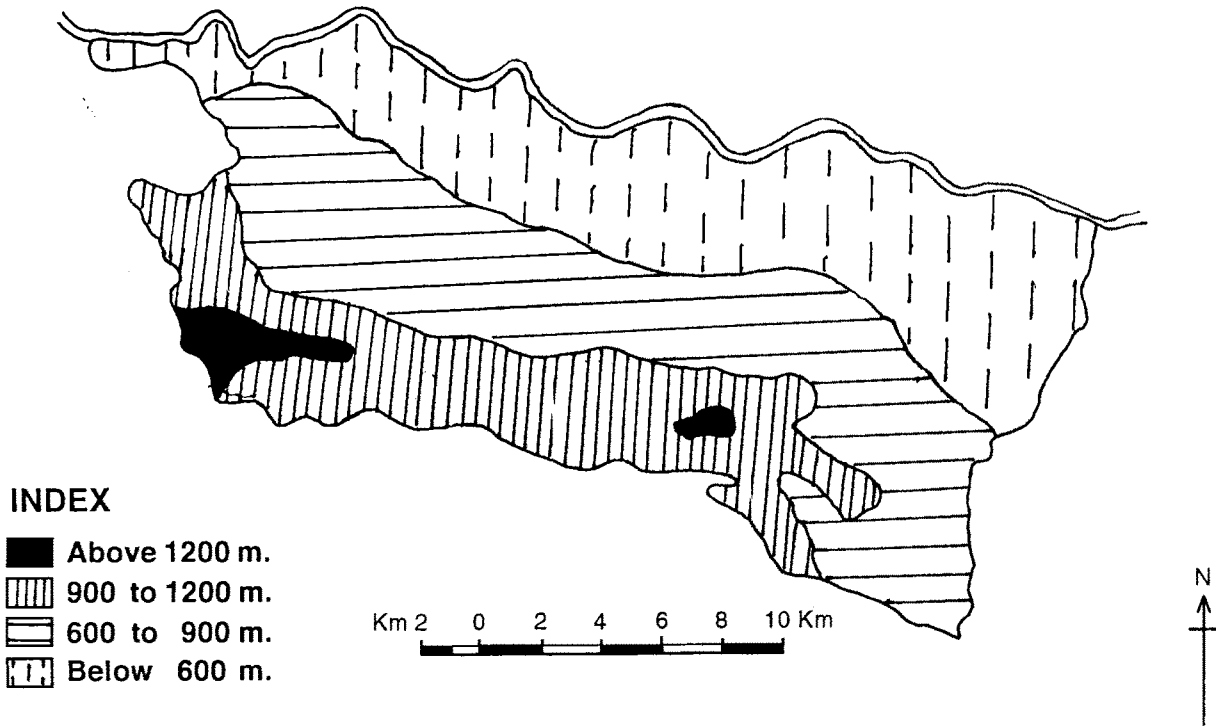
2) Hilly Region (900 to 1200 m.)

The southern part of the study region is covered by area of the height between 900 to 1200 m. from mean sea level. This stretches from south-west to south-east direction and includes small ranges formed by denudation processes.

3) Plateau Region (600 to 900m.)

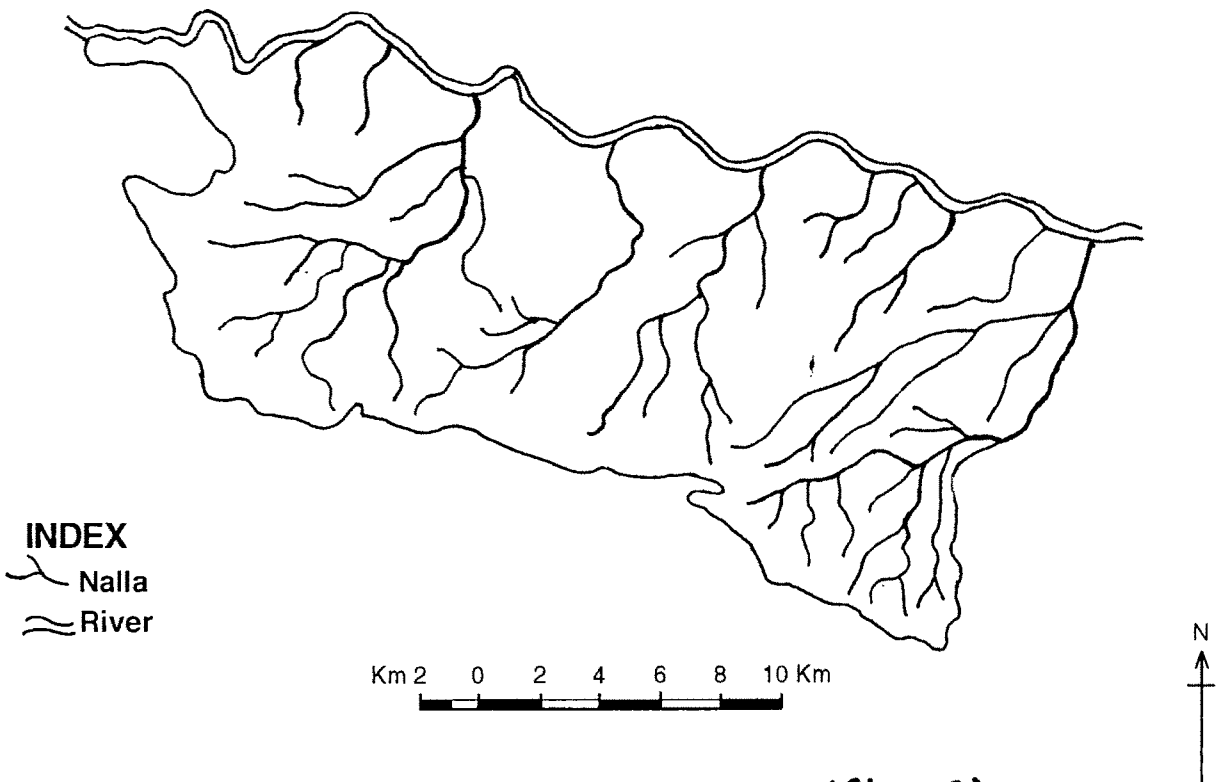
The central part of the study region covers area between the height of 600 to 900m. from mean sea level. This area includes local hill stretches from west to east direction. It is a flat area but in the central part it has gentle slope and it covers major part of the study region.

KHANDALA TALUKA PHYSIOGRAPHY



(Fig 2.2)

KHANDALA TALUKA DRAINAGE



(Fig. 2.3)

4) The Plain Region (Below 600m.)

The plain area in Khandala taluka is found on the northern part of the region, extended into west to east direction. The boundary of this region has been marked by Nira river in the north having height of below 600m from mean sea level. The width of the region has found extended more in east than the western part. The whole belt is highly fertile and agriculture is remarkably developed as well as transportation net work is also very well developed.

2.3 DRAINAGE

The drainage system of the region is completely developed by the dendritic pattern. The Nira is the main river of the region, which is flowing from west to east direction having number of streams from southern side. The northern boundary of the region is demarcated by the Nira river. The Mand, Bhade and Saradecha odha are the important streams forms the drainage system of the region. All these streams are flowing from south to north direction and merge into the Nira river. All these streams have source in the Mahadeo range. (fig.2.3)

2.4 CLIMATE

The climate of the study region is monsoonal type. The summer season from March to May, the rainy season from June to October, the winter season from December to February and the retreat monsoon season is observed from October to November. The maximum temperature in the April and May. An average maximum and minimum temperatures are 33°C and 17.47°C respectively.

The average annual rainfall is about 552.22mm.in the study region. The rainfall decreases towards the east (fig.2.4)

2.5. SOILS

The agricultural practices of any region mainly depend on the types of the soil. Here an attempt has been made to study the various types of soil in the study region which is classified into five categories.

- 1) Sandy Soil.
- 2) Sandy Loam Soil
- 3) Sandy Clay Loam Soil
- 4) Sandy Clay Soil
- 5) Clay Soil.

1) Sandy Soil

Sandy soil covers an area about 26.27 percent of the total region prominently in the southern part. The hilly region of Mahadeo range, mainly Mandardevi and Harali ranges have sandy soil. The other patches of soils are found in the adjacent area of the Bavda village. The sandy soil is more stony and more rocky in character.(fig.2.5)

2) Sandy Loam Soil

The sandy loam soil is found in a scattered manner all over the study region mainly in four parts, southern part of Khad BK, northern part of Pargaon, eastern part of Kavathe and at Ghatgewadi and some portion of Wing village. It covers an area about 02.47percent of the Khandala taluka. The village Khandala has severs stony soil but at Ghatgewadi it is covered with moderately stony soil.

3) Sandy Clay Loam Soil

This type of the soil is found in the middle west and western part of the study region. The sandy clay loam soil covers an area about 13.40 percent of the total region. It is slightly stony soil.

4) Sandy Clay Soil

Major portion of the study region is covered by the sandy clay soil , which is about 37.19 percent. It has gentle slope in nature and extended from Bhatghar to Bhadawade, stretching from Khandala , Bori and Khed BK. This belt is extended in the eastern and northern boundary of the study region. Near the Ahire village, there is slightly stony soil.

KHANDALA TALUKA
RAINFALL DISTRIBUTION
(IN MM)

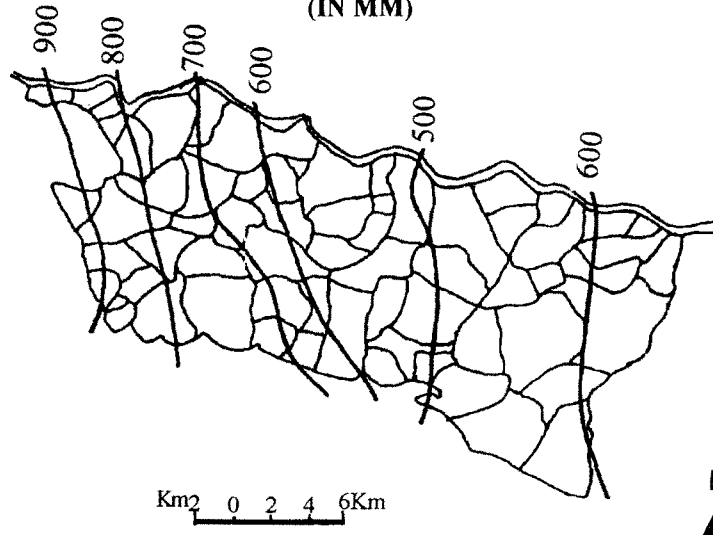


Figure No. 2.4

KHANDALA TALUKA
SOILS

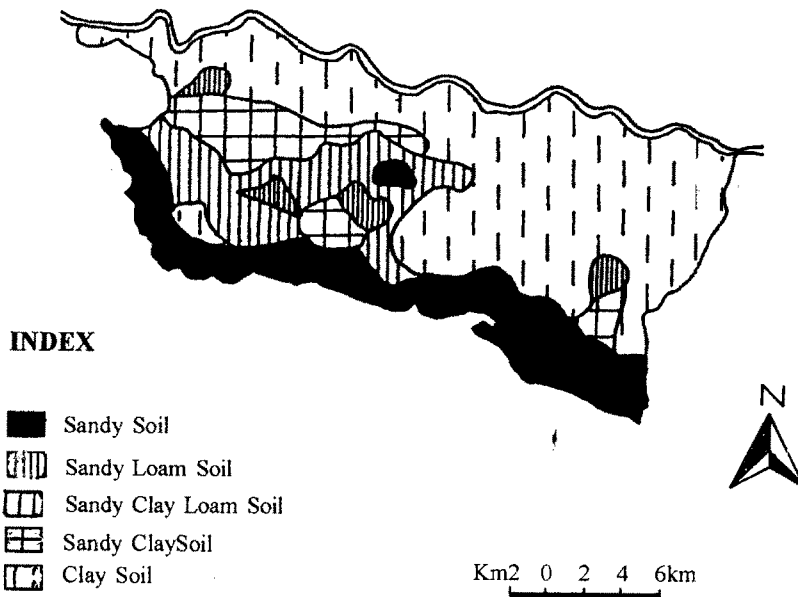


Figure No 2.5

5) Clay Soil

Clay Soil is mostly found in the three parts of the study region. Major part of the land is covered by the Mirje, Palashi, northern part at Athit, Ajnuj, and Nimbodi village. The soil covers the area about 09.05 percent of the total region.

2.4 FOREST

The study region can be divided under five administrative unit. Such units are Khandala, Lonand, Palashi, Kanheri and Padali. The land under forest in Khandala tahasil is about 08.88 percent of the total. It is noted that forest in the study region is unevenly distributed on account of the great diversity in geographical factors especially climatic conditions. The forest types are as follows :-

- 1) Moist Monsoon Deciduous Forest
- 2) Dry Deciduous Forest
- 3) Dry or Arid Forest

1) Moist Monsoon Deciduous Forest

This type of forest is found in the study region, where the annual rainfall is above 500mm. There are few places found in the western part of the study region where major species consist of teak, Mango, Phanas, Chandan, Haldu, Khair, Moha and Hirda etc. Bamboos are found along nallas in the western part.

2) Dry Deciduous Forest

Dry deciduous forest is found in the central part of the study region. The Harali hills and Bhadawade hilly region consist these species such as Nimb, Mango, Sag, Karanj, Babhul and Palas etc.

3) Dry or Arid Forest

The remaining major portion of the study region belongs to this category of forest. This area receives less rainfall as compare to other parts. The annual an average rainfall is about 500mm. The types of trees are Babhuls, Chinch, Grass and Shrubs are found in this area.(fig.2.6)

2.5 LAND USE PATTERN

The study of land use pattern is an important aspect. Out of the total land nearly 10.26 percent land is under the forest and 4.18 percent of land is not available for cultivation. The cultivation waste land is 10.64 percent as well as follow land accounts of 15.00 percent Nearly 59.92 percent of total land is under cultivation, it means agriculture is the main stay of the people. The table II-I and fig.2.7

Table II-I

Khandala tahasil

LAND USE PATTERN (1991)

Sr. No	Land Utilization	Area in '00' Hectares	Percentage of the total
1	Land under forest	54	10.26
2	Not available for	22	4.18
3	Cultivation	56	10.64
4	Cultivable waste	79	15.00
5	Fallow Land	315.5	59.92
6	Net swon area		
	Total	526.5	100.00

**KHANDALA TALUKA
LAND UNDER FOREST (1991)**

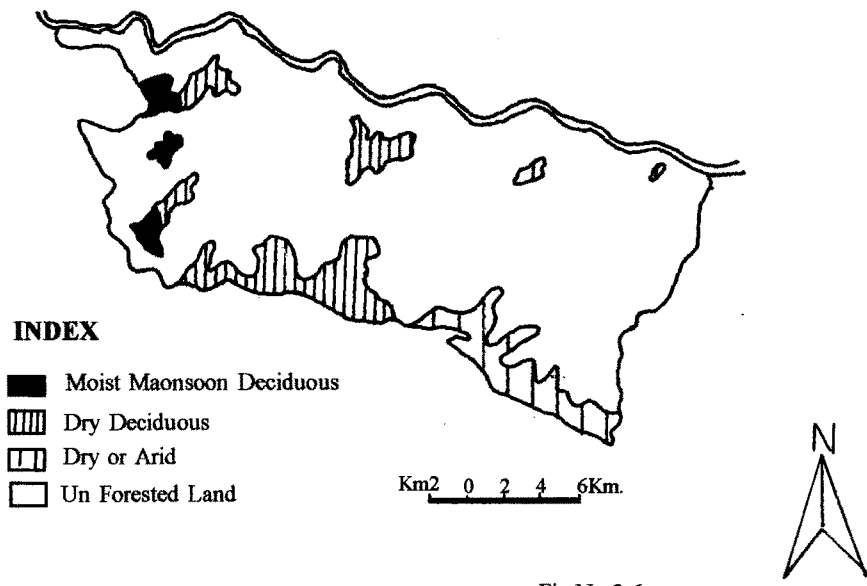


Fig.No.2.6

**KHANDALA TALUKA
LAND USE PATTERN (1991)**

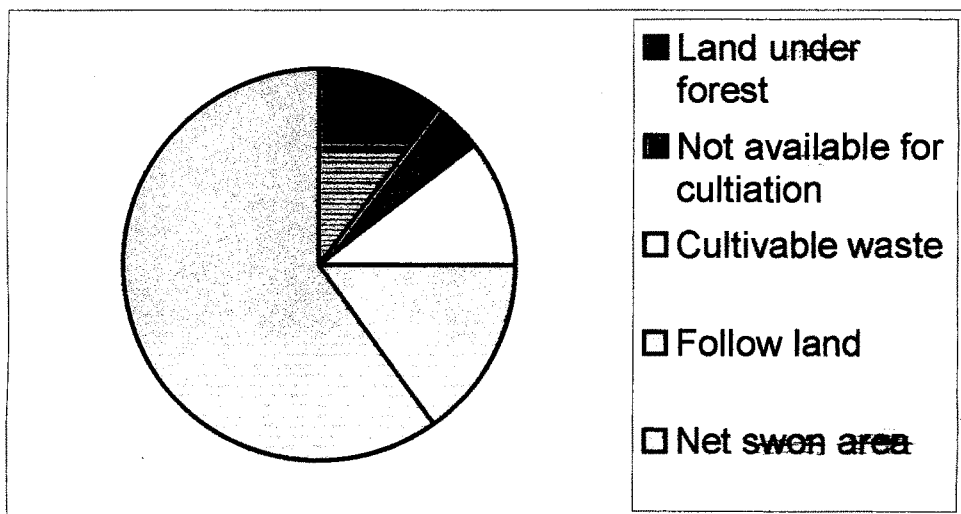


Fig. No. 2.7

2.8 AGRICULTURE

Agriculture is the main stay of the population of Khandala taluka, because out of the total land nearly 60.00 percent of the land is under cultivation. Out of the total working population about 73.00 percent accounts for cultivators and agriculture labourers. The Khandala taluka having monsoonal type of climate. So the agriculture is mostly depend upon the monsoonal rainfall. The rainfall decreases from west to east direction. Though the cropping pattern changes as per rainfall, the major food crops are rice, wheat and jawar but along the Nira river, streams and dams the availability of irrigation facilities the sugarcane, onion, cotton and oil seeds are produced.

2.9 CROPPING PATTERN

Agriculture is a major occupation of the people therefore agriculture plays significant role in the economic set-up of the study region. The northern part is occupied by Nira River which is extended east to west direction having fertile clay soil the availability of irrigation facilities gave impetus to agriculture produce. The southern part of the Khandala tahasil have topography as well as sandy soil which affect on the agriculture. The remaining central part having sandy loam soil, sandy clay loam soil and sandy clay soil which produces cereals and pulses. The table II-II fig.2.8 gives clear idea about the cropping pattern.

Table No . II- II

Khandala taluka

CROPPING PATTERN – 1991

Sr. No.	Crop	Area in Hectares	Percentage
1	Cereals	2947	10.67
2	Pulses	4211	15.20
3	Sugarcane	737	02.68
4	Cotton	14263	51.60
5	Oilseeds	1947	07.10
6	Other crops	3526	12.75
Total		27631	100.00

The over all cropping pattern reveals that the region is dominated by the cultivation of cotton out of the total cultivable land in the Khandala taluka has been occupied nearly 51.60 percent land under the cotton crop. It is grown in two seasons. After the cotton pulses ranks second which occupied about 15.20 percent of the land. The third rank occupied by other crops and covered the 12.75 percent of the total areas. Cereals, oilseeds and sugarcane occupied nearly 10.67 percent, 7.10 percent and 2.68 percent of the total land respectively.

2.10 IRRIGATION

Since last three decades irrigation has played an important role in transforming the rural landscape of the study region . The development of right bank canal of the Nira river and other sources of irrigation played vital role in changing the cropping pattern of the area . More over the entire economy has been influenced by the development of irrigation, which in turn

brought prosperity of region . The table II-III.show details about the land under irrigation and the source of irrigation .

Table II-III

Khandala taluka

LAND UNDER-IRRIGATION (1991)

Sr.No.	Sources	Land under irrigation in He.	Percentage of land
1	Canal	179.37	01.40
2	Wells	7041.59	53.00
3	Other	6052.00	45.60
Total		13272.96	100.00

Out of the total land under irrigation 1.40 percent land under canal Irrigation , 53.00 percent land is under well irrigation and 45.60 percent land is under other sources of irrigation (fig . no . 2.9)

2.11 POPULATION CHARACTERISTICS

Man is producer and consumer of the various economic resources .The rate in which economic resources of an area are utilized and it is determined by the number of human beings in that area (Singh,1983).The population of Khandala taluka was 101,105 as per 1991 census and 82,574 as per 1981 census. According to 1991 census, the male population is higher than female population. Nearly 57.71percent of the total population of Khandala taluka is literate. The scheduled castes and scheduled tribes population in Khandala taluka is 8.29 percent and 0.77 percent respectively. The density of the population per sq. km. is 191 persons.

2.12 OCCUPATIONAL STRUCTURE

Proportion of people engaged in various types of occupation in Khandala tahasil is an important aspect of population. Economic activities can be grouped into three categories as shown in table II-IV.

Table II-IV

Khandala taluka

OCCUPATIONAL STRUCTURE (1991)

Sr. No.	Economic Activity	Population in 1981	% of Total	Population in 1991	% of Total
1	Primary	20304	72.10	29702	73.10
2	Secondary	1054	03.74	3766	09.25
3	Tertiary	6833	24.24	7172	17.65

In the study region more population is engaged in the primary sector, it is 73.10 percent in 1991 and 72.02 percent in 1981. It has got slight change in two decades. In the secondary and tertiary sectors it holds 26.90 percent and 27.98 percent out of the total population in the decade 1991 and 1981 respectively. As compared to 1981 to 1991 more change is found in secondary occupation. But in the tertiary activity population shows decreased trend that of 1981. In the decade 1981 the population engaged in tertiary activity is 24.24 percent of the total population but in the 1991 decade it is only 17.65 percent out of the total population.

2.13 TRANSPORTATION AND COMMUNICATION

In the study region the transportation network is found well developed. The road and rail transportation are the major transportation system. The road network is well development towards the northern portion of the Khandala tahasil or along with the Nira river. The railway is

**KHANDALA TALUKA
CROPPING PATTERN (1991)**

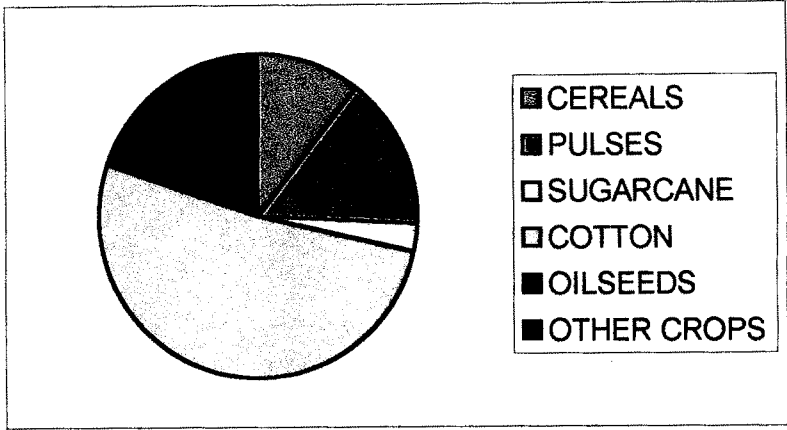


Fig.no. 2.8

**KHANDALA TALUKA
LAND UNDER IRRIGATION (1991)**

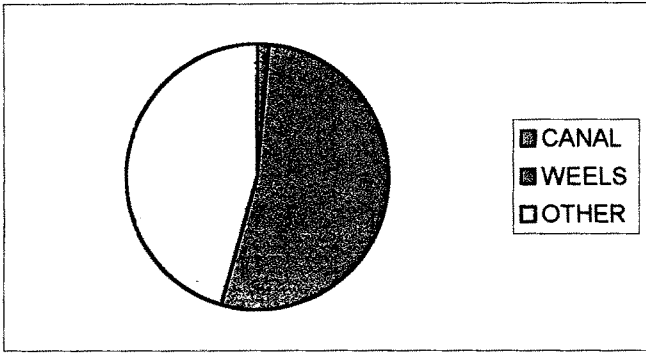


Fig.no.2.9

**KHANDALA TALUKA
OCCUPATION STRUCTURE (1991)**

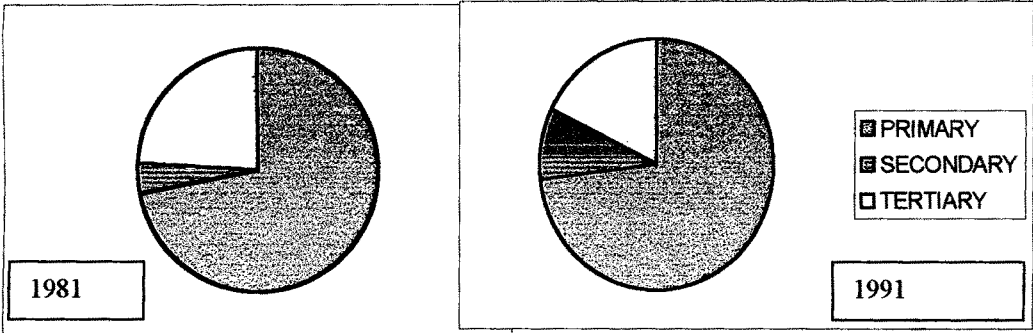


Fig.no.2.10

passing through eastern boundary of the study region and length of the rail route is only 7 km. The National highway No.4 is running into north south direction. The length of NH.4 is 15.2 kms. The state highway No.61,70 and 75 joins major centres and having the length of 44.6 kms. The unmetaled and metaled roads are found through the region and the length of the same roads are 65.6 kms. and 63 kms. respectively.

The Khandala taluka is poorly developed in respect of communication because whole region is rural but post and telegraph offices are available on only particular stations like as London, Shirwal and Khandala.

2.14 ECONOMICAL STATUS OF KHANDALA TALUKA

In modern era industries are the most significant occupation of the man. A variety of manufactures are now produced in the Khandala tahasil. There are various factors influencing the location of industries, out of which water is one of the major geographical factor. Vir hydro electric power station, national highway No.4 are the other factors. The Mand dam as well as Nira river are the main water supplying sources since last to decades. The growth of various industries have change the socio-economic condition of the region. In the study region the manufacturing industries are found only on the right bank of the Nira river and near the dam. With respect of the above factors various industries are developed near the Shirwal, Lonand and Khandala.

At Shirwal many industries like, paper industries, chemical industries, Godrej (Cattle Feed), manufacturing of electrical components, washing machine, electric-lamps, tubes and other such various spare parts of two wheelers etc. concentrated other industries are also found at Lonand and Khandala centre. Oil mills and some small scale industries are present at these place.

Due to growth of industries of above centres are linked with major cities of Maharashtra such as Pune, Mumbai etc. Development of agricultural regulated market at Lonand, because of onion, it links most of the important towns or cities of

Maharashtra and out side the Maharashtra. The Shirwal is developed as industrial and commercial centre of the region.

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