Chapter II

Geographical Personality of the Region

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Chapter II

Geographical Personality of the Region

2.1 Introduction:

In the first chapter, meaning of Settlement, Settlement geography, Rural Settlement Geography, Settlement development in India and Maharashtra, Choice of the study region, objective of present study, database methodology, review of literature and chapter scheme these points are discussed. This chapter mainly related with location and boundaries, historical background of the study region, physiography, geology, drainage System, climate, soil types, and natural vegetation of the study region.

2.2 Location and Boundaries:

Jalgaon district is located in the north part of Maharashtra. It is bounded by Satpuda mountain ranges in the north, Ajanta mountain ranges in south, Dhule district in the West and Bhuldana district in the East, Jalgaon is rich in volcanic soil, which is well suited for Cotton and Banana production. Jalgaon district is lies between 20° N to 21° N and 74° 55′ to 76° 28′ East longitudes. The East West stretch of the study region is 120 kilometers and North-South extension of the region is 110 kilometers. Geographical area of this district as per 2011 census was 11,776 Sq. km. and its population was 42,29,917 and density per Square kilometer was 360 persons. Total urban population of district was 13,42,711 and rural population was 28,87,206.¹
LOCATION MAP OF JALGAON DISTRICT

Map 2.1
It is bounded by Aurangabad in south, on the north bounded by Madhya Pradesh state, Buldhana in East and Nashik and Dhule in West. The Anner River forms the boundary of the district in West and North side. The Jalgaon District is situated in Tapi River, length of river Tapi in Jalgaon district is 130 km east west. In North side Satpuda mountain ranges are bounded. Satpuda ranges width is 30 to 46 km. East West of Jalgaon district. In this area tribal communities major villages are there as Pawra, Bhilora etc. In Southern part of the river Purana is flowing, this area is hilly area Waghur gives Bori are tributary of Purana this area is black soil area (Map 2.1).

In 1999 Government of Maharashtra found a new tahsil Dharangaon and Bodwad tahsil. Bodwad found from Bhusawal tahsil divided and Dharangaon from Erandol tahsil.¹ Now in Jalgaon district 15 tahsils are working our research period is 1980-81 to 2010-11 and non availability of data of Bodwad and Dharangaon they are not include for data collection in 2011. The time series data of newly formed tahsils is not available therefore only old 13 tahsils are considered for the study.

Jalgaon district forms an upland district by its westward aspects. While the rest of the upland districts are drained to the East, the Tapi and its tributaries drain Jalgaon westward to the Arabian Sea. The headquarters of Jalgaon District as at Jalgaon and is located almost in the center of the district and the major transport lines. According to 2011 Census there were 1519 villages in Jalgaon district.² The district ranks 9th and 1st in Khandesh respectively in terms of area as per 2011 Census similarly the district ranks 8th in the state in terms of Population.
2.3 **Historical Background:**

Much of the early history of the region now known as Jalgaon district is still obscure. It is the eastern part of what was formerly called Khandesh. The early name of Khandesh was Rasika, in 10-12th century A.D. It constituted a part of sauna-desa under the Yadavas and later with the advent of Muslims it came to be known as Khandesh the century of Khans.

In about 5th century A. D. a portion of khandesh seems to have been ruled by the Vakatakas. The main branch of this family was matrimoniaally connected the imperial Gupta dynasty and were a powerful force in Vidarbha. It is however the Vastagulma branch of family which seems has dominated the southern portion of khandesh from their capital at Vastagulma. Their inscriptions are the first authentic records in the history of Jalgaon. It may incidentally be noted that some-copper-plate grants of certain rulers named Savmidass, bhuldna and Rudradasa dated in their regional years are believed to have flourished between A.D.316-367.³

Two of these plates are issued from valkha, which is identified as vaghil, near Chlisgaon. Their contribution though useful for the reconstruction of the history of Khandesh is still problematical. On 13th march 1975 the Nizam was defeated at kharda by Marathas. By the treaty that followed the Nizam had to cede his Khandesh possessions to the Peshwa. A considerable portion of khandesh was possessions by the Holker family having been divided among the Peshwa, Sindhia and Holker.⁴ The part left to the Peshewa was formed into a separate subha
include Gaulana, Khandesh proper, Melwar, Bejapur, Pallnemaur India. The present Jalgaon district formed a part of erstwhile Khandesh district. In 1906 the erstwhile khandesh district was divided in two districts called West Khandesh and East Khandesh with their headquarters at Dhule and Jalgaon respectively. The following tahsils were separated from Khandesh district to form East Khandesh district. Amalner, Parola, Bhusawal, Chalisgaon, Chopda, Erandol, Jalgaon, Jamner, Pachora, Bhadgaon, Raver, Yawal, Bodwad, Dhrangaon, and Muktainager.

2.4 Territorial Changes:

The number of tahsils in Jalgaon district remains unchanged since 1961, the number of inhabited villages has increased from 1480 to 1519. In 1970 Parola was upgrade as a tahsil subsequently Muktainagar and Bhadgaon were also elevated to tahsil status. In 1950 thirteen villages of Chalisgaon tahsil were transferred to Aurangabad district in 1956. Reorganization of states and subsequently in 1960 becomes a part of Maharashtra state. On 10th October 1960 the name of the district was changed to Jalgaon District instead of east Khandesh district.⁵

No of Jurisdictional changes have occurred in the district boundary since 1961. But a few harmless which so far were annexed to main villages have been separated and granted the states of villages. Now there are 15 tahsils in Jalgaon district.

2.5 Physiography:

Physiography is one of the dominated parameter of physical environment and its impact on patterns and density of Settlement is immense.⁶
The study of the influence of environment upon the nature and
distribution of crops and livestock is of prime importance Settlement and
Agricultural Geography. Nature with his physical characteristics provides
a host of possibilities for rural settlement, Agriculture and agro based
industries in different area.

Physiographically Jalgaon districts are divided in following
division.

I) Tapi Valley
II) Northern Belt
III) Southern Belt
IV) Satpuda Hills
V) Satmala
VI) Spurs

I) Tapi Valley:

The Tapi valley consists of a vast alluvial plain intense erosion
reverie and Gully is the major key note of its landscape and its act as
serious and increasing limitations on the traditional settlement and
agricultural wealth of the region. This is particularly noticeable on the
northern flank between Faizpur and Chopda and the Southern in the
immediate vicinity of the Girma and the Waghur rivers. The Tapi banks
are high and bare and due to heavy regional erosion the land of both sides
is seamed by tributary rivers and streams.

Now and again from the North spurs of the satpuda stretch close to
the river bank and on the south rise some low barren hill ranges. With
these exceptions the long central plain is far about 80 miles from Barhanpur to the Western limit of the district which so terminus with the confluence of Anner and Bori rivers with the Tapi River. Cultivations evidently dominates the valley landscape though to north near the base of the satpuda, it yields progressively to forest growth and in the south to barren grass land with the approach of the Ajanta ranges.

II) **Northern Belt:**

The northern boundary of the district is marked by the longitudinal depression of the Anner River and its eastern counterparts the mamat tributary of the Suki River. North of the Tapi the whole length of the rich alluvial plain is bounded by the southern face of the satpuda a belt of mountain land from twenty to thirty miles broad. These two longitudinal valleys separate the southern range of the satpuda from their northern members much of this hilly country. Now with only a few scattered hill hamlets was once well peopled. At every few miles in the forest of Pal Tappa there are ruins of villages.

Further West Amba in the wide valleys of the Anner and the Arunavati is dotted with the brush hood-covered ruins of the temples mosques wells and upper stored houses of what must once have been good sized rural house.

III) **Southern Belt:**

South part of the rich Tapi valley is more varied than either in the center or in the north. In the extreme east, the Purna valley between the wests stretches south, much of it uncultivated or covered with brush hood. West ordained by the Waghur, the Girna and the Bori.
PHYSIOGRAPHY OF JALGAON DISTRICT

Height in Meters
- < 100
- 100-200
- 200-300
- 300-400
- 400-500
- 500-600
- 600-700
- 700-800
- 800-900
- > 900

Map 2.2
Wide stony and thorny plains rise in low based sink or topped basaltic ridges in rich well cultivated valleys.

IV) Satpuda Hills:

Within Jalgaon limits there are three chief hills ranges the satpuda are found. In the south east, the Ajanta or Satmala in the south and in the north the Hatti. The Hatti hills bounded the Purna valley on the cast run north west and south east and for about twenty miles pas through the south east corner of Jalgaon. The satpuda a broad belt of mountain land stretching in wall like line along the north bank of the Tapi rise from the first range of hills ridge behind ridge to the central crests about 2000 feet high and then slope gently to the Narmada. Among the peaks that rise upper about 300 feet the chief are in the east Pancha Pandu and Mondhiamal looking down on Yawal. Rising gradually from the Tapi valley in their first twenty miles, they are rather low and tame. East forming the northern frontier of bearer they rise to nearly 4000 feet and finally merge in Nagpur hills. At first bear and rocky as they near southern limit of Jalgaon their sides are in places somewhat thickly covered with brush wood and timer and give shelter to wild beasts.

V) Satmala:

The Satmala also known as the Chandor or Ajanta range breaking off sharply from the Sahyadris in the north west of Nashik, runs for about fifty miles east in series of quaint basalt pinnacles and ridges. Near Manmad after gentle depression it again raise about 600 feet above the plains and forms somewhat monotone us walk like boundary between Jalgaon and Deccan.
Expect about 50 miles in the west actually par its limits the range skirts the south of Jalgaon for about eighty miles. A few miles beyond Ajanta it turns south merging into the highlands that form the southern frontier of the Berar districts. As it is a narrow range little more than the steep northern face of the Deccan tableland the satmala contains few forest tracts. The side mostly bare or with a few scattered tress have here and there strands large enough to shelter wild animal of late year tillage has spread to the sides of many of northern spurs and in some places come close to the foot of main range. Besides the pictures quinces of its western peaks, the chief of interest of satmala range are the rock-cut Buddhist temple and monasteries at Ajanta Patna and chandor with in Jalgaon limits besides several foot paths, two roads cross the hills one through the Ranjangaon pass near Chalisgaon and the other by the Ajanta pass above Fardapur.

VI) Spurs:

To each of the three great hills ranges the Satpudas on the north, the Satmala on the south and Sahydri on the west which more properly lie in Dhule spurs rise from the plains for the most part at right angles to the main lines. Those emanating the Satpudas in the north and the Satmala in the south of no great height or length and as a rule with bare rounded sides and flat tops are of little pictorial interest. But from the central plain spurs stretch for upland of seventy miles west of the Sahydris one of these a rocky upland rising from the Tapi valley a few miles south of Amalner bounds the Bori on its left and stretching westward from near Dhulia a claim of craggy peaks.
2.6 Geology:

The physiographically of the district is made up of hill ranges on the north alluvium in the center and low hill ranges to the south of the Tapi on the north the hill ranges stretch east west and from part of the Satpudas the highest peak being about 3500 feet. Alluvial stretches for miles on both sides of the Tapi on the west it thing out on the east and the rock appears near Bhusawal where the railways bridge cross the Tapi.

Deccan traps cover almost the whole of this district except a few strips of alluvium cover land on both sides of major streams. These trap rocks are the result of outpouring of enormous lava flows which spread over are the result of outpouring of enormous lava flows which spread over vast areas of western, central and southern India at the end of Mesozoic era.⁹ They came through long narrow fissures and cracks in the earth crust and spread out as nearly horizontal sheets. They are called plate basalt, became they form a flat topped plateau. A bore- hole of Bhusawal 1211 feet deep revealed 29 flows the individual flows the average being 40 feet. In the high hill consisting of several flows the individual flows can easily be demarcated by their distinct flows line along which a thin growth of grass is noticed. In the Anner valley and near Dan let, North of Chopda they appear to be horizontal but they deep north at about 5⁰ in the low rises stretching across from Burhanpur to near river. The traps that are commonly found in the plateau or cliff faces are compact and harder often characterized by vertical prismatic on columnar jointing. They are dark grey or dark greenish gray to brownish grey in color.
About territory to the south of the Tapi, very little information is available as the area has not been surveyed geologically. However it can be stated that the hilly ranges south of the Tapi are covered with dark basalt. The trap weather with characteristic spheroid exploitation gives rise to large rounded boundaries on the outcrops. The trap soils produced by erosion and weathering are deep brown to rich red on black (regur). These black soils are very rich in plants nutrients and are most favorable for cotton crops. They are sticky when wetted and on drying due to contraction, produce, conspicuous cracks.

2.7 Drainage Pattern:

Drainage texture is expressed as the total length of streams per unit area, while it reciprocal is the distance between two adjacent channels. These are the two important parameters by which one can estimate soil erosion. Surface drainage is the disposal if excess rain water over ground surface through on open drainage system with an adequate outlet. Surface drainage is helpful where

I) Soils are deep with low infiltration rates where
II) Intensity of rainfall is high where
III) Terrain is level to nearly level and where
IV) The water table is high.

Any bore or well from which the underlying water is extracted either under pressure or through mechanical lifts can be defined as vertical drainage. The success of vertical drainage depends upon the presence of favorable aquifer and water for lifting the ground water on
sustained basis and the favorable quality of water that could be re-utilizes for irrigation purposes (Map 2.3).

   Surface water that is water on the surface of the land represents the drainage from the land. A part of the rainfall that is absorbed by the soil also becomes surface water by its discharge when it seeps into rills and runnels and it is discharged into the streams slowly. Drainage is comprehensive expression in Geography. It includes surface as well as underground water flow. It is the result of combination of numerous factors including climate particularly precipitation, insulation, humidity, cloudiness wide force and direction structure and type of rocks, railways, dams and reservoirs also change its nature.

   However, drainage is the most important components of physical environment, which affects agriculture directly and indirectly. Groundwater influent becomes the base flow that maintains the flow of streams in fair weather when we speak of surface water we mean stream flow regardless of its source. Therefore, surface water is by far the most important means for providing substantial irrigation which stabilizes and improves agro economic life in an area that has otherwise plenty of land potential.

   All the streams of district drain into one of the some principal rivers viz. Tapi, Girnaa, Bori, Waghur, which flows along the northern southern and the western boundaries of the district. The following are the important rivers of Jalgaon district.
DRAINAGE PATTERN IN JALGAON DISTRICT

INDEX

- Major River
- Sub River

Map 2.3

Tapi River
Suki River
Bori River
Girna River
Aner River
I) **Tapi River:**

The chief feature of the district the line to which almost its whole surface drains is the tapi with a course including meanders of about 450 miles and drainage area of about 30000 square miles, the Tapi flowing west from high land of MadhyaPradesh falls into the gulf of cow bay about twelve miles west of Surat of whole of its course about 75 miles lie within the limits of Jalgaon.

Practically throughout its course in this district the valley of the tapi is flat and well tilled and the banks at almost every three quarters of a mile are crowned with villages.

Within the limits of the district the tapi proper is hardly used either for irrigation or for boat traffic. The height of the river banks has withered to prevented successful irrigation. In 1981 a survey of the river showed that except in the extreme west it might at small cost be made passable for boats. The Tapi receives many tributaries from both side on the right bank are beginning from the east the Bhokar, the Suki the Mora the Harki the Mnaki the Gulli and on the left the Purnaa, the Bhogwati, the Waghur, the Girnna and the Bori. From the nearness of the Satpuda hill, in whose southern slope they all spring the streams on the right bank are small and of little use of irrigation or for other purposes. They have the peculiarity that near the hills and again for the several miles before they fall into the Tapi their streams flow throughout the year, while in a middle belt the water, during the fair seasons passes underground leaving the bed dry.\(^{13}\)
The streams on the left bank draining much wider tracks of country are of greater size and consequence. Except the Purnaa which from the south east joins the tapi about sixteen miles after it enters the district and the Waghur about twenty miles further west after a winding course of about forty miles from the satmala hills near Ajanta all the left bank streams have their sources among the Sahyadris in their character and course the Sahyadris streams have much common. Starting hemmed in by spurs at right angles to the main line of the sahyadris they past east until as the hills sink into the Jalgaon plain they are to follow the natural line if drainage and turn north to the Tapi of these are two chief streams the Girnna falling into the Tapi about twenty five miles below the Waghur and the Bori about twenty miles further west.

II) **Girna River:**

The Girna rising in the western hills of Kalwan sub-division of Nashik and fed by streams from the northern slopes of the Chandor or Saptashring range after a course of about 150 miles joins the Tapi near Nanded. Its course lies in nearly equal parts in Nashik and Jalgaon (Map 2.3). Passing eastwards through Nashik almost in a straight line in Jalgaon its course changes to north- east till near Jalgaon town, it bends north and then northwest flowing for several miles many windings almost parallel to the Tapi in Jalgaon except in one or two places where it is hemmed in by rocky hills the Girna with a broad sandy bed flows through a well tilled valley gradually spreading into the great central plain. It waters both in Nashik and Jalgaon are much used for irrigation. In Nashik
lately repaired dams and channels water many of its upland valleys and in Jalgaon from Rahall about ten miles north of Chalisgaon.\footnote{13}

### III) Bori River:

The Bori with a course of about sixty miles rising in the Malegaon sub-division of Nashik drains in its upper reaches parts of Dhule and has a somewhat parallel course about fifteen miles north of the GIRNA. In the Jalgaon district the river has course of about thirty five miles for about ten miles at maintains an easterly course and then with rather a sudden turn flows north for about twenty five miles where taking another bend it sets to the north west joining the Tapi. About twenty miles below the Girnaa like the Girnaa in its upland valleys the waters of Bori are much used for irrigation. Bori as is well testified by the high fertility of the soils of the valley too big for the present river (Map 2.3).

### 2.8 Climate:

Some geographers have argued that climate plays a vital role in the development of nation’s economy through affecting the energy of land the stimulus too man in his various environments.\footnote{14} Climate is also reflected in the haziest and requirements of consumers and thus affects the prospects for consumer goods industries of various types.

In a large measure, climate determines where man may live and thrive what settlement he may raise? What types of home he may appropriately build? What sort of clothing he may ware? And what pests and diseases he must combat. The potential crop productivity capability of a given area is dependent mainly on the existing climate and soil
condition. Since climatic factors exert mainly a regional influence on man and settlement life, the differences in the behavior of a settlement or a group of settlement over extensive areas as in given state or a group of states, may be considered as due primarily to differences in climate rather than soil conditions. There always exists a significant relationship between climate and settlement because of the limits imposed on settlement.

Growth by the existing broad natural climate condition which in a way determine the pattern of rural settlement and farm activity and crop production. The obvious reason is that field crops cannot escape climate vagaries, drought hazards etc.

The success or failure of the rural settlements is determined by the intensity of the climate factors. The three most important factors of climate from the stand point of settlement response are temperature, water supply and light and they may be treated as primary determinates of settlement growth. Settlement growth does not depend on limited variables but is controlled by various elements acting in combination at a time. All these factors are subject to accelerated fluctuations taking place from time to time and place to place. Consequently they determine the types of rural settlement raised and cause regional differences in settlement associations.

The climate of this district is on the whole dry except in the southwest monsoon season. The year may be divided into four seasons. The period of June to September is the southwest monsoon season while
October and November constitute the post monsoon season. The cold season from December to February is followed by the hot season from March to May. There are number of elements of the climate conditions. They are as follows.

2.8.1 Temperature:

Temperature conditions have been far less erratic from year to year than rainfall conditions in each agricultural region. However great annual ranges may highly significant in different zones giving rise to two or more cropping seasons. Without suitable temperature conditions germination of agricultural seeds and growth of rural settlements are correlated. Temperature regulates physical and human process of settlement growth.

The only metrological observatory in the district, which is at Jalgaon, began functioning recently. The description of the temperature and other metrological conditions in the district which follows based on the records at the metrological observation in the neighboring districts and major records for Jalgaon. The cold weather commences towards the end of November when temperature begin to fall. December is the coldest month with the mean daily minimum at about 8.3\(^0\) c and mean maximum at about 28.5\(^0\) c in last thirty years. In cold season the district is sometimes affected by cold waves in association with the passage eastwards of western disturbances across north India on such occasion the minimum temperature may drop about 4\(^0\) to 5\(^0\) c in the study region.
### Table 2.1

**Mean Daily Maximum and Minimum Temperature (1980-2011)**

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Source: Computed by Researcher.
2.8.2 Rainfall:

It is dominant single weather element influencing the intensity and location of formatting rural settlement systems and the farmer choice of enterprises. It is also becomes a climate hazard to settlement when it is characterized with scantiness concentration, intensity, variability and unreliability. Variations in rainfall characteristics affect settlement and agricultural as a whole and therefore there is need to investigate them in detail. It is all the more important in the minimum regions where average or normal rainfall is generally necessary for successful rural settlement growth. In such area the system of settlement growth must be correlated more or less to the rainfall and moisture factor.\(^{16}\)

Thus it may be said that rainfall is the most important climate factor as it determines the potential of any region in terms of rural settlement and crops to be produced farming systems to be adopted the nature and sequence of settlement and farming operations to be followed and the targets to be achieved in agricultural productivity and settlement growth.

The quantum rainfall and the number of rainy days may be quite sufficient to meet the annual requirement of successfully rural growth settlement. Provided they are so naturally spread that rain is received at the time it is required. The district has seven rain gauge stations. While the rainfall records at Jalgaon extend to about 25 years, those at the other six stations are also available for a period of 25 years.

The average annual rainfall for the district is 793.6 mm. The rainfall in the district increases from the west to east varying from 430
mm at Chopda near the border above 750 mm. about 80% of the annual rainfall is received in the south west monsoon period. September is the rainiest month. The variation in the annual rainfall from year to year is fairly large.

The south west monsoon during June to September influences the agronomy of the district to a very great extent. It also affects the agricultural operations culturable practices and system of crop rotation. The rainfall during October to November in the north east monsoon, though scanty. Is very helpful for the rabbi crops and also augments water in the wells and tanks some showers in the first quarter of the year have also beneficial effects on the growth of rabbi and khrip crops. 17

2.8.3 Humidity:

Humidity is one of the most prominent elements of weather from the farmer’s point of view and play a significant role in changing agroclimate and settlement patterns conditions from place to place. Humidity in fact is the state of atmosphere with respect to the gaseous forms of H2O i.e. the water vapor it contains. It is commonly expressed in terms of grams per cubic feet, grams per cubic meter or any other unit of weight per unit of volume. It is necessarily an active factor for the precipitation that any area is likely to receive. In a particular area were air humidity is low. The precipitation will naturally be light unless moisture quantities are inflexed. It is noteworthy fact the amount of water vapor in the air is highly variable depending on the existing temperature and also on the nature of its source which may be ocean, desert, grassland, forest, ice, show etc. Even at the beginning of his work on political geography ratzel
made a statement of great significance and in sight “Jeder staalist an stuck menschhriet (every nation is a bit of soil and humidity).”

The relative humidity of the study region is high during south west monsoon season. After September the humidity’s decrease gradually and in the cold and summer seasons the air is dry, particularly in the afternoons when relative humidity may be less than 30%.

### 2.8.4 Cloudiness:

Skies are heavily clouded to over cast in the south-west monsoon season. There is rapid decrease of cloudiness in the post monsoon months in the study region. In the rest of the year the skies are generally clear or lightly clouded.

### 2.8.5 Winds:

Winds are moderate in strength in the latter half of summer and the south-east monsoon period and light in the rest of the year. During the Monsoon season winds flow predominantly from directions between South-West to North-East with light to moderate frequency. In the post Monsoon and winter month winds are from directions between east and north. From about the beginning of summer winds from directions between South-West and North-West appear and these predominantly by may and continue till the onset of the monsoon.

### 2.8.6 Special Weather Phenomena:

Thunder showers occur in the summer and monsoon months, their frequency being higher in June and September. Dust raising winds are common in the summer afternoons.
2.9 Soil Pattern:

Soils constitute the physical basis of an agricultural enterprise and play a very important role in the agricultural economy of a region. Differences in soil texture, drainage, and fertility are of major importance in explaining contrasts in agriculture. Unlike climate, soils should not be regarded as part of the natural endowment of an area. In fact, it is agriculture that modifies soils excepting certain virgin soils which can retain their original characteristics. On the whole, soils constitute the physical base for any agricultural enterprise. Farming is a business and soils are a part of the farmer’s stock in trades. Good soils are good to the extent that man makes judicious use of them; our standard of living, which predominantly depends on agriculture, is often determined by a combination of the physical, chemical, and biological characteristics of the soils and crops and livestock raised on them (Map 2.4).

Population growth is determined to considerable extent by the amount of nutrients in the soils. The main factor that has influenced the development of soils in Jalgaon district is the undulating and hilly topography. The soils are varying and can be found throughout the district. The soils in the district can be classified into several categories on the basis of depth and structure, namely. The soils of the district are generally derived from the underlying basalt though older alluvium has deep cover all along the broad Tapi valley. The fertility of these soils depends largely on their positions vis-à-vis relief and their nearness to streams courses.

The central belt of the wide Tapi valley about half of the whole area consist either of a black alluvium clay highly retentive of moisture or
of a loamy overlying a stratum of yellowish clay of good depth on this soil which for richness cannot be surpassed wheat is extensively grown in some places from year to year without the aid of manure or change of crop. Skirting this rich treat along the base of the Satpuda where the level is somewhat higher the soil develops poorer. Along the banks of the river where the land is much cut by deep ravines the soils is mixed or over laid with lime nodules and in some places the surface soils is entirely washed away with occasional remnant patches of rich alluvial deposit. Although the district belongs to the eastern part of the traditional Khandesh region variations in relief and the character of local drainage have introduced significant changes in the regional landscape.

These in their turn have affected in no small degree the nature of land and the general economic and settlement development of the different localities. On the northern border lies the Satpuda hill region with its characteristic feature of relief and drainage. Their platter features have suffered intense erosion and consequently there is much unevenness.²⁰ Within this hill regions much of this region is under forest cover although sever depletion of forest is much in evidence. Such of the main Satpuda range lying with in this district there is piedmont belt varying in distance from 2 to 4 miles and built by the innumerable streams flowing down to the Tapi system and depositing coarse as well as fine detritus matter along their course. Hence the main topographical feature of this piedmont belt consists of a gradual sloping plain towards the Tapi River and burrowed by several gullies and steams.
SOIL PATTERN IN JALGAON DISTRICT

INDEX

- Deep Black Soil
- Medium Black
- Coarse Black

Map 2.4
It is outward edge of piedmont belt that is interest from the point of view of economic and human development soils are rich cultivation is extensive, rural settlement shape and size. The southern zone of the district again develops a hilly character in which the Girnna valley occupies a special position mainly on account of the development of canal irrigation. East of the Girnna basis the district resumes its hilly feature with the approaches of the Ajanta range. The region between the Tapi valley and the Ajanta range is a fairly well-trilled plain with Jamner and Bodwad as local commercial centers.

The soils in the district can be classified into four main categories on the basis of Structure and depth.

A) Shallow soils with depth below 7”
B) Moderate deeps soils between 7” to 9”
C) Medium deeps soils between 9” to 27”
D) Deeps soils between 27” to 45”

2.10 Natural Vegetation:

Vegetation of some sort of the other is the natural covering of the land surface of the earth. Even the so called deserts have their vegetation though it may be scanty and in conspicuous.²¹

Natural vegetation is important from the viewpoint of rainfall distribution, fertility of the soil and rural settlement. It also checks the soil erosion to the greater extent. It also keeps the environmental balance. It is also important to protect the wild animals. Forest products supports to the forest based industries. Forests also provide raw material for rural settlements.
The Jalgaon district has 14.63% area under forest in 1980-81. 0% to 15% area under forest was recorded in Bhusawal, Erandol, Amalner, Parola, Chalisgaon and Pachora tahsils, whereas 15% to 25% area under forest was observed in Chopda, Muktainagar, Jalgaon and Jamner tahsils. Above 25% area under forest was noticed in Yawal and Raver tahsils during the same study period investigation. (Table 2.2)

Table 2.2

Tahsil-wise Change In Forest Area in Jalgaon District

<table>
<thead>
<tr>
<th>Sr No</th>
<th>Tahsil</th>
<th>1980-85</th>
<th>2006-11</th>
<th>Voc in %</th>
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<tr>
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<td></td>
<td>Area under forest</td>
<td>% of total area</td>
<td>Area under forest</td>
</tr>
<tr>
<td>1</td>
<td>Jalgaon</td>
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<td>4.98</td>
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<tr>
<td>2</td>
<td>Chopda</td>
<td>19500</td>
<td>11.71</td>
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<td>3</td>
<td>Yawal</td>
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<td>4</td>
<td>Raver</td>
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<td>16.64</td>
<td>30664</td>
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<tr>
<td>5</td>
<td>Muktainagar</td>
<td>15200</td>
<td>9.13</td>
<td>12998</td>
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<tr>
<td>6</td>
<td>Bhusawal</td>
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<td>5.16</td>
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<td>Erandol</td>
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<td>8</td>
<td>Amalner</td>
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<td>1.08</td>
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<td>Parola</td>
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<td>1,68,274</td>
</tr>
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</table>

Source: Computed by Researcher.
DISTRIBUTION OF FOREST IN JALGAON DISTRICT

Map 2.5

Forest area in Hectare
- Above -15%
- 5 – 15%
- Below – 5%
The area under forest are increasing from 1980-81 to 2010-11. Raver tahsil was highest in area under forest (32.40%) and Amalner tahsil was lowest in area under forest (2.43%) during the period of study. The forest of Jalgaon district can be classified into the following three groups.

A) Scrub Forest  B) Tree forest  C) Grasses

2.10.1 Scrub Forest:

During to the pressure of increasing population and the ever-increasing demand for land for tillage the forest areas have receded to distance hilly tracts with poor and shallow soil with the result that the forest are of very poor and open type. In addition to this other biotic influences such as heavy illicit cuttings. Uncontrolled grazing and tress in the past have been responsible for further retrogression of the forest. Actually majority of the forest block in the district carry shrub by growth of Babul, Bor, Dhavada, Thembhurni, Hiver etc.

2.10.2 Tree forest:

These types of forest occur only in cool sheltered pockets having northern and eastern aspects. These forests are of mixed-miscellaneous type and consist mostly of salai, Teak, Khair, Palas, Bhawa, Bhilwa, Chandan, Tiwas, Shisaw and Sissu etc.

2.10.3 Grasses:

The main Grasses found in the various forest blocks of the district are Bori, Kusali, Panoya, Rosha, Sheda, Kunda, Gonda, Chirka and Marvel every tahsil to tahsil.

A review of changes in forest area in Jalgaon district during the period 1980-85 and 2006-11 is briefly presented in table 2.2. The
quinquennial average area under forest and their relative share of each tahsil in total geographical area has been deployed for the study of forest distribution. The volume of change in percentage is also calculated.

Table 2.2 indicates that there is only light negative change in Jalgaon, Bhusawal, Parola, Bhadgaon, Chopda, Yawal and Muktainagar tahsils. Whereas remaining tahsil was showed positive changes in Jalgaon district.

A major portion of the forest produce of this district is consumed locally. There is great demand of teak timber and firewood but as the forest of this district is very high most of timber and firewood is exported to other district of Maharashtra and Madhya Pradesh.

References:
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7) Gazetteer of Maharashtra state of Jalgaon district, Maharashtra state, Mumbai, p.3-4.
13) Gazetteer of Maharashtra state of Jalgaon district, Maharashtra state, Mumbai, p.11-12.


21) Dubey R. N. and Singh L. R. (1973) Economic and commercial Geography, Kitab Mahal, Allahabad, p-52


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