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PHYSICAL SETTING OF THE STUDY REGION

2.1 Introduction:

Osmanabad district is historical district in Maharashtra. We found its old name was Dharasiva. Latur district is separated from Osmanabad in 1982. The neighbouring districts are in every directions i.e., to the west Solapur district, the North West Ahmednagar and to the North Beed district, the South Solapur district and Karnataka State. In 1317, the Kingdom of the Yadavas finally passed into the hands of the Sultans of Delhi.

During to have been very prosperous in 1722, Nizam-Ul-Mulk was appointed as the Vazir of Moghal Empire. The district was temporarily ceded to the British Government in 1853 and it was reverted to Hyderabad State in the year 1860, with its head quarters at Naldurg. 1905 Witnessed the abolition of two Talukas with their head quarters at Wasi and Naldurg.

Among the Marathwada region, Osmanabad had the biggest area under the Nizam’s own estate called “Sarf-e-khas” In 1960 Bombay state was bifurcated in to Maharashtra and Gujarat and Osmanabad became and integral part of Maharashtra State. The district has eight towns.
Part-I

2.2 Location and boundaries:

The district of Osmanabad is the southern most districts in Aurangabad division of Maharashtra state situated between 17°37' to 18°42' NORTH latitudes and 75°17' to 76°47' EAST longitudes. The district has an area of 7484 square kilometers. About 7271 square kilometers area (96.79%) is known as rural area where as only 241.4 square kilometers (3.21%) area comes under urban categories. As far as area is concerned the district ranks 24th in the state of Maharashtra. East-West extent is 280 kilometer and North-South extent is only 240 kilometer.

It is bounded on the south-west by Solapur district, on the North-West Ahmednagar district, on the north by Beed district, on north-east and east by Latur district and south by Bidar and Gulbarga district of Karnataka State. (Map No. 2.1)

From the view point of administration district is divided into two revenue divisions. They are known as Bhum and Osmanabad. Bhum, Paranda, Washi and Kalamb Talukas are included in Bhum division where as remaining Talukas like Lohara, Omerga, Osmanabad and Tuljapur come under the Jurisdiction of Osmanabad revenue.
At present there are eight panchayat samittes. Up to August 1982 there were 11 Talukas in the district but on August 1982 Latur district has formed. Latur, Ausa, Udgir, Nilanga and Ahmedpur Talukas were included in Latur district on August 1982.

Eight villages from Barshi Taluka of Solapur district were included in Osmanabad district. Newly formed Lohara and Washi Talukas are not considered for the study due to non availability of time series data.

2.3 Historical background:

The age long famous temple at Tuljapur town of this district on shrines the Goddess “Bhavani” the popular deity of Maharashtra. The cult of Goddess is very ancient one and finds mention even in “Vedas” where she is called “Aditi”. 1 The earliest inscptional evidence regarding its antiquity can not go beyond 1098 A.D.

The Goddess was the principal diety of “Chhatrapati Shivaji” the other “Chhatrapati” and Peshwas who donated quite generously to the temple. The village “Thair” in the district is also an ancient place and was known as “Tagara”. There is also the native place of poor saint “Gora Khumbhar”. In the year 1853 the district was temporarily ceded by the Nizam to the British Government.

It was reverted to Hyderabad State in 1860. Its head quarters formerly used to be at Naldurg and the district was known as Naldurg
district till 1904. The district of Naldurg was abolished and the new
district of Osmanabad was formed with headquarters at Osmanabad. In
1905, two Talukas with head quarters at Washi and Naldurg were
abolished. Washi was menged in Kalamb and Naldurg in Tuljapur
Taluka.

Headquarter of Ausa Taluka was shifted to Latur and the Taluka
was named as Latur Taluka. Among the districts of Marathwad,
Osmanabad had the biggest area under Nizam’s own estate called “Sarf-
e-Khas.” The Sarf-e-Khas was merged with the Government area under
the Surf-e-Khas (Merger) Regulation in the year 1949.

All the jagir areas were also abolished and taken over under
direct government administration in the same year. Consequent upon the
integrations of Sarf-e-Khas and Jagir areas, the boundaries of all the
Talukas were reconstituted in the year 1950. Two new Talukas with head
quarters at Ausa and Omerga and a news peta with head quarters at Bhum
were created.

In the same year (1950), 11 enclave villages from Solapur were
transferred to the district and 52 villages from this district were
transferred to Solapur district. With the re-organisation of the states in
1956 the district came to be included in Bombay state. Three Talukas of
Ahmedpur, Nilanga and udgir were transferred from the adjoining district
of Bidar to Osmanabad district.
Latur district was formed in 1982 and Ahmedpur, Latur, Nilanga, Ausa, and Udgir were included in Latur district where as Tuljapur, Osmanabad, Bhum, Paranda, Omerga and Kalamb Talukas included in Osmanabad district. Newly formed talukas like Lohara and washi are not considered for the study due to non availability of time series data.

2.4 Physiography:

Physiography is one of the dominant parameters of physical environment and its impact on patterns and density of agriculture is immense. The Study of the influence of environment upon the nature and the distribution of crops and livestock is of prime importance in agricultural geography.

Nature with its physical characteristics provided a host of possibilities for agriculture and agro-based industries in different areas. Cropping system in the region is generally dependent upon physical factors and secondarily upon socio-eco-nomic conditions. Where as in case of the hill tract, the latter is more dominant which has greatly caused diversification of crops.

A greater portion of the district lies on the triangular Balaghat Plateau generally over 610 meters above sea level, sloping towards the south and east forming the water divide between the Godavari and Bhima valleys.
OSMANABAD DISTRICT

PHYSIOGRAPHY

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<table>
<thead>
<tr>
<th>600 M- 800 M</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 M - 600 M</td>
</tr>
</tbody>
</table>

Map No. 2.2
This district is covered with small hills and offshoots of the Balaghat parts of Bhum, Kalamb, Osmanabad, and Tuljapur Talukas are situated on Balaghat plateau and the rest on table lands. The highest point in the district a little over 792 meters is situated on this divide, just north-west of Kanheri about 6 Kilometers south-west of Washi.

North of Terkhed a spur extends eastwards and makes a right angular turn to the south around Bhabalgaon and again resumes the easterly trend and runs with a summit level of about 700 meters passing south of Moha. (Map No. 2.2)

**Geographically the district is divided into three regions**

1) **Balaghat plateau:**

This plateau region rises rather steeply from the plains to the west and dips gently towards the east. The main trunk road from Beed to Tuljapur and Naldurg is laid along the top of this divide behind the scarp. The principal agricultural villages are all situated away from this divide in the valleys of streams either to the east or west and every where there are kutcha approach roads linking these villages to the main roads. These villages are suitable for small-scale agro based units due to pulses production.
2) Western region:

The western bulge consisting of the Paranda Taluka and the eastern part of Bhum belongs to the Sina basin. In marked contrast to the plateau relief of the first region, this region is characterized by sharp relief with innumerable small streams with rugged interfluvies between them.

These valleys have fertile soils and abundant ground water supplies both accounting for the dominance of Rabi cultivation. The crossing of this area by innumerable streams has enabled the execution of several minor irrigation works, but has to some extent hindered the development of good roads which is reflected in the fact that Paranda has the lowest percentage of development.

3) The south western region:

The south western region comprising the southern and western part of Tuljapur Taluka comes under the jurisdiction of Bhima basin. This part is drained by the Bori River and its tributaries. Agricultural activities are mainly concentrated in the river basins and plateau region, therefore there is wide scope for small-scale agro based industries.

Balaghat range region of Bhum, Kalamb, Osmanabad and Tulapur Talukas are not suitable for agricultural activities, hence, in this region there is no change to start any small-scale agro-based unit.

The study region is broadly and conveniently divided into the following two relief divisions.
1) The Hilly Region

2) The Plateau Region

2.4.1 The hilly region:

The Hilly Region covers an area about 3669 square kilometers (49.02%) of geographical area of the study region. The average region is ranging between 600 to 900 metres above mean sea level. It covers the Northern Bhum, totally Kalamb, Osmanabad, Nort-East Tuljapur and West Omerga. The hilly region is included by ‘Balaghat Dongar’, Yedshi Dongar, and Tuljapur Dongar. Tuljapur Taluka known as ‘Tuljapur Dongar’, this range descends from elevation of 760 metres to 600 metres above mean sea level followed by debris cones on the west side.

The highest peak (760 metres) located near Bhum. Then yedshi Dongar is located hear Osmanabad and Tuljapur Dongar is located near Tuljapur. The area is rough broken ground and fairly dissected by a large number of ephemeral streams descending down a scarp slope and draining towards north and east Manjara and Terna mean rivers.

In the northern part of Bhum Taluka, Balaghat range runs in a north-west to south-east direction on the border of Omerga Taluka and Karnataka state. This range near of Osmanabad and Yedsi Dongar is locally known as ‘Ramling Dongar’ having height above 600 meters mean sea level.
Table No.2.1 Osmanabad District Relief Divisions

<table>
<thead>
<tr>
<th>Sr.No</th>
<th>Relief Division</th>
<th>Area in sq Km</th>
<th>% to Total Geographic all area of the Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The Hilly Region</td>
<td>3669</td>
<td>49.02%</td>
</tr>
<tr>
<td>2</td>
<td>The Plateau Region</td>
<td>3815</td>
<td>50.98%</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>7484</strong></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>

**Source:** Compiled by the Researcher

2.4.2 The plateau region:

It covers an area about 3815 square Kilometres (50.98%) of the total geographical area of the region. The average height is ranging between 300 to 600 metres above mean sea level and extends throughout the study region except hilly area.

There are isolated and individual hills on the plateau located in the central parts of Paranda and Bhum Taluka. Small hills located in the central part of Omerga tahasil near Karnataka border.

As well as small hills located in part of south Paranda near Solapur border and part of south-east in Tuljapur thasil Naldurg town. Near of Naldurg is one Dongar in Tuljapur thasil known as ‘Naldurg Dongar’ in the study area. (Map No. 2.4)
2.5 Geology and minerals:

Very little information about geology is available. A large part of the region is occupied by rocks to the Deccan trap formation, represented by almost horizontal lava flows of basaltic composition, thought to have been emplaced from fissures towards the close of the Mesozoic era on the lower tertiary area. The geological formation met within the region area as follows.

Recent : Soil and gravel.

Cretaceous to Eocene: Deccan trap flows with intertrappen Beds.

Archean : Peninsular granite complex the rocks

Of Dharwar system are found in

Bhum, Paranda, Kalamb, Tuljapur,

Omerga and OsmanabaTaluka.

The Deccan trap flows are spread over an area of about 5 lakh sq. kms. Covering parts of Maharashtra, Gujarat, Madhya Pradesh, Andhra Pradesh and Karnataka. These flows have been divided into upper traps, middle traps and lower traps.
Osmanabad district is occupied by the middle trap. The trap gives rise to either brown to red or to black cotton soil (Regur) such belt of soil is noticed in Kalamb, Tuljapur, Omerga and some parts of the other Talukas.

There is wide scope for brick units in the river valleys. This district did not have mineral resources ultimately there is no scope for mineral based units.

2.6 Drainage pattern:

As a result of new technology in many industries the demand for water has increased to a greater extent. Consequently, the Problems of security unable water of reasonable rates are now a major one. An adequate water supply is a necessity in choosing the site for large and small-scale industries.

As we are discussing industries it is essential to study drainage pattern of the district in detail. Drainage is the result of a combination of numerous factors including climate particularly.

Precipitation, Insolation, Humidity, Cloudiness, Wind force and direction, structure and types of rocks, vegetation, soil and human utilization, human obstruction to natural water flow such as roads, railways, dams and reservoirs also change its nature.

However, drainage is one of the most important components of physical environment which affects agriculture directly and indirectly.
Ground water influent becomes the base flow that maintains the flow of streams in fair weather.

When we speak of surface water is by far the most 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. Because of the uncertainty in the flow of surface water it is probable that any attempt to improve agricultural techniques and land use planning without combating the problem with the help of shallow and deep water tables is bound to be absorptive.

Generally rivers of the Osmanabad district are from north-west to south-east and from north to south (Map No.2.3). The drainage of the study area is of the ordinary denratic pattern because rivers and streams have developed a branch like system. The following are the important rivers of the region.

A) Manjara:

This is important river of the district. Manjara River rises above Gaurwadi near the northern edge of the Balaght plateau in Beed district and flows in south easterly direction towards Osmanabad district. It forms the district boundary for the greater part of its easterly course, barring a few deviations of the boundary some to the north and some to the south of the river. It is useful to Kalamb Taluka.
B) Terna:

The Terna River, over 150 kilometers in length from the source to its confluence with the Manjara has the longest course of all the rivers lying entirely within the district. The Terna Project consists of an earthen dam on the river Terna above the Village of Thair, South of Dhoki, with only one canal on the right bank. On account of the low relief of the adjoining divides, the dam has to be very long and of low height giving rise to a storage covering a wide area but of shallow depth.

C) Sina:

The Sina River, a major tributary of the Bhima River, runs along the western boundary, but receives many tributaries draining Bhum and Paranda Talukas. These are, beginning from the north the Kheri, the Nalli, the Dhundhana with its tributary the Ulupa and the Chandani.

All these are more or less parallel streams flowing in southerly or south-westerly direction and having their sources on the western scarp faces of Kunthalgiri, Osmanabad, Tuljapur and Naldurg watershed.

D) Benithora:

The Benithora River a tributary of the Bhima rises on the slopes of Deobet hill and flows in south-westerly direction passing by Jaoli, Yenegur and Murum at about four Kilometers south of Murum; it turns east wards and receives a number of tributaries like Gunjoti Nala and Omerga Nala. It then turn southwards and pass outside the district.
OSMANABAD DISTRICT

Natural Drainage Pattern

Source: Text Book of Maharashtra Rajya Pathya Pustak Nirmiti Mandal.
E) Bori:

The Bori River rising west of Dharur flows in a south-easterly direction east of the ridge from Tuljapur to Naldurg. After cutting through the gap at Naldurg, it flows in a general south-westerly and southerly direction to join the Bhima River.

F) Harni:

The Harni River, an important tributary of the Bori, flows west of Tuljapur to naldurg ridge with a course of about 25 kilometers. within the district to join the Bori about 10 kilometers north of Akkalkot (Solapur district). Most of the rivers become dry in the summer season. Therefore, it is necessary to built kolhapuri bandhares on the rivers so that more irrigational facilities will be provided to industrial crops.

2.7 Climate:

Some geographers have argued that climate plays an important role in the development of nation’s economy through affecting. The energy of and the stimulus to man in his various environments. Climate is also reflected in the habits and requirements of consumers and thus affects the prospects for consumer good industries of various types.

Success or failure of the cropping season is determined by the intensity of the climatic factors. Three most important factors of climate from the standard point of plant response are temperature, water supply and light and they may be treated as primary determinants of crop
growth. Climate plays an important role in affecting the characteristics of agricultural economy in a region.

It can influence the choice of farming system either indirectly through its impact on soil formation or directly through such as length of growing season, the occurrence of frost and the availability of water for the growth. The climate of the Osmanabad district is generally dry except during the south-west monsoon. The year may be divided into four seasons. The cold season from December to February followed by the hot season from March to May, the south-west monsoon from June to September and post monsoon from October to November.

2.7.1 Temperature:

Temperature regulates all the chemical and physical processes of plant Metabolism. The Metabolism Processes begin at a certain Minimum temperature and increase with rise of temperature until they reach maximum at a temperature called the optimum. Further with rise in temperature above the optimum level the metabolic activity is showed down until it ceases.

Each crop plant needs a certain number of effective heat omits for germination, growth, stalking, maturity and ripening. This is called the thermal constant and varies from crop to crop. The temperature above the minimum is therefore effective in furthering the growth of a plant towards maturity and ripening.
The crucial air temperature is 160°c at which plant grows. There is only one Meteorological observatory at Osmanabad. The description which follows is mainly based on the records of the observatories of Osmanabad city. The cold weather commences towards the end of November when temperature begins to decrease rapidly.

December is generally the coldest month with the mean daily maximum temperature at about 29.5°c and the mean daily minimum at about 15°c. On some occasions the minimum temperature drops down to about 4°c OR 5°c. The period from about the middle of February to the beginning of the south-west monsoon season is one of the continuous rises in temperature.

May is generally the hottest month with the mean daily maximum temperature at about 40°c and the mean daily minimum at about 25°c. The heat during summer is intense and the maximum temperature sometimes goes up to about 45°c.

Afternoon thundershowers which occur on some days bring welcome relief though only temporarily with the onset of the south-west monsoon in the district early in June there is appreciable drop in temperature. With the withdrawal of the monsoon early in October there is a slight increase in day temperature. Nights, however, progressively become colder.
2.7.2 Rainfall:

Rainfall is the dominant single weather element influencing the intensity and location of farming system and the farmer’s choice of enterprises. It also becomes a climatic hazard to farming when it is characterized with scantiness concentration intensity variability and unreliability.

The quantum of rainfall and the number of rainy days may be quite sufficient to meet the annual requirement of successful crop production provided they are so naturally spread that rain is received at time is required. Variation in rainfall characteristics affects agriculture as a whole and therefore, there is need to investigate them in details. They become more suitable when crops are affected by moisture conditions at swing, germination, shooting stalking and heading and at amaturity, harvesting and threshing. Moisture is indeed at basic factor in all crop producing areas.

It is more important in the minimal regions, where average or normal rainfall is general for successful crop production. In such areas the system of crop production must be correlated more or less to moisture factor. After Ali there is correlation between the rate of rainfall and industrial crops production. It means that agro-based industries indirectly related with industrial crops production. Records of rainfall in the district were obtained for the period of twenty one years.
Table No. 2.2 Mean annual rainfall and co-efficient of rainfall Variability in Osmanabad District – 1980-2001

<table>
<thead>
<tr>
<th>Name of the Taluka</th>
<th>Mean annual rainfall in mm.</th>
<th>Co-efficient of rainfall variability rainfall in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osmanabad</td>
<td>768</td>
<td>26.98%</td>
</tr>
<tr>
<td>Kalamb</td>
<td>690</td>
<td>34.47%</td>
</tr>
<tr>
<td>Omerga</td>
<td>721</td>
<td>29.58%</td>
</tr>
<tr>
<td>Tuljapur</td>
<td>815</td>
<td>30.92%</td>
</tr>
<tr>
<td>Paranda</td>
<td>597</td>
<td>30.58%</td>
</tr>
<tr>
<td>Bhum</td>
<td>705</td>
<td>33.85%</td>
</tr>
<tr>
<td>Osmanabad District</td>
<td>810</td>
<td>33.54%</td>
</tr>
</tbody>
</table>

Source: Compiled By the Researcher
OSMANABAD DISTRICT

Mean Annual Rainfall: 1980-2001

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- ABOVE 800mm
- 600mm TO 800mm
- BELOW 600mm
OSMANABAD DISTRICT


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- ABOVE 35%
- 30% TO 35%
- BELOW 30%
The details of the Mean annual rainfall and co-efficient of rainfall variability from 1980 to 2001 are given in Table No. 2.2. The variation in the rainfall from year to year is large in the district. Generally rainfall decreases from south-east to north-west and increase from north to south.

Table No.2.2 indicates that below 600 mm mean annual rainfall was recorded in Paranda where as 600 mm to 800 mm mean annual rainfall was recorded in Osmanabad, Kalamb, Omerga and Bhum Talukas from 1980 to 2001. Above 800 mm mean annual rainfall was observed in Tuljapur during the period under study. (Map No.2.4). The Co-efficient of rainfall variability is calculated by the following formula.

\[ \text{Co-efficient of rainfall variability} = \frac{S}{X} \times 100 \]

Whereas,

\[ S = \text{the standard deviation} \]

\[ X = \text{the Arithmetic mean of rainfall during} \]

The 21 years

It will be seen from table 2.1 that the variability of rainfall in Osmanbad district ranges from (26.98% to 39.58%). Below 30% rainfall variability was noticed in the Talukas of Osmanbad and Omerga. Whereas as (30% to 35%) rainfall of investigation.
Above 35% rainfall variability was recorded in Paranda Taluka between 1980 and 2001 (Map No. 2.5). Kharif season is dominant in the study region due to availability of water in rainy season.

2.7.3 Other weather phenomena:

i) Humidity:

The air is very humid during the south-west monsoon season and mostly dry in the rest of the year. The driest part of the year is the summer season when the afternoon relative humidity is less than 25%.

ii) Cloudiness:

In the south-west monsoon season the skies are generally heavily clouded or overcast. During rest of the year skies are mostly clear or lightly clouded. There is some increase in cloudiness during the afternoon of the summer seasons.

iii) Winds:

Winds are generally light with some increase in force during the latter half of the summer and in the south-west monsoon seasons. Winds blow mostly from directions between south-west and north-west during the monsoon season. The period from October to December winds blow from directions between north-east and south-east. In the next four months direction of the winds are liable to variation. In Ma winds are mostly from direction between wests to north.
iv) Special weather phenomena:

Thunderstorms occur in the summer and monsoon months; their incidence being higher during the monsoon season. Dust-raising winds occur during the summer season. Paranda, Bhum, Kalamb, Osmanabad and Tuljapur Talukas come under scarcity zone whereas Omerga Taluka comes under assured rainfall zone.

2.8 Types of soil:

Soils constitute the physical basis of an agricultural enterprise and play a very important role in the agricultural economy of the region. Difference in soil texture, drainage and fertility are of major importance in explaining contracts 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, except certain virgin soils which can retain their original characteristics. On the whole, soils constitute the physical base for any agricultural enterprise. If industrial crops production is increased to a certain extent then agro based industries can be developed in the region. Farming is a business and good soil is a part of the farmer’s stock trades.

Our standard of living which pre-dominantly depends on agriculture is often determined by a combination of the physical, chemical and biological characteristics of the soils, crops and livestock raised on them.
Thus, soils endowed with a proper combination of texture, structure, salts and human yield good results. Great civilizations have almost invariably flourished on good soils, the alluvium in particular. Topography shows dominantly influence on soil variation in Osmanabad district. Osmanabad district is covered by the geological formation of Deccan trap. The development of soil is, therefore, mainly influenced by the topographical situation.

Soils along the river banks are deep and clay. Most of the region is covered with black cotton soils or ‘Regur’ drained from Deccan trap volcanic rock. However, the soils vary greatly in texture and depth.

Soils along the river banks and nalas are deep and very fertile and capable of retaining moisture. The soils however, coarse shallow and relatively poor along the hill slopes and at the foot of the hills.

The top or upper layer of soils has an average thickness between 15 and 20 cm depending upon local conditions. Major portion of the regions is covered by medium black soils. The deep black soils are found along the banks of Manjara, Terna, Bori and Benithora. Soils have light grey brown colour on the surface, clayey, texture and blacky structure.

They are moderately high in soil reaction with the total soluble salt contents varying between 0.26% and 0.94% calcium carbonate is high but shown wide variation from 5.2% to 19.60% organic matter varies from 0.5 to 1.58%.
Out of the total soil medium black soil covers about 6 lakh 19 thousand hectares land (84.21%), deep black 29 thousand hectares (3.95%) and coarse and shallow soil covers 87 thousand Hectares (11.84%) land in Osmanabad district. All the soils are highly clayey with clay content varying from (45.8% to 69.5%).

The high rechargeable capacity of the soils indicates the inherent high status of soils fertility. Soils of the district are classified into four groups. (i) Shallow soils (ii) Medium soils (iii) Medium deep soils (iv) Deep soils. (Map No. 2.6).

i) Shallow soils:

These soils are found mostly in North West part of the district. Some small patches also occur in the western and north wester part of the district. Particularly shallow soils occur in Bhum and Paranda Taluka. These 18” to 36” soils are light brown to dark gray brown colour, loamy to clay loam in texture with granular to subgranular blocky in structure with 1% to 3% slope.

ii) Medium black soils (9” to 18” deep):

These soils are found near Washi, Bhum and eastern part of Paranda, southern part of Tuljapur, Omerga and Osmanabad Talukas. The soils are clay loam to clye in texture. These soils are deficient in nitrogen and organic matter contents and need the application of the same for better yields.
iii) **Medium deep black soils (18” to 36” deep):**

These types of soils are scattered and found in the north-west and northern areas and also eastern parts of north-central zone in the district. The soils are clay loam to clayey in structure granular to sub granular blocky in structure and the lower zones of the profile show angular blocky to massive structure also. The soil the soils colour varies from dark grey brown to very dark brown. (Map No. 2.6).

**IV) Deep black soils (More than 36” depth):**

Deep black soil covers (8.95%) area of the study region. The deep black soils are found along the banks of Manjara, Terna, Benithory Bori, Harni, Sina and their tributaries. Soils have light grey brown to gray brown colour on the surface, clayey texture and blaky structure.

The soil of the region is excellent for the better yield of industrial crops but it is essential to increase irrigation potential in the study region. There is wide scope for brick works in all the river basins in the study region.

Map No. 2.6 shows most of the soils of the district are favourable for the cultivation of cotton and pulses; therefore there is wide scope for small-scale agro-based industries in the region.
### Table No. 2.3 Talukawise area under forest in Osmanabad District
(area in hectares)

<table>
<thead>
<tr>
<th>Taluka</th>
<th>1990-1991</th>
<th>2000-2001</th>
<th>Volume of Change in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osmanabad</td>
<td>100 (0.08%)</td>
<td>200 (0.15%)</td>
<td>+0.07%</td>
</tr>
<tr>
<td>Kalamb</td>
<td>500 (0.40%)</td>
<td>495 (0.40%)</td>
<td>0%</td>
</tr>
<tr>
<td>Omerga</td>
<td>300 (0.20%)</td>
<td>1074 (0.73%)</td>
<td>+0.53%</td>
</tr>
<tr>
<td>Tuljapur</td>
<td>1240 (0.81%)</td>
<td>1708 (1.12%)</td>
<td>+0.31%</td>
</tr>
<tr>
<td>Paranda</td>
<td>300 (0.28%)</td>
<td>400 (0.38%)</td>
<td>+0.1%</td>
</tr>
<tr>
<td>Bhum</td>
<td>500 (0.56%)</td>
<td>783 (0.88%)</td>
<td>+0.32%</td>
</tr>
<tr>
<td>Osmanabad District</td>
<td>2940 (0.40%)</td>
<td>4660 (0.63%)</td>
<td>+0.23%</td>
</tr>
</tbody>
</table>

**Source:** Compiled by the Researcher.

**Note:** Figures in the brackets indicate % to the geographical area.
2.9 Natural vegetation:

Natural vegetation is important from the view point of rainfall distribution and the fertility of soil. It also checks the soil erosion to the greater extent. It also keeps the environmental balance. Forest Products support to the forest based industries. Therefore, the study of forest is essential. During 1980-85 about 2245 hectares land was under forest (0.3%).

Table 2.3 reveals that about 2940 hectares land was under forest during 1980-85 and it was increased upto 4660 hectares during 1996 to 2001. Below (0.20%) geographical area was found is Osmanabad Taluka. Where as (0.20% to 0.40%) forest area was observed in Paranda and Omerga Talukas during 1980 to 1985 (Map No.2.7 A). Below (0.20%) positive change in forest area was recorded in Osmanabad and Paranda Taluka and zero percent change in forest area was taken place in Kalamb during the period under study.

About (0.20% to 0.40%) positive change in forest area was found in Bhum, Tuljapur Talukaes while about 0.40% positive change in forest area was taken place in Omerga Taluka between 1980 to 1985 and 1996-2001. Table No.2.3 and Map No.2.7B indicates that there is no change to develop forest based units in Osmanabad district.
OSMANABAD DISTRICT

Area Under Forest: 1996-2001

Volume of Change in Area Under Forest

INDEX
- ABOVE -0.40%
- 0.20% to -0.40%
- BELOW -0.20%

Volume of Change in Area Under Forest

INDEX
- ABOVE +0.40%
- 0.20% to +0.40%
- BELOW +0.20%
- BELOW +0.20%
2.10 Irrigation:

Irrigation is essentially the artificial application of water to overcome deficiencies in rainfall for growing crops. To be successful and well developed agriculture requires supply of water at regular interval and in required quantitative.

This could be done by artificial application of water to land for growing industrial crops and is known by the term ‘irrigation’. Irrigation helps to the farmers to take two or more crops from the same field within a year and it increases the productivity of the land by transforming the agriculture.

The impact of irrigation is all pervading as it leads to changes in cropping pattern, increased yield rates and labour utilization, and in the ultimate analysis brings prosperity for socioeconomic change that sets motion the productive forces in agricultural sector. The study region as not having permanent drainage pattern even though it is possible to raise irrigated area by minor irrigation projects.

i) Modes of irrigation:

There are different irrigational sources in Osmanabad district. They are as follows:
a) Major irrigation projects.

b) Medium irrigation projects.

c) Minor irrigation projects

d) Kolhapur type bandhare’s.

e) Percolation tanks.

f) Lift irrigation schemes.

g) Well irrigation schemes.

2.10.1 Major irrigation projects:

An irrigation project which covers more than 10,000 hectares as the cultivated command area is called major irrigation projects in the study region. They are lower Terna, Manjara, Turori and Rui. All projects are completed.

i) Manjara project:

It is constructed on Manjara River near Dhanegaon in Beed district. About Rs. 3311.41 lakh was spent on its construction. It was completed in 1984. Its wall is 36 meters high. The total length of the
canal is 36 meters. The maximum storage capacity of the project is 250.5 cubic metres. Total 17713 hectares land is under irrigation. This project provides irrigational water to Beed, Latur and Osmanabad district. Manjara project is beneficial for an area of 627 hectares of Osmanabad district.

ii) Lower Terna project:

It is constructed on river Terna near Makani village of Omerga Taluka. It was completed in 1989 and about Rs. 16521 lakh was spent on its work. The length of the canal is 192.5 Kilometer. The maximum storage capacity of the project is about 160.46 million lakh square meters. About 20263 hectares irrigated potentials are created by this project. This project provides water to 16614 hectares land of Latur district and 3649 hectares area of Osmanabad district.

iii) Turori project:

It is constructed on Turori River near Ashta village of Omerga taluka. It was completed in 1985 and about Rs. 309 lakh was spent on its completion. The height of the dam is 17.5 metres where as the length of the canal is 21 kilometers. The storage capacity of the dam is 7.66 million cubic metres. About 1074 hectares of land is benefitted by this project.
OSMANABAD DISTRICT

Major, Medium and Minor Irrigation Projects:
2000-2001

INDEX
- MAJOR PROJECTS
- MEDIUM PROJECTS
- MINOR PROJECTS

MAP NO: 21

68
iv) **Rui project:**

This project is constructed on Rui River near Ruibhar village of Osmanabad Taluka. It was completed in 1994 and about Rs. 910.361 lakh was spend on its work. The height of the dam is 11.75 metres while about 29 kilometer canal is constructed from this dam. About 1650 hectares of land is benefited by this project.

**2.10.2 Medium irrigation projects:**

There are sixteen medium irrigation projects in Osmanabad district. Table 3.3 gives clearcut idea about the medium irrigation project of the study region. Map No.2.8 also gives locational site of the medium irrigation projects. (Fig No. 2.8)

Medium irrigation projects are those with culturable command areas between 2000 to 10000 hectares. Out of the total medium irrigation project nearly 50% projects are found in Tuljapur and Paranda Taluka as on 30 June 2004. All these projects are completed through five year plans.

Nearly Rs. 43 crores 86 Lakh amount was spent on the sixteen medium irrigation projects. Out of the total expenditure nearly (30.4%) amount was spent in Omerga Taluka. About 40030 hectares land comes under irrigation due to the 16 medium projects.
<table>
<thead>
<tr>
<th>Sr. no.</th>
<th>Name of the project</th>
<th>Year of completion</th>
<th>Project expenditure Rs. Lakh</th>
<th>Height of the project in meter</th>
<th>Length of canal in k.m.</th>
<th>Maxi. storage capacity in million cubic meter</th>
<th>Gross area commanded in hectare</th>
<th>Irrigable area in hectare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Khasapur Tq. Paranda</td>
<td>1955</td>
<td>56.15</td>
<td>17</td>
<td>33</td>
<td>19.19</td>
<td>3696</td>
<td>3573</td>
</tr>
<tr>
<td>2</td>
<td>Chandani Pimpalwadi Tq. Paranda</td>
<td>1956</td>
<td>71.6</td>
<td>17</td>
<td>26</td>
<td>4.18</td>
<td>3338</td>
<td>2891</td>
</tr>
<tr>
<td>3</td>
<td>Harni Village Katgaon Tq. Tuljapur</td>
<td>1960</td>
<td>66.47</td>
<td>17</td>
<td>41</td>
<td>12.18</td>
<td>3657</td>
<td>3373</td>
</tr>
<tr>
<td>4</td>
<td>Kurnur Tq. Tuljapur</td>
<td>1970</td>
<td>100.83</td>
<td>23</td>
<td>23</td>
<td>35.26</td>
<td>7248</td>
<td>5463</td>
</tr>
<tr>
<td>5</td>
<td>Khandala Village</td>
<td>1973</td>
<td>73.69</td>
<td>20.24</td>
<td>5.6</td>
<td>6.26</td>
<td>1446</td>
<td>1384</td>
</tr>
<tr>
<td>6</td>
<td>Ramnagar near Bhum Tq. Bhum</td>
<td>1975</td>
<td>51.26</td>
<td>19.2</td>
<td>3.05</td>
<td>5.93</td>
<td>871</td>
<td>648</td>
</tr>
<tr>
<td>7</td>
<td>Jakakur Village-Jakekur Tq. Omerga</td>
<td>1977</td>
<td>175.95</td>
<td>14.8</td>
<td>22.51</td>
<td>10.17</td>
<td>2110</td>
<td>1983</td>
</tr>
<tr>
<td>8</td>
<td>Ramganga Village-Bhum Tq. Bhum</td>
<td>1977</td>
<td>13.2</td>
<td>20.21</td>
<td>2.46</td>
<td>6.13</td>
<td>1016</td>
<td>907</td>
</tr>
<tr>
<td>9</td>
<td>Khandeshwar Village Takmodi Tq. Paranda</td>
<td>1979</td>
<td>194.62</td>
<td>17.6</td>
<td>16.6</td>
<td>10.8</td>
<td>1811</td>
<td>1710</td>
</tr>
<tr>
<td>11</td>
<td>Raigavhan Tq. Kalamb</td>
<td>1994</td>
<td>538.34</td>
<td>13.32</td>
<td>19.7</td>
<td>12.7</td>
<td>2519</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Village</td>
<td>District</td>
<td>Year</td>
<td>Area  (H)</td>
<td>Yield (Kg/ha)</td>
<td>Planting Density</td>
<td>Harvest Density</td>
<td>Other Parameters</td>
</tr>
<tr>
<td>---</td>
<td>---------</td>
<td>----------</td>
<td>------</td>
<td>-----------</td>
<td>---------------</td>
<td>-----------------</td>
<td>----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>12</td>
<td>Benetura</td>
<td>Murom Tq.</td>
<td>Omerga</td>
<td>1995</td>
<td>1184.5</td>
<td>13.48</td>
<td>44</td>
<td>12.8</td>
</tr>
<tr>
<td>13</td>
<td>Sangamner village</td>
<td>Dokewadi Tq.</td>
<td>Bhum</td>
<td>1995</td>
<td>645.44</td>
<td>15.22</td>
<td>70</td>
<td>16.53</td>
</tr>
<tr>
<td>14</td>
<td>Palas Nile Tq.</td>
<td>Tuljapur</td>
<td>1995</td>
<td>177.39</td>
<td>15</td>
<td>14</td>
<td>5.68</td>
<td>1445</td>
</tr>
<tr>
<td>15</td>
<td>Sakat village</td>
<td>sakat Tq.</td>
<td>Paranda</td>
<td>1995</td>
<td>335.83</td>
<td>19.81</td>
<td>28</td>
<td>14.48</td>
</tr>
</tbody>
</table>

**Source:** Socio-Economic Abstract of Osmanabad District (2001-2002).

Sometimes these projects are having very little water in summer season due to the lack of storage from monsoon water. Even then these projects have changed the production of industrial crops to a greater extent.

**2.10.3 Minor irrigation schemes:**

An irrigation project which covers less than 2000 hectares as the cultivated command area. There is 62 minor irrigation projects in Osmanabad district (Fig 2.8). During the rainy season when water collects and forms a pond it is called a tank. Maharashtra Government has completed 29 Minor irrigation tanks and 33 minor projects are completed by the Zilla Parishad in the study area. Table 2.4 gives the idea about the Taluka wise distribution of minor irrigation projects.

71
Table No. 2.5 Talukawise distribution of minor irrigation schemes in the Osmanabad District (As on 30\textsuperscript{th} June, 2004)

<table>
<thead>
<tr>
<th>Name of the Taluka</th>
<th>Number of Minor irrigation schemes</th>
<th>Irrigation potentials created in hectares</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osmanabad</td>
<td>24 (38.71%)</td>
<td>6413 (33.72%)</td>
</tr>
<tr>
<td>Kalamb</td>
<td>12 (19.35%)</td>
<td>3046 (16.01%)</td>
</tr>
<tr>
<td>Tuljapur</td>
<td>12 (19.35%)</td>
<td>3824 (20.11%)</td>
</tr>
<tr>
<td>Omerga</td>
<td>07 (11.29%)</td>
<td>2056 (10.81%)</td>
</tr>
<tr>
<td>Bhum</td>
<td>05 (08.06%)</td>
<td>1861 (09.78%)</td>
</tr>
<tr>
<td>Paranda</td>
<td>02 (03.24%)</td>
<td>1820 (09.57%)</td>
</tr>
<tr>
<td>Osmanabad District</td>
<td>62 (100%)</td>
<td>19020 (100%)</td>
</tr>
</tbody>
</table>

Source: 1) Irrigation Department of Osmanabad.
2) Figures in the brackets indicates %

Table 2.5 indicates that out of the total minor schemes nearly (38.71\%) schemes are found in Osmanabad Taluka. The shares of Kalamb (19.35\%), Tuljapur (19.35\%), Omerga (11.29\%), Bhum (8.06\%) and Paranda (3.24\%) were respectively as on 30\textsuperscript{th} June 2004. The highest irrigation potentials are created in Osmanabad (33.72\%) Taluka by the
minor schemes where as only (9.57%) potentials are created in Paranda Taluka. Minor irrigation schemes have created 19020 hectares potentials but there is no guarantee of that potentials in every year due variability of rainfall.

2.10.4 Kolhapuri type bandhares:

There are 11 state level and 849 Local level Kolhapur type bandhares in Osmanabad district. Out of the total Kolhapur type Bandhares nearly (33.64%) bandhares are found in Osmanabad Taluka, (14.49%) in Kalamb and (19.43%) in Tuljapur and remaining in the rest of the Talukas nearly Rs. 8121.77 lakh amount was spent for the construction.

2.10.5 Percolation tanks:

About 788 percolation tanks are completed in Osmanabad district and 274 percolation tanks are in progress. Out of the completed percolation tanks about 19.8% percolation tanks were located in Osmanabad Taluka. The shares of Bhum (19.67%), Paranda (18.4%), Tuljapur (17.64%), Kalamb (14.47%) and Omerga (10.02%) were respectively as on June 2004.

2.10.6 Lift irrigation:

There are eight lift irrigation schemes in Osmanabad district. Four schemes are found in Tuljapur, two in Paranda and one each in
Osmanabad and Omerga Talukas. About 1195 heatares land comes under the irrigation from eight lift irrigation schemes.

2.10.7 Well irrigation:

As the cost of construction of well is low, they are suited to poor and marginal farmers. Irrigation wells are increased through five year plans in the study region. There was 20480 irrigation wells in 1971 to 1972 and it increased upto 26175 in 1995 to 1996. Again irrigation figures increased up to 32418 in 1998 to 1999. Most of the wells become dry in summer season, hence it is essential to increase their depth so that they can provide sufficient water to the industrial crops.

2.11 Landuse pattern:

Landuse Pattern is a function of four variables i.e. land, water, air and Man. Each has its own role to compose its life history. Landuse in an area is a cumulative outcome of the interaction of soil structure and texture, rainfall, relief and socio-economic factor of the area. Pattern of land utilization differs with the differences in the above said factor. A Landuse study is essential to avoid the misuse and for the optimum use of every piece of land without disturbing the ecological balance of the area. The census of India has classified the land into nine categories to represent the landuse. In the present study landuse in grouped in to five categories viz.
The existing pattern of land use has resulted from a process of land utilization within the framework of physical and Socio-Economic setting of the area and modified by the expansion of irrigation, growth of population, and modern technology.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Landuse</th>
<th>Area ‘00’</th>
<th>Percentage to ‘total’</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Land under forest</td>
<td>50</td>
<td>0.67</td>
</tr>
<tr>
<td>2</td>
<td>Land not available for cultivation</td>
<td>212</td>
<td>2.83</td>
</tr>
<tr>
<td>3</td>
<td>Cultivable waste land</td>
<td>592</td>
<td>7.91</td>
</tr>
<tr>
<td>4</td>
<td>Fallow land</td>
<td>717</td>
<td>9.58</td>
</tr>
<tr>
<td>5</td>
<td>Net sown area</td>
<td>5913</td>
<td>79.01</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>7484</td>
<td>100%</td>
</tr>
</tbody>
</table>


Table No. 2.6 shows the general landuse pattern and table No. 2.7 shows the Talukawise landuse pattern of the study area. The detailed analysis of the landuse categories is given below.
<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Taluka</th>
<th>Geographic area in ‘00’ hect.</th>
<th>Land under forest ‘00’ hect.</th>
<th>Land not available for cultivation ‘00’ hect.</th>
<th>Cultivable waste land ‘00’ hect.</th>
<th>Fallow land ‘00’ hect.</th>
<th>Net sown area ‘00’ hect.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Osmanabad</td>
<td>1326</td>
<td>2</td>
<td>29</td>
<td>38</td>
<td>98</td>
<td>1159</td>
</tr>
<tr>
<td></td>
<td>% to total</td>
<td>17.71</td>
<td>0.15</td>
<td>2.19</td>
<td>2.87</td>
<td>7.39</td>
<td>87.4</td>
</tr>
<tr>
<td>2</td>
<td>Kalamb</td>
<td>1227</td>
<td>20</td>
<td>20</td>
<td>167</td>
<td>223</td>
<td>813</td>
</tr>
<tr>
<td></td>
<td>% to total</td>
<td>16.39</td>
<td>0.2</td>
<td>1.63</td>
<td>13.61</td>
<td>18.17</td>
<td>66.26</td>
</tr>
<tr>
<td>3</td>
<td>Omerga</td>
<td>1465</td>
<td>28</td>
<td>28</td>
<td>44</td>
<td>83</td>
<td>1299</td>
</tr>
<tr>
<td></td>
<td>% to total</td>
<td>19.57</td>
<td>0.75</td>
<td>1.91</td>
<td>3</td>
<td>5.67</td>
<td>88.67</td>
</tr>
<tr>
<td>4</td>
<td>Tuljapur</td>
<td>1524</td>
<td>35</td>
<td>35</td>
<td>236</td>
<td>152</td>
<td>1084</td>
</tr>
<tr>
<td></td>
<td>% to total</td>
<td>20.36</td>
<td>1.12</td>
<td>2.3</td>
<td>15.49</td>
<td>9.97</td>
<td>71.13</td>
</tr>
<tr>
<td>5</td>
<td>Paranda</td>
<td>1055</td>
<td>39</td>
<td>39</td>
<td>18</td>
<td>48</td>
<td>942</td>
</tr>
<tr>
<td></td>
<td>% to total</td>
<td>14.09</td>
<td>0.76</td>
<td>3.7</td>
<td>1.71</td>
<td>4.55</td>
<td>89.29</td>
</tr>
<tr>
<td>6</td>
<td>Bhum</td>
<td>887</td>
<td>61</td>
<td>61</td>
<td>89</td>
<td>113</td>
<td>616</td>
</tr>
<tr>
<td></td>
<td>% to total</td>
<td>11.85</td>
<td>0.9</td>
<td>6.88</td>
<td>10.03</td>
<td>12.74</td>
<td>69.45</td>
</tr>
<tr>
<td></td>
<td>Region</td>
<td>7484</td>
<td>185</td>
<td>212</td>
<td>592</td>
<td>717</td>
<td>5913</td>
</tr>
<tr>
<td></td>
<td>% to total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

**Source:** Compiled by the Researcher.
OSMANABAD DISTRICT

Talukawise landuse Pattern
2000-2001

INDEX

- LAND UNDER FORESET
- LAND NOT AVAILABLE FOR CULTIVATION
- CULTIVABLE WASTE LAND
- FALLOW LAND
- NET SOWN AREA

Map No. 2.98

78
2.11.1 Area under forest:

From the ecological and environmental point of view, a forest cover plays an important role, but the region under study falls under the rainshado area, causing less forest cover. Out of the total geographical area, forest occupies 2.47 percent area, which is too less than the state average and required proportion for ecological balance (33.00%). Comparatively more forest area is observed in Tuljapur, Paranda, Bhum and Omerga, and limited land is in Kalamb and very limited area in Kalamb Taluka, the forest area.

2.11.2 Land-not available for cultivation:

This category consists of land put to non-agricultural uses, barren and uncultivable waste. Of the total geographical land, this category covers 2.12 hundred of land, which comes to (92.83%) percent of the total geographical area. Proportion of such land to geographical area is high in Tuljapur, Paranda, and Bhum, and Low in Osmanabad, Kalamb and Omerga Taluka.

2.11.3 Fallow land:

The fallow land includes current fallow and other fallow land which is largely found due to inadequate water supply, excess evaporation, large land holding, poor nature of soil, and for preserving fertility to maintain crop yield. Out of the total geographical area, area under this category is (9.59%) percent. It is ranging between (18.17%)
percent to 4.55 percent in the study area. It is highest in Kalamb Taluka and lowest in Paranda Taluka. This variation is due to scarcity of water, rainfall and Poor soil. Which compelled farmers to have the agriculturally land as fallows.

2.11.4 Net sown area:

One of the most significant features of the landuse in the study region is that the larger proportion of area is suitable for agriculture and it has already been brought under cultivation. Out of the total Geographical area 79.00 percent area is under this category. Relief, natural drainage pattern, soil structure and texture, climate, irrigation facilities, technological innovations and socio-economic condition of the people are the important factors which are responsible for higher cultivable land in the study area.Total Geographical area of the region shows that area under this category is the highest in Omerga Taluka and the lowest in Bhum Taluka (Map No. 2.9 A and B).

2.12 Cropping pattern:

Cropping pattern is the proportion of area under various crops, at a point of time and space. It largely depends upon socio-economic influences. Which determine the possibility of enterprise the farmer chooses and the input intercity with which he farms, with assured supply of water and availability of Modern inputs, especially high yielding varieties and chemical fertilizers. It becomes possible for farmers to
replace less profitable crops with more profitable ones and also to enhance the intensity of use of the available land by growing two or even three crops in the same field in a year.

For the purpose of analysis various crops grown in the study area are conveniently grouped in to six categories.

i) Cerels

ii) Pulses

iii) Sugarcane

iv) Cotton

v) Oil sheeds

vi) Other crops

Existing cropping pattern of the region has been resulted from a process of agricultural land utilization within a frame work of physical and Socio-Economic setting of the area and modified with the expansion of irrigation facilities and availability of modern inputs such as high yielding varieties. Chemical and Bio-Chemical fertilizers, Perticides and Agricultural machineries. (Map No. 2.10A) Table No. 2.8: Shows the general cropping pattern of the study region and Table No. 2.9 shows the Talukawise cropping pattern as proportion to regions total.
The observation of the Table No. 2.8 shows that there are six general cropping patterns in the year 2000 to 2001 of Osmanabad District i.e. cereals, pulses, sugarcane, cotton oil seeds and other crops. Cereals are produced on the highest scale (47.86%) because of seasonable monsoon and suitable land. Then the second number is of oil seeds (24.50%) due to traditional production developed by heredity. In comparison pulses achieved the third number (21.28%) in this district.

Source: Compiled by the Researcher.
OSMANABAD DISTRICT

General Cropping Pattern
2000-2001

INDEX

CEREALS
PULSES
SUGARCANE
COTTON
OIL SEEDS
OTHERS

Map No. 7.10A.

83
As the lack of irrigation the fourth and the fifth number is occupied by other crops (3.44%) and sugarcane (2.72%). At last cotton is produced on a little scale (0.20%) due to unsuitable climate, rain and land to it. So Osmanabad District is known as the store-house of cereals and pulses.

<table>
<thead>
<tr>
<th>Sr. no.</th>
<th>Taluka</th>
<th>Cereals %</th>
<th>Pulses %</th>
<th>Sugarcane %</th>
<th>Cotton %</th>
<th>Oilseeds %</th>
<th>Other crops %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Osmanabad</td>
<td>31.52</td>
<td>0.8</td>
<td>3.18</td>
<td>0.19</td>
<td>14.68</td>
<td>0.64</td>
</tr>
<tr>
<td>2</td>
<td>Kalanih</td>
<td>26.81</td>
<td>0.72</td>
<td>2.14</td>
<td>0.58</td>
<td>5.08</td>
<td>0.88</td>
</tr>
<tr>
<td>3</td>
<td>Omerga</td>
<td>30</td>
<td>1</td>
<td>1.9</td>
<td>0.06</td>
<td>8.89</td>
<td>1.3</td>
</tr>
<tr>
<td>4</td>
<td>Tuljapur</td>
<td>26.37</td>
<td>1.51</td>
<td>4.14</td>
<td>0.21</td>
<td>8.05</td>
<td>1.07</td>
</tr>
<tr>
<td>5</td>
<td>Paranda</td>
<td>29.26</td>
<td>0.24</td>
<td>1.3</td>
<td>0.5</td>
<td>12.02</td>
<td>0.75</td>
</tr>
<tr>
<td>6</td>
<td>Bhum</td>
<td>25.24</td>
<td>0.56</td>
<td>2.4</td>
<td>0.48</td>
<td>4.31</td>
<td>0.89</td>
</tr>
<tr>
<td>Region</td>
<td></td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Compiled by Researcher.

2.12.1 Cereals:

Cereals include jowar, wheat, rice, bajara and maize etc. crops. Region under study is dominated by the area and production of cereal crops. Out of the total gross cropped area 47.86 percent area is under cereal crops.
Among the cereal crops jowar alone shares more than 70 percent area. It is sown both in Kharip and Rabbi Seasons but more area under jowar is in rabbi season. Talukawise percentage of crops to regions total is given in Table No. 2.8 which indicates that relatively high gross cropped area is found in under cereal crops in Osmanabad, Omerga, Paranda and Kalamb, Tuljapur and Bhum Talukas low in remaining part of the study area. (Map No. 2.10 A and B)

2.12.2 Pulses:

Of the total gross cropped area pulses like tur, gram, mug, blackgram accounts for (21.28% percent. It is observed from the Table No. 2.8 that these crops are more concentrated in Omerga and Tuljapur Talukas. Omerga Talukas having one percent and Tuljapur Talukas having (1.51%) percent. And other Talukas below one percent ranks.

2.12.3 Sugarcane:

This is the most important cash crop of the region. Due to the development of irrigation facilities in certain pockets of the region and establishment of sugar factories in the last four decades cause to consistently rise in sugarcane are. A crop is largely responsible for the Economic transformation of the area. Of the total gross cropped area sugarcane accounts for (2.72%) percent area. It is observed from the Table No. 2.9 that, area under sugarcane cultivating is more in Tuljapur and Osmanabad Taluka and relatively less in remaining Talukas of the area.
2.12.4 Cotton:

Cotton is another important cash crop of the area. Of the total gross cropped area cotton accounts for (0.20%) percent. It is observed from the Table No. 2.9 that area under cotton cultivation is relatively high in Kalamb, Paranda and Bhum Talukas and Osmanabad, Omerga and Tuljapur Talukas and low in remaining Talukas of the study region.

2.12.5 Oil seeds:

Oil seeds grown in the study area mainly include groundnuts, kardi and sunflower crops. Of the total gross cropped area Oil seeds accounts for (24.50%) percent and occupies second rank among the cropping pattern. High proportion of area under Oil seeds is found in Osmanabad and Paranda Talukas and low in the remaining Talukas of the area.

2.12.6 Other crops:

Other crops include several crops but recently development of new technology in agriculture sector and government incentives, area under fruit crops is increasing considerably. Among those crops cultivation of grapes has got important position in certain pockets of the region. Though it is capital oriented, it fetches handsome returns to the farmers of the total gross cropped area, other crops account for (3.44%) percent only.
2.13 Population:

Human resource is the wealth of nation. Man himself is an element of nature but he does not have a passive role like minerals. He performs an active role as he is separated from other natural elements by his capacity to think and behave accordingly. Man plays a dual role in economic activities as a producer and consumer of goods and services. The process of economic development of any region depends upon the quality of its population the growth, distribution and composition of population. To a certain extent throw light on the manpower of the region and are responsible for its progress. That is why in the economic development of the region, man power is considered as one of the important resources. About whole population I have study in detail next chapter.

2.14 Animal husbandary resources:

Livestock resource also plays an important role as a base for development of industries in a particular region. Dairy development, leather industry. Woolen textiles are directly related to the animal resources. All the agricultural operations are based on them and they are the chief source of power and manure. The entire field operations from ploughing to the harvesting of crops are carried out by the drought animals mainly bullocks, male buffaloes.
They are keystone in the farming. In addition to crops drought and midch stock raised and maintained by individual farmer. Midch stock supports to the dairy farmering.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Taluka</th>
<th>Total cattle</th>
<th>Total buffaloes</th>
<th>Total bocines</th>
<th>Sheep</th>
<th>Goats</th>
<th>Total livestock</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Osmanabad</td>
<td>66187</td>
<td>27695</td>
<td>93882</td>
<td>6355</td>
<td>50806</td>
<td>244925</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(27.02%)</td>
<td>(11.31%)</td>
<td>(38.33%)</td>
<td>(3.41%)</td>
<td>(20.74%)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Kalamh</td>
<td>64599</td>
<td>18470</td>
<td>83009</td>
<td>5183</td>
<td>36387</td>
<td>207588</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(31.12%)</td>
<td>(8.87%)</td>
<td>(39.99%)</td>
<td>(2.50%)</td>
<td>(17.53%)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Tuljapur</td>
<td>73090</td>
<td>42179</td>
<td>115269</td>
<td>14886</td>
<td>72853</td>
<td>318277</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(22.96%)</td>
<td>(13.26%)</td>
<td>(36.22%)</td>
<td>(4.63%)</td>
<td>(22.89%)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Omerga</td>
<td>71518</td>
<td>37877</td>
<td>109395</td>
<td>14746</td>
<td>49784</td>
<td>283320</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(25.24%)</td>
<td>(13.37%)</td>
<td>(38.61%)</td>
<td>(5.20%)</td>
<td>(17.57%)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Bhum</td>
<td>52065</td>
<td>10757</td>
<td>62822</td>
<td>3933</td>
<td>35037</td>
<td>164604</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(31.63%)</td>
<td>(6.53%)</td>
<td>(38.16%)</td>
<td>(2.39%)</td>
<td>(21.28%)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Paranda</td>
<td>51232</td>
<td>10858</td>
<td>62090</td>
<td>8815</td>
<td>44924</td>
<td>177919</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(28.80%)</td>
<td>(6.10%)</td>
<td>(34.90%)</td>
<td>(4.95%)</td>
<td>(25.25%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Osmanabad District</td>
<td>378892</td>
<td>147575</td>
<td>526467</td>
<td>53918</td>
<td>289781</td>
<td>1396633</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(27.13%)</td>
<td>(10.57%)</td>
<td>(37.70%)</td>
<td>(3.86%)</td>
<td>(20.75%)</td>
<td>(100.00%)</td>
</tr>
</tbody>
</table>

**Source:**
2) Figures in the brackets indicates percentage.
In study region dairy business is very important in Bhum, Omerga, Paranda and Tuljapur Taluka. Out of the total livestock below 30% share was occupied by the cattle in Tuljapur. Where as (25% to 30%) cattle share was noticed in Osmanabad, Omerga and Paranda Talukas in 1997. Above 30% share of cattle in livestock was noticed in remaining Talukas in 1997. Buffaloes share in total livestock ranges between (6.1% to 13.37) percent in the villages.

It means that buffaloes share varies from Taluka to Taluka. Sheeps role in all Talukas in livestock ranges from (2.5% to 5.2%) in 1997. It means there is very little scope for woolen textiles in the study region. Goat was ranking second in total livestock after cattle in all Talukas in 1997. Goat’s share in total livestock varies from (17.53% to 25.25%) in all Talukas. There is wide scope for the dairy industries in the study region due to short gross. Some Talukas like Bhum, Paranda, Tuljapur, Osmanabad and Kalamb are famous for dairy industries.

2.15 Agricultural implements:

Relief and edaphic climate conditions largely control the use of agricultural implements and machinery in an area. District has been using form tools since time immemorial in a traditional way. The major farm implements are wooden ploughs, iron ploughs, carts, oil engines, electric pumps, sugarcane crusher and tractors. Wooden plough is not used in Omerga and Paranda Taluka.
Where as its density in remaining Taluka varies from (3.62 to 17.73) per 100 hectares. The lowest iron plough density per 1000 hectare was found Paranda (11.85) while the highest iron plough density was recorded in Omerga (90.52) in 1997.

The proportion of electric pumps per 100 hectare ranges from (34.23 to 57.47). Oil engines density is very less in all Talukas and it ranges from (1.17 to 15.84) per 100 hectares. The lowest tractor density was experienced in Tuljapur where as the highest density per 100 hectares was found in Omerga (2.05) in 1997.

<table>
<thead>
<tr>
<th>Table No. 2.11: Talukawise Density of Agricultural Implements (Density per 100 hectares)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taluka</td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td>Osmanabad</td>
</tr>
<tr>
<td>Kalamb</td>
</tr>
<tr>
<td>Omerga</td>
</tr>
<tr>
<td>Tuljapur</td>
</tr>
<tr>
<td>Bhum</td>
</tr>
<tr>
<td>Paranda</td>
</tr>
<tr>
<td>Osmanabad District</td>
</tr>
</tbody>
</table>

**Source:** Compiled by the Researcher.
Bullockcarts density proportion is quite better in the study region. It ranges from (19.44 to 51.71) in all Talukas of the study region. Electric sugarcane crusher’s density per 100 hectare varies from (0.20 to 1.86) in the study region. Net single oil crusher was found in Paranda and Omerga Talukas in 1997.

2.16 Chemical fertilizers:

Utilization of improved seeds in area under certain crops as tur, Mung, udid, Weat, Jowar, groundnut, sunflower and safflower and cotton use of fertilizers has rapidly increased. Urea, Phosphate, sulphate and other mixed chemical fertilizers are mainly used in this study region.

The farmers have learned by experience the effective use of chemical fertilizers. In 1980 to 1981 about 27000 metric tones chemical fertilizers were used where as about 48890 metric tones Chemical fertilizers were used in the study region in 2000 to 2001.

2.17 Agricultural credit and finance:

All the farmers make their decision on the basis of capital available to them. Industrial crops require more capital for getting maximum output. Agricultural credit finance has remained vital issues in the adoption of modern agricultural technology. There are 467 primary credit societies in the district. Omerga and Kalamb Talukas are having more than hundred primary credit societies.
These societies were given about Rs. 92.39 crores loan as on 31st March 2004. Outstanding loan was Rs. 90.93 crores up to March 2004; but this outstanding loan balance was previous balance. It means that recovery loan is very poor in the study region. It is essential to increase the recovery amount by increasing the output of the agriculture. There are 129 banks in the study region. There are also seven co-operative banks.

2.18 Electricity:

The cost of the single factor which can act as a constraint on economic growth is the availability of energy. The use of electricity profoundly changed the structure and role of energy supplies in modern industry and has certain important consequences on the location of industrial activity.

Among the infrastructure facilities the adequate supply of electricity is most important for the economic progress of any region. Its importance in the economic and industrial development by now has been fully realized. The consumption of electricity is now being considered as a barometer of economic and industrial development as the same can not be fully achieved without an adequate supply of electric power.

Electrification of eight cities and 702 villages were completed as on 31st March 2004. During 2003-2004 about 57563 thousand kilowatt hours electricity was used in entire study region. Out of the total consumption of electricity 14.69% was used for household purpose,
(2.45%) for trade, (2.95%) for industries, (1.96%) public purpose and (75.92%) for agriculture. It means that consumption of electricity is very less in industrial sector.

2.19 Marketing:

Marketing can be defined as the performance of business activities that direct the below of goods and services from the producer to the consumer, so that they may reach the consumer at the time, place and in the form he wishes and at a price he is willing to pay. Availability of market is very essential for the development of industry, because finished products of any industry are finally brought to the market for sale. Therefore if the region has several and large market centres, then the region receives more incentives and has good scope for the development of industries. There are seven regulated markets in the study region. They are scattered and Paranda, Bhum Kalamb, Osmanabad, Murum, Tuljapur, and Omerga, most of the buyers are poor in the study region. Hence, sellers do not get required price of their articles in the local markets. Marketing places are facing various problems like water, drainage, godown facilities and lack of transport network etc.

2.20 Transport and communication:

The location of manufacturing greatly influenced by availability of transportation facilities. The location of industry in any given area may depend directly on the type of transportation present.
In the study region raw materials are usually obtained from the immediate locality hence transport is less important but for finished good transport network is essential to transport finished goods from the place of industry to the place of market.

About 30 Kilometre narrow gauge railway line was available in the study region. This railway line passes from Palsap, Ter, Dhoki, Kallm Road, Yedsi and Ramling and other small railway stations. Total road length was **5622.14** Kilometres as on 31st March 2001. Out of the total length (31.42%) was village roads. The shares of national highway (4.35%), state high way (17.22%), district roads (24.05%), other district roads (18.25%), and other roads were (4.73%) respectively as on 31st March 2001.

It means that road system is excellent in the study area and definitely it will support to the industrial development. (MapNo.2.11) there were **288** post offices in the study region during 2003 to 2004. About **43868** telephone connections were given to the customer’s upto 31st March 2004. It means that communication facilities are also sufficient for the development of small-scale units. Particularly agro-based small-units have greater scope in this region i.e., dal mills, oil mills, food products etc.
2.21 Economic and industrial development:

Industrially Maharashtra is one of the advanced states in the country. Proper exploitation of the available industrial resources is absolutely essential for a balanced economical growth along with agriculture especially in the district like Osmanabad which is economically and industrially backward.

It has agro economy which also lag behind and there is a considerable migration of people in search of job. This lagging behind is due to total apathy of Hyderabad state which was never progressive towards the subject. There was no industry as such and whatever existed was on small and local scale. It was after 1948 that gradually the district began to receive attention.

The district has only one industrial estate undeveloped by MIDC. The district industrial centre has provided facilities for registration of small scale industries training guidance finance and other facilities.

2.21.1 Osmanabad District: Large and medium scale industries:

1] Sugar Factory:

The large and medium scale Industries:

1) Terna Shetkari Co-operative sugar Factory Dhoki in Osmanabad Taluka.

2) Tuljabhavani Shetkari Co-operative sugar factory Ltd. Naldurg in Tuljapur Taluka
<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Types of Industry</th>
<th>No. of Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Agricultural and allied</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>Food products</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Grains and animal food</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Confectionary</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Textile</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Wood work</td>
<td>16</td>
</tr>
<tr>
<td>7</td>
<td>Chemical</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>Pesticides, printing ink etc.</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>Claystone work</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>Precious metal work</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>Fabricators</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>Vehicle and repairs</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>Fuel and Automatic</td>
<td>6</td>
</tr>
<tr>
<td>14</td>
<td>Fuel and Automatic</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>47</strong></td>
</tr>
</tbody>
</table>

**Source:** District Industrial Centre Osmanabad
3) Dr. Babasaheb Ambedkar Co-operative Sakhar Karkhana Ltd., Keshegaon in Osmanabad Taluka.

4) Nrusinha Co-operative sugar factory Ltd. Indapur in newly Washi Taluka.

5) Vithalsai Co-operative sugar factory Ltd. Rajiv Gandhi Nagr Murum in Omerga Taluka.

6) Shivshakti Shetkari Co-operative Sugar factory Ltd. At Tandulwadi in newly Washi Taluka.

7) Shambhu Mahadev Sugar and Allied industries Ltd. Havargaon in Kalamb Taluka.

8) Natural Sugar and allied industries Ltd., Sainagar Ranjani in Kalamb Taluka.

2] Cotton mills:

The cotton mills total no. of 3 mills located at and is naming

1) Shri Kuswamini Co-operative Soot Girni Ltd.

2) Dhyafule Spinning mills Private Ltd, Tal. Tuljapur and


3] Others:

21st Century Egg farms private Ltd, Khanapur Tq. Tuljapur and Balaji Amines Ltd, Tandulwadi, Tal. Tuljapur there are other two large and medium scale industry.
Table No. 2.13: Osmanabad District : Talukawise Large – Medium and small scale industry (2000-2001)

<table>
<thead>
<tr>
<th>Talukas</th>
<th>Sugar factory</th>
<th>Cotton Mills</th>
<th>Forested based</th>
<th>Dal Mills</th>
<th>Oil Mills</th>
<th>Food products units</th>
<th>Printing press</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osmanabad</td>
<td>2</td>
<td>-</td>
<td>18</td>
<td>5</td>
<td>6</td>
<td>10</td>
<td>18</td>
</tr>
<tr>
<td>Kalamb</td>
<td>4</td>
<td>-</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Omerga</td>
<td>1</td>
<td>-</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Tuljapur</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Bhum</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Paranda</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>3</td>
<td>40</td>
<td>13</td>
<td>14</td>
<td>2</td>
<td>42</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Talukas</th>
<th>Building Material units</th>
<th>Leather Units</th>
<th>Engineering Units</th>
<th>Other Unites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osmanabad</td>
<td>22</td>
<td>30</td>
<td>20</td>
<td>26</td>
</tr>
<tr>
<td>Kalamb</td>
<td>8</td>
<td>6</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Omerga</td>
<td>4</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Tuljapur</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Bhum</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Paranda</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>District Total</td>
<td>50</td>
<td>61</td>
<td>48</td>
<td>62</td>
</tr>
</tbody>
</table>

Source: District Industrial centre Osmanabad
2.21.2 Osmanabad District:

Talukawise distribution of small scale industries 2000-2001:

Author has classified small-scale industries in to nine groups for the study purpose. They are as follow.

A) Forest based units
B) Dal mills
C) Oil mills
D) Food product units
E) Printing press
F) Building material
G) Leather units
H) Engineering units
I) Other units

The 09th units is other unites, included are Radio, Motor, rewinding, T.V. shop, livestock food etc.

2.22 Trade and commerce:

The district is well known for Jowar and Edible oil. Jowar and oil seeds plantation are mainly grown in Tuljapur and Paranda Talukas. The chief export articles of the district are Jowar, milk and groundnuts. They are mainly export to Bombay, Solapur and Pune. The Chief import articles are food grain of all Varieties, cattle, oil seeds, medicines, hardware, sugar and raw iron. Most of these goods are imported from Bombay, Pune and Solapur. Apart from the weekly markets and fairs, Osmanabad, Tuljapur, Bhum and Omerga are the important trade centers.
<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of towns</th>
<th>Most important commodity Manufactured</th>
<th>Exported</th>
<th>Imported</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Osmanabad</td>
<td>Bakery products</td>
<td>Textiles</td>
<td>Raw iron</td>
</tr>
<tr>
<td>2</td>
<td>Kalamb</td>
<td>Confectionery</td>
<td>Edible oil</td>
<td>Oil seeds</td>
</tr>
<tr>
<td>3</td>
<td>Omerga</td>
<td>Sandal Agarbatti</td>
<td>Sandal Agarbatti</td>
<td>Food grains</td>
</tr>
<tr>
<td>4</td>
<td>Tuljapur</td>
<td>Rice</td>
<td>Jowar</td>
<td>Grocery</td>
</tr>
<tr>
<td>5</td>
<td>Bhum</td>
<td>Handloom cloth</td>
<td>Milk</td>
<td>Cattle fodder</td>
</tr>
<tr>
<td>6</td>
<td>Paranda</td>
<td>Latherbelts</td>
<td>Jowar</td>
<td>Sugar</td>
</tr>
<tr>
<td>7</td>
<td>Murum</td>
<td>Edible oil</td>
<td>Jowar</td>
<td>Food gains</td>
</tr>
<tr>
<td>8</td>
<td>Naldurg</td>
<td>Chemical manures</td>
<td>Milk</td>
<td>---</td>
</tr>
</tbody>
</table>

Source: District Census C. D. Osmanabad - 2001

2.23 Distribution of settlement:

Settlement pattern of the region is largely influenced by physiographic, Agricultural development and levels of which and rural settlements 6 rural settlements are uninhabited and 8 are urban settlement in the study area Thus there are 729 rural and urban inhabited settlements.
<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Taluka</th>
<th>No. of inhabited villages</th>
<th>Less than 500</th>
<th>500-1999</th>
<th>2000-4999</th>
<th>5000-9999</th>
<th>10000 and Above</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Osmanabad</td>
<td>129</td>
<td>19</td>
<td>79</td>
<td>26</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Kalamb</td>
<td>119</td>
<td>11</td>
<td>84</td>
<td>19</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Omerga</td>
<td>138</td>
<td>18</td>
<td>79</td>
<td>30</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>Tuljapur</td>
<td>130</td>
<td>23</td>
<td>80</td>
<td>24</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Paranda</td>
<td>116</td>
<td>26</td>
<td>75</td>
<td>14</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>Bhum</td>
<td>97</td>
<td>25</td>
<td>64</td>
<td>6</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Osmanabad District</td>
<td>729</td>
<td>122</td>
<td>461</td>
<td>119</td>
<td>24</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

OSMANABAD DISTRICT

Distribution of Rural Settlements 2000-2001

INDEX

POPULATION SIZE:

- 10,000 AND ABOVE
- 5000 - 9999
- 2000 - 4999
- 500 - 1999
- LESS THAN 500
The Table No. 2.15 reveals that small size rural settlements (less than 500 populations) are less number and medium size rural settlements (500 to 4999 populations) are large number. These medium size rural settlements are generally located in the central part of the region. Large size rural settlements (Above 5000) are less in number and these settlements are found in agriculturally developed pockets of the central part.

It is essential to note that are every one rural settlement having population above 10,000 in Osmanabad, Tuljapur, and Bhum. Where agricultural development is more (Map No. 2.12).

There are 08 urban settlements in the district;

1) Osmanabad is class- II
2) Omerga and Tuljapur are class- III
3) Kalamb, Murum and Naldurg, Paranda and Bhum are class- IV towns. There is neither a class I nor any census town in the district.
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