CHAPTER -II
TOPOGRAPHY AND
METEOROLOGICAL DATA OF REGION
The State of Maharashtra forms a major part of peninsular India with the sea coast on the western side. Marathwada region is one of the administrative divisions of Maharashtra State with its headquarters at Aurangabad and is aptly called as Aurangabad Division. It consists of seven districts namely, Aurangabad, Beed, Jalna, Parbhani, Nanded, Osmanabad and Latur. The region is divided into 59 talukas for administrative purpose.

Site and Situation:

Marathwada region lies in the central part of Maharashtra State and it extends from 17° 35' to 20° 40' north latitude and 74° 40' to 78° 18' east longitudes. The total geographical area of the region is 64813 sq.km. It occupies about 21.06 p.c. area of the Maharashtra state. The region is bounded by Jalgaon, Buldhana, Akola, and Yeotmal districts in the north, by Nashik, Ahmednagar districts in the west, by Solapur District in the south, by Bidar district (Karnataka) in southeast and Medak, Nizamabad districts (Andhra Pradesh) in the south.

Rivers and Hills:

The Marathwada region lies on the Deccan table land with a slope towards the southeast. The rivers Godawari,
Penganga, Purna, Sina and Tapi with a number of their tributaries form the major drainage system. The main rivers in conformity with the general topography flow towards the southeast.

Ajantha range of hills pass through the northern parts of Nanded, Parbhani and Aurangabad districts. Balaghat hills in Bhir district extend towards the north and enter into the southern part of Parbhani district. The altitude varies from 300 meters to 1000 meters above the mean sea level. The plateau has an average altitude of about 667 meters above the mean sea level.

Godavari is the most important and the largest river in the region. It enters the region through Aurangabad district, run on its southern boundary and flows through Parbhani and Nanded districts. River Purna is the major tributary of Godavari river in the region. The other important tributaries are Shivana, Manjara, Bindusara, Sindphana, Manar, Terna and Dudhana. The Godavari basin covers 68.6 p.c. of the total geographical area of the region.

Soils:

The region is covered with regure or black cotton soils, derived from the Deccan trap. The soils vary greatly
Meteorological data for Temp., Humidity & Rainfall
1 Jan. - 30 Jun 1995

- Max. temp.  - Min. temp.

- RH AM  - RH PM

- Rainfall
Meteorological data for Temp., Humidity & Rainfall
1 Jan. - 30 Jun 1996

- Max. temp.
- Min. temp.

Rainfall (in mm)
Meteorological data for Temp., Humidity & Rainfall
1 Jul. - 31 Dec 1996

Temperature
- Max. temp.
- Min. temp.

Humidity
- RH AM
- RH PM

Rainfall
- Rain fall
Meteorological data for Temp., Humidity & Rainfall
1 Jan. - 30 Jun 1997

Temp.

--- Max. temp.  --- Min. temp

RH

--- RH AM  --- RH PM

Rainfall (in mm)

--- Rainfall
Meteorological data for Temp., Humidity & Rainfall
1 Jul. - 31 Dec 1997

**Temp.**

- Max. temp.
- Min. temp.

**RH**

- RH AM
- RH PM

**Rainfall in mm**

- Rainfall
in texture and depth. The soils in the region are clayey and alkaline (pH 7.2 to 8.5). The three important types of the soils in the region are shallow, medium deep and deep. The shallow soils are along the hill slopes in Ajantha ranges and Balaghat plateau. The central and eastern part of the region are covered by medium deep soils. The soil has dark brown or black colour and is granular in structure. Due to high clay contents, it has a good moisture retaining capacity. The regure soil is most suitable for cotton. The water infiltration rate below 30 cm is poor. The pore space varies from 40 to 60%. The cation exchange capacity is about 50 MC/100 g of soil, the predominant cation being calcium. The dominant clay mineral is montmorillonitic type. As a rule, the soils are rich in potash but poor in nitrogen and organic matter.

Climate:

Climate of the region is characterised by hot summer and general dryness throughout the year except during the southwest monsoon season. The year may be divided into four seasons, the cold seasons from December to February, followed by the hot season from March to May, from June to September is southwest monsoon season and October to November the post-monsoon season. December is the coldest month with 13°C.
Temperature is high during April, May, which is usually 48°C. The annual range of temperature in the region is 13.3°C - 48°C. The average rainfall ranges between a maximum of 967.5 mm in Nanded district to 735.6 in Beed district. The central part of the region comprising Parbhani district and western part of Nanded is an assured rainfall zone with 700 nm to 900 nm rainfall. Latur shows 965.5 rainfall.

Agriculture:

The gross cropped area in the region during 1994-95 was 57.00 lakh hectares. The cropping pattern is dominated by food crops. Jowar is the major crop of the region. The total area under jowar crop is 21.73 lakhs. In kharif jowar cultivated land, the region ranks first in the State. Jowar is cultivated in both kharif and rabi season. Bajra is second important food crop grown in low rainfall and shallow soil areas of the region. The net area under irrigation was 2,27,000 ha. 2,64,200 ha were permanent pastures.

During last decade, the proportion of area under cotton crop has decreased. Sugarcane is the main cash crop. The production of total oil seeds has increased due to cultivation of sunflower, which is popular crop in low rainfall area of the region.
Forest:

The total area under forest in the region is 241300 hectares. Marathwada region shares only 4.28 p.c. of the total forest area in the State of Maharashtra. About 3.6 p.c. of the total geographical area of the region is under forest. Kannad, Soygaon, Aurangabad talukas in Aurangabad district, Jintur, Hingoli in Parbhani district have more than 6 p.c. of their total area under forest, whereas Bhum, Paranda, Omerga, Osmanabad talukas in Osmanabad district, Latur, Ahmedpur, Ausa talukas of Latur district, Georai, Majalgaon in Beed district have almost no forest (less than 1 p.c.).

The district Nanded as a whole is having the highest percentage of forest (8 p.c.) in the region, followed by Aurangabad district (7.8 p.c.), Parbhani (3.4 p.c.). The lowest percentage of forest area is found in Jalna (0.7 p.c.), Osmanabad (1 p.c.) and Latur (0.2 p.c.) districts.

Livestock:

The total livestock population in Marathwada according to 1992 report was 76.49 lakhs. The total number of cows and bullocks was 35.92 lakhs which is 22.3 p.c. of the state's total bovine population. The population of buffaloes was 7.4 lakhs and number of sheep and goats was 21.92 lakhs.
The District of Aurangabad:

The Aurangabad district extends over an area of 16.718 sq.km and is situated in the upper Godavari basin to the extreme northwest of Marathwada. In general the district slopes down towards the south and southeast. The district lies between the latitudes of 19° 17' 30" and 20° 40' 10" north and between the longitude 74° 40' and 76° 40'; east. The general elevation above the sea level varies between 665 and 735 meters on the north and between 565 and 635 meters towards the south.

The soils of the district are deep black and contain large quantities of calcium and magnesium. They are deficient in nitrogen, phosphorus and organic matter and crack heavily in summer. The soils are quite fertile and suitable for cultivation of wheat, cotton, virginia tobacco, chilies and jowar.

Climate

Except in the summer months of April and May, when the temperature rises to even as high as 47°C, the climate of Aurangabad is pleasant throughout the year. Even in summer the nights are fairly cool. During the monsoon season (June to October) the temperature is moderately warm ranging from
21° to 36°C. The winter season (October to March) is dry. January is the coldest month of the year with temperature falling to as low as 4°C.

The University Botanic Garden

Dr. Babasaheb Ambedkar Marathwada University Campus is located on the northwestern fringe of the city. The botanical garden with an area of 10 hectares occupies the central portion of the campus. It is being developed as an experimental wing of the Department since 1965. The garden is surrounded by a nallah almost on three sides. The garden is provided with adequate lift irrigation facilities, a field laboratory, labour and supervision.