CHAPTER III

TOPOGRAPHY & GENERAL FEATURES
The district consists of hilly tracts broken by broad valleys and interspersed with gently sloping plains. The district belongs to the Ajanta ranges and the plateaus on its top and the northern sections form part of the Payanghat or the Berar plains. Most of the land of the district is a higher level plateau at average elevations of 350 to 450 m.

The plateau is drained by the Pus, the Adan-Arunavati, the Waghadi and the Khuni rivers, all of which are tributaries of the Penganga. These rivers drain in south-easterly and easterly directions along the general dip of the plateau and have carved broad open valleys, resulting in the plateau being divided into a series of alternating broad parallel valleys separated by flat topped divided with escarpments overlooking the rivers. Thus the whole plateau falls broadly into three physical divisions from north-east to south-west; the Waghadi-Khuni valleys and the Yavatmal plateau; the Adan-Arunavati basin and the Pus valley.

Drainage: The main rivers of the district are Wardha and Penganga, both of them forming the district boundaries. The district is well drained by a large number of tributaries of the two rivers, such as the Bembla nadi, the Pus, the Adan-Arunavati, the Waghadi, the Khuni, the Vaidharba and the Nirguda (Anonymous, 1974).
Geology: Major part of the district is covered with volcanic flows of the Deccan Trap, excepting a few isolated exposures of older rocks in the southern and south-eastern parts. The oldest rocks, named the Archaean group, comprise basic and altered basic rocks, granites and granite gneiss. These are overlain, in south-eastern part close to the Penganga valley, by dolomitic limestone and shale of later Precambrian age which are called the Penganga beds. These are directly overlain by sandy and clayey rocks constituting the Gondwana supergroup, comprising Talchir boulder bed, sand stone and shales, Barakar sand stone and shale and Kamthi sandstones.

The volcanic flows occupy the entire district except for the small stretch along the Penganga river. These constitute the Deccan Trap and comprise seventeen basaltic flows in a vertical column.

The flows are both of pahoehoe and aa type and vary in thickness. Limestone interbedded with chert, shale and red bole beds occur at the contact of some flows and are called inter-trappean beds.

Along the banks of Penganga and the Wardha rivers alluvium is seen varying in thickness from a few metres to as much as 25 metres. The alluvial deposits are mainly constituted of gravels, sand, silts and clays.

Limestone is the only mineral of economic importance found in this district. Its chief deposits are at the following places:
1) **The Chanaka - Bhikund belt:** It is located at 25 km south-west of Pandharkawada. The limestone is of cement grade.

2) **The Mukutban - Bhilamur block:** It is composed of limestone and dolomite.

3) **The Sindola - Chankh - Pandoh belt:** This is near Khandala. Cement grade limestone is available here.

4) **The Radur belt:** Here both cement grade and flux grade limestone is available.

**Building stone:** Hard, compact and dense parts of the basaltic flows yield good construction materials which can be used as road metal, concrete aggregates and blocks. Kamthi sandstone showing rich unvariegated colour and close beddings can be used as blocks and ornamentation stones.

**Climate:** The climate of this district is characterised by a hot summer and general dryness except during the south-west monsoon. The cold season from December to February is followed by the hot season from March to May. The south-west monsoon visits the district from June to September and October - November forms the post-monsoon period.
Rainfall: The average annual rainfall in this area based on the rainfall figures for the years 1964 - 1982 is 1015 mm. The rainfall generally increases from the north-west towards the south-east. Ner, near the north-western border of the district gets annually 896.3 mm while Pandharkawada near the south-east border gets 1122.2 mm. The central region comprising Yavatmal tahsil gets 1099.5 mm. The rainfall during the south-west monsoon season constitutes about 86% of the annual rainfall. August is usually the rainiest month.

On an average there were 54 rainy days i.e. days with rainfall of 2.5 mm or more in a year in the district.

The rainfall during the other seasons is uncertain.

Temperature: Temperatures rises rapidly after February till May which is the hottest month of the year. In May the mean daily maximum temperature at Yavatmal is 41.8°C and the mean daily minimum is 28.3°C. The heat in summer is intense and on some days in May and June the maximum temperature may rise upto about 46°C. Sometimes there are thundershowers in the afternoon. With the arrival of the south-west monsoon, by about the middle of June, there is appreciable drop in day temperatures and the weather becomes cool. After the end of September when the south-west monsoon withdraws, the day temperatures increase slightly. But the night temperatures decrease progressively after September. After October, both day and night temperatures decrease rapidly. December is
usually the coldest month with 28.4°C mean daily maximum temperature and 15.1°C the mean daily minimum. In association with western disturbances which move across north India, cold waves affect the district and the minimum temperature may occasionally go down to about 8.0°C.

**Humidity:** The humidity is high during the south-west monsoon season; in August it is as much as 87%, otherwise the air is generally dry. The summer months are driest, the relative humidity in April in afternoons being about 25%.

**Winds:** Winds are generally light to moderate. They become stronger during May to August. In the post-monsoon and cold seasons the winds generally blow from the east or north-east. By March south-westerlies and westerlies start blowing. In the rest of the summer and the south-west monsoon seasons winds are mostly from directions between south-west and north-west (Anonymous, 1974).