CHAPTER – 3

TOPOGRAPHY OF THE STUDY AREA
Bhadravathi city is a taluk head quarters, situated about 16 kms from Shimoga district, Karnataka state (South India). Bhadravathi city previously known as Benkipura is the renovated centre of industries had a population of just 6240 in the beginning of 20th century (1901) and presently it has developed into a class II city with a population of 1,63,784 (Census, 2001). Bhadravathi city is one of the major industrial centres of Karnataka state. There are 25 major and minor industries situated in the vicinity. The Mysore Paper Mill (MPM) and Visveswaraya Iron and Steel Limited (VISL) are the major industries and minor industries cover manufacturing units like rice mills, oil mills, cement pipes, chemicals, machinery parts and poultry farms. The river Bhadra passes through the heart of city.

3.1 Location

The geographical location of Bhadravathi city lies between the latitude of 13° 49' to 13° 54' north and longitude of 75° 40' to 75° 45' east in about mid-southwestern part of the Karnataka state (Fig. 1). It is situated at an altitude of 581.55 meters above mean sea level (MSL) and the city covers an area of 67.08 sq. km. Bhadravathi city is bifurcated into two parts; one is old town and another is new town.

3.2 Meteorology

3.2.1 Climate

The climate of the area is semiarid and Bhadravathi city enjoys three well defined seasons.

a). Summer season: February to May and the hottest months being April and May.

b). Rainy season: June to October.

c). Winter season: November to January.
3.2.2 Temperature

Temperature varies from 8.9 to 40 °C. The maximum temperature recorded so far is 40°C during the month of April, the lowest minimum temperature was recorded in the town 8.9°C during the month of December.

3.2.3 Humidity

The percentage of humidity varies from 42 to 90. The relative humidity in the early morning throughout the year generally exceeds 75 %. Similarly in the afternoon, relative humidity generally exceeds upto 60%. While in the monsoon months the relative humidity shows high and comparatively less in the other months. The driest part of the year recorded from January to March.

3.2.4 Rainfall

The average rainfall of the area is 1029 mm. The region receives rainfall mainly from southwest monsoon and slightly from Northeast monsoon with an annual rainfall season spreading over a period of 5 to 6 months. The southwest monsoon occurs from June to September amounting to about 68 % and Northeast monsoon during October to November constituting about 32 % of the rainfall.

3.3 Geology of the study area

Geologically the study area consists of schists and gneisses of Archaean age and forms a part of Dharwar super group. Schistose rocks include interbedded volcano meta sedimentary sequence of basaltic lava flows, quartz pebbel conglomerate, quartzite, phyllite and banded iron formations. The gneisses, which occur in this area, are the components of peninsular gneiss. These gneisses show
variation both in a grain size and gneissosity. Compositionally they are tonalite-
trondhjemite-granodiorite (TTG) in nature. The area falls under the study inhabited
with richest iron and manganese ore deposits. The famous and biggest Kudremukh
iron Ore Company is located in the upstream side of Bhadra river. Mineralogical the
basaltic lava flows comprised of plagioclase and clinopyroxene. Where as phyllites
made up of aluminosilicates. The gneisses of the study area contain quartz,
plagioclase feldspar, K-feldspar, biotite and hornblende. In contrast to this, the banded
iron formation (BIF) contains alternate bands of iron ores (hematite and magnetite)
and silica (quartz).
Fig. 1 Physiographic Map of Bhadravathi Town.