CHAPTER - II
CHAPTER-II

GEOGRAPHICAL BACKGROUND OF THE STUDY AREA

The twin cities of Hubli-Dharwad are located at the fringe zone of Malnad and Maidan of the north western Karnataka. The existence of a city is always accounted to the normal environment (Renner, 1933) Hubli and Dharwad were independent towns before 1962. They were merged into a single municipal corporation namely, Hubli-Dharwad Municipal Corporation (HDMC) on March 2nd, 1962. The present HDMC area lies between 15° 18' 25" and 15° 30' 47" North latitudes and 75° and 75° 11' east longitudes, (included in survey of India toposheets 48M/3 and 48 1/15) (Fig.3) extending over an area of about 202.28 Sq. Kilometers. The HDMC is the second largest Municipal Corporation in Karnataka State next to that of Bangalore. This includes two major urban centers Hubli and Dharwad which are 20 kilometers apart, a new township Rayapur located in between Hubli and Dharwad and 45 suburbs/ villages. The total population of the area is 7,86,018 in 2001 (see Fig.3)

The national highway (NH-4) and a broad guage railway line pass through the municipal corporation area connecting Hubli and Dharwad to Pune and Bangalore. They are 380 kilometers away
from Bangalore and 764 kilometers away from Mumbai. The extensions of HDMC area have a typically elongated pattern extending along the nation highway with two focal points of intensive development, one at Hubli and the other at Dharwad.

Dharwad with a glorious socio-cultural heritage is the seat of district and taluka headquarters. It has well established educational institutions and industrial establishments (mainly small scale). Hubli is mainly a centre for trade and commerce and it also has many industries and educational institutions.

**Historical Background of Hubli City**

Hubli city was known as “Rayara-Hubli” during the rule of the great Vijayanagar kings. A carved inscription found near Bhavani-shankar temple in Old Hubli dates way back to 1054 A.D. wherein it is stated that, the name of the place is Rayara Hubli or Hubli. Maha-agrahara also seems to be another name by which Hubli was called in 1170 A.D. Hubli seems to have derived its name from Hubballi or Puballi i.e. Purvadhalli or old village, Hupprovalli is mentioned in the record of Kadambavir/Jayakeshi in about the year 1187 A.D.
The next reference to Hubli is traced to a treaty of 1547 A.D. between Vijayanagar rulers and the Portuguese, wherein obeli or Hubli appears as a place of trade in salt, pepper and iron for Bijapur kingdom. In 1673 A.D. Hubli is mentioned as a place of wealth and of great trade. It was plundered by Annaji Datto, one of Shivaji's generals and the booty is said to have exceeded any Mautha plunder anywhere. In 1685 Mazzium, Auranzeb's son, took Hubli and Dharwad and placed garrisons there.

Around 1689 A.D. Desai of Kittur distinguished himself in battle and as a reward the title 'Sardeshmukhi' of the district of old or Rayara Hubli was conferred upon him.

In 1727 Basappa Shetty of Old Hubli built a fort and a Lingayat Monastery for the Moorusavir swamy as a nucleus to the new town with the permission of the Nawab of Savanur when Hubli was a part of Savanur. After the Nawab of Savanur in 1783 A.D. Tippu took over old Hubli and in 1787 A.D. the seventh Peshwa, Tukoji Holkar took the country back from Tippu on behalf of Madhav Rao. Later it was taken back from Tukoji by Tippu. In 1790 A.D. Parausharam Bhau Patawardhan took the whole of Bombay Karnataka from Tippu. After the conquest of the city by the British, its control was taken over by General Munro in 1818 from Phadke, the commandant of the peshwas.
The establishment of new Hubli was the outcome of quarrel between Kalyanashetti and his sister's son Basappa Shetter. Basappa Shettar and some of his followers left Old Hubli and settled in the neighboring village, Bommapur and built a fort in the northwestern part of Hubli.

In 1790 A.D. Captain Moor described Hubli as the most extensive, populous and respectable town in this part of the country. The country around was wooded, watered and intensively tilled. There was contact with various interior places and Goa because of its commerce.

In 1884 Captain Wingnate a Britisher found Hubli as an important trade center and he established municipality by 1885 with an area of 6.66 Sq. Kilometers and with a population of 35,278.

The town had a number of long established banking and trading firms which issued bills for large amounts on Mumbai, Chennai and other trading centers. It exported chiefly the local cotton. The imports were large quantities of salt, metals, British cloth, hardware and coconuts form the coasts.
Background History of Dharwad:

Dharwad city is also not of recent origin. It has a glorious history. The traditional history goes back to the time of the Pandavas of the epic Mahabharatha. Copper plate inscription seems to show that in the first century B.C. parts of Dharwad were under the rulers of Banavasi of Uttar Kannada District.

The Chutu-Sakarnis of Banavasai were succeed by the Ganga and Pallava kings who were in turn replaced by the early Kadambas in sixth century A.D. The subsequent early history may be divided into three periods: the early Chalukya, Western Chalukya until 760 A.D.; the Rashtrakutas until 973 A.D. and Western Chalukya from 973 to 1165 A.D.

The stone inscription found near the Durga temple in the old fort at Dharwad town dates back to the Chalukya period under the rule of king Vikramaditya the VI (1117 A.D.) It suggests that Dharwad was built in the 12th century A.D. Later it was ruled by Kalachuri (1165-84 A.D.) Hoyasala (1192-1203) and Deogeri Yadav emperors (1210-95 A.D.). In 1310 A.D. Malikafair laid hands on West and Carnatic (Karnataka) and Southern districts were again invaded by Muhammad Bin Taghulak.
Later the district became part of newly established kingdom of Vijayanagar. However, local belief is that the Dharwad fort was built by one Dhara Rao in 1403 A.D. He was an officer in the department of forests under Vijayanagar kings and the town was accordingly named after him. During the early days, the fort at Dharwad was considered to be the strongest in Karnataka.

In 1573 A.D. it was annexed to the Bijapur kingdom. Later Dharwad was made a sub-division in 1673 A.D. under rule of the Governor of Bijapur but within a short time it came under Martha leader Chatrapati Shivaji who after fortifying Naragund, captured and ruled over Dharwad till 1685 A.D. Later it was taken over by a general of Aurangazeb and later the Moghal emperor. During the same period, Jumma Masjid was built in Mangalawar Peth in the town in 1686 A.D. Between 1753 A.D. and 1788 A.D. the fort of Dharwad changed hands a number of times between the Peshwas and the Mysore rulers. The Marthas and the British launched a combined attack on Tippu Sultan of Mysore and the British retained Dharwad as an administrative centre. By 1856 Dharwad town municipality was created with a total area estimated at 5.12 Square Kilometers and 5,484 households.
Hubli and Dharwad cities present all the conditions envisaged by Renner as ideal areas for the location of a city. The situation of Hubli and Dharwad is on beautiful sites with strikingly picturesque surroundings and excellent hillocks half-hidden above the rising ground. The villages in intervening flat ground along with ponds and tanks give a natural touch and air to the outlook of the towns and this is more pronounced around Dharwad than Hubli (See fig. No.II4).

The twin cities lie the water shed with rivers flowing to the east joining Malaprabha – Krishna system and West and South flowing rivers joining Bedti – Gangavali system.

Just near Someshwar temple (about 4 kilometers from Dharwad) there is a pond where Shalmala river originates, and flows to the west of Tadasinkoppa, in a north-south direction. To the west of Tarihal it changes its course eastwards and again at Timmasagar to the south. After jointing Hirehalla it merges with Bedti river which is a tributary of Gangavali.

Choul Halla, Kudihalla and others are east following non-perennial streams in the northeastern part of the study area. They join Malaprabha-Krishna system.
The study area has many tanks, while the smaller ones have formed in the depressions, the bigger ones have formed by damming the streams. Bigger tanks like Unkal and Kelgari are perennial while the small ones non-perennial. In fact many of them have been reclaimed for housing and commercial complexes. (Fig. I.5).

Geology:

The study area forms a part of Shimoga basin, with some of the oldest rock systems of the Indian sub-continent, the Dharwar of Pre-Cambrian age. Dharwad rocks include some highly metamorphosed rocks of both igneous and sedimentary origin.

Shales / argillites, phyllites and banded iron formations are the main types of rocks found here. They have undergone repeated structural deformations producing folds, fractures, joints and fissures in them (See fig.No1.6)

Soils:

Soil structure and landscape texture are important factors for construction of building. The twin cities of Hubli-Dharwad region possesses soils derived from a variety of parent materials, such as schists, traps, sandstone, limestone, shales, granites, gneisses and laterite. The laterite and lateritic soil occur mostly in the western side. Extensive areas are covered with black soils in the northern and northeastern part of the region (See fig.No1.7).
Black soils are derived from various parent materials viz., traps, schists and granites. They are shallow and ash to black in color. They crack during summer, usually contain lime nodules and have high base status and water holding capacity. The soils derived chiefly from the trap rocks are rather shallow 0.07 to 1.2 meters in the lower elevations and shallower on the ridges.

Medium red and mixed soils are found in the vicinity of Hubli.

Hubli city has its growth towards the black cotton soil area which is to the east and north of the city. Again it is further growing faster towards north-west along the hard rocks where red soil occurs. The existence of laterite rocks in the region has influenced the building materials.

**Climate:**

Inspite of several advances made in the modern technology, man's sustenance is still at the mercy of climate. Climate influences every phase of economic and urban growth. The study of climate includes all the weather elements like temperature pressure, wind, precipitation, and relative humidity which exhibit well marked seasonal variations. The study of climate hence forms an essential aspect of all geographical studies.
Hubli-Dharwad is characterized by the tropical monsoon climate which indicates the seasonal rhythm of weather. The twin cities of Hubli-Dharwad have Koppen's and Thornthwaite's classification of Aw and Caw respectively. Accordingly to recent Indian climatic classification it is a semi-humid zone.

Hubli city has healthy climate with moderate temperature. But it is becoming hot due to heavy industrialization and urbanization.

The climate of Dharwad is pleasant, moderately cool and healthy all through the year.

**Temperature:**

The temperature of Hubli-Dharwad rises gradually from January to April. The mean maximum temperature during the hot weather period is 35.7° C and mean minimum temperature is 13.7° C in December.

**Relative Humidity:**

The relative humidity affects precipitation and transpiration. Maximum humidity is during the months of July, August and September (72% to 81%) and minimum during the month of December and March (45% to 55%).

**Evaporation:**

It is a process by which water on the earth's surface is returned to the atmosphere by vaporization and is expressed as mm/day. The evaporation in the study area varies from 1.82 mm to 8.04 mm.
Wind Velocity:

The wind velocity in the study area varies from 7.43 km/h in January to 16.22 km/h in June.

Rainfall:

The average annual rainfall recorded at Dharwad is 81.89 cm. and at Hubli 69.68 cm.

Vegetation:

A large part of the natural vegetation has been cut for agricultural and constructional purposes. Elevated areas have grasslands, which degenerated into scrub. Much of this area is afforested with eucalyptus and acacia.

In the foothill areas where the ground is suitable for horticultural crops mango, chikku and guava are cultivated.

Economic Base:

Dharwad is an administrative and educational centre. It has district and taluka headquarters. It has two universities, Karnataka University and University of Agricultural Sciences. It has many small and medium scale industries such as timber based industries as it is close to Karwar and cotton ginning and pressing, oil processing, milling and food processing industries. It has also a government press. (Fig II)
Hubli has taluka headquarters and it is an important trading and commercial center. It has many cotton ginning and pressing mills. It has a Railway Workshop and a Karnataka State Road Transport Depot. It also has Akay Industries and many other engineering, oil and food processing industries.

Both Hubli-Dharwad have banking and Financial Institutions. They also have health services. Hubli is a railway junction and it is connected to Pune, Bangalore, Solapur, Gulbarga, Bellary and Vasco. The National highway No.4 passes through Hubli-Dharwad. They are also connected to the Karwar coast and other important towns.

**Population and culture:**

The table No[1](#) gives an idea of population and its growth in the study area (HDMC) from 1881 to 2001 and estimated population for 2011 and 2021. (Fig I-A).

In the initial stage the growth of population was not high, but after the merger of both the cities into a single corporation (HDMC), there was a spurt in the growth of population. Many villages have been incorporated into HDMC and many developmental activities have also taken place to promote further growth. They are likely to be one of the million cities in another two decades.
Table 1: Hubli-Dharwad Cities: Decennial Growth of Population from 1881 to 2001.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Population</th>
<th>Total Variation</th>
<th>Percentage Variation</th>
</tr>
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<tbody>
<tr>
<td>1881</td>
<td>63,161</td>
<td>-</td>
<td>-</td>
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<tr>
<td>1891</td>
<td>83,454</td>
<td>20,293</td>
<td>24.31</td>
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<tr>
<td>1901</td>
<td>81,143</td>
<td>2,311</td>
<td>(-)2.76</td>
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<tr>
<td>1911</td>
<td>91,031</td>
<td>9,888</td>
<td>12.18</td>
</tr>
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<td>1921</td>
<td>1,00,992</td>
<td>9,961</td>
<td>10.94</td>
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<td>1,24,398</td>
<td>23,406</td>
<td>18.81</td>
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<td>1941</td>
<td>1,43,504</td>
<td>19,106</td>
<td>13.31</td>
</tr>
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<td>1951</td>
<td>1,96,180</td>
<td>52,676</td>
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<tr>
<td>1961</td>
<td>2,48,489</td>
<td>52,309</td>
<td>21.05</td>
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<tr>
<td>1971</td>
<td>3,79,166</td>
<td>1,30,677</td>
<td>34.46</td>
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<tr>
<td>1981</td>
<td>5,27,108</td>
<td>1,47,942</td>
<td>28.06</td>
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<tr>
<td>1991</td>
<td>6,48,298</td>
<td>1,21,190</td>
<td>18.69</td>
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<td>2001</td>
<td>7,86,018</td>
<td>1,37,720</td>
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<td>2011*</td>
<td>9,27,692</td>
<td>1,41,674</td>
<td>15.27</td>
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<tr>
<td>2021*</td>
<td>12,01,131</td>
<td>2,73,439</td>
<td>22.76</td>
</tr>
</tbody>
</table>

Source: Census of India 2001 Karnataka provisional data.
* Estimated population.
Percentage Variation of population in Hubli -Dharwad Cities
From (1881 to 2001)

Scale - OX 1cm = 5 Percentage of population
OY 1.5 cm = 1 Decadal Year
Both cities have important cultural and religious centers such as Murugamath, Someshwar, Hanuman and Ulavi Channabasaveshwar and other temples in Dharwad city, and Moorusavirmath, Siddharudhamath, Jumma Masque and several other temples in Hubli. Apart from these there are several other cultural centers in Hubli-Dharwad like Mallikarjun Mansoor Kalabhavan, All India Radio, T.V. Center in Dharwad, Indira Glass House, open air theaters, many small cultural centers in Hubli. These have encouraged additional urban growth of Hubli-Dharwad cities.