CHAPTER - II

A GEOGRAPHICAL EXPOSITION OF THE STUDY REGION

REGION - a Concept

Region which was once considered only a mental construct has now become a well known and accepted concept. Despite being elusive for long, it is used as a prime concept and as a method of classification, not merely in geography but mostly in all cognate disciplines.

The fact that there is only one natural region, the surface of the earth, where the mankind and other living beings find their livelihood\(^1\) is irrefutable. To divide this natural region into manageable areal units for the sake of convenience, in systematic investigation and research, is now an established geographic procedure. According to Woolridge and East, "... the purpose of regional geography is simply the better understanding of a complex whole by study of its constituent parts."\(^2\) The division of regions may be done on a single or dominant multiple criteria, that an investigator with a thorough knowledge of the

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study area, may choose. No limiting criteria have been accepted and the regional definition would vary with different workers on empirical grounds and their own expertise. According to Hartshorne "...any regional division which take into account all significant elements is not a true picture of reality, but is an arbitrary device of the student more or less convenient for his purpose... and for that reason differing from student to student, depending on what elements appear to him most significant." The criticism by Kimble (1951) and many others seem to tell us that, too hard and fast definition of a region might be irrelevant and prevent its universal application. Thus, there would be as many regions as problems or criteria considered.

There are two departing views in which geographers see regions, one objective the other subjective. Objective view was held by some geographers in the 1920s and 30s, they saw regions as real entities that actually exist and that their discovery and description was an end purpose of geography. According to Blaut, this belief was strongly opposed by many and was "cut to pieces by Hettner and all pieces disposed of by Hartshorne." Hartshorne (1939) observed that geography

is the study of interrelationships of different phenomena and their areal differentiation that give rise to spatial differences and regions and the aim of geography is to comprehend and study these differences and not just a search for regions.

The second view, which is now commonly accepted is the subjective view, where regions are seen as descriptive tools rather than a goal, the tools which help to investigate the manifold characteristics of the earth with a degree of precision.

After the need of regionalisation became obvious to the social scientists, the next problem was the method or procedures to be followed in dividing the regions, which again, was a matter of divergent view among geographers- a thinking that led to a considerable body of serious geographic thought in the past 2 or 3 decades.

Division of regions was earlier done with a heavy dependence on physical features and environment and the outcome would be formal regions. These regions being homogenous were usually taken to be separate and different from adjoining areas. Pennman defines region as "an area characterised throughout by similar surface features and which is contrasted with
neighbouring areas." Platt defines region as "an area delineated on the basis of general homogeneity of land character and occupancy." Vidal de la Blache described region as "a domain where dissimilar beings, artificially brought together, have subsequently adapted themselves to a common existence." These definitions show that regions were mainly divided on physical criteria linked with the concept of geographical determinism. Unlike these in the functional region, man's activities are given more importance and has interconnections within and outside the region. These regions though, being complex, are more relevant to planning purposes and principles.

Griggs gives the definition given by Berry and Hankins, who followed Hartshorne and others. The definition recognises three types of regions.

1. The region in the general sense in which the region is given a priori.

2. A homogenous or uniform region; this is defined as an area within which the variations and covariations of one or more selected characteristics fall within some

specified range of variability around a norm, in a contrast with areas that fall outside the range.

3. A region of 'coherent organisation' or a 'functional region' defined as one or more selected phenomena of movement connect the localities within it, into a functionally organised whole.  

The functional regions are sometimes referred to as nodal or polarised regions described by Whittlesey (1954), Glasson (1974) and Boudeville (1961) among others. Boudeville describes these as "Characterised by internal cohesion and is complementary between its component parts, reflected in greater intensity of trade between them and its component parts, are formed around a pole on the principles of gravitation." He further differentiates these to formal regions which are "marked by a uniform distribution of given characteristics through the region." Functional regions may be composed of different units as cities, villages or towns.


Hierarchy of Regions

Attempts to rank or form a hierarchy of regions was first proposed by German geographers, and uniformly accepted by others like Herbertson, Unstead, Linton and Whittlesey. The idea that generalisation of same objects of study could be done at different levels of abstraction to save time and avoid repetition of similar material and their re-organisation, were the main aspects in these works. Whittlesey felt that "The general neglect of meaning of differences of scale or degree of generalisation is a lacuna in geographic thinking, which ...should be filled as soon as possible," he then proceeds to suggest different orders of regions, giving standard nomenclature to be used, suggesting that locality be the lowest order, grouping of these localities forms the next order, the district. The third order, province, is formed by grouping of neighbouring districts possessing high degree of unity and the highest order, realm, was a combination of several provinces which possess enough similarity or mutualities and was treated as one unit. Herberston (1905) also gave a four order hierarchy namely locality, district, region and continent. Unstead (1916) recognised five orders stow, tract, sub-region, minor region and major region. Linton (1951) used the same terms stow and tracts as Unstead and gave a clear hierarchy starting from the

lowest, to upwards. There have been others, the French and German geographers, who borrowed terms like 'Pays' and 'Paysage' and 'Landschaftsteil' and 'Landschaft' from their language to describe different orders of regions.

Hyderabad-Karnatak as a Micro Planning Region

Planning region, a third type of regional classification, which is essentially a functional region, is envisaged by geographers and planners.

Definitions of planning regions are many. Study of these definitions suggest that a planning region must have the following characteristics:

i) It should have a uniform economic and social structure to be classified as one

ii) Should be geographically contiguous

iii) should display some coherence or unity of economic decisions

iv) should be large enough to enable changes and small enough to be seen as a whole for its planning problems
v) should be able to supply resources especially the labour force to support its economic development

vi) should contain one or a few points which have potentialities for growth or concentration of growth

vii) should have an economic framework which can be studied by statistical records

viii) should have a common approach and awareness of its problems and

ix) should be an administratively viable unit for planning purposes.

Planning regions can be classified according to their size as macro, meso and micro.

Macro regions are those which are at the highest or national level and would comprise of meso and micro regions. Meso regions are at the intermediate level, between national and local, they can be a state or a group of states. Micro region is at the lowest order ranging in size from a district
to a group of districts and sometimes even smaller, a taluka or a cluster of a few villages.

Micro regions may be considered to be most suitable for planning purposes as these units satisfy most of the prerequisites for planning like the local involvement, both in terms of resources and people. Human response in regional planning is best achieved at micro level.

Hyderabad-Karnatak, the study region comprising of 3 districts, could be conceived as a micro planning region. It has a uniform economic structure, in the sense that it is predominantly agricultural and industrially backward. It is geographically contiguous with social and cultural cohesion and it does possess a few growth points which could be utilised to transfer development to rural areas.

### Historical Background

In the third century B.C. the suzerainty of Ashoka, the great Mauryan Emperor, had included the whole of Deccan. This is evidenced by edicts found in Chitradurga, Raichur (Maski and Koppal) and Bellary districts. Later the Satvahanas established their rule over Deccan from first to third century A.D., ruling most of the region to the north of Tunghbhadra.
The Chalukayas, ruled the region for the maximum time from 550 A.D. to 12th Century A.D., with Kalyani (now Basavakalyan) as their capital. Their rule was first interrupted by Rashtrakutas in the early 8th Century, which lasted up to 973 A.D. Two centuries later, after regaining their supremacy they were again displaced for a short time by their feudatories, the Kalachuris, but later continued to rule up to the end of 12th Century A.D. When they were annihilated by Yedavas (Sevanas) of Divagiri. Yedavas were in constant conflict with Hoyasalas of Dwarasamudra and Kakatiyas of Warrangal, to gain the possession of some parts of Gulbarga and Raichur, when Bidar was with them. In 1294 A.D. the Yedavas were subdued by Allaudin Khilji, who carried out an invasion over them, and returned to Delhi with huge wealth after plundering Devagiri. Large parts of Deccan, including the region under study, was annexed by the Muslim Rulers in 1323 A.D. In the middle of 14th century A.D. the rebels of the officers of Sultans resulted in the establishment of the Bahamani Dynasty at Gulbarga in 1347 A.D.

The Hindu Kingdom of Vijayanagara Empire, which held the hopes of Hindu survival in the south when the whole area was over run by Muslims, was established in 1336 A.D. to the south of Tungabhadra river.
These Hindu Kings and the Sultans of Bahamani were at constant conflict throughout the 14th and 15th Century, their scene and the reason of their hostilities was the fertile Raichur Doab. The Bahamani in the mean time shifted their capital to Bidar, which was found to be strategically stronger and had better climate. The capital was developed and the fort of Bidar was rebuilt in 1430 A.D. By the end of 15th century the Bahamanis disintegrated into 5 independent kingdoms Ahmadnagar, Golconda, Bidar, Bijapur and Berar. In 1519 A.D. Krishnadevaraya of Vijayanagar extended his empire including the possession of Raichur but soon in 1565 A.D. in the Battle of Talikot he had to face defeat at the hands of Bahamani Sultans.

Aurangjeb, in 17th Century annexed Golconda and the adjoining parts of Deccan to his empire and appointed Asafjah, a Mughal General as the Subedar of Deccan in 1713 A.D. He was given the title of Nisam-ul-mulk who soon asserted his independence and founded the House of Nizams in Hyderabad, which lasted its rule up to 1948. Salar Jang, the Nizam in 1857, introduced several reforms in the administration of his state, which included all the three districts of the region under study. The road communications were improved. The Hyderabad-Sholapur road was completed in 1860, in 1868 the Bombay-Madras Railway
line was laid and some of the towns like Bidar, Raichur, Gulbarga, Wadi, Kurkanta etc., were connected with Hyderabad. Infrastructural facilities, including civil and criminal courts, were reorganised and postal services were improved. The region remained under the Nizam rule, until 1949, when all the Jagirs were abolished and integrated with the Diwani in May 1950. The Government had to pay Rs.50 lakhs to the Nizam for all the Sarf-e-khas surrendered to the state.

In its report the committee for States reorganisation in 1955, recommended for the creation of Karnataka State, comprising of Kannada speaking areas of the former Bombay, Hyderabad and Madras States, the whole of Old Mysore State and Coorg. Gadwal and Alampur talukas of Raichur were transferred to Andhra Pradesh in lieu of Kannada speaking areas.

In November 1956, the new Greater Mysore State, later named as Karnataka came into existence in which the present Hyderabad-Karnatak of the erst-while Hyderabad State was included.

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9. Jagir was the land given to those who rendered meritorious services to the Government. Diwani was the land under Government. Sar-f-e-khas was the land, income of which went to the Privy Purse of the Nizams.
Locational and Spatial Aspects

a) Situation

Hyderabad-Karnatak, a micro region, comprising of Bidar, Gulbarga and Raichur districts, is situated in the northeastern maiden region of the State of Karnataka. The region extends roughly between $15^\circ 10'\text{N}$ and $18^\circ 25'\text{N}$ north latitudes and between $75^\circ 46'\text{E}$ and $77^\circ 50'\text{E}$ east longitudes (See Fig.2.1). It is entirely landlocked with the northern boundary formed by Nanded district of Maharashtra and the eastern by Medak and Mehaboobnagar districts of Andhra Pradesh. Its western boundary is defined by Sholapur district of Maharashtra and Bijapur and Dharwad districts of Karnataka, and the Southern boundary by Bellary district of Karnataka.

b) Size

The region covers an area of 35,689 square kilometres and has a population of 4,860,156 in 1981. Its area covers 18.61 per cent of the State's area and has 13.11 per cent of the State's people residing in it. Gulbarga is the largest district in area, which is 16,224 square kilometres, followed by Raichur of 14,005 square kilometres. Bidar the smallest district in area is only 5,451 square kilometres.
Fig. 21
TABLE - II/1
G - Values For the Selected Areas

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Ra (in Km²)</th>
<th>Log Ra.</th>
<th>Ca (in Km²)</th>
<th>Log Ga</th>
<th>Log⁴ (Ga-Ra)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Earth's Surface</td>
<td>5.101 X 10⁸</td>
<td>8.7074</td>
<td>5.101 X 10⁸</td>
<td>8.7074</td>
<td>0.00</td>
</tr>
<tr>
<td>2. India</td>
<td>3.280 X 10⁶</td>
<td>6.5160</td>
<td>&quot;</td>
<td>&quot;</td>
<td>2.19</td>
</tr>
<tr>
<td>3. Karnatak</td>
<td>1.918 X 10⁵</td>
<td>5.2830</td>
<td>&quot;</td>
<td>&quot;</td>
<td>3.42</td>
</tr>
<tr>
<td>4. Hyderabad-Karnatak</td>
<td>3.568 X 10⁴</td>
<td>4.5520</td>
<td>&quot;</td>
<td>&quot;</td>
<td>4.16</td>
</tr>
<tr>
<td>5. Gulbarga District</td>
<td>1.624 X 10⁴</td>
<td>4.2105</td>
<td>&quot;</td>
<td>&quot;</td>
<td>4.50</td>
</tr>
<tr>
<td>6. Raichur District</td>
<td>1.41 X 10⁴</td>
<td>4.1492</td>
<td>&quot;</td>
<td>&quot;</td>
<td>4.56</td>
</tr>
<tr>
<td>7. Bidar District</td>
<td>5.4 X 10³</td>
<td>3.7364</td>
<td>&quot;</td>
<td>&quot;</td>
<td>4.97</td>
</tr>
<tr>
<td>8. Raichur City</td>
<td>2.843 X 10¹</td>
<td>1.4377</td>
<td>&quot;</td>
<td>&quot;</td>
<td>7.26</td>
</tr>
<tr>
<td>9. Gulbarga City</td>
<td>2.831 X 10¹</td>
<td>1.4519</td>
<td>&quot;</td>
<td>&quot;</td>
<td>7.27</td>
</tr>
<tr>
<td>10. Bidar City</td>
<td>1.112 X 10¹</td>
<td>1.0461</td>
<td>&quot;</td>
<td>&quot;</td>
<td>7.66</td>
</tr>
</tbody>
</table>
Haggett, Chorley and Stoddart in 1965 proposed a standard geographical measurement scale based on the earth's surface area (Ga). This G-scale is derived by successive subdivisions of the standard area by the power 10. The advantage of this scale is that it enables a comparison of the relative sizes of area ranging from the entire earth surface area to a city or its part.

The value of G is computed by using the formula:

\[ G = \log\left(\frac{Ga}{Ra}\right) \]

Where Ga is the earth's surface and Ra is the area under investigation, measured in same areal unit (Vide Table II/1).

Application of G-scale for the study shows that not only the region and the districts are located on the G-Scale but also their capital cities. The relative size of the study region as compared to specific areas on the earth's surface are shown in Fig. 2.2.

c) Shape

The physical form or the shape of a region depicts its spatial efficiency, which for long was judged only by visual inspection. The irregularities of shapes of regions that
ASPECTS OF SIZE  G-SCALE

- Surface Area of the Earth (0.00)
- India (2.19)
- Karnataka (3.42)
- Hyderabad Karnataka (4.16)
- Gulbarga District (4.50)
- Raichur District (4.56)
- Bidar District (4.97)
- Raichur City (7.26)
- Gulbarga City (7.27)
- Bidar City (7.66)

Fig. 22
exist over the earth's surface have been a concern of geographic profession and a qualitative description did not suffice their purpose. Thus, in the last two decades several attempts have been made by geographers to quantify the different spatial forms. Reddy et al. (1981) review the shape studies in Geography. Bunge (1962), Boyce and Clark (1964), Haggett (1965) and Gibbs (1966) have felt that the basic parameters of area such as perimeter, length of the longest axis radi of circle inscribed and circumscribed etc., and the combination of these could help to device a series of shape ratios. Most of these works compare the ratios to a circle. Heggett reviews the various works on the geometry of shapes and gives a method by using radii of largest inner circle and the smallest outer circle. The ratio derived is multiplied by 100 to get the Circularity Index.

The formula devised is

$$S.I. = \frac{Ir}{Or} \times 100$$

Where $S.I.$ is the shape index.

Ir is the radius of the inner circle and

Or is the radius of the outer circle.
If the Circularity Index is close to 100, the shape measured is nearer to a circle and if it is around 82 it is closer to the efficiency of a hexagon and 64 to a square. If it is less than 32, the shape is elongated and deviates far from a circle, Gibbs (1966) while comparing a shape of a region with basic geometric forms as circle, rectangle and hexagon gave the following formula:

\[
M_c = \frac{100 \ A_a}{(3.1416)(D_p/2)^2}
\]

Where \(M_c\) is the measurement of circularity.

\(A_a\) is the actual area of the study unit and \(D_p\) is the distance between two of the most distant points.

The methods of Haggett and Gibbs, are employed to study the shape of the study region and is confirmed that its efficiency is only 32 cent when compared with a circle of the same area, as the region is elongated extending north-south (Vide Fig.2.3).
HYDERABAD KARNATAK
SHAPE STUDY

Fig. 23
Relief and Physiography

a) Relief:

The region as stated earlier is situated in the northern maidan and presents a landscape of monotonous plateau, gently undulating, its elevation ranging from 365 to 675 metres above the mean sea level. There are no continuous ranges of hills worth mentioning, except for few clusters of hillocks in the districts of Gulbarga and Raichur (Vide Fig. 2.4).

Excluding the recent soils, dolerite and epidiorite dykes, the whole region is built up of three chief rock formations—(i) Archaen complex, (ii) Bhima series and (iii) The Deccan trap.10 The sedimentary formations cover a small belt of region adjoining the confluence of Krishna and Tungabhadra rivers. Laterites cover small areas of Kaladgi series in Bidar which are not of much economic importance.

1) Archaen Complex - The Archaen Complex consists of Dharwad system or Dharwad schists as in other parts of the

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HYDERABAD KARNATAK

RELIEF

CONTOURS
SPOT HEIGHTS
ISOLATED HILLS
MAJOR DRAINAGE

Fig 24
strata. Granites and granite gneisses comprise the southern half of the region encompassing an area of about 7000 square kilometres. The Dharwad schists form three prominent belts, most of which run through the taluks of Kushtagi and Sindhnur or Raichur District in a east-west direction and of the three; one runs in northern parts of Tungabhadra river. These three belts consists of various types of crystalline schists, dark hornblende schists, chlorite, talc chlorite schists, ferruginous quartzites and other types common to Dharwad system. The granite gneisses form much larger of the complex cover and among these two formations, most of the regions minerals are distributed, Gold being the chief among them.

ii) Bhima series - The Bhima Series are considered to be younger formations, younger to Kaladgi rocks. Then is a group of sedimentary rocks which run from the river Don, in an east to north-east direction, for a length of 160 kilometres or so. These formations bear very few minerals of economic importance. Limestone covers are most common and are used for the manufacture of portland cement. Sandstones of upper Bhima series are the pre-cambrian formation.

iii) The Deccan trap - The Deccan trap consists of mainly volcanic rocks and the lava flows covering almost the whole of Bidar District and northern half of Gulbarga, with a total
extent of about 12,000 square kilometres. Except for agate and chert found in inter and intra trappen beds of tertiary, no other minerals are of commercial importance.

The water level in general is very low in the region. In the Deccan Trap Reefs of Gulbarga the wells have to be sunk at least 20-25 metres. In the rest of the area, the average depth of the water table varies from 10 to 12 metres. In Bhima series it is, at places, less than 10 metres.

b) Soils:

The predominant soils in the region are black soil and red clay commonly known as Regadas and Chalkas respectively. Alluvial and limestone formations are spread in the valleys of Krishna, Tungabhadra and Bhima rivers and alluvial strips run along their banks. The soils in the region are derived mainly from the granites and laterites of Deccan Trap and Vindhyan formation.

The name, Black soils or Black cotton soils, is attributed to a black mineral called titanic magnetic, associated with these soils. These are compared to chernogems of temperate region, though inferior to some extent. These soils
are rich in basic materials like lime and magnesium. Clay content in these soils ranges from 40 to 70 per cent and water holding capacity of these soils is as high as 60 per cent. These soils are spread all over the region especially in Raichur and in the southern parts of Gulbarga. The soils in Bidar are derived from the laterite plateau. They are well drained but their capacity to hold water is very low. They are also poor in phosphorous and potash contents. These soils are mainly spread in Humnabad and Bidar Taluks. Black cotton soils is used for rabi crops. Grey loams, clay and loame found in Manvi and Sindhunur Taluks of Raichur District and the red earths or chalkas found in the northern parts of Gulbarga and Chincholi taluks are used for kharif crops. Red sandy soils derived from the pink gneisses are found in the neighbourhood of Gangavati, Kushtagi and Mudgal in Raichur district and in southern part of Gulbarga district at some places.

c) Drainage:

The drainage in the region is common to the peninsular pattern in the sense that the flow is eastwards. The three principal rivers in the region have long courses and open valleys. Manjra, a perennial river flows in the northern parts of Bidar district, Krishna and its tributary Bhima, in Gulbarga and Tungabhadra and its tributaries in Raichur (Vide Fig.2.5).
Krishna has its source in the Western Ghats, where the rainfall is about 635 centimetres, and is a prominent river of Deccan plateau. The river is a source of livelihood for a number of villages in Gulbarga and Raichur districts. In its upper course it rushes through deep and narrow gorges through the broken ridges of Dharwad. It receives many rivers along its course. The Bhima joins Krishna to the north of Kodlur in Raichur Taluk. About 15 major and 21 minor streams, and a large number of nalas flow into it. Huttinala (48 kilometres) is the largest among them. The River Krishna forms the boundary between Gulbarga and Raichur districts.

The Tungabhadra river, one of the main drainage system of the region, flows in the southern parts and forms the southern boundary of the region. The Tunga and Bhadra rivers both rise at Gangamula in Varabha Parbat in Western Ghats. These rivers are perennial and very deep at some places. Tungabhadra has a larger number of rivulets and streams than Krishna has, but most of these are not important as they dry in summer. The total course of the river in the region is 208 kilometres touching the southern talukas of Raichur district. Koppal, Gangavati, Sindhur, Manvi and Raichur gain the maximum benefits of the river. This river also has a number of nalas, the Maski nalla (of about 112 kilometres) is the largest. The
river leaves the region, at the South East boundary of Talamari village in Raichur taluk and meets the river Krishna at Aralpadu in Andhra Pradesh. Manjra river basin covers an area of 1,989 square kilometres and is one of the tributaries of Godavari. A few natural springs are found in the region in Chitapur, Gulbarga and Raichur, Bidar taluk's and usually are located in the contact zones of schists and gneisses. Some of these are perennial.

d) Climate:

The region is characterised by general dryness throughout the year except during south-west monsoon season, which begins in the month of June and continues up to late September. The bulk of the rain, more than 80 per cent, is during this period. The retreating monsoon also gives some rainfall in the post south-west monsoon period in October-November in Bidar and Gulbarga and around December and mid-January in Raichur. The average annual rainfall in the area is very meagre it is only 570.66 mms. Bidar gets the maximum average annual of 908 mms, followed by Raichur getting 602 mms where as Gulbarga gets barely 202 mms. The rainfall variation from year to year is large and thus the region has been frequently facing draughts and famine conditions.
The account of famines since 17th century in the Gazetteer of India shows that the region has been experiencing famines and scarcity conditions with uncanny regularity. Some of the years, when the famine revaged the region severely are 1630, 1659, 1749, 1787, 1792-93 (Dogibara or the skull famine) 1804, 1854, 1873, 1878 (the great famine), 1897, 1900 (another severe famine), 1901 (fodder famine), 1971-72 was the most severe in recent-times. Scarcity again prevailed in the area during 1980 due to scanty rainfall and arid conditions. The distribution pattern of rainfall in the area shows that it gradually increases from south-west towards north-east.

The summer begins in mid February and extends upto June, the highest temperature recorded is in the month of May reaching upto 45°C and above. The temperature begins to fall by the end of June with the onset of south-west monsoon. December is the coldest month when the average annual temperature goes below 10°C. On an average the temperature varies between 24°C and 29°C all round the year.

Skies remain clouded in south-west monsoon season and winds are stronger. The relative humidity which is less than 30 per cent round the year rises upto 80 per cent during the south-west monsoon.
Being well inland, the region is seldom affected by any full fledged cyclonic storms. Thunder and hail storms are sporadic. Some depressions from Bay of Bengal diffused after crossing the eastern coast of India, passing westwards across the region, release scanty rainfall.

e) Natural Vegetation:

As a result of the adverse climatic conditions, soils and human interference, the natural vegetation in the region is very less. The region is situated in a rain shadow zone and the relative humidity being very low throughout the year becomes susceptible to frequent famines. The region being the driest part in the state has the least area covered by forest when compared to the other parts. The districts of Bidar, Gulbarga and Raichur have forest to an extent of only 4.66 per cent, 3.14 per cent and 2.30 per cent respectively.

The main forest type in the region is dry deciduous, consisting of open scrubs. Some timber of economic value is grown and the main tree species are Babul and Kamara. Kamara is a durable timber, which is used for construction. Teak, rosewood and mohwa in Bidar and Gulbarga are grown for their economic value. Wrightia sinetoria (Pala Kordshi) grown in Raichur has higher value due to its white colour.
Efforts for profitable regeneration of forest are abandoned due to frequent drought and extreme climate. In Raichur forests, are confined to the upper and lower reach of the rivers, and are found in taluks of Manvi, Lingsugur, Kushtagi, Devdurga and Sindhanur and rest of the taluks are entirely devoid of forest coverage. In the district of Gulbarga, Chincholi has nearly half of the distribution of forest coverage, followed by Yadgir. Bidar and Humnabad taluks have the maximum area under forest among the taluks of the region.

Most of the wood is locally used in the production of farming equipment and furniture.

**Economic Base**

a) **Agriculture and Irrigation:**

The economic occupancy of the region is predominantly agriculture and the main problem it faces is the inadequate and erratic rainfall. The irrigation as such is not adequate. The area under irrigation as a proportion to net sown area is only 12.63 per cent which is 21.4 per cent for the state as a whole. Gulbarga and Bidar districts have only 4.7 per cent
and 5.3 per cent of net sown area under irrigation respectively. Raichur district has 27.9 per cent, this is mainly due to irrigation facilities provided by the Tungabhadra Project.

Area under high yield variety (HYV) is also very less when compared to the state's average. It is 13.26 per cent for the region as a whole and 24.7 per cent for the state.

The region grows mainly paddy and jawar in Bidar and Gulbarga districts and cotton of superior quality is grown in Raichur. The commercial crop in the region is sugarcane.

The agricultural income per agricultural labour for the state is Rs.843 which is only Rs.563 for the region as a whole. It is lowest in Bidar (Rs.149) and highest in Raichur (Rs.781).

b) Industries:

The fact that only a very small per cent of the total population is dependent on industries, clarifies that the region is industrially backward. The employment in registered factories in 1980 was less than the 1,000 per lakh population, the figure was over 4,000 for the state. The per capita industrial income is just Rs.56.66 for the region, which again is much less when compared to the state (Rs.135).
As a result of power and water supply from the Tungabhadra dam, in Raichur district, when compared among the three districts of the region, there is a large number of medium and large scale establishments. Cement, Sugar mills, Cotton ginning, oil extraction and milling, textile and the Hutti gold mines are the main among them. Metallurgical and electrical units of Gulbarga and Bidar can also be added to the list. In all, there are 25 medium and large industrial units in the region, out of which 18 are in Raichur, 6 in Gulbarga and 1 in Bidar.

Minor forest products like honey, wax, resin, gums and wood add to the rural income.

c) Mineral Wealth:

The region is well endowed with minerals but better and promising exploitation and industrial uses are yet to be fulfilled. The chief economic minerals in the region are gold, copper, iron ore and manganese. Among the metallic minerals, agate, chert, bauxite, corundum, feldspar, fuller's earth, gypsum, limestone, mica, quartz, salts and sandstones are among the non-metallics (Vide Fig.2,6).
Gold is known to occur in the reefs of quartz and belts of schists particularly in the Maski-Hutti-Shorapur belt, which stretches north-wards from Sindhnur to Shorapur, beyond the Krishna river. It is the second largest gold producing area in the country. In Bidar district there is not a single notable mineral industry existing at present despite the fact that some deposits of bauxite, white clay and ochres are of good quality, suitable for making high class ceramic products.

Transport Situation

Transportation plays a vital role as an infrastructure for the economic development of a region. The region under study is poorly served by roads and railways. The air transportation network is totally absent in the region except the fact that there is a small airstrip at Yermarus in Raichur, which can handle only light air planes.

The road length per 100 square kilometre is 35.66 kilometres which is around 51 kilometres for the state. The road length in total is 10,148 kilometres out of which the major part are the district and village roads.

There are only two stretches of national highway in the region, one the National highway No.9 connecting Pune and
Hyderabad, running through Bidar, Humnabad and Basava Kalyan, its total stretch being only 75 kilometres. The national highway No.13 joining Chitradurga and Solapur runs through Kushtagi, Koppal and Munirabad for a total length of 110 kilometres. The coverage by state highways is 410 kilometres, out of which half is in Raichur district. Villages with more than 1,000 persons are connected by Kutha roads. 11 Only, 1,449 settlements have bus stops out of 3,337 inhabited settlements in the region.

When it comes to rail services the region is even more underdeveloped the total rail length being only 353 kilometres. A broad-guage railway line connecting Vikrabad and Purli Bajnath passes through Bidar district and its total length in area is about 78 kilometres with 7 railway stations. The other broad-guage line of Central Railways passes through Gulbarga for a total stretch of 207 kilometres. Madras-Bombay line enters the region at Krishna, (a railway station), and leaves at Dhudhani. This line was opened for traffic in the year 1874, during the Nizam Rule. The stations it connects are Gulbarga, Wadi, Malkhed, Kurkunta and Sedam. The Raichur-Hyderbad line also passes through the region.

11. Kutchha-Unmetalled and cart tracks.
Demographic Characteristics

As stated earlier the total population of the region is 4,860,156 as per the 1981 Census. Of which the male and female population are 50.5 and 49.6 per cent respectively. Gulbarga district, situated in the center of the region, has the maximum population of 2,075,368 followed by Raichur with 1,779,942 and Bidar with 994,106. The density of population in the region is 146 which is 193 for the state as a whole. The region had a decennial growth rate of 21.9 per cent in 1971-81 which was 25.76 per cent in 1961-71.

Since the region is primarily rural, 79.49 per cent of its population resides in the villages. The literacy in the region is only 25.43 per cent which is about 38.4 per cent for the state. Raichur district had the lowest literacy in the state in 1981 which is 24.92 per cent.

The proportion of working force to the total population is 39.8 per cent, split district wise, it is 36.85 per cent for Bidar, 40.30 per cent for Gulbarga and 41.67 per cent for Raichur. The per capita income in the region is Rs.946.66, this figure for the Karnataka State is Rs.1132. In the region, Raichur has the highest per capita income of
Rs.1011 which is only Rs.880 and Rs.949 for Bidar and Gulbarga respectively.

The introduction of the region reveals the fact that inspite of the potentialities for industries, irrigation and agricultural developments, the scarcity conditions in the region are not met with mainly due to the overall retarded development including inadequate market, transport and other infrastructural facilities. The region has remained the most backward right from the time of its inclusion in the State of Karnataka.

A better utilisation of human and natural resources in the region with a right planning perspective could help to elevate the region from its extreme backward conditions.