CHAPTER - III

RESOURCE BASE OF KOLAR DISTRICT
3.1 INTRODUCTION:

Development of a region mainly depends on effective use of its resources endowments. Resources are those aspects of man's endowments and environment upon which people are dependent on aid and support. Broadly resources may be recognised and categorised into two groups - a) Those derived from the physical and biotic conditions of land called natural resources and b) Those derived from the population in the sense of man power or human resources.

Natural resources are the materials provided originally by human agencies, but according to Zimmerman one element of a natural environment becomes a resource only when man recognises it as useful. Resources are purely functional inseparable from human wants and capabilities.

Natural resources can be sub grouped into - renewable resources like land, forest, water and marine resources. While non-renewable resources are mineral resources. The process of regional development needs the effective use of these resources by making use of the available technology to tap them in a given region. Hence, it is necessary to have typewise resources inventory with respect to their distribution, quality and quantity.
Thus, the process of industrial development is dependent on economic exploitation of the available resources. Since resources are unevenly distributed in the geographical space, the economic pursuits related to resource base will also be spatially uneven within the taluks of the Kolar district.

Renewable resources are the components of a system comprising a set of objects together with relationships between the objects and their attributes. The use of one kind of misplace isolation to plan their utility independently is the general practice. Interdependence of their use exist not only among themselves, but also between them and the man made capital and human resources of a region. Renewable and non renewable resources development should be based upon detailed regional distribution and analysis because national aggregates can only be broad and indicative to cover the heterogeneity of prevailing circumstances and purposes.

3.2. LAND RESOURCES:

Land resources form the most important natural wealth of a region and their proper utilisation is a matter of concern. Its improper use leads to wastage, which in turn lead to progressive deterioration and loss of productivity of this vital resources.

Land is an important renewable resources and a study of it provides to know how this precious resources is utilised. Systematic appraisal of land resources is an essential part of any areas industrial development. Land resource broadly include
all those features and process of land which can in some way be
use to fulfill certain human needs.

3.3 CLIMATE AND RAINFALL:

The climate and rainfall largely determine the landuse
pattern of a region. Due to varying topography and vegetation
cover, the district has a moderate climate of dry weather with
hot temperatures ranging from 33°C to 40°C during March to May.
Winter season commands during December and extends up to February
with temperatures ranging from 26°C to 29°C. The monsoon season
starts from first week of June and extends till November. The
normal rainfall of the district is 733 mm. There were
fluctuations in the rainfall. The district experiences severe
droughts. 750 mm of rainfall is considered as minimum requirement
to support crops, below the level of 750 mm plant life is
adversely affected. Not only the amount of rainfall but the
distribution of rainfall during the sowing and growing periods is
equally important. The number of rainy days also vary
considerably from one taluk to another during the south west
monsoon. 80 - 85% of the rainfall is received during the south
west monsoon i.e. from June to October. The median value
indicates that number of rainy days vary within the range of 2 -
32 days. This also suggests the highly variable nature of
rainfall in the district (Fig. 9).

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KOLAR DISTRICT Water Budget

Fig. 10
Table: 10
Kolar District

WATER BUDGET

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<td>10</td>
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<td>37</td>
<td>91</td>
<td>46</td>
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<td>99</td>
<td>129</td>
<td>119</td>
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<td>81</td>
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<td>PE</td>
<td>67</td>
<td>87</td>
<td>137</td>
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<td>129</td>
<td>122</td>
<td>127</td>
<td>119</td>
<td>88</td>
<td>79</td>
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<td>P-PE</td>
<td>-57</td>
<td>-81</td>
<td>-121</td>
<td>-147</td>
<td>-82</td>
<td>-77</td>
<td>-65</td>
<td>-23</td>
<td>+2</td>
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The water budget table and water balance graph indicate that the major part of the year remains dry and the deficiency of water can be noticed clearly from the graph. The computation of water budget is drawn by taking the average rainfall of 50 years with one year (1990) potential evapotranspiration. Hence, the graph indicates the comparative demand is much more than the available moisture. Shrubs and scarce vegetation are the result of low rainfall (Fig. 10).

3.4 SOIL RESOURCES:

Soil is the topmost layer of the earth's crust. The soils contain minerals like compounds of aluminum phosphate and potash, as well as the decaying parts of plants and remains of animals and organisms. There are five significant controls of soil formation, they are climate, biotic substances, slope, length of time, and parent material (Earth Science, John F. Lounsbury and Lawrence Ogden).
The soils of the Kolar district are mainly divided into Red loam, clay loam, gravel and laterite types. (a). The red loam soil extends from south to the north comprising major portions of Chickballapur, Kolar, Malur and some parts of Bangarpet, Mulbagal and Sidlaghatta taluks. This soil is suitable for cultivation and is known for good response to manure. (b). Clay loam is found in the blocks of Gouribidanur, Chickballapur and parts of Bagepalli. The soil is suitable for cultivation of ground nut, paddy, chilies, sugar cane and tobacco. (c). Gravel soil is found in parts of Bangarpet, Gudibanda, Chintamanipura and Srinivaspur. This soil is suitable for ground nuts, ragi and pulses. 4. Patches of laterite soil also found in parts of Sidlaghatta. This is also suitable for Eucalyptus and cashew plantation (Fig. 10).

3.5 WATER RESOURCES:

Water is one of the basic needs for agricultural development and higher production. Success of agriculture and higher food production require supply of water at regular intervals in optimum quantities. Depending on soil structure and quality water resources analysis is restricted in its content. Since the data on Rainfall, surface run-off, evapotranspiration etc. are not readily available for the areas under consideration. Two major sources of water in Kolar district surface water and ground water, both are the products of precipitation. The surface water generally the product of the precipitation of the recent past, while the ground water is the product of accumulation through prolonged period of time. No perennial river is found, they dry up during summer.
Rainfall in the region varies spatially and temporarily to a considerable degree. Nearly 80 - 90% of the rainfall over the region is received by south west monsoon. Average annual rainfall of the region is 452 - 951 mm but different parts of the region receive varying amount of rainfall.

In order to bring clarity in the study of deviations from the mean have been calculated in two ways for all the eleven taluks of Kolar district.

a) Normal rainfall between 1901 - 81
b) Actual rainfall between 1994 - 95

<table>
<thead>
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<tbody>
<tr>
<td>1. Bagepalli</td>
<td>-65.1</td>
<td>-129.1</td>
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<tr>
<td>2. Bangarpet</td>
<td>-41.1</td>
<td>-17.2</td>
</tr>
<tr>
<td>3. Chickballapur</td>
<td>+52.9</td>
<td>-41.4</td>
</tr>
<tr>
<td>4. Chintamani</td>
<td>+34.5</td>
<td>-10.8</td>
</tr>
<tr>
<td>5. Gouribidanur</td>
<td>+64.8</td>
<td>-82.0</td>
</tr>
<tr>
<td>6. Gudibanda</td>
<td>+61.9</td>
<td>-211.4</td>
</tr>
<tr>
<td>7. Kolar</td>
<td>-27.7</td>
<td>+68.2</td>
</tr>
<tr>
<td>8. Malur</td>
<td>-30.3</td>
<td>+287.5</td>
</tr>
<tr>
<td>9. Mulbagal</td>
<td>+74.9</td>
<td>+108.8</td>
</tr>
<tr>
<td>10. Sidlaghatta</td>
<td>+24.5</td>
<td>+0.4</td>
</tr>
<tr>
<td>11. Srinivasapur</td>
<td>-20.7</td>
<td>+27.5</td>
</tr>
</tbody>
</table>
The given table and figures/maps indicate that major portion of the region receives very less rainfall, which shows the impact of drought is more. Drought is a condition in which the amount of water that is needed for evapotranspiration which exceeds the amount that is actually available in the form of soil moisture. From the map one can understand that if the average of normal rainfall for 80 years is taken, Chickballapur, Gudibanda and Mulbagal received certain considerable amount of rainfall +52.9, +61.9 and +74.9 respectively, followed by the Chintamani +34.5 and Sidlaghatta +24.5. And the remaining taluks have negative value, means very negligible amount of rainfall.

The actual rainfall for the year 1994 - 95 shows little progress in the occurrence of rainfall. Malur and Mulbagal ranking first with deviation value of +287.5 and +108.8 respectively, followed by +68.2 Kolar, Srinivasapur +27.5 and Sidlaghatta, +0.4. The remaining taluks have -ve values which show that they receive very less rainfall. The taluk which receives least rainfall is Gudibanda i.e. -211.4 (Fig. 12).

3.6 FOREST RESOURCES:

Forest is recognised as a renewable natural resources the forest sector has not been able to make its full contribution to the social and economic growth of the region, due to various factors. The beneficial effects of the forest ecosystem and human environment consists in moderating the climate, maintaining the soil mantle, regulating water supplies, purifying the air etc. Forest also provide industrial wood and other forest produce such as fuel wood, fodder and recreation.
KOLAR DISTRICT
Rainfall Condition (mms)

Normal Rainfall 1901–1979

Actual Rainfall 1993

TALUWS
11. Srinivasapur

RAINFALL (mms)

Fig - 12
Forest area account for 9% of total geographical area of the district as per the National Forest Policy at least 33% of the geographical area should be under forest cover.

Important Forest Produce of Kolar district are

<table>
<thead>
<tr>
<th>Forest produce</th>
<th>Production 1994 - 95</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eucalyptus</td>
<td>9,580 tons</td>
</tr>
<tr>
<td>Tamarind</td>
<td>70 tons</td>
</tr>
<tr>
<td>Tupra leaves</td>
<td>4,000 bags</td>
</tr>
<tr>
<td>Kakke and Thangadabark</td>
<td>100 bags</td>
</tr>
<tr>
<td>Minor forest produce</td>
<td>1,200 kgs.</td>
</tr>
</tbody>
</table>

The district is very poor in forest resources. There is not much scope at present for utilising forest resources for industrial purposes in the district, except Tupra leaves for beedi rolling and Thangad for tanning to the extent of their availability.

3.7 MINERAL RESOURCES:

Minerals constitute a non-renewable resources group. Mineral resources are more or less fixed in quantum and are therefore known as exhaustible and fugitive materials.

The region is not endowed with considerable wealth of mineral resources. However the important minerals found in Kolar district are.
i. Gold: Occurs mainly in quartz, which in turn occurs as veins and lenses in schists. Karnataka accounts for more than 99% of Indian annual gold production. A major of this comes from Kolar Gold Fields. There were nearly 14 Gold mines and 10 of them have exhausted their mineral content, so at present only 4 Gold mines are working. Gold bearing loads of K.G.F. lie in a narrow band of rocks for about 80 kms, these are the oldest and biggest mines of India. Studies and discussions have revealed that the exploitation of gold reserves are likely to last for about 12 -15 years to came. Efforts are being made to find out new gold resources in the area.

ii) Corundum

It is available in Gouribidanur taluk. It can be used for the manufacture of abrasive products.

iii) Kaoline

This mineral is available in Sidlaghatta, Mulbagal and Chintamani taluks. It is used in the manufacture of porcelain and china clay.

iv) Kyanite and Sillimanite

These minerals occur in places like Sakarasanhally, Dodderi and Kamasamudram in Bangarpet taluk and are used in Aluminum refractories.

v) Ochers

Small and patchy deposits of pale yellow ochers are found in parts of Kolar, Mulbagal and Srinivaspur taluks. This mineral offers good scope for the manufacture of pigments, distempers and oil paints.
vi) Graphite clay

It is suitable for foundry purposes occurs, in new Gancharpur in Bangarpet taluk. It is also used in making slate pencils.

vii. Feldspar

Crystals of feldspar occur in the neighbourhood of Kamasamudram in Bangarpet. It can be used in the manufacture of insulators.

viii) Lime Kankan

Large quantity of lime kankan is found near Chickballapur. The other mineral found in Kolar district are Lime stone, building stone, fire clay, china clay, soap stone etc (Fig. 13).

3.8 LIVESTOCK RESOURCES:

Kolar district is rich in respect of livestock and second in the state in livestock resources. Next to agriculture animal husbandry forms the main source of income. Agriculture in Kolar district depends mainly on livestock. Most of the agricultural work like ploughing, drawing water from wells, thrashing of food grains, carrying the produces to the market etc., is done with the help of bullocks. Livestock contributes to the rural income substantially by providing essential and commercial products like milk, eggs, manure, meat etc.
As per 1987 livestock census livestock population was 21.78 lakhs category-wise breakup is given in the Table 13 below.

Table 13: Livestock census

<table>
<thead>
<tr>
<th>Category</th>
<th>Numbers (100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>50.00</td>
</tr>
<tr>
<td>Buffaloes</td>
<td>16.17</td>
</tr>
<tr>
<td>Sheep</td>
<td>48.85</td>
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<tr>
<td>Goats</td>
<td>18.83</td>
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<tr>
<td>Pigs</td>
<td>3.44</td>
</tr>
<tr>
<td>Poultry</td>
<td>69.56</td>
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<tr>
<td>Other livestock</td>
<td>0.25</td>
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</tbody>
</table>

The wool available in the district is utilised for making blankets, which are quite popular in the state since time immemorial. Livestock provides which are sent for processing to the adjoining districts.

3.9 DAIRY DEVELOPMENT:

Dairy development as a subsidiary occupation to the people of the district is quite popular. The average daily collection of milk from society van is from 375 to 425 liters.

At present there are five chilling plants functioning in the district. They are at Bethamangala, Kolar, Chintamani, Bagepalli and Sadali. There are at present 117 milk Producers Co-operative Societies functioning on the pattern obtaining in Gujarat.
3.10 SERICULTURE:

Kolar district occupies a place of pride in the silk map of Karnataka. Silk industry is being practiced since time immemorial in the district and it accounts for 32% - 37% of the total raw silk and it is proudly referred as Japan of India, in view of high productivity and quality of silk. It is being proved as cottage industry in the district. The soil pattern and the climatic conditions are most conducive for the development of sericulture.

This chapter can be concluded by assessing that all the resources which are available in the study area are very much helpful to study its industrial, Socio-economic activities of the region, and also helps in promoting their development.