



NATURAL DIVERSITY OF KARNATAKA

We learn about the following in this chapter,

- The main features of the climate of Karnataka.
- Know about the seasonal changes in the climate of Karnataka.
- Understand the seasonal distribution of rainfall in Karnataka and its effects.
- Types and distribution of soil in Karnataka.
- The types, distribution of natural vegetation and animals of Karnataka.

CLIMATE

Karnataka has tropical monsoon climate. The main characteristics of this climate are hot and moist summers and cool and dry winters. But there is diversity in the climate of the state. The main reason for this diversity are the influence of geographical location, oceans, physical features, vegetation and monsoon winds. Hence the annual temperature and distribution of rain are not the same all over the state.

Climatic Seasons : We can classify the climate of Karnataka over a period of one year, as can be done with the climate of India, into four parts:

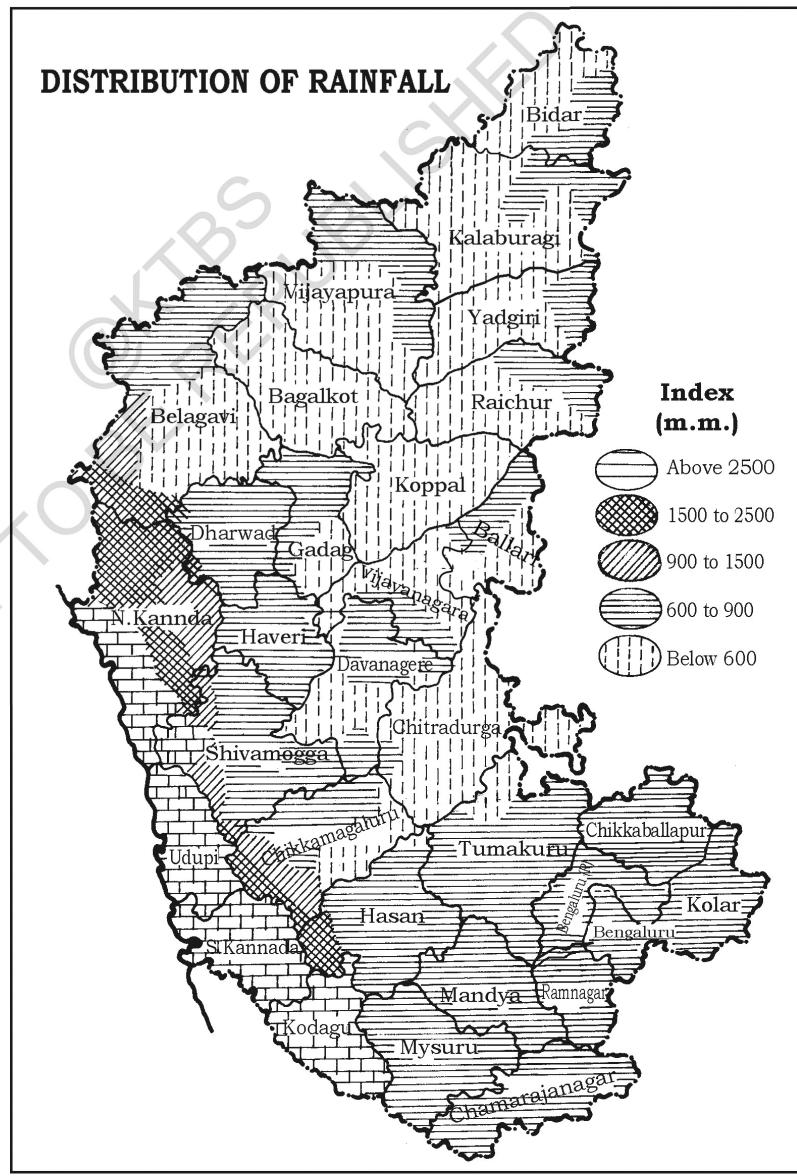
1. The summer season (March to May)
2. The rainy season (June to September)
3. The period of Retreating Monsoons (October – November)
4. The winter season (December – February)

1. Summer Season : During this season, it is very hot, dry and sultry. After March, the temperature rises uniformly all over the state and reaches the maximum during April and May. Raichur has recorded the temperature of 45.6° Celsius and it is the hottest place in Karnataka. The temperature is high even in the other districts of

the northern maidan. In general, the whole of Karnataka experiences hot climatic conditions during at this time. The humidity is lower in the northern maidan than in the southern maidan. In summer, due to great evaporation, rain-bearing clouds are produced and they bring convectional rain along with lightning and thunder. The Hailstones fall in some places. This generally takes place for a short time during the afternoon. Since these showers enable the flowering of coffee plants, they are called 'Cherry Blossoms', and since they help the mango crop, they are also known as 'Mango showers'. About 7% of the annual rainfall of the state occur during this season.

2. The Rainy Season: This is also known as the season of South-West Monsoon winds.

The Western Ghats check the moisture-laden winds blowing from the Arabian Sea, resulting in heavy rain. As it moves eastward, the amount of rainfall gets reduced. This is because, the eastern maidan is in the rain-shadow area. Agumbe is an area of heavy rainfall. Hence it is called 'Cheerapunji of South India'. Bhagamandala and Hulikal are the other places of heavy rainfall. Nayakna Hatti near Chellakere in Chitradurga records the lowest rainfall. During this season, in the entire state the temperature is very high. As a result the relative humidity



is very high. There is cloudy atmosphere throughout. During this season, Karnataka receives about 80% of its rainfall. This helps in the cultivation of Kharif crops.

3. The Period of Retreating Monsoon : This is also called the North-East Monsoon Season. Due to the decrease in temperature and increase in pressure, the winds blow from the north –east to the south- west. These winds are dry because they blow from the land. The winds which blow from the Bay of Bengal bring a little rain to the districts of the southern maidan. Besides due to the cyclones coming from the Bay of Bengal during November – December, rainfall occurs. During this season, the state receives about 12% of the rainfall. In this period, the weather condition are uncertain.

4. The Winter Season : During this season, temperature, humidity and rainfall are low. The sky is clear. The average temperature is between 25° and 27°C . January is the month which records the lowest temperature. This is called ‘the Tourist Month of the State’. The minimum temperature recorded in Belagavi is (6.7°C). There is low temperature in other Northern districts. i.e. Vijayapura, Kalaburagi and Bidar. Rainfall during winter is minimum. Only one percent of the total rainfall is received during this time. There is heavy fog occasionally early in the mornings.

Activity :

Among the summer, winter and rainy seasons which one you like? Why? Given reason.

Distribution of Rainfall : The Malnad and coastal plains receive heavy rain fall. The Eastern Maidans are the areas of low rainfall. Often drought and floods occur due to uneven and uncertain rainfall.

SOILS OF KARNATAKA

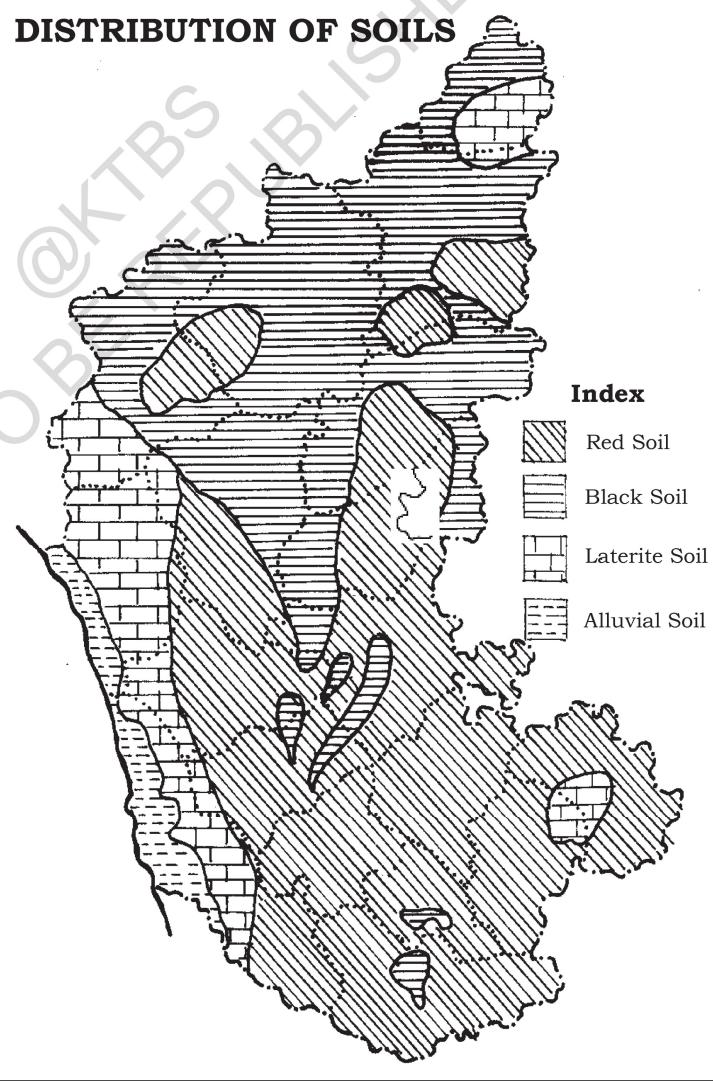
The top thin layer of the earth surface is called soil. Fertile soil is essential for agriculture. There are different kinds of soils in Karnataka. The soils of Karnataka have been classified into four types: (1) Red soil, (2) Black soil, (3) Laterite soil, (4) Coastal Alluvial soil.

1) Red Soil : This type of soil is obtained from the weathering of granite and gneiss. It contains iron oxides and hence it is red in colour. It is rich in iron, lime and salt, but contain small amounts of

humus. It is light, has thin layers and it is not very fertile. Its capacity to moisture retention is less. It is widely distributed in Karnataka, and found more in south Karnataka. Ragi, jower, bajra millets, pulses, tobacco and groundnut which are rain-fed crops, can be grown in this soil. Areas with irrigation facilities can grow paddy, sugarcane, potato, vegetables, banana, coconut and arecanut. Red soil is found in Tumakuru, Bengaluru, Ramanagara, Chikkaballapura, Kolara, Chamarajanagara, Mandya and Mysuru.

2) Black Soil : This kind of soil is formed by the weathering of basalt rocks. It is rich in aluminium, magnesium and oxides of iron. Hence it is black in colour. It is also called 'black cotton soil'. This soil has the ability to retain moisture for many days. Since it is rich in soil nutrients, a variety of crops can be grown in this soil. For example ; cotton, jowar, maize, sunflower, chilli, paddy, pulses and onion. This type of soil is extensively found in districts of North Karnataka. e.g., : Dharwad, Gadag, Ballari, Koppal, Kalaburagi, Yadgir, Bagalkot, Belagavi and Chitradurga.

3) Laterite Soil : This kind of soil is found in areas which receive heavy rainfall and have high temperature. Water-soluble lime and silicates dissolved in rain water settle down in the lower layers. Iron and aluminium, which are non-soluble, remain in the top layers. The soil



becomes soft during rainy season and dries up during summer, leading to the formation of laterite rock. This rock is used for construction purposes. Cashew, coffee, tea, cardamom, pepper, rubber, coconut and other commercial crops are grown in this soil. Uttara Kannada, Udupi, Dakshina Kannada, Kodagu, Chikkamagaluru, Shivamogga and Belagavi have more of this soil.

4) Coastal Alluvial Soil : This type of soil is formed along the coast due to the deposition of alluvium and sediments carried by the rivers and sea waves. As such, the coastal districts of Karnataka like Udupi, Dakshina Kannada and Uttara Kannada have this type of soil. This soil consists of sand and clay. It is very rich in organic nutrients. Paddy, cashew, coconut, arecanut, banana and other crops grow well in this type of soil.

NATURAL VEGETATION

The various kinds of plants and trees growing naturally are referred to as 'Natural Vegetation'. Karnataka has a rich diversity of plant species. The plant species play an important role in preserving the ecological balance. The trees provide timber, firewood, raw material for industries, medicinal herbs, honey, bamboo, cane etc. The forests being the habitat of wild animals, we can see tiger, lion, cheetahs, wild buffaloes, elephants, deer and peacocks in the forests of Karnataka. These forests are also places of entertainment and tourism. They help to control environmental pollution. Sandalwood is a special tree grown in forests of Karnataka. Perfume, objects with intricate carvings soap and medicines are manufactured from sandalwood. They are popular all over the world, and hence are not only supplied to other parts of the country but also exported to foreign countries. This is the reason Karnataka is known as 'the Land of Sandalwood'.

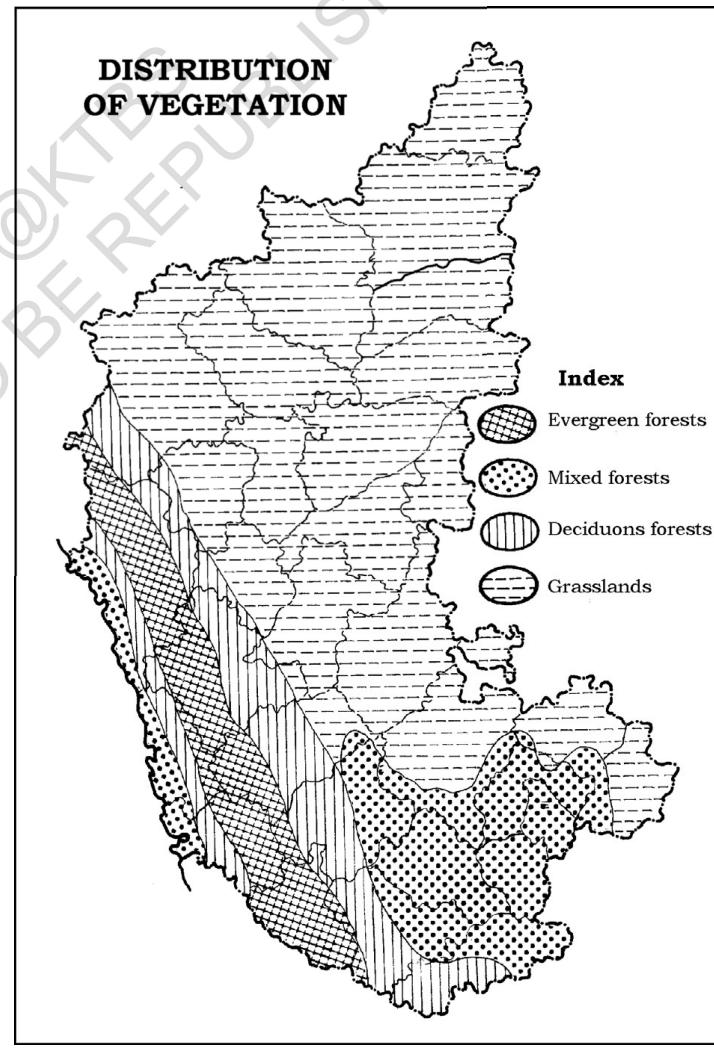
Types of Vegetation

Natural Vegetation of Karnataka has been classified on the basis of rainfall, relief features and type of soil. They are :
1) Evergreen forests, 2) Deciduous forests, 3) Mixed Forests and
4) Grasslands and Shrubs.

1) Evergreen forests : Areas receiving more than 250 cms rainfall annually have this kind of forests. On account of heavy rain and high temperature, the trees grow tall and dense. These forests, being dense, are impenetrable. The sunlight does not reach the ground at all. Different types of tall trees like rosewood, mahogany, kino, teak, dhupa, and hebbalasu grow in these forests. At the base of these trees are thick shrubs. Different types of spices - cinnamon, cardamom, cloves and medicinal herbs grow in abundance. This kind of forests can be seen in parts of Uttara Kannada, Dakshina Kannada, Shivamogga, Hasana, Chikkamagaluru, Chamarajanagara and Kodagu districts.

2) Deciduous forests : After winter, due to lack of moisture in the soil the trees shed their leaves. The leaves reappear during spring. These are called deciduous forests. This kind of forests can be seen in areas receiving 60 to 120 cms of rainfall annually. For example, Chikkamagaluru, Mysuru, Chamarajanagara, eastern parts of Hassan, Tumakuru, Chikkaballapura, southern part of Kolara, Mandy, Ramanagara and Bengaluru Rural district. Teak, kino, mahogany, neem, mango, jack, flame, kokko, banyan, sandal and bamboo grow in plenty. These forests are not dense.

3) Mixed forests : The growing of evergreen and deciduous trees together form the mixed forests. Areas receiving 120 to 150 cms annual rainfall have this kind of forests. For



example, Udupi, some parts of Uttara Kannada, Dakshina Kannada, eastern parts of Kodagu, Chikkamagaluru, Hasana and Mysuru districts. Teak, kino, mahogany, axle, sandal, jack and bamboo grow in abundance. These trees have commercial value.

4) Grasslands and Shrubs : Areas receiving less than 60 cm annual rainfall have this kind of vegetation. Due to scanty rain and dry weather there is short grass, thorny shrubs and scrub vegetation, for example ; cactus, acacias, babul, bela, palm trees, hanchi, kunti grass etc. Occasionally banyan, neem, peepul tree, palas trees grow here and there. This type of Vegetation is seen in Bidar, Kalaburagi, Yadgir, Raichur, Koppal, Vijayapura, Ballari, Chitradurga and other areas.

Deltas, estuaries and beaches in coastal areas have a peculiar type of vegetation that has aerial roots and can grow in salty water. These are called ‘mangrove forests’. Distribution of such vegetation is limited in Karnataka.

Areas which are more than 1400 mts above sea level have cool climate, for example, Kudremukh, Bababudangiri (Inam Dattatreya Peeta) Biligiriranganabetta (B.R.Hills) and Brahmagiri in Kodagu. They have grassy slopes. The deep valleys with streams, rills etc. have distinct “Shola forests”.

Distribution of forests

The recorded forest area in Karnataka state is 43.4 lakh sq. kms. This forms 22.6 % of the total geographical area. Karnataka occupies the seventh place in forest resources in the country. Uttara Kannada district has the maximum forest area. Next to it are Shivamogga and Chamarajanagara districts. Vijayapura district has the least forest area.

Know this :

- A big banyan tree at Ramohalli near Bengaluru.
- A big neem tree is found at T. venkatapura, near Siddlagatta.
- A big tamrind tree is near Savanur

FAUNA

Karnataka has a variety of Fauna thanks to the abundant forest wealth. The Sahyadris rank among the hotspots of the world for their bio-diversity. Recently they have been declared as a ‘World Heritage

Area'. Nearly 25% of the animal population and 10% of the tiger population in the entire country are found in Karnataka. In addition to this, there are other types of wild animals too, for eg. : Leopards, boar, bison, stag, deer, bear, porcupine etc. A variety of snakes and colourful birds can also be seen in the forests of Karnataka.

The central part of the Western Ghats in Karnataka is called Malnad and has retained its natural bio-diverse heritage. As such, this area has a rich variety of animal resources.

The important forest areas of Karnataka having wildlife are: Coastal region comprising of Uttara Kannada and Belagavi, Sahyadris-Malnad range eg., : Bababudangiri range (Inam Dattatreya Peeta), B.R.hills, Malemahadeswara hills, Gopalaswamy hills etc., in the southern maidan. Ranebennur is the main animal sanctuary in northern maidan. Now Karnataka has 5 national parks, 4 bird sanctuaries and about 17 wild life sanctuaries.

IMPORTANT NATIONAL PARKS AND ANIMAL SANCTUARIES



Know this :

- There are 3 Tiger projects in Karnataka, Bandipura, Bhadra and Nagarhole.
- The famous bird sanctuary of Karnataka is Ranganatittu.

EXERCISES

I. Fill in the blanks with suitable words.

1. The months of _____ form Summer season.
2. The season with heavy rainfall is _____.
3. Extensively soil found in North Karnataka is _____.
4. The area that has evergreen forests is _____.
5. The district that has large forest area in Karnataka is _____.

II. Discuss in groups and answer the following questions.

1. Name the four seasons of Karnataka.
2. Write a note on the rainy season in Karnataka.
3. Mention the types of soils in Karnataka.
4. Name the types of natural vegetation of Karnataka.
5. Why is Karnataka known as ‘the Land of Sandalwood’?
6. Name the wild animals in our forests.

III. Match the following.

- | A | B |
|---------------------|----------------------|
| 1) Adichunchanagiri | a) Bird Santuary |
| 2) Mandagadde | b) National forest |
| 3) Nagarahole | c) Deciduous forest |
| 4) Sandalhood tree | d) Peacock Sanctuary |
| | e) Red soil |

IV. Activity :

- 1) Collect pictures of wild animals of Karnataka and prepare an album. Make a list of bird sanctuaries and wild life sanctuaries.

V. Project :

- 1) Discuss in groups and write an account of the vegetation found in your native district.

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