Natural vegetation

You might have surely gone to a park if you live in a city or to a mango, guava or coconut orchard, if you live in a village. How do you differentiate between the natural vegetation and the planted vegetation? The same variety may be found growing wild in the forest under natural conditions and the same tree may be the planted one in your garden under human supervision.

Natural vegetation refers to a plant community that has been left undisturbed over a long time, so as to allow its individual species to adjust themselves to climate and soil conditions as fully as possible. India is a land of great variety of natural vegetation. Himalayan heights are marked with temperate vegetation; the Western Ghats and the Andaman Nicobar Islands have tropical rain forests, the deltaic regions have tropical forests and mangroves; the desert and semi desert areas of Rajasthan are known for cactii, a wide variety of bushes and thorny vegetation.

Depending upon the variations in the climate and the soil, the vegetation of India changes from one region to another. On the basis of certain common features such as predominant vegetation type and climatic regions, Indian forests can be divided into the following groups: Tropical Evergreen and Semi Evergreen Forests These forests are found in the western slope of the Western Ghats, hills of the northeastern region and the Andaman and Nicobar Islands. They are found in warm and humid areas with an annual precipitation of over 200 cm and mean annual temperature above 22 oC.

Tropical evergreen forests are well stratified, with layers closer to the ground and are covered with shrubs and creepers, with short structured trees followed by tall variety of trees. In these forests, trees reach great heights up

to 60 m or above. There is no definite time for trees to shed their leaves, flowering and fruition. As such these forests appear green all the year round. Species found in these forests include rosewood, mahogony, aini, ebony, etc. The semi evergreen forests are found in the less rainy parts of these regions. Such forests have a mixture of evergreen and moist deciduous trees.

The undergrowing climbers provide an evergreen character to these forests. Main species are white cedar, hollock and kail. TYPES OF FORESTS (i) Tropical Evergreen and Semi Evergreen forests (ii) Tropical Deciduous forests (iii) Tropical Thorn forests (iv) Montane forests (v) Littoral and Swamp forests. Figure 5. 1 : Evergreen Forest 58 INDIA : PHYSICAL ENVIRONMENT Figure 5. 2 : Natural Vegetation NATURAL VEGETATION 59 The British were aware of the economic value of the forests in India, hence, large scale exploitation of these forests was started. The structure of forests was also changed.

The oak forests in Garhwal and Kumaon were replaced by pine (chirs) which was needed to lay railway lines. Forests were also cleared for introducing plantations of tea, rubber and coffee. The British also used timber for construction activities as it acts as an insulator of heat. The protectional use of forests was, thus, replaced by commercial use. Tropical Deciduous Forests These are the most widespread forests in India. They are also called the monsoon forests. They spread over regions which receive rainfall between 70-200 cm.

On the basis of the availability of water, these forests are further divided into moist and dry deciduous. he plains of Uttar Pradesh and Bihar. In the higher rainfall regions of the Peninsular plateau and the northern Indian plain, these

forests have a parkland landscape with open stretches in which teak and other trees interspersed with patches of grass are common. As the dry season begins, the trees shed their leaves completely and the forest appears like a vast grassland with naked trees all around. Tendu, palas, amaltas, bel, khair, axlewood, etc. are the common trees of these forests. In the western and southern part of Rajasthan, vegetation cover is very scanty due to low rainfall and overgrazing.

Tropical Thorn Forests Tropical thorn forests occur in the areas which receive rainfall less than 50 cm. These consist of a variety of grasses and shrubs. It includes semi-arid areas of south west Punjab, Haryana, Rajasthan, Gujarat, Madhya Pradesh and Uttar Pradesh. In these forests, plants remain leafless for most part of the year and give an expression of scrub vegetation. Important species found are babool, ber, and wild date palm, khair, neem, khejri, palas, etc. Tussocky grass grows upto a height of 2 m as the under growth. Figure 5. 3 : Deciduous Forests

The Moist deciduous forests are more pronounced in the regions which record rainfall between 100-200 cm. These forests are found in the northeastern states along the foothills of Himalayas, eastern slopes of the Western Ghats and Orissa. Teak, sal, shisham, hurra, mahua, amla, semul, kusum, and sandalwood etc. are the main species of these forests. Dry deciduous forest covers vast areas of the country, where rainfall ranges between 70 -100 cm. On the wetter margins, it has a transition to the moist deciduous, while on the drier margins to thorn forests. These forests are found in rainier areas of the Peninsula and

Figure 5. 4 : Tropical Thorn Forests Montane Forests In mountainous areas, the decrease in temperature with increasing altitude leads to a corresponding change in natural vegetation. Mountain forests can be classified into two types, the northern mountain forests and the southern mountain forests. 60 INDIA : PHYSICAL ENVIRONMENT The Himalayan ranges show a succession of vegetation from the tropical to the tundra, which change in with the altitude. Deciduous forests are found in the foothills of the Himalayas. It is succeeded by the wet temperate type of forests between an altitude of 1, 000-2, 000 m.

In the higher hill ranges of northeastern India, hilly areas of West Bengal and Uttaranchal, evergreen broad leaf trees such as oak and chestnut are predominant. Between 1, 500-1, 750 m, pine forests are also well-developed in this zone, with Chir Pine as a very useful commercial tree. Deodar, a highly valued endemic species grows mainly in the western part of the Himalayan range. Deodar is a durable wood mainly used in construction activity. Similarly, the chinar and the walnut, which sustain the famous Kashmir handicrafts, belong to this zone. Blue pine and spruce appear at altitudes of 2, 225-3, 048 m.

At many places in this zone, temperate grasslands are also found. But in the higher reaches there is a transition to Alpine forests and pastures. Silver firs, junipers, pines, birch and rhododendrons, etc. occur between 3, 000-4, 000 m. However, these pastures are used extensively for transhumance by tribes like the Gujjars, the Bakarwals, the Bhotiyas and the Gaddis. The southern slopes of the Himalayas carry a thicker vegetation cover because of

relatively higher precipitation than the drier north-facing slopes. At higher altitudes, mosses and lichens form part of the tundra vegetation.

The southern mountain forests include the forests found in three distinct areas of Peninsular India viz; the Western Ghats, the Vindhyas and the Nilgiris. As they are closer to the tropics, and only 1, 500 m above the sea level, vegetation is temperate in the higher regions, and subtropical on the lower regions of the Western Ghats, especially in Kerala, Tamil Nadu and Karnataka. The temperate forests are called Sholas in the Nilgiris, Anaimalai and Palani hills. Some of the other trees of this forest of economic significance include, magnolia, laurel, cinchona and wattle.

The northeastern states have more than 30 per cent of the land under forest. Hilly topography and heavy rainfall are good for forest growth. There is a lot of variation in actual forest cover, which ranges from 9. 56 per cent in Jammu and Kashmir to 84. 01 per cent in Andaman and Nicobar Islands. From the table showing the distribution of forests in India (Appendix IV), it is clear that there are 15 states where the forest cover is more than one-third of the total area, which is the basic requirement for maintaining the ecological balance. On the basis of the percentage of the actual forest cover, the states have been grouped into four regions: The Region Percentage Cover of the Forest > 40 20-40 10-20 < 10 i) The region of high concentration (ii) The region of medium concentration (iii) The region of low concentration (iv) The region of very low concentration FOREST COVER IN INDIA According to state records, the forest area covers 23. 28 per cent of the total land area of the country. It is important to note that the forest area and the actual forest cover are not the same. The forest area is the area

notified and recorded as the forest land irrespective of the existence of trees, while the actual forest cover is the area occupied by forests with canopy. The former is based on the records of the State Revenue Department, while the latter is based on aerial photographs and satellite imageries.

In 2001, the actual forest cover was only 20. 55 per cent. Of the forest cover, the share of dense and open forests was 12. 60 per cent and 7. 87 per cent rerspectively. Both forest area and forest cover vary from state to state. Lakshadweep has zero per cent forest area; Andaman and Nicobar Islands have 86. 93 per cent. Most of the states with less than 10 per cent of the forest area lie in the north and northwestern part of the country. These are Rajasthan, Gujarat, Punjab, Haryana and Delhi. Taking the data from Appendix IV, list the states under the four regins of forest cover FOREST CONSERVATION Forests have an intricate interrelationship with life and environment.